The Impact of Post-School Vocational Qualifications on the Labour Market Outcomes of Low-Achieving School Leavers in the UK

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Abstract This paper documents the extent of low achievement at school amongst recent school leavers, and estimates its impact on labour force status. The paper then investigates to what extent unqualified school leavers can improve their labour market status through the acquisition of vocational qualifications, and how many follow this option. The results show that vocational qualifications at all levels can dramatically improve the employment chances of unqualified school leavers, even after controlling for unobserved individual heterogeneity. There are also smaller positive effects on wages. However, few unqualified school leavers seem to be following this vocational route to qualification achievement.

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1. Introduction

What becomes of young people who show little aptitude or enthusiasm at school, and fail to obtain any qualifications there? Given the importance attached to formal qualifications we might expect that their lack of success in school will significantly affect them in later life. If so, what is the size of this effect, and can it be reduced by following a certain route after formal schooling? The route focussed on here is acquiring vocational qualifications. Finally, if such a route exists, then how many of the disaffected young people take-up such opportunities? This paper sets out to answer these questions.

The answers are clearly important. They will reveal the costs of under-achievement at school for the individuals involved, as well as the costs to society in terms of lower productivity (as measured by wage levels of those working and the unemployment and inactivity of those who are not). Such information can be presented to teenagers in schools, although a more receptive audience might be policy-makers, who can see the costs to society of allowing demotivated young people to leave school without qualifications, and can therefore perform a cost-benefit analysis of possible interventions to prevent pupils leaving school with little or nothing to show for their time there.

Similarly, the analysis of possible routes that unqualified school leavers can take, in an attempt to improve their labour market prospects, will provide important information to such people on the value of these routes. This should again help decision-making by individuals on the choice of future paths. Of course, any higher wages or employment probabilities for those who have followed these routes will again provide information on the value of these routes to society, and so indicate the level of funding that can justifiably be directed towards them.

The paper proceeds in the next section with a description of the data set used. The results are presented in Section 3, followed by some further tests of the reliability of these results in Section 4. A final section offers a summary and conclusions.

2. Data

The data used in this paper come from the Labour Force Survey (LFS) in the UK. The LFS is a quarterly survey, questioning a sample of about 120,000 individuals, in around 60,000 households. For the main part of the paper, the most recent data available, from the 2002 surveys, are used, with the quarterly data sets being merged to form an annual data set. There is also a panel element to the LFS, with respondents being surveyed for 5 consecutive quarters before dropping out of the survey. This longitudinal information will be used at the end of the paper in an attempt to examine causality between employment and qualification acquisition, when all data for the period 1996-2002 inclusive will be used.

The focus of the paper is on young people. While the problems of older individuals with few or no qualifications are by no means insignificant, looking to the future the emphasis of public policy in terms of upskilling the economy's workforce will be on young people currently continuing or recently completing their education. In addition, the decision-making of young people is likely to be more influenced by observation of recent school-leavers, obtaining recently developed vocational qualifications, than by analyses of people who gained their qualifications many years ago. Therefore, an upper age limit of under 30 is imposed. At the other end, it was necessary to study individuals who have had sufficient time to acquire post-school qualifications, and also for this acquisition to have had some impact on their labour market status. Hence, the analysis focuses on those in the 22-29 year old age group. The vast majority of the sample will therefore have completed compulsory schooling in the 1990s.

The sample is further reduced by including only UK born individuals. While, again, the problems faced by immigrants in the labour market is an important research topic, their inclusion in this analysis would merely cloud some of the issues. In particular, since most of the results are presented by level of (UK) school qualification achievement, all those not educated in the UK will necessarily fall into the 'no school qualifications' category. Some such immigrants may have been very well educated in their home countries, however, and so will be very different to the UK nationals who

report no school qualifications, thus influencing the results for this group. For this reason, immigrants are excluded from the analysis.

As the previous paragraph suggests, the principal unit of analysis in the paper is the highest level of qualification achieved at school. Four levels of achievement are identified, namely no school qualifications at all, low grade qualifications obtained in lower secondary education[2], typically at the age of 16, high grade qualifications obtained in lower secondary education[3], again typically obtained at age 16, and finally upper secondary qualifications[4], typically obtained at age 18. The latter three groups represent levels 1, 2 and 3 respectively in the national qualifications framework. The focus of the paper, however, will be on the first group, who have failed to obtain any qualifications at school.

