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**The Returns to Qualifications in England: Updating the Evidence
Base on Level 2 and Level 3 Vocational Qualifications**

Charley Greenwood

Andrew Jenkins

Anna Vignoles

**CENTRE FOR THE
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Executive Summary

This report provides a detailed analysis of the current economic value of the full range of vocational level 2 and level 3 qualifications held by the English workforce, focusing particularly on the economic return to National Vocational Qualifications (NVQ). The report addresses questions such as: which level 2 and level 3 vocational qualifications give particularly high wage or employment returns? Which sectors or occupations, if any, now see positive returns to NVQ2 and NVQ3 qualifications? The report also considers in general how wage returns to different qualifications vary by age acquired, subject, by region and by mode of acquisition.

The report uses pooled quarterly data from the Labour Force Survey (LFS) for the period from 1997 through to 2006. The sample was confined to those aged between 16 and 65, and to those living in England. The strengths of these data are that they draw on large sample sizes and provide consistent information over a long time period. However, the data are relatively sparse which limits our analysis in places, particularly in terms of the analysis of the causal relationship between qualifications and employment.

Average and Marginal Wage Returns to Level 2 and Level 3 Vocational Qualifications

In the report we undertake two different types of analyses. Firstly, we estimate the average return to a qualification, which is the average economic value of that qualification across all individuals who hold that qualification. For some, the qualification will be their highest, for others it may only be one of many. Secondly, we estimate the marginal return to a vocational qualification, which is defined here as the economic value of that qualification for individuals who hold that qualification as their highest vocational qualification (academic qualifications are also included in the specifications but considered separately). Figures 1 and 2 provide a convenient summary of our main findings for NVQ2 and NVQ3 across a range of different specifications and comparison groups.

In line with much previous research we find negative average wage returns to NVQ2 qualifications. Some other level 2 vocational qualifications also yield zero returns, such as City and Guilds. Many level 2 vocational qualifications do however generate a substantial wage premium, particularly BTEC. For NVQs at level 3 there was no evidence of an average return for men while women earned a small average return of approximately 1%. In line with

previous research many other level 3 vocational qualifications yield a substantial wage benefit, such as BTEC and ONC/OND.

Focusing now on marginal returns, our analysis confirms that for individuals who hold intermediate (level 3) and lower (level 2) level vocational qualifications as their highest qualifications, many provide substantial economic value. However, NVQ2 qualifications do not provide individuals with positive marginal wage premiums, even for those who hold NVQ2 as their highest vocational qualification. NVQ3 qualifications do yield positive marginal returns for both men and women.¹

Changes in Average and Marginal Wage Returns Over Time

We observe substantial year on year fluctuations in the average and marginal return to a number of level 2 and level 3 vocational qualifications caused by small sample sizes, justifying our pooling of the data over the entire time period. With this caveat in mind, we find no evidence of substantial changes in the return to most level 2 and level 3 vocational qualifications during the period 1997-2006. The only distinctive trend we observe is the decline in the marginal return to level 2 and level 3 BTEC qualifications over this period. There is also evidence of a decline in the return to RSA at level 3, although we are cautious about this result due to small sample sizes.

Focusing on Level 2 Vocational Qualifications

Great care is needed to ensure that we compare the earnings of individuals who hold level 2 vocational qualifications with otherwise very similar individuals who do not hold a particular level 2 vocational qualification. To ensure this we analyse the returns to level 2 qualifications across two different comparator groups. We are also interested in disaggregating the average returns to level 2 qualifications quoted above, to determine in which contexts particular level 2 qualifications give good wage returns. To do this we analyse the average and marginal returns identified above by occupation and sector of work, for two specific comparator groups. Figure 1 summarises how returns to NVQ2 change according to the comparison group.

¹ There are potential biases in LFS, such as some measurement error and the fact that we cannot control for prior ability, so the estimates do need to be interpreted with caution. However, previous studies such as Dearden et al., 2002, have found that sources of bias in LFS tend largely to cancel each other out in practice.

We started by focusing on a sample of low qualified workers, i.e. including only individuals who have vocational qualifications up to level 2 and academic qualifications up to level 1. We then focused on an unqualified sample which includes only those who have level 2 vocational qualifications and no other qualifications. The results show that the choice of comparator group matters a great deal to the estimates of the average and marginal returns to level 2 qualifications (see Table 25 for an overall summary).

The average returns to level 2 vocational qualifications are lower than the marginal returns. The marginal return to most level 2 qualifications is positive and significant, particularly when the comparison group is made up of workers with no qualifications at all. This implies that level 2 vocational qualifications are particularly valuable, in terms of the wage returns they yield, for individuals who leave school with no qualifications at all or only low level academic qualifications.

The average return to NVQ2 remains nil even after choosing a more restrictive comparison sample, for both men and women. Thus where NVQ2 qualifications are combined with other vocational qualifications their average economic value is low, even for low qualified individuals. Nonetheless, we observe in some circumstances positive significant average returns to NVQ2, such as for individuals working in skilled occupations. For males, even where NVQ2 is a person's highest vocational qualification, the marginal wage return is nil. The marginal return to NVQ2 for women is positively significant when compared to the earnings of low qualified (3%) and unqualified women (5%). The marginal wage return to NVQ2 for these low qualified samples also varies by occupation and sector. For females, we observe positive significant marginal returns in personal service (6%) and sales occupations (3%) and for males in skilled (8%), process/machine operative (4%) and elementary occupations (4%). For females with NVQ2 as their highest vocational qualification, we observe a positive marginal wage return in the following sectors: distribution (2%), public admin/education/health (4%) and other services (8%). For males positive marginal wage returns were found in the construction sector (11%).² These results can be compared to earlier work by Dearden et al (2004b) who, utilising a similar LFS sample, found small, positive wage returns for females in public admin/education/health and for males in the

² The differences across sectors may well reflect genuine variation in the value of these qualifications but it is also conceivable that some differences are accounted for by the ability of employers not to pass on the full benefits of additional output as higher wages.

energy/water sector; among occupations positive returns were found for women only in personal/protective services and among men only for plant/machine operatives.

Focusing on Level 3 Vocational Qualifications

As was the case with level 2 vocational qualifications, the exact choice of comparator group determines the average and marginal return to any particular level 3 vocational qualification (see Figure 2 and Table 40 for overall summaries of results). The report focuses on a sample of individuals who left school with only level 2 academic qualifications or below, and who do not have any vocational qualifications above level 3. Thus, we consider the value of level 3 vocational qualifications for individuals who leave school, generally at age 16, with a good set of GCSEs at best and who do not go on to higher level vocational study.

When one uses this restricted sample of those with level 3 vocational qualifications or below, the average wage return to holding a level 3 NVQ is just under 5% for women and 3% for men. Marginal wage returns to all level 3 vocational qualifications are higher than average returns, i.e. the returns for those who hold a particular level 3 vocational qualification as their highest vocational qualification are higher than for all individuals holding that qualification. This was also the case for level 2 qualifications. Hence, the marginal wage return to NVQ3 in the restricted sample is 10% for females and 13% for males. These marginal returns for lower qualified individuals are comparable to the marginal returns to other level 3 vocational qualifications, such as City and Guilds. However, some level 3 vocational qualifications yield much higher marginal wage returns for men and women, namely BTEC and ONC/OND, and for women RSA.

The analysis suggests that there are significant and substantial average wage returns to a wide range of level 3 qualifications, although the exact magnitude of the return varies by gender, occupation, and sector. NVQs at level 3 yield positive average and marginal wage returns across a number of occupations. Among men, positive average wage returns are found for NVQ3 only in skilled occupations (10%) and for process and machine operative occupations (7%). For women, NVQ3 yields a positive marginal and average return for those in process/machine jobs (marginal return, 18%), sales/customer (12%), personal service (12%) and administrative/secretarial occupations (5%).