3. Results

a.) School Qualification Attainment

The analysis begins in Table 1 by detailing the school qualifications obtained by individuals in the sample by the year 2002. The results show that only a minority have failed to acquire any qualifications at school at all. Nevertheless, it is a significant minority, namely 21% of the males and 17% of the females[5].

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[2] Specifically, this category includes individuals who have obtained some GCSE qualifications, but failed to acquire 5 or more at grade C or above. GCSEs are public examinations taken at the end of compulsory, lower secondary level, schooling at the age of 16, usually in 9 or 10 different subjects. A pass at grade C or above is taken as a successful outcome, and 5 or more such passes are often needed to progress to further academic study.

[3] This category comprises individuals who do obtain 5 or more GCSEs at grade C or above.

[4] Individuals in this category have obtained at least 1 'A' level, and most have obtained more than 1. 'A' levels are public examinations taken at the end of upper secondary schooling at the age of 18, usually in 3 different subjects. Passes in 2 subjects are usually required for entrance to a university.

[5] Although such figures are somewhat higher than official sources, responses to the question asking for the age at which the respondent completed full-time education reveal that the vast majority (86%) of the unqualified school-leavers left education by the age of 17 (and most of these by the age of 16). It therefore would appear that the oversupply of numbers in the unqualified group are not graduates simply not bothering to report school qualifications to the LFS (though they are instructed to report *all* qualifications), which would have had serious consequences for the analysis of this group. The oversupply seems more likely to be caused by individuals who obtain only 1 or 2 low grade GCSEs not reporting these, which obviously has less serious implications for the analysis of the unqualified group.

Looking further up the school qualifications hierarchy, large numbers, representing just under half of the age group, hold lower secondary qualifications as their highest school qualification. The exact proportion (44%) is the same for both men and women, although for women the split of the group is more even between high and low grade qualifications, than for men, amongst whom those with only low grades dominate the lower secondary group. This relative success for women continues up to the top of the qualifications hierarchy, with 40% of women in their twenties having obtained upper secondary level qualifications at school, compared to 35% of men.

b.) Labour Market Status by School Qualification Attainment

Table 2 begins the analysis of the effects of under-achievement at school. Firstly, considering males, only just over two-thirds of men aged in their twenties who report leaving school with no qualifications are in full-time employment in 2002[6]. As with men in the other school qualification categories, insignificantly small numbers are in part-time employment or on a government training scheme. There are also only small numbers of unqualified male school leavers still studying in their twenties. This leaves a quarter of all men who left school with no qualifications not in employment, education or training in the prime years of their twenties. Even more worrying, over half (60%) of such men are classified as inactive rather than officially unemployed[7], and so have no apparent connection with the labour market at all.

The comparison rows show that those men who left school with no qualifications have very different outcomes to their qualified brethren, even compared to the modestly qualified. Thus, the full-time employment rate for men who left school with at best lower secondary qualifications, whether low or high grade, is 85%, while the equivalent percentage for men with upper secondary qualifications from school is only lower at 80% because 10% of this group still report to be in full-time education even in their twenties. The percentages of each qualification category not in employment, education or training decline with increasing scholastic success, are always much lower than for the unqualified school leavers (being 10%, 8% and 6%

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[6] 'Employment' here includes self-employment.
[7] The definition of unemployment used here is the ILO definition, i.e. wants to work, has looked for work in the previous four weeks and is available to begin work within two weeks.

respectively for low grade lower secondary, high grade lower secondary and upper secondary qualifications), and in each case consist more of unemployed rather than inactive men.

For women, amongst the unqualified school-leavers, only 28% are in full-time employment in their twenties. Of course, part-time employment has a much higher incidence amongst women than amongst men, and Table 2 shows this, with a further 17% of the unqualified group in part-time employment. However, adding the small number of this group in education or training to those in employment fails to cover half of their number, leaving 52% not in employment, education or training. Furthermore, the vast majority of this group are classified as inactive rather than unemployed, and so are not attempting to find work.

As for men, the results again reveal that even moderate success at school changes post-school outcomes for women. Thus, two-thirds of women who left school with at best low grade lower secondary qualifications are in employment, two-thirds of whom again are full-time. Women who fall into the top two school qualification categories have employment rates of around 80%, dominated by full-time employment, and are thus similar to their male counterparts. Again similar to men, the results also reveal 10% of women in the upper secondary qualification category still in education. Contrary to the male results, however, amongst those women not in employment, education or training, inactivity rates dominate unemployment rates in all school qualification categories.

Thus, for both men and women but particularly the latter, those who leave school with no qualifications experience very different labour market outcomes to their qualified contempories. An immediate question is whether this is a supply or a demand problem, that is, is it the case that such individuals do not want to work and are dropping out of society as they dropped out of school, or is it the case that they want to work but cannot find an employer for their limited skills? LFS data reveals that amongst the unqualified school-leavers not in work at the time of the 2002 survey, 58% of the men and 89% of the women had not looked for work in the previous 4 weeks. Of course, such individuals may have stopped searching precisely because they perceive that there are no jobs for them. However, when those not searching are

asked whether they want a job, 59% of men and 62% of women say no. The reasons given for not wanting to work reveal that the majority of such men are sick or disabled, while around 80% of such women have children to look after. At face value these results would therefore suggest that the inactivity rates of the unqualified group are not caused by a lack of demand for their services but by an inability of such individuals to work. On the other hand, however, there is no obvious reason why the future health or fertility of those who left school at age 16 with no qualifications should have been affected to such an extent[8]. It may therefore be likely that the unqualified men have been willing, or even encouraged, to accept invalidity payments while the unqualified women have chosen housewifery and childcare, because of the lack of opportunities available to them in the job market. Without more detailed attitudinal questions, not available in the LFS, the results presented here therefore make little progress in establishing whether out of work unqualified individuals represent a supply or a demand problem. If it is the former, then the subsequent sections on the benefits of vocational qualifications may not be as relevant for a group who genuinely do not want or are unable to work, particularly the women who may view childcare as more worthwhile. If their situation is in any way caused by a lack of demand for their labour, however, then the results concerning the benefits of vocational qualifications will remain relevant. It is to these results that the paper now turns.

c.) The Acquisition of Post-School Qualifications

Table 3 considers the acquisition rates of post-school qualifications for each level of school achievement. Post-school qualifications are classified as levels 1, 2, 3 and above 3. Post-school qualifications at levels 1 to 3 are all vocational qualifications and equate, in principle at least, to the academic school-based qualifications at levels 1, 2 and 3 identified earlier (low grade lower secondary, high grade lower secondary and upper secondary qualifications respectively). The final category of above level 3 post-school qualifications contains both academic and vocational qualifications, and is dominated by university degrees.

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[8] Of course, some may already have been sick, disabled or with child by the age of 16, which would likely have caused their failure to obtain school qualifications. However, such individuals are likely to be a minority of all unqualified school leavers.

The results show that very few of those who leave school with no qualifications manage to acquire meaningful post-compulsory qualifications. Of the men who fall into this category, 48% fail to acquire any qualifications at all after leaving school, 21% acquire at best a level 1 qualification, and 18% acquire at best a level 2 qualification. Only 13% of male unqualified school-leavers manage to reach level 3 in post-school qualifications. For women, the proportion of unqualified school-leavers who add no qualifications post-school is even higher than for men, at 62%. Only 9% of such women reach level 3 in terms of post-school qualifications. Given that level 3 has been described by some commentators as the minimum attainment needed to succeed in today's labour market[9], it does not appear that post-school vocational qualifications have been at all successful in raising those who failed at school up to this desirable level, or even, for that matter, to level 2.

The situation is better for those who achieved something at school, even at a low grade. Only around a quarter of this group do not acquire further qualifications after leaving school, and over half improve on their school performance by reaching at least level 2. Of these, 32% of men and 24% of women manage to reach at least level 3. Those who achieved high grades at the end of lower secondary schooling are even more successful after leaving school. Only 20% do not add to their qualifications, and around one half reach level 3 or above. Finally, Table 3 shows that amongst the top achievers at school who acquired upper secondary qualifications, a significant minority, 16% of the men and 14% of the women, do not obtain any further qualifications, while the majority (two-thirds) go on to acquire high level qualifications, most commonly degrees. The small remainder acquire vocational qualifications at the various levels, making them the least likely group to do so, unsurprisingly since their school qualifications already qualify them to level 3.

d.) The Impact of Post-School Qualifications on Labour Market Success

This section examines the extent to which acquisition of the various post-school qualifications can help the low school achievers in terms of labour market success. From this point onwards in the paper, all individuals still in full-time education at the

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[9] See for example West and Steedman (2003).

time of the survey are excluded from the analysis, since they do not have any labour market outcomes to evaluate.