NVQ3 also yields a positive marginal wage return across all sectors for the combined sample of men and women. However, closer examination reveals substantial variation in the marginal return by sector and by gender. Positive marginal wage returns to NVQ3 were found for women (Table 38) in the following sectors: energy and water (20%), manufacturing (16%), the hotel/restaurant sector (8%), transport (7%) public administration (10%), banking (5%) and other services (19%). For men, there are significant and positive wage marginal returns to NVQ3 across all industrial sectors except banking (Table 39). A very similar sectoral pattern was observed for average returns to NVQ3.

Wage Returns By Age of Acquisition and Length of Time Held

Another issue explored in the report is the extent to which vocational qualifications acquired later in life have more or less economic value. To undertake this analysis we also needed to allow for how long the individual had held the qualification, as there may be some lags between acquiring the qualification and getting the economic gain from it.

At level 2, for many vocational qualifications such as NVQ2 and RSA the wage return is higher if the person acquired the qualification at a younger age. This is not true of all level 2 qualifications however, such as BTEC and City and Guilds. At level 3, generally wage returns are higher if the qualification is acquired earlier, with the exception of RSA.

Wage Returns by Region

Vocational qualifications at both level 2 and level 3 show substantial variation in average and marginal rates of return across regions. Many vocational qualifications, for example NVQ and BTEC, tend to have higher wage returns in particular regions that have a larger manufacturing base, such as the North East and Yorkshire, Humberside, and lower returns in London and the South East. However, we do not emphasise these regional results as we cannot control for sector in these regressions and we believe that the higher returns to particular level 2 and level 3 vocational qualifications in some regions partly reflects differences in industry structure rather than inherent differences in regional returns.

Wage Returns by Subject

LFS data in more recent years also include the subject area of an individual's highest vocational qualification. We were therefore able to explore the extent to which the wage return to level 2 and level 3 qualifications varies across subject area. For level 3 qualifications

(BTEC, City and Guilds, ONC / OND and NVQ), there are no marked differences in the general pattern of returns by subject. The same is true for the two level 2 qualifications that it was possible to investigate (City and Guilds and NVQ2). The LFS does not generally collect adequate data to analyse returns to particular lower level vocational qualifications by subject area, a limitation that could be usefully overcome if the survey were redesigned to collect subject information on all qualifications held.

Wage Returns by Mode of Acquisition

Previous research (Dearden et al. 2004b) has suggested that the return to NVQ2 in particular varies by mode of acquisition, with higher returns to these qualifications if they are acquired through the individual's employment. We therefore ideally wanted to investigate whether the return to other level 2 qualifications varied according to whether the qualification was acquired via government training, in work, in a college or school, or via some other route. However, because of small sample sizes it was only possible to break down the returns to vocational level 2 qualifications by mode of acquisition for NVQ2 and City & Guilds at level 2. The results provide some support for the idea that level 2 qualifications, such as City and Guilds and NVQ, acquired through work tend to yield higher returns while those obtained on government training schemes yield lower returns. For example men acquiring an NVQ2 through work earn a marginal return of around 8% which is consistent with Dearden et al, (2004b). However, these findings were not very robust statistically.

Employment Returns

Previous research has found important employment effects associated with qualifications (Dearden et al., 2002). In this report we focused on the impact of level 2 and level 3 qualifications on the likelihood of being in employment. We also considered the role of qualifications in promoting economic activity, i.e. encouraging people into the labour market as opposed to simply helping them out of unemployment. We found that level 2 and level 3 vocational qualifications did encourage inactive individuals into employment. However, these qualifications were not as important in helping individuals move from unemployment into employment.

Starting with our sample of economically active individuals, i.e. those already attached to the labour market, there was some evidence that level 3 vocational qualifications, when held as the individual's highest qualification, were associated with a higher probability of

employment. The increased probability of being in employment, as compared to being unemployed, for NVQ3, was estimated at 2.3 percentage points for men and 1.8 percentage points for women. There was less evidence of any association at level 2; for example NVQs at level 2 were non-significant for men and the estimated effect for women was positive but very small, less than 1 percentage point.

For the full sample of economically active and inactive individuals, we found strong positive employment effects from a range of level 2 and level 3 vocational qualifications.

These results may suggest that vocational qualifications such as NVQ3 are important in determining whether or not someone is economically active and play some role in determining whether or not someone is actually in employment. However, because most low and intermediate level vocational qualifications are acquired via work, it is possible that individuals who are economically active have more vocational qualifications as they have had greater opportunity to acquire such qualifications and the relationship we observe is not a causal one.

Conclusions

Like previous research, our initial analyses suggest that familiar patterns of wage returns still hold in the UK labour market. There are high returns to academic qualifications across the board, substantial returns to higher level vocational qualifications and smaller but nonetheless significant returns to some but by no means all intermediate and lower level vocational qualifications. We also confirm the non-existent average returns to NVQ2. We find high wage (and more arguably employment) returns across a range of contexts for a number of level 2 and level 3 vocational qualifications, such as BTEC, City and Guilds and RSA. However, the wage returns to NVQs are not so large, nor so widespread.

It is in fact probably meaningless to talk of an average return to an NVQ2. This is because the use made of NVQ2 and the content of the qualification varies across different contexts, thus providing very different economic value across different sectors and occupations. Whilst some level 2 vocational qualifications, such as BTECs, do offer by and large positive wage and employment returns across the full range of sectors, occupations and for both genders, this is not the case for NVQs. These latter qualifications only provide added value in a very limited set of contexts. Economic analysis of individuals' wages and employment prospects

can only go so far in telling us why such qualifications do have positive economic value in some settings but do not in others. To truly understand why, for example, NVQs in public administration for women yield a positive marginal wage return, we really need to understand how such qualifications are used in practice and have a better understanding of the training incorporated into that particular NVQ. We would therefore recommend further qualitative research into the curriculum content of different vocational qualifications that are apparently at the same level but that nonetheless provide very different wage and employment returns. Only by understanding the curriculum content, the way in which employers use the skills acquired via these qualifications, and by having a better appreciation of the different types of workers taking different types of qualification, can we move forward our understanding of which qualifications best fit the needs of the labour market.

Post Leitch the UK is moving to adopt a more demand led system of vocational provision, whereby employers, via their sector representatives, have a greater say in the development and delivery of qualifications. However, it is obvious from our evidence that some of the current vocational offer does not meet the needs of employers. In the case of NVQ2 and NVQ3 qualifications, in many sectors and across a range of occupations, even otherwise low skilled individuals do not gain a large wage return to these qualifications, even where they are held as their highest qualification. This suggests that employers do not value them as much as other qualifications, such as BTEC, which provide good returns across a much wider range of sectors and occupations. Yet NVQs were developed supposedly with substantial employer input into their design. With the shift to a more demand led system, it remains critical that we have a better understanding as to exactly why BTEC qualifications are in demand by employers whereas NVQ2 qualifications in certain sectors are not. We cannot assume that the processes set up to enable employers to influence vocational qualification development and provision will automatically ensure that the vocational training system responds effectively to the needs of individuals and employers, and produces qualifications that have good economic value.

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Andrew Jenkins is a Research Officer at the Centre for the Economics of Education, Institute of Education. Charley Greenwood is a PhD student at the Bedford Group for Lifecourse and Statistical Studies, Institute of Education. Anna Vignoles is a Reader in Economics of Education at the Bedford Group for Lifecourse and Statistical Studies, Institute of Education, a Research Associate at the Centre for Economic Performance, London School of Economics and Deputy Director of the Centre for the Economics of Education.