Table 4 reports the results of a probit equation investigating the factors associated with being in work at the time of the survey. The estimated equations control for age, ethnicity and region of residence. All combinations of school and post-school qualifications are also included amongst the regressors, with their coefficients revealing effects relative to the omitted group, which comprises individuals with no qualifications at all, from either school or post-school.

The first thing to note is that all qualification combinations are associated with statistically significantly higher employment rates than having no qualifications. The effects are much larger for women than for men, as we would expect given that unqualified women are less likely to be in work than unqualified men. The key finding for this paper, however, is how the acquisition of vocational qualifications raises the employment likelihood of those who left school with no qualifications. Amongst this group of unqualified school-leavers, compared to those who also do not acquire any qualifications after school, those men with vocational qualifications at level 1 are 5 percentage points more likely to be employed, with equivalent figures of 7 and 10 percentage points respectively for vocational qualifications at levels 2 and 3, holding other factors constant. For women, these marginal effects are 9, 15 and 17 percentage points respectively.

There is no employment benefit of vocational qualifications for those who do well at school, however. Those men with either higher grade lower secondary school qualifications or upper secondary school qualifications are around 10 percentage points more likely to be in employment, regardless of any subsequent acquisition of vocational qualifications, compared to men with no qualifications (around 20 percentage points for women). Note that these figures are similar to the effects of vocational qualifications for the unqualified school-leavers. Vocational qualifications therefore seem to be a reasonable substitute for academic qualifications obtained at school in terms of providing access to employment, although they do not seem to be a complement to academic qualifications for those already with school qualifications.

Table 5 considers wages as an outcome. The dependent variable is the log of hourly wages, while sector of work (public or private) and workplace size are added to the list of control variables used in the employment equation above. In addition, it was considered important to control for work experience in the wage equation, given that amongst the young sample considered here, experience will vary greatly according to length of time spent in education. In the absence of data on actual experience, potential experience (and its square), defined as current age minus age left full-time education, is used. The sample is restricted to full-time employees only.

The results again reveal the usefulness of vocational qualifications to those who left school with no qualifications[10]. Although level 1 yields no wage benefit, previously unqualified men who acquire a vocational qualification at level 2 earn 8%[11] more than those who remain unqualified. The wage gap at level 3 compared to those who remain unqualified is much larger still, at 25%. Similar benefits are obtained amongst men who left school with low grade lower secondary qualifications. With no subsequent vocational qualifications, such men earn 7% more than men with no qualifications at all. However this wage gap rises to 15%, 23% or 40%, if a vocational qualification is obtained at level 1, 2 or 3 respectively.

It should be noted, however, that in the case of wages, vocational qualifications are not a full substitute for good academic qualifications. Thus, unqualified school leavers who reach level 2 via the vocational route earn 8% more than the totally unqualified. However, men who reached level 2 via the academic route (via high grade lower secondary qualifications on their own) earn 31% more then the totally unqualified. Similarly at level 3, the wage gap relative to those with no qualifications at all is 25% via the vocational route (no school qualifications + vocational level 3) and 52% via the academic route (upper secondary qualifications on their own).

Further up the school qualification hierarchy, vocational qualifications are only of benefit at level 3 for those who left school with high grade lower secondary

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[10] This is contrary to earlier research in McIntosh (2002), which suggests that vocational qualifications below level 3 have no impact on wages, even for unqualified school leavers. Given that this earlier paper analyses individuals of all ages, the results in the present analysis of young people may suggest that vocational qualifications are more effective than they previously have been.

[11] Calculated as $e^{\beta} - 1$, where β is the estimated coefficient in Table 5.

qualifications, while for men who left school with upper secondary qualifications, only a high level qualification such as a degree can further raise their wages.