1 Introduction

The importance of skills for individual and national economic prosperity is well known. Leitch (2006) concluded that:

“Without increased skills, we (the UK) would condemn ourselves to a lingering decline in competitiveness, diminishing economic growth and a bleaker future for all”.

To continue to develop the UK as a high skilled economy, we must invest in education and qualifications that make individuals more productive and provide them with economic benefit in the labour market. To help inform policy-makers as to how best to achieve this, we need robust and up to date information on the economic value of the current range of qualifications that are on offer. This report provides current information on the economic returns to level 2 and level 3 vocational qualifications using data from the Labour Force Survey (LFS), with a particular focus on the economic value of low and intermediate level National Vocational Qualifications (NVQs) in improving individuals’ economic prospects. We cannot, in this report, consider the non-economic returns to different qualifications. However, we recognise of course that there may be many other benefits associated with particular education investments and that these wider benefits should be taken into account when considering government policy on this issue.

Improving the skills of the workforce to increase productivity levels and economic prosperity in the UK is not the only objective of government policy. There is also a need to reduce inequalities in the UK labour market, and helping relatively low-skilled individuals to gain qualifications is potentially one way of doing this. This report therefore also provides much needed current information on the economic benefit of lower level vocational qualifications for low skilled workers.

Another objective of this report is to inform the debate on the effectiveness of low and intermediate level vocational qualifications. Previous research has suggested that some current vocational qualifications are not proving particularly effective in either improving the productivity and wages of individuals or, by implication, reducing inequalities in the labour

market. In particular, the research evidence to date has indicated that, on average, individuals who obtain NVQs at level 1 and level 2 do not appear to gain additional wages as a result of their qualifications. In fact, a number of studies have found that individuals with NVQ level 1 and 2 qualifications actually earn less than workers with no qualifications at all. This is true for both men and women (Dearden et al., 2004a; Dearden et al., 2004b; Dickenson, 2005). The same studies have also found relatively low returns to NVQ level 3. This report seeks to update our information on the economic value of these qualifications by estimating the wage and employment returns to level 2 and level 3 vocational qualifications and NVQ2 and NVQ3 specifically.

Previous studies have also found that the wage return to NVQs vary by sector (Dearden et al., 2004b; Vignoles and Powdthavee, 2006), although on average they remain negative or zero at least for NVQ2. Specifically, previous work has suggested positive returns to NVQ2 in the energy and water sector, and for women in public administration, education and health. Returns to higher level NVQs also tend to be greater in the private sector, than in the public sector (the body of evidence on all this is summarised in Vignoles and Powdthavee, 2006). This current report updates these analyses, investigating the extent to which the returns to the full range of vocational level 2 and level 3 qualifications vary by sector. It also analyses the return to these qualifications across different occupational groupings, again to determine which lower and intermediate level vocational qualifications yield good economic value in which particular contexts. This will aid policy-makers in determining which types of level 2 and level 3 vocational qualifications provide good economic value and may help explain why some qualifications have good returns in particular circumstances.

In summary, our report will provide an update of the current economic value of the full range of vocational level 2 and level 3 qualifications. The report will seek to address questions such as: which level 2 and level 3 vocational qualifications give particularly high wage or employment returns? Which sectors or occupations, if any, now see positive returns to NVQ2 and NVQ3 qualifications? The report also considers how the wage returns vary by age acquired, subject, by region and by mode of acquisition.

The structure of the report is as follows. Section 2 details the data used, while section 3 outlines our method. In section 4 a short discussion of the uptake of qualifications over time is included, to provide context to the wage and employment analyses that follow. Section 5

discusses the average wage returns to level 2 and level 3 qualifications, while section 6 focuses on the (marginal) returns to highest level 2 and level 3 vocational qualifications held. We then consider changes in these returns over time in section 7. It is important when determining the returns to qualifications to use the appropriate comparator group and this issue is explored for level 2 qualifications in section 8 and for level 3 qualifications in section 9. In these more detailed analyses we look in detail at the returns across different sectors and occupations. Section 10 then examines how the return to level 2 and level 3 vocational qualifications changes according to the age when the qualification was acquired. Section 11 presents returns by region, section 12 by subject area and section 13 by mode of delivery (i.e. whether the qualification was acquired in the classroom, at work etc.). Section 14 then focuses on employment returns to level 2 and level 3 vocational qualifications. The final section provides a discussion of the policy implications of the results and some conclusions.

2 Data

To address the research questions a dataset that contains detailed information about qualifications, and which is large enough to obtain reliable results after breaking down by occupation and industry sector, is required. The Labour Force Survey (LFS) meets these criteria. For the analysis in this report pooled quarterly data from the LFS was used for the period from 1997Q1 through to 2006Q2. The sample was confined to those aged between 16 and 65, and to those living in England. Individuals remain in LFS for five waves and are asked questions about their wages and earnings in waves 1 and 5. To avoid duplication we therefore use only wave 5³ data and confine the sample to those with a valid wage observation.

The wage variable is the derived gross hourly wage in the respondent's main job. Some outliers, the upper and lower 0.5% of the wage distribution in each quarter, were removed from the sample. A real wage variable was constructed by deflating nominal wages with the Average Earnings Index, to allow for wage inflation over time. There were 249,795 cases to

³ We have no reason to believe that data collected at wave 5 of the LFS is any more or less subject to measurement error as compared to data collected at any other wave.

be used in the regression models of whom 121,740 (49%) were male and 128,055 (51%) were female.

The sample for analysis of employment also consisted of those in England aged between 16 and 65. A binary dependent variable was constructed which takes the value of zero for people who were unemployed and one for those who were employed. Combining all the data from 1997Q1 to 2006Q2 gave a sample of 376,570 for the analysis of employment/unemployment⁴. Just over 5% (19,226) of the sample was unemployed. The sample comprised approximately 53% male and 47% female; some 6% of the men and 5% of the women were unemployed. For completeness the report also looks at employment rates, i.e. including inactive people in the sample. Of the 495,562 individuals in this larger sample which includes inactive individuals, approximately 73% were in employment. Just over half were female; almost 80% of men and 66% of women were in employment.

A range of variables is used in the analysis namely: gender, age of the respondent⁵, ethnicity, current region of work, and whether the person works part-time. For the regressions which use pooled data from all years, a dummy variable indicating the year of the wage observation is also included, to allow for changes in wages over time. In some instances the information provided in the LFS does not come from the individual themselves but rather from a proxy respondent, such as a spouse or parent. It is possible that information on wages given by these proxy respondents has more measurement error than wage data collected from the individual themselves. If this measurement error is random our results will not be biased. If however, proxy respondents tend to systematically over estimate wages, and if proxy responses are more likely for certain types of worker e.g. younger workers, then we may get bias in the coefficients on some explanatory variables. All regressions therefore include a dummy variable that takes the value of one if the information was provided by a proxy respondent. This should allow for any systematic positive or negative effect of misreported wages from proxy respondents.⁶ If however, respondents also systematically misreport individuals' qualifications we are unable to account for this in the analysis.

⁴ The sample for the analysis of employment is, of course, a good deal larger than that for the analysis of wages as the former includes many people who do not have a job and hence have no wages.

⁵ Age is included as a quadratic in the wage equations.