For women, the impact of vocational qualifications on wages is much smaller. Amongst the unqualified school leavers, although vocational qualifications at levels 1 and 2 yield positive wage benefits, neither estimate is statistically significant. Only at level 3 and above is a statistically significant effect observed. Amongst the three groups who did obtain qualifications at school, in no case does the subsequent acquisition of vocational qualifications lead to a further statistically significant increase in wages.

4. Robustness Checks of Results

The key finding of the previous section is that those who left school with no qualifications are more likely to be in employment if they subsequently acquire vocational qualifications, the effects being similar to those of academic qualifications at the same level. However, before the widespread acquisition of vocational qualifications by this group is advocated, the causality of this relationship must be investigated further. Is it the case that the likelihood of employment rises *because of* the acquisition of the qualifications? An alternative explanation of the positive association could be that it is easier to acquire vocational qualifications once in employment, through workplace training, so that the causality would run in the opposite direction. Another alternative is the well-known unobserved individual heterogeneity problem, whereby it may be the case that qualification acquisition does not *cause* higher employment rates, but that both are outcomes of other, unobserved, characteristics of individuals, for example their motivation or innate ability. The panel element of the LFS allows such alternatives to be evaluated.

As described in the data section, individuals are surveyed in the LFS for five successive quarters, before being replaced by new respondents. To increase the period of time covered, thus allowing more qualification acquisitions to be observed,

data were used from all of the quarterly Labour Force Surveys from 1996Q1[12] through to 2002Q4. This therefore provided 28 data points in the time dimension, although of course there are only a maximum of 5 observations per individual respondent. Since the focus in this section is on vocational qualifications at their point of acquisition, rather than simply highest level obtained, and since much vocational qualification acquisition by unqualified school-leavers takes place soon after leaving school, the sample was extended to include all of those aged over 16, with 29 remaining the upper age limit for inclusion.

The results reveal that, as suspected, a large majority of those who acquire vocational qualifications in a 3 month 'window' between one survey and the next were in fact in employment at the opening of this 'window'. The percentages for men are 81% of those acquiring a level 3 vocational qualification, 74% for those acquiring a level 2 vocational qualification and 72% for those acquiring a level 1 vocational qualification. The equivalent figures for women are lower, at 76%, 68% and 62% respectively. Nevertheless, such figures do leave substantial minorities not in employment before they acquire a vocational qualification, the majority of whom are classified as unemployed or inactive (as opposed to full-time studying). The raw data suggest that amongst these groups of individuals initially out of work or education, the acquisition of vocational qualifications does raise the probability of being in work by the time of the next sweep of the survey.

Table 6 investigates such relationships in a probit equation, controlling for gender, age, ethnicity, region of residence and year of observation. The data are pooled for men and women because of small cell sizes. The coefficients in the upper panel reveal the impact of the acquisition, between time *t-1* and time *t*, of post-school qualifications at the various levels, on the probability of being in employment at time *t*, **conditional on being out of work at time *t-1***. As before, those classified as studying at time *t* are excluded from the analysis. Separate equations are estimated for individuals with different levels of school qualification achievement.

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[12] 1996 was chosen as the starting point, since this was the first time that the LFS asked respondents to report *all* of their qualifications rather than only their highest three.

The results reveal the usefulness of vocational qualifications for helping the transition from 'out of work' to 'in work'. Considering, for example, the group who left school with no qualifications, if they were out of work last period, then they are 6 percentage points more likely to be in employment this period if they have acquired a level 1 vocational qualification between the two dates, holding other factors constant. The acquisition of vocational qualifications at levels 2 and 3 have equivalent effects on the likelihood of employment of 18 percentage points and 11 percentage points respectively for this group. Even amongst the individuals in the next two education categories, who left school at age 16 with some qualifications at the end of lower secondary education, vocational qualifications aid the transition into employment. Only for the group with upper secondary school qualifications is there no statistically significant impact on the probability of employment of vocational qualification acquisition by the initially out of work.