The critical variables in the wage and employment analyses are of course the education variables. In general, we have kept the qualifications as disaggregated as possible. However, there are two issues that merit comment. Firstly, when we use variables measuring the individual's highest qualification we have constructed two hierarchies of variables based on the national qualification framework, one vocational and one academic. Thus an individual can have a highest academic qualification, such as a degree, alongside a highest vocational qualification, such as an HNC. This ensures that we do not have to arbitrarily determine that either academic or vocational qualifications rank higher than one another if they are at the same level in the qualifications framework. Another issue that arises is that for certain qualifications, namely degrees, NVQs, RSA, C&G and BTEC and teaching qualifications, respondents only record the highest level within that category. For example, if an individual has both an NVQ3 and an NVQ2 then the data only record that individual as having an NVQ3. We therefore need to be aware of this problem when discussing the analysis. The proportions holding level 2 and level 3 vocational qualifications is given in Table 1.

3 Method

The method for the analysis of wage returns is ordinary least squares (OLS) regression models which allow for clustering.⁷ This is the simplest means of allowing for the influence of multiple explanatory variables on a continuous response variable. The dependent variable is the log of the hourly real wage. Models were generally run for the sample as a whole and separately for each gender. The controls include a range of other factors which are expected to influence wages and are available in the LFS data. These include age, ethnicity, region, whether the worker was full-time or part-time and whether the information was returned by the worker themselves or by a proxy as discussed above. Apart from the inclusion of the proxy respondent dummy variable, this specification is broadly similar to specifications used elsewhere in the literature (e.g. Dearden et al. 2002). However, in some studies additional controls for sector of work and workplace size are included in particular specifications. These additional controls are problematic in that an individual's sector of work or firm size are

⁶ The coefficient on this variable tends to be insignificant in the all qualifications specifications and to have a small (1-2%) and positive association with wages in the highest qualification specifications. It has minimal impact on the other coefficients.

likely to be related to their educational choices and thus securing a job in a higher paying sector may be one outcome of an individual's educational achievement. Including these controls in the model is therefore not advisable and will tend to downward bias the coefficients on the education variables. As most studies, including Dearden et al, 2004b, also include specifications which omit these variables, comparison of our results with other studies in the literature is not a major problem.

A number of methodological issues arise in the analysis. Firstly, the LFS data does not include any controls for an individual's inherent ability. Therefore our estimates may be subject to the well documented ability bias problem. Individuals systematically choose to be less or more educated on the basis of what they expect to gain from education. Thus individuals who are very able may choose not to get qualifications as they feel they can earn sufficient wage in the labour market without. Individuals who are less able may feel the need to acquire some qualifications. Alternatively, more able people may get more education and part of the apparent gain from education may actually be down to the fact that these individuals are more educated. When we estimate the returns to education, this means it is hard to be sure that the relationship between qualification level and earnings or employment is actually causal. In fact ability bias tends to cause upward bias in OLS estimates of the return to education other things being equal. We do not have any obvious means to overcome this potential bias. However, work by Dearden et al. (2002) suggests that estimates of the return to qualifications using relatively sparse data, such as the LFS, produce reasonable estimates of the true return to qualifications (the latter being derived using richer data and more sophisticated methods of analysis). For our detailed analysis of level 2 and level 3 qualifications, we also pay particular attention to our choice of comparator group, with the objective being to compare individuals that are as similar as possible (other than in their level of qualification). This may also go some way to addressing issues of ability bias. It does not however, get around the fact that education is endogenous (i.e. the fact that education is not randomly given to individuals but is rather a choice). We acknowledge this problem and note that most studies which have used methods such as instrumental variables to overcome endogeneity bias have found OLS estimates to be downward biased.⁸

⁷ That is, the standard errors are adjusted so that the results are robust to clustering.

⁸ Most likely because downward bias generated by measurement error more than offsets any upward bias from ability bias.

Another issue is the validity of estimating returns to qualifications by occupation and sector. Clearly individuals choose the sector and occupation in which they work on the basis of expected wages in each sector or occupation (as well as other non monetary factors). As has already been mentioned, the choice of sector and occupation is therefore endogenous. This is why these variables are not included as controls in the OLS wage or employment regressions. However, from a policy perspective it is of course important to investigate the extent to which the returns to education vary by sector and occupation. Thus the interpretation of the analysis by sector and occupation should be descriptive, rather than causal.

4 The Uptake of Qualifications

Before turning to the wage and employment analysis we provide some background information about the proportions of the workforce holding each type of level 2 and level 3 vocational qualification. Note that here we are discussing the (unweighted) prevalence of qualifications in the LFS sample and that these data do not necessarily reflect the aggregate national take up of qualifications.

As shown in Table 1, at level 2 the incidence of NVQ2 has risen steadily from a low base of 1.2% in 1997 to 3% in 2006. The proportion of the sample holding other types of level 2 vocational qualifications has, on the other hand, remained stable over time or declined. For instance, the proportion of the sample holding BTEC at level 2 and RSA at level 2 has remained broadly stable, whilst there has been a decline in the proportion holding City and Guilds at level 2 from 2.8% to 1.7%. As Foundation Apprenticeships were only introduced in 2004, we cannot comment on trends over time for these qualifications.

At level 3, the proportion of the sample holding NVQ has grown substantially from 0.6% to 2.3%, as these newer qualifications have grown in popularity. The proportion holding City and Guilds qualifications at level 3 has also increased somewhat from 2% to 2.7%. Most other level 3 qualifications have also increased their incidence, reflecting the rise in qualification levels generally across the entire time period. The exceptions are the proportion

holding ONC/OND and traditional Apprenticeship, which has declined. It is still the case however, that in 2006 a higher proportion of the sample held traditional apprenticeships as compared to any other level 3 qualifications.

It is worth noting that the majority of individuals holding NVQ qualifications do not hold other (higher) level vocational qualifications (see below). For example of those individuals with level 3 NVQ, only 12% held another higher-level vocational qualification as well in 2006.

Percentage of those holding NVQs, for whom it is their highest vocational qualification		
	1997	2006
NVQ level 5	100	100
NVQ level 4	95.9	97.6
NVQ level 3	89.0	88.1
NVQ level 2	77.1	82.6
NVQ level 1	72.0	72.5

For City and Guilds qualifications by contrast, a much higher proportion of those holding a City and Guilds at levels 1 or 2 also have a higher vocational qualification of some (other) kind than is true for NVQ holders. In other words, individuals holding City and Guilds levels 1 or 2 also tend to have some other higher-level vocational qualification, whereas individuals who hold lower level NVQs tend not to have any other higher level vocational qualification.

Percentage of those holding City & Guilds, for whom it is their highest vocational qualification		
	1997	2006
City and Guilds level 3	76.8	72.8
City and Guilds level 2	23.4	35.0
City and Guilds level 1	40.7	37.0

5 Wage Returns for All Qualifications

Summary: This section analyses the average wage return to level 2 and level 3 vocational qualifications: all qualifications held by the individual are entered into the model. The model provides an estimate of the average return to a particular qualification for all those who hold the qualification, regardless of what other qualifications they hold. In line with much previous research we find negative average wage returns to NVQ2 qualifications. Some other level 2 vocational qualifications also yield zero returns, such as City and Guilds. Many level 2 vocational qualifications do however generate a substantial wage premium, particularly BTEC. For NVQs at level 3 there was no evidence of an average return for men while women earned a small average return of approximately 1%. Once again many other level 3 vocational qualifications yield a substantial wage benefit, such as BTEC and ONC/OND. There are very strong wage returns to almost every academic qualification. The average returns to A-levels and first or foundation degrees are around 14% and 26-29% respectively, and the returns to 5 or more GCSEs A-C are around 9-11%.*

To start, we consider the average wage returns to level 2 and level 3 qualifications across all workers who hold such qualifications. The results presented in this section provide policy-makers with information on the average wage return to particular qualifications across the entire range of individuals who hold such qualifications. The full sample of all employees in England is used for this analysis. Regression results for the full sample using data pooled over 1997 to 2006 are shown in Table 2; the year-by-year regressions are in Appendix A, Tables A1 to A3. The model includes dummy variables for all qualifications held by each individual, as well as age, ethnicity, region, working part-time and whether proxy respondent as controls. The pooled regression also has year dummies among the controls. Models were run separately for men and for women. The coefficients from the regressions have been converted in both the tables and text to display the percentage wage returns. We do this by applying the following formula $100 * [\exp(b) - 1]$ where 'b' is the regression coefficient⁹.