Table 6 implicitly assumes that labour force status last period is the same as labour force status at the time of the qualification acquisition. However, there is a possibility that the results reflect individuals who were observed as out of work last period, who find a job and *then* acquire a qualification, all before they are observed in employment 3 months later. In defence against such a possibility, it seems very unlikely that the qualification could be obtained *after* employment was secured, since this would require the qualification to be studied for, assessed and obtained in less than 3 months. As a further check, however, probit equations were estimated to explain current employment status, for those who were out of work both last period and the period before that. The results revealed that vocational qualification acquisition between 6 months ago and 3 months ago (i.e. during a period in which individuals were out of work at both the beginning and the end, and therefore presumably not in employment when they acquired the qualification) is statistically significantly related to higher employment rates in the current period, at least for the lower achievers at school[13].

The results so far in this section have suggested a positive relationship from vocational qualification acquisition to employment. However, the issue of

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[13] Marginal effects on current employment rates were 9 percentage points, 2 percentage points and 2 percentage points for the group of unqualified school leavers and 8 percentage points 6 percentage points and 0 percentage points for the group with low grade lower secondary school qualifications, for the acquisition of vocational qualifications at levels 3, 2 and 1 respectively.

unobserved heterogeneity driving both variables has not as yet been addressed. This is done in the lower half of Table 6, where random effects probit models are estimated, for exactly the same groups as the standard probit equations in the upper half of the table. The resulting coefficients are, however, very similar[14]. The conclusion therefore remains that, even when random effects are included to control for unobserved individual heterogeneity, the acquisition of vocational qualifications still significantly raises the employment rates of those out of work before the acquisition, for all groups except those with upper secondary school qualifications.

It would have been interesting to perform a similar analysis of wages using the panel element of the LFS. However, this was not possible, since wages are only asked of respondents in their first and fifth surveys, and so are not observed for the same individual in successive periods, thus ruling out the possibility of estimating the impact of vocational qualification acquisition between periods on wage changes between periods.

5. Conclusion

Sizeable minorities of young people have not obtained any qualifications by the time that they complete compulsory schooling. The aim of this paper has been to show how such failure harms young people in the labour market, the extent to which unqualified school leavers attempt to improve their worth through the acquisition of vocational qualifications, and any improvement in outcomes if they do.

The disappointing result is that very few individuals who obtained no school qualifications manage to reach level 3 via the vocational route, and only around a quarter of this group manage even to reach level 2. This is a pity, because the final part of the paper shows that those unqualified school-leavers who do obtain vocational level 2 or 3 qualifications are much more likely to be in employment than those who do not, their employment likelihood being similar to that of individuals who reach these levels via the academic route at school. In a similar way, although to

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[14] Indeed, many of the coefficients are slightly larger when random effects are included. This is consistent with the argument of Snijders and Bosker (1999) that population-averaged effects (i.e. those without random effects) are closed to zero than cluster-specific effects (i.e. those with random effects).

a lesser extent, the wage gap between those who do and do not leave school with some qualifications is partially closed by vocational qualification acquisition amongst the unqualified school leavers.

The vocational route as it stands therefore seems to be for the group who do obtain high grade qualifications at the end of lower secondary education, but for some reason do not remain in school to study for upper secondary qualifications. Around one half of both men and women in this group manage to obtain a level 3 qualification or better after leaving school. Similar qualification rates need to be achieved by those who complete compulsory schooling without such good grades, and particularly those who acquire no qualifications at all, if this group are not to be increasingly marginalised from the labour market, particularly unqualified women. The results presented here suggest that vocational qualifications can lead to integration into the labour market, and thus compensate for past failures at school. Such results may provide an incentive to enrol for these qualifications amongst those who do want to find a place in the labour market, although more needs to be done to make such study attractive to individuals who probably have had bad experiences at school. If they are persuaded, moreover, additional benefits to society as a whole include a closing of the skills gap in middle ranking (level 3) skills compared to the UK's competitor countries, and a reduction in the number of shortages reported by employers in intermediate skilled and technical occupations.

References

McIntosh, S. (2002) 'Further analysis of the returns to academic and vocational qualifications,' DfES Research Report 370.

Snijders, T. and Bosker, R. (1999) *Multilevel analysis: an introduction to basic and advanced multilevel modeling*. London: SAGE Publications.

West, J. and Steedman, H. (2003) 'Finding our way: vocational education in England,' Centre for Economic Performance, London School of Economics, Occasional Paper 18.

Table 1: 22-29 Year Olds in 2002 by Highest School Qualification Achieved (%)

School qualifications	Males	Females
none	21.1	16.7
Low grade lower secondary	26.1	23.5
High grade lower secondary	17.9	20.3
Upper secondary	35.0	39.6

Source: Labour Force Survey

Table 2: Labour Force Status of 22-29 Year Olds in 2002 (%)

School qualifications	Employed full-time	Employed part-time	Government training	unemployed	studying	inactive
Males						
None	69.7	2.8	0.5	10.2	2.5	14.4
Low grade lower secondary	84.8	2.0	0.5	6.7	2.1	3.8
High grade lower secondary	84.8	3.1	0.0	4.5	4.5	3.1
Upper secondary	79.8	3.6	0.1	3.6	10.4	2.6
Females						
None	28.0	17.4	0.3	5.4	2.5	46.5
Low grade lower secondary	43.1	24.0	0.2	5.2	2.8	24.7
High grade lower secondary	60.1	19.9	0.1	2.6	4.3	13.0
Upper secondary	72.2	9.9	0.1	2.4	9.7	5.8

Source: Labour Force Survey

Table 3: Summary of Post School Qualifications, by Highest Level of School Qualifications (22-29 Year Olds in 2002) (%)

	Males	Females
No school qualifications		
+ none	48.4	62.1
+ vocational level 1	20.6	16.8
+ vocational level 2	17.9	11.7
+ vocational level 3	8.3	4.8
+ above level 3	4.7	4.5
Low grade lower secondary qualifications		
+ none	24.2	26.1
+ vocational level 1	19.3	22.9
+ vocational level 2	24.6	26.7
+ vocational level 3	23.2	17.0
+ above level 3	8.8	7.2
High grade lower secondary qualifications		
+ none	20.6	21.0
+ vocational level 1	14.1	20.1
+ vocational level 2	14.8	14.2
+ vocational level 3	24.5	26.0
+ above level 3	25.9	18.7
Upper secondary qualifications		
+ none	15.9	13.5
+ vocational level 1	8.5	9.1
+ vocational level 2	3.0	2.9
+ vocational level 3	4.7	5.7
+ above level 3	67.8	68.9

Source: Labour Force Survey

Table 4: Determinants of Being in Work for 22-29 Year Olds in 2002, Probit Estimates

	Males	Females
No school qualifications		
+ vocational level 1	0.310 (0.091)** [0.047]	0.356 (0.094)** [0.087]
+ vocational level 2	0.538 (0.100)** [0.070]	0.769 (0.113)** [0.153]
+ vocational level 3	1.230 (0.185)** [0.102]	0.935 (0.169)** [0.168]
+ above level 3	0.841 (0.216)** [0.088]	1.448 (0.211)** [0.197]
Low grade lower secondary qualifications		
+ none	0.662 (0.087)** [0.082]	0.493 (0.071)** [0.115]
+ vocational level 1	0.587 (0.093)** [0.075]	0.716 (0.076)** [0.150]
+ vocational level 2	0.872 (0.093)** [0.097]	0.785 (0.073)** [0.161]
+ vocational level 3	0.954 (0.098)** [0.100]	1.218 (0.092)** [0.197]
+ above level 3	0.940 (0.151)** [0.094]	1.579 (0.152)** [0.205]
High grade lower secondary qualifications		
+ none	0.865 (0.117)** [0.092]	1.046 (0.089)** [0.185]
+ vocational level 1	1.041 (0.149)** [0.098]	1.173 (0.089)** [0.195]
+ vocational level 2	0.983 (0.140)** [0.096]	1.254 (0.106)** [0.196]
+ vocational level 3	1.129 (0.122)** [0.104]	1.346 (0.088)** [0.209]
+ above level 3	1.000 (0.115)** [0.099]	1.738 (0.114)** [0.219]
Upper secondary qualifications		
+ none	1.139 (0.125)** [0.104]	1.452 (0.098)** [0.211]
+ vocational level 1	1.189 (0.161)** [0.103]	1.831 (0.127)** [0.219]
+ vocational level 2	1.431 (0.258)** [0.104]	1.387 (0.171)** [0.196]
+ vocational level 3	0.950 (0.178)** [0.093]	1.506 (0.131)** [0.205]
+ above level 3	1.020 (0.068)** [0.132]	1.725 (0.060)** [0.338]
Observations	7090	7840

Robust standard errors in parentheses. Marginal effects in square brackets. * coefficient significant at 5%; ** coefficient significant at 1%. Equations also control for region of residence, age and ethnicity. The omitted category is no school qualifications and no post-school qualifications. Data: Labour Force Survey.