As we include all qualifications in the model, the coefficient on each qualification variable measures the average return to that qualification for all workers who hold that qualification. For example, the return to NVQ2 would be an average of the return to individuals who hold NVQ2 and other higher level qualifications, such as degrees, as well as workers who have

NVQ2 as their highest level of qualification. The overall returns for different combinations of qualifications can be obtained simply by adding the average returns for each qualification. For example, a woman with good GCSEs, two or more A levels and a first degree would, on average, earn an hourly wage premium of 53.% over the base case of no qualifications (9% for the GCSEs, 14% for the A levels and 29% for the degree).

Although Table 2 provides information on the full range of qualifications currently in the UK labour market, the main focus of this report is in the returns to intermediate and lower level vocational qualifications, and particularly NVQs, and we largely restrict our discussion to these qualifications. We start at level 2. There is strong evidence of a negative significant average wage premium for both men and women from NVQ2 qualifications, and this result is in line with previous studies. City and Guilds qualifications at level 2 also offer no wage premium. Some other level 2 vocational qualifications do offer a substantial wage return however. For instance, a BTEC at level 2 offers substantial positive wage returns, for men and women. RSA at level 2 yields a positive significant wage premium for women only, of 5%.

At level 3, NVQs provide no wage return for men, while women earn a small, positive return of about 1%. BTEC and ONC/OND qualifications, by contrast, attract a positive and sizeable wage premium of around 8% for both males and females. City and Guilds at level 3 offers a small but significant wage premium for males at 3%. Once again RSA at level 3 offers a positive and significant wage premium for women, of around 10%, with no wage premium for males. The results suggest a traditional apprenticeship, and even a Modern Apprenticeship at level 3, offers substantial significant positive wage returns (8-10%) for men but insignificant returns for women. We note however, that a recent study of the return to apprenticeship (McIntosh, 2007) suggests a sizeable return to a Modern Apprenticeship at level 3 for women in 2004/5. Our analysis provides an estimate of the return to apprenticeship over a longer time period (1997-2006). It may therefore be unsurprising that we don't find significant positive returns for women as improvements in the return to apprenticeship over time will be masked by poorer returns in earlier years. Furthermore, analysis of the returns to apprenticeship over time is problematic since the LFS only started

⁹ Care should be taken when comparing the results in this report with those of other studies for which this conversion may not have been carried out.

to identify the level of a person's Modern Apprenticeship in 2004¹⁰. We consider this issue further when we examine changes in returns over time in section 7 below. More generally of course, if returns to some level 2 and level 3 qualifications are improving over time, these pooled analyses may hide this too. Again we consider this issue in section 7.

Although the analysis of average returns is somewhat disappointing, at least for NVQ2 and NVQ3 qualifications, we must be cautious in the interpretation of these results as we may be more interested in the marginal return i.e. the return for those who hold such qualifications as their highest qualification. In any case, as has been discussed, for some qualifications such as NVQ, BTEC and City and Guilds we only know about individuals' highest level of this type of qualification. This makes interpretation of the coefficients on these particular qualifications when adopting the all qualification specification in Table 2 somewhat problematic. It is also not clear in which direction any bias arising from this problem might be. For instance, the average return to an NVQ2 may be biased downward because it is the return only for individuals who do not proceed to higher NVQ levels. Equally however, one could argue that the bias is upwards because it includes any benefit arising from holding level 1 NVQ qualifications. In general we cannot be sure what the implications are of us not having information on all levels of qualification held by the individual. Certainly the quality of the LFS data could be much improved, for the purposes of analysing wage returns to qualifications, if it included details of all vocational qualifications held. Our estimates in the next section which focuses on only highest qualifications held do not suffer from this potential source of bias however.

Although we do not emphasize the returns to higher level qualifications in this report, we do note that the wage return to higher level vocational qualifications is substantial, and in particular level 4 and 5 NVQs yield sizeable returns. For women the return was 20% at level 5 and 15% at level 4; for men it was 10% at level 5 and 9% at level 4.

It is also worth stating that the results in Table 2 are consistent with previous research, which has found zero or even negative returns to lower level NVQ qualifications. Table 2 also shows the traditional pattern of substantial returns to even lower level academic

¹⁰ Therefore prior to 2004 the analysis makes the assumption that any apprenticeships are held at level 3. This may have the effect of biasing downwards estimates of the wage returns to traditional and modern

qualifications, and in most cases higher returns to academic qualifications than to equivalent level vocational qualifications. Some caution is required here however. The table shows the wage premium associated with a particular qualification but does not take account of how long it takes to achieve that qualification nor the costs of doing so. Thus if vocational qualifications take fewer years to achieve and have lower direct and indirect costs, the true rate of return to a vocational qualification may be quite similar or even exceed that for the equivalent academic qualification (Dearden et al. 2002). Nonetheless, Table 2 shows very strong returns to almost every academic qualification, particularly degrees, A levels, O levels and GCSEs. Again, consistent with previous evidence, the returns to high level vocational qualifications, such as vocational degrees, NVQ5 and HNC/HND, are also relatively high. At lower levels however, the return to academic qualifications is much more substantial than the return to vocational qualifications.

Differences between men and women are also apparent for some vocational qualifications. Returns to academic qualifications are quite similar for men and women. For example the returns to A levels are virtually identical across gender, although men have slightly higher wage premiums for some qualifications at level 2, such as GCSEs while women have somewhat larger wage premiums for higher level academic qualifications such as degrees. Among vocational qualifications, the returns to HNC/HND and ONC/OND, as well as apprenticeships, are higher for men while women have much higher wage premiums for teaching and nursing qualifications.

6 Returns to Highest Qualification Held

Summary: This section analyses the marginal return to level 2 and level 3 vocational qualifications: only an individual's highest vocational and highest academic qualification is entered into the model. The model provides an estimate of the marginal return to a particular qualification for those for whom it is their highest vocational (or academic) qualification. Our analysis here confirms previous evidence of substantial positive marginal wage returns to many lower level (level 2) and intermediate (level 3) qualifications. However, NVQ2 qualifications do not provide individuals with positive marginal wage premiums,

apprenticeships at level 3. This should be kept in mind when interpreting the apprenticeship results throughout the report.

even for those who hold NVQ2 as their highest vocational qualification. However, NVQ3 qualifications do yield positive marginal returns for both men and women.

Table 3 shows the results of a model that includes only the *highest* academic and vocational qualifications held by individuals. This model therefore provides policy-makers with estimates of the marginal wage return to a particular qualification, i.e. the wage return for individuals who hold the particular qualification as their highest qualification. As discussed earlier, this model includes individuals' highest academic and highest vocational qualification simultaneously, to avoid making an arbitrary hierarchy between vocational and academic qualifications. The coefficients on the vocational qualification variables therefore provide an estimate of the return to that particular qualification for those who hold it as their highest *vocational* qualification compared to individuals who hold no vocational qualifications at all (irrespective of the academic qualifications held by individuals). This means, for example, that when we consider the return to level 3 vocational qualifications, we are estimating the return to level 3 vocational qualifications not only for those who may just have a vocational qualification at level 3 but also for individuals who may also have equivalent or even higher level academic qualifications. A more relevant return may be the marginal return to low and intermediate vocational qualifications for those who are not better qualified academically. Later in sections 8 and 9 we address this issue by restricting the sample to include only those who have level 2 (or level 3) vocational qualifications as their highest qualification, excluding those with equivalent or higher level academic qualifications.

Table 3 shows the results for pooled data over the period 1997 to 2006. Models were run for males and females combined and for each gender separately. Controls included in the model are as for the previous analysis, i.e. age, ethnicity, region, year, whether the person works full or part-time and whether they responded to the interview themselves or via a proxy (gender is also included as a control in the model where both genders are in the same regression). Equivalent models but run separately for each year between 1997 and 2006 are shown in Appendix Tables A3-A6. As these tables, including Table 3, provide estimates of returns to individuals' highest academic and vocational qualification it is not possible to add up the returns for each vocational or academic qualification, as was the case in section 5. One can however, sum the coefficients on highest academic and highest vocational qualification to

determine the total wage return earned by an individual with a particular combination of highest academic and vocational qualifications.

As we did above, we start by focusing on level 2 qualifications and specifically on NVQs. Workers whose highest vocational qualification was an NVQ Level 2 suffered a wage penalty, i.e. these people earned a lower hourly wage than the base case of someone with no vocational qualifications at all. It is not particularly plausible that taking an NVQ 2 actually lowers an individual's wages. Ability bias and problems of appropriate comparison groups are a more likely explanation for the significant negative wage premium associated with these lower level NVQs, although the results so far would suggest that it is unlikely that lower level NVQs offer any positive wage benefit. Many level 2 vocational qualifications do offer substantial positive significant returns to individuals who hold them as their highest vocational qualification. For example, the return to a RSA qualification at level 2 for women is around 6%, whilst for men and women the return to BTEC at level 2 is between 4 and 5%.

At level 3, the return to NVQ for both men and women is positively significant. This means that for individuals who hold NVQ3 as their highest level of vocational qualification, the return is positive and sizeable (5-7%). The wage return is also positive and significant for other level 3 vocational qualifications, particularly BTEC (9% for men and 8% for women), City and Guilds (10% for men only), ONC and OND (16% for men and 7% for women) and RSA (14% for women only).

Therefore as was the case in Table 2 for average returns, there are significant variations between men and women in the marginal return to a person's highest qualification (Table 3). Women have much larger wage premiums for RSA qualifications for example, while men have favourable wage returns for ONC/OND qualifications and for apprenticeships, although as discussed earlier problems with the way in which apprenticeships are recorded in the LFS over time means that this result does not preclude high returns to women for apprenticeship in more recent years (McIntosh, 2007).

The results in Table 3 also confirm that people who held higher level NVQs as their highest vocational qualification earned a substantial wage premium. This was up to 35% at NVQ level 5, 20-25% at level 4, and 5-7% at level 3.

There are differences in the average (Table 2) and marginal returns (Table 3) associated with particular vocational qualifications. This can be illustrated by focusing on, for example, the return to BTEC. In Table 2 the average return to BTEC level 3 is 7.5%, whilst in Table 3 the marginal return to BTEC level 3 is somewhat higher at 8-9%. Differences in the marginal and average returns to a qualification reflect the different composition of the groups of workers that have a particular qualification as their highest qualification, as compared to workers who have that qualification but other higher level qualifications too. Generally the return to vocational level 2 and level 3 qualifications is higher for workers who hold these qualifications as their highest vocational qualification, as compared to the return earned by workers who hold other higher level vocational qualifications.

7 Changes in returns to qualifications over time

Summary: We observe substantial year on year fluctuations in the average and marginal return to a number of level 2 and level 3 vocational qualifications. The large standard errors on yearly estimates of returns justify our pooling of the data over the entire time period to increase sample sizes for some vocational qualifications. With this caveat in mind, we find no evidence of substantial changes in the return to most level 2 and level 3 vocational qualifications during the period 1997-2006. The only distinctive trend we observe is the decline in the marginal return to level 2 and level 3 BTEC qualifications over this period. There is also evidence of a decline in the return to RSA at level 3, although we are cautious about this result due to small sample sizes.

This section discusses the more clearly observable changes in the returns to individual qualifications over the period 1997 to 2006. As we do not comment in detail about the return to each qualification in each year, the estimates are presented in Appendix A, and we discuss just general trends and findings in the text. Tables A1 to A3 summarise the average returns to qualifications year by year using the all qualification specification discussed above, i.e. including all vocational and academic qualifications held by each individual. Tables A4 to A6 summarise the marginal returns to qualifications year by year using the specification which includes each individual's highest vocational and academic qualification. As has been said, we do not discuss the time trend in returns for every qualification and most time trends are in fact not statistically significant. Indeed the year on year fluctuations observed in the returns to

some level 2 and level 3 qualifications, and the large standard errors around the estimates, confirm the benefits of pooling data over the entire period to increase sample sizes and generate more robust estimates.

The discussion, as throughout this report, concentrates largely on the returns to level 2 and 3 vocational qualifications. In particular we comment where one might have expected to see changes in the return to these qualifications as a result of marked changes in the prevalence of the qualification, as outlined in Section 4.

All other things being equal, the economic value of a qualification to its holder will be determined by both supply and demand, i.e. it will depend largely on the relationship between the prevalence of the qualification and the prevalence of jobs that require the qualification. Thus, in general, scarcity i.e. where the supply of a particular qualification does not match demand, should attract a higher economic value. However, it is also possible that declining prevalence of a particular qualification in the working population will in fact also be associated with declining relevance, particularly if a qualification is no longer obtainable, and more especially if it has actually been superseded. For example, the replacement of O levels by GCSEs may make O levels less relevant in the labour market in the long run. By the same token, as new qualifications ‘take hold’ and are held by more of the population we might envisage that they will actually become more ‘legitimate’ and thus more valuable, precisely as they become more prevalent. These considerations mean that we need to remember that the wage return to a particular qualification reflects the complex interaction of supply and demand for that qualification.

We start by discussing level 2 vocational qualifications. Level 2 NVQs consistently offer nil or negative average and marginal returns over the time period. We also observe generally low or nil average and marginal returns to City and Guilds level 2 qualifications. However, there are substantial year on year fluctuations in the average and marginal returns to a number of level 2 qualifications, such as BTEC and to a lesser extent RSA at level 2. Such fluctuations are even more dramatic for the models that estimate returns for males and females separately, particularly for qualifications that tend to be quite gendered in terms of their uptake. For example, RSA qualifications are more likely to be held by women and thus small sample sizes mean that the marginal return to RSA level 2 for males varies hugely on a year by year basis (Table A5). We therefore focus most of our comments on the combined male and

female regressions which maximise sample sizes (Tables A1 and A4). Even using a combined male and female sample, we still find year by year fluctuations. For example the yearly estimates of the marginal return to BTEC level 2 for men and women who hold this qualification as their highest vocational qualification range from zero to 12% (Table A4). That said, we do observe a statistically significant downward trend in the marginal return to BTEC at level 2 (and this holds for both men and women).