Table 5: Determinants of Log Hourly Wages for 22-29 Year Olds in 2002

	Males	Females
No school qualifications		
+ vocational level 1	0.018	0.116
	(0.041)	(0.071)
+ vocational level 2	0.080*	0.065
	(0.038)	(0.063)
+ vocational level 3	0.223**	0.229**
	(0.047)	(0.061)
+ above level 3	0.569**	0.577**
	(0.068)	(0.083)
Low grade lower secondary qualifications		
+ none	0.067*	0.223**
	(0.032)	(0.054)
+ vocational level 1	0.137**	0.218**
	(0.035)	(0.043)
+ vocational level 2	0.209**	0.185**
	(0.031)	(0.043)
+ vocational level 3	0.334**	0.243**
	(0.032)	(0.044)
+ above level 3	0.457**	0.394**
	(0.048)	(0.053)
High grade lower secondary qualifications		
+ none	0.271**	0.283**
	(0.044)	(0.047)
+ vocational level 1	0.263**	0.345**
	(0.046)	(0.050)
+ vocational level 2	0.299**	0.325**
	(0.039)	(0.049)
+ vocational level 3	0.344**	0.347**
	(0.035)	(0.042)
+ above level 3	0.574**	0.532**
	(0.036)	(0.047)
Upper secondary qualifications		
+ none	0.419**	0.403**
	(0.038)	(0.048)
+ vocational level 1	0.379**	0.408**
	(0.041)	(0.044)
+ vocational level 2	0.244**	0.312**
	(0.070)	(0.062)
+ vocational level 3	0.352**	0.469**
	(0.047)	(0.047)
+ above level 3	0.710**	0.717**
	(0.030)	(0.040)
Observations	3865	3370
R-squared	0.32	0.32

Robust standard errors in parentheses. * coefficient significant at 5%; ** coefficient significant at 1%. Equations also control for region of residence, age, ethnicity, workplace size and sector of work. The omitted category is no school qualifications and no post-school qualifications. Data: Labour Force Survey.

Table 6: Determinants of Being in Work This Period, if Not in Work Last Period, by Highest School Qualification, 1996-2002, Probit Estimates

	No qualifications	Low grade lower secondary qualifications	High grade lower secondary qualifications	Upper secondary qualifications
No Random Effects				
Gained vocational level 1	0.288 (0.064)**	0.227 (0.053)**	0.266 (0.067)**	0.054 (0.080)
	[0.062]	[0.065]	[0.101]	[0.021]
Gained vocational level 2	0.673 (0.084)**	0.248 (0.053)**	-0.041 (0.077)	0.037 (0.131)
	[0.176]	[0.072]	[-0.015]	[0.015]
Gained vocational level 3	0.473 (0.155)**	0.459 (0.081)**	0.348 (0.085)**	-0.054 (0.130)
	[0.114]	[0.143]	[0.134]	[-0.021]
Gained above level 3	0.892 (0.174)**	0.581 (0.160)**	0.830 (0.132)**	0.101 (0.054)
	[0.255]	[0.188]	[0.322]	[0.040]
Random Effects				
Gained vocational level 1	0.336 (0.089)**	0.255 (0.065)**	0.271 (0.089)**	0.064 (0.102)
Gained vocational level 2	0.852 (0.118)**	0.239 (0.064)**	-0.021 (0.101)	0.038 (0.165)
Gained vocational level 3	0.565 (0.214)**	0.504 (0.098)**	0.367 (0.113)**	-0.059 (0.164)
Gained above level 3	0.997 (0.242)**	0.584 (0.194)**	0.855 (0.173)**	0.008 (0.069)
Number of observations	25830	24699	14178	13444

Robust standard errors in parentheses. Marginal effects in square brackets. * coefficient significant at 5%; ** coefficient significant at 1%. Equations also control for region of residence, gender, age ethnicity and year. Data: Labour Force Survey.