Whilst the average return to NVQ 3 is low or zero in most years, the marginal return to NVQ level 3 is positive and shows no obvious trend over time (the return remains at 5-10%). In general at level 3 the average returns to Apprenticeship¹¹ and ONC/OND also appear quite stable over time. Again however, we observe some dramatic year on year fluctuations in the returns at level 3, particularly in the returns to RSA for example. This confirms that as was the case at level 2, for some less popular level 3 qualifications small sample sizes are an issue when estimating returns on the basis of only one year of data from the LFS. We only observe a significant change in the return over time (a decline) for two level 3 qualifications, namely BTEC and RSA. The marginal return to a level 3 BTEC declines over the time period from around 10-11% towards 7% (Table A4), although the downward trend is most obvious for women (Table A6). However, there is no clear pattern for average returns to BTEC level 3 (Table A1). This suggests that the composition of the group holding BTEC level 3 as their highest vocational qualification has changed. Thus the decline in the marginal return could be linked to an increase in the use of this BTEC qualification as a stepping-stone to higher vocational qualifications. This would have the effect of drawing the most able holders out of the BTEC level 3 group, and thus lowering the estimated marginal returns for those holding this qualification as their highest vocational qualification. The marginal return to RSA at level 3 also appears to be declining from around 11-15% in the early part of the period (Table A4). This downward trend is only observed for women (Table A6) as the estimates of returns to RSA at level 3 for males are generally insignificant as too few males hold these qualifications to generate robust estimates (Table A5). Even in the combined sample however, estimates of the return to RSA in later years (2002 onwards) become plagued by small sample sizes and the returns become insignificant. Clearly the decline in take up of

¹¹ As discussed in section 5, data on the level of Modern Apprenticeship achieved is only collected from 2004. Hence we only have estimates of the return to Modern Apprenticeship at Foundation Level (equivalent to level 2) from 2004 onwards. Estimates of the return to apprenticeships at level 3 in years prior to 2004 may include those holding apprenticeships at level 2. They are therefore not readily compared to other estimates arising

RSA at level 3 in more recent years, means that estimating returns to this qualification on a year by year basis has become impossible.

It is worth noting that despite the increase in the supply of NVQ qualifications discussed in section 4, there appears to be no major decline in the average returns to higher level NVQs.

8 Wage Returns to Level 2 Vocational Qualifications

Summary: This section of the report presents estimates of the return to level 2 vocational qualifications for workers who did not achieve level 2 at school i.e. workers who are low qualified in terms of their academic qualifications. We present results for a sample of low qualified workers, i.e. including only individuals who have vocational qualifications up to level 2 and academic qualifications up to level 1. We also investigate returns for a sample which includes only those who have level 2 vocational qualifications and no other qualifications. The results show that the choice of comparator group matters a great deal to the estimates of the average and marginal returns to qualifications (see Figure 1 and Table 25 for overall summaries).

As one would expect, the average returns to level 2 vocational qualifications are lower than the marginal returns. The marginal return to most level 2 qualifications is positive and significant, particularly when the comparison group is made up of workers with no qualifications at all. This implies that level 2 vocational qualifications are particularly valuable, in terms of the wage returns they yield, for individuals who leave school with no qualifications at all or only low level academic qualifications.

The average return to NVQ2 remains nil even after choosing a more restrictive comparison sample, for both men and women. Thus where NVQ2 qualifications are combined with other vocational qualifications their average economic value is low, even for low qualified individuals. In some circumstances however, we observe positive significant average returns to NVQ2, such as for individuals working in skilled occupations. For males, even where NVQ2 is a person's highest vocational qualification, the marginal wage return is nil. The marginal return to NVQ2 for women is positively significant when compared to the earnings of low qualified (3%) and unqualified women (5%). The marginal wage return to NVQ2 for these restricted samples also varies by occupation and sector. For females we observe positive significant marginal returns in personal service (6%) and sales (3%) occupations and for males in skilled trades (8%), working as process/machine operatives (4%) and in elementary occupations (4%). For females with NVQ2 as their highest vocational qualification we observe a positive marginal wage return in the distribution (2%), public

from research which has focused specifically on the return to Modern Apprenticeship at level 3 using only recent data, such as McIntosh (2007).

admin/education/health (4%) and other services (8%) sectors and for males in construction (11%).

Level 2 comparator groups

So far the results reported have been for the whole sample i.e. average returns have been estimated across the full range of workers in the sample, including those with very high levels of qualification. It could be argued that this is not the most appropriate sample to use, given that the main interest of this report is in the wage returns to intermediate and lower level vocational qualifications. Policy-makers may be more interested in the return to these intermediate and lower level vocational qualifications specifically for those who do not also have higher level qualifications. For example, we may not be as interested in the returns to NVQ2 for those who also hold a degree. Rather we would like to know the return to NVQ2 qualifications for workers who only hold other low-level academic qualifications or no qualifications at all.

For the analysis in this section we therefore we define a sample which consists of workers with level 2 vocational qualifications and compare them to those who have no academic qualifications above level 1 and no vocational qualifications above level 2. This sample will be referred to as the “level 2 vocational or below” group. Secondly, we want to compare the wages of those who have level 2 vocational qualifications with workers who have no other qualifications at all. This latter comparison may be most appropriate for policy-makers determining the value of a level 2 vocational intervention targeted at unqualified adults. This sample we refer to as the “level 2 vocational or no qualifications” group.

We start by considering average returns for the “level 2 vocational or below” group, i.e. where all qualifications held by the worker are included in the model. We note however, that for some vocational qualifications, such as City and Guilds, BTEC and NVQ, we only have data on individuals’ highest level of this type of qualification. It is not clear, as has already been said, the direction of the bias introduced by this data limitation. We then focus on marginal returns, i.e. where only highest vocational and academic qualifications are included in the model, for both the “level 2 vocational or below” and the “level 2 vocational or no qualification group” (the latter obviously only includes the level 2 vocational variables).

Figure 1 shows how the main findings for NVQ2 are affected by the choice of comparison group.

For this part of the analysis, we will also present disaggregated returns to intermediate and lower level vocational qualifications by occupation and sector of work.

Average returns for the Level 2 vocational or below group

Average returns are considered here (by including all qualifications in the regression). The coefficients therefore measure the average return to that qualification for all individuals who hold that qualification, regardless of the other qualifications they may held. The sample is all workers with level 2 vocational qualifications, those with lower level academic or vocational qualifications or those with no qualifications at all. However, as has been indicated earlier, for some vocational qualifications such as NVQ, we only have information on individuals' highest level. For instance, if an individual has both a NVQ1 and an NVQ2, we only observe that they have an NVQ2. The return to NVQ2 in this specification is therefore the average return to an NVQ2 for individuals not accounting for whether they have an NVQ1 or not (although the specification does allow for other qualifications held by the individual).

Table 4 presents returns for men and women combined and also separate regressions by gender. Controls are the standard set of controls discussed earlier in the report and they are listed at the end of each table. It is apparent that many level 2 vocational qualifications yield positive average wage returns for workers whose qualification level does not exceed level 2 vocational and who hold no academic qualifications at level 2 or above. The interpretation here is, for instance, that level 2 vocational qualifications provide significant positive average wage returns for individuals who failed to achieve level 2 at school. Some level 2 vocational qualifications offer a substantial average wage return to these individuals. BTECs at level 2 yield an average wage premium of approximately 8% for this sample as a whole, comprised of 6% for women and 9% for men. Positive wage premiums are also observed for RSA qualifications at level 2. Equally however, the coefficients on some vocational level 2 qualifications are not significantly different from zero or negative, in particular this is the case for NVQ2. This implies that there is no average return for NVQ2, for example, even for

workers who fail to achieve level 2 at school (although this average is across workers who may have achieved level 1 vocational or academic qualifications).

Again for the “Level 2 vocational or below” group, Tables 5, 6 and 7 present breakdowns of the wage returns by occupation for men and women (Table 5) and subsequently for females (Table 6) and males (Table 7) separately. In each case the sample is restricted to a particular occupation and the model therefore estimates the average return to a particular qualification for all workers in that particular occupation only. One needs to be cautious here. Firstly, we have already made the point that choice of occupation is related to the individual’s education level i.e. it is endogenous. Occupational choice is also an outcome of education, i.e. individuals with more education can achieve higher-level occupations. Furthermore, as we are focusing only on a sample educated to level 2 vocational, workers in certain higher-level occupations are likely to be quite atypical and employers may perceive low-level qualifications as a negative signal of ability if they are held by individuals working in higher level occupations. For instance, a person with no qualifications in a professional and managerial occupation is not likely to be representative of a) all professionals or managers nor b) all workers with no qualifications.

Nonetheless, the results for most occupations appear plausible. For example, average wage returns for RSA level 2 are positive and statistically significant for those working in secretarial administrative occupations (7%) but insignificant for virtually all other occupations considered. Wage returns for level 2 City and Guilds qualifications are highest in skilled occupations (5%). Interestingly, although average returns to NVQ2 are not positive for the sample as a whole, we do observe positive average wage returns for NVQ2 for individuals working in skilled occupations (4%). Vocational qualifications that have good average returns at level 2, such as BTEC, have positive wage premia across a range of occupations, including machine operatives (15%) and personal service jobs (12%). By and large level 2 vocational qualifications tend to be negative or insignificantly related to wages in higher-level occupations, such as managerial professions, which is likely to be related to the problem of atypical samples discussed above.

The returns to level 2 qualifications do vary by gender and occupation. For example, whilst for men level 2 RSA attracts a positive significant wage premium in skilled occupations and sales/customer roles, for women RSA level 2 attracts a positive significant wage premium in

administrative/clerical jobs and machine operative roles. We are particularly interested in the return to NVQs across gender and occupation. In Table 6, which reports results for women, NVQs at level 2 only show positive, significant returns in personal service occupations (3%). For men (Table 7) NVQs at level 2 only deliver a small, positive wage premium in skilled occupations (4%). For both women and men NVQ2 qualifications have negative and significant coefficients for many other occupational groups.

Tables 8, 9 and 10 report similar average wage returns for the “Level 2 vocational or below” group but this time estimated separately by industrial sector rather than by occupation. These estimates tell us the average return to a particular qualification for individuals in a particular sector only. As was the case for occupation, we argue that choice of industry will be endogenous: individuals will make choices about which industry to work in but those choices will be dependent on their educational attainments. We observe significant variation in the returns to level 2 vocational qualifications across sectors. For instance, level 2 BTEC qualifications yield a positive significant return only in the distribution, hotels and restaurant sector (7%), public administration, education and health sector (8%) and other service sectors (13%) (Table 8). On the other hand, RSA qualifications at level 2 yield positive significant wage returns in manufacturing (10%), the banking sector (11%) and the public administration, education and health sector (13%). Again, our primary interest is in the wage return to NVQ qualifications. For both women (Table 9) and men (Table 10) there are no industrial sectors for which NVQ2 has statistically significant positive average wage returns.

Marginal returns for the Level 2 vocational or below group

The results in the next set of tables again confine the analysis to the sample with level 2 vocational qualifications or below, but include estimates of the marginal return to the highest vocational and highest academic qualification held by individuals within this group, rather than all qualifications held. Marginal wage returns for the “level 2 vocational or below” group as a whole are reported in Table 11. All models include the standard set of controls as used throughout this report. In the previous section which focused on average returns, one could sum the coefficients on the relevant qualification variables to determine the total wage premium for a particular individual holding that set of qualifications. Here, the estimates provide the wage return to a particular vocational or academic qualification for all individuals

who hold that qualification as their highest academic or vocational qualification, regardless of the route taken to get that qualification. More specifically, due to the restricted sample the estimates in this section can therefore inform policy-makers of the value of vocational level 2 qualifications for workers who hold these qualifications as their highest qualification (either academic or vocational).

The marginal returns to the various vocational level 2 qualifications vary considerably but by and large the marginal returns (Table 11) exceed the average returns (Table 4) for the “Level 2 vocational or below” sample¹². For example, BTEC level 2 qualifications offer strong significant marginal returns for men and women who hold them as their highest qualification. These marginal returns (13%) substantially exceed the average returns (6-9%) for this sample. Comparison with similar regressions on the full sample from Table 3 also indicates that the marginal returns to vocational 2 qualifications are generally higher in our restricted sample of “Level 2 vocational or below” than in the full sample, again as one would expect since these qualifications are more likely to be valuable to individuals who do not hold higher (academic) qualifications. Some qualifications that appeared to have no wage return in the full sample analysis (Table 3) have positive and significant returns when one chooses a more comparable, i.e. low qualified, comparison group. For instance, the average return to City and Guilds level 2 for both the sample as a whole (Table 2) and the Level 2 or below sample (Table 4) is insignificant or negative for men and women. Yet in the restricted sample, the marginal return to City and Guilds level 2 is nearly 7% for females and nearly 5% for males (Table 25). In other words for academically low qualified individuals, who hold these particular level 2 qualifications as their highest vocational qualification, they provide good economic returns. Clearly therefore the choice of comparator group is hugely important when estimating the returns to different (particularly lower level) qualifications.

The marginal return to vocational level 2 qualifications for this restricted sample also varies by gender. For women, for example, the estimated return to RSA at level 2 is over 17% but it is not significantly positive for men. We do not discuss the returns to apprenticeship since, because of data limitations discussed earlier in the report, the estimates of the return to level 2 Apprenticeship are plagued by small numbers.

We are particularly interested of course in the returns to NVQ2. Those women who have NVQ at level 2 as their highest qualification earn a small but positive and statistically significant marginal return of about 3%. For men there is no evidence of a marginal return to NVQ2 as their highest qualification, even in a sample restricted to workers who do not have academic qualifications above level 1. Thus for academically low qualified individuals many level 2 vocational qualifications have high value, but this is not true of NVQ2.

Tables 12 to 17 report more detailed results by occupation and by industry, again using the restricted Level 2 or below sample. The marginal return to level 2 vocational qualifications varies substantially by occupation (Table 12) and industry (Table 15), as was the case for average returns.

For example, the marginal wage return to BTEC at level 2 varies from zero in elementary occupations to 24% for machine operatives (Table 12). For City and Guilds at level 2, the marginal wage return varies from highly negatively significant for managers, through to 8-9% for those in skilled occupations, personal service jobs, sales/customer roles and machine operatives. Likewise the marginal return to RSA at level 2 is high in admin and secretarial occupations (9%) but zero or even negative for most other occupations considered. This suggests that different qualifications provide different value in different occupational settings.

The marginal wage return to NVQ2 also varies both by occupation and by gender. For females, the analysis by occupation shows positive marginal wage returns to NVQ2 in personal service (6%) and sales occupations (3%) (Table 13) while for males there do appear to be positive marginal wage returns to NVQ2 for skilled workers (8%), process/machine operatives (4%) and in elementary occupations (4%) (Table 14).

Focusing on variation by sector, as was the case for average returns, the marginal returns vary by sector for this sample of low qualified individuals. The marginal wage return to a BTEC at level 2 is positive and significant (10-17% in manufacturing, distribution, banking, public administration and other services). City and Guilds at level 2 offer the highest marginal wage return in the energy and water sector (14%), although the marginal wage return is still positively significant in manufacturing, construction, distribution, transport, public

¹² Comparisons of average and marginal wage returns across the different restricted samples are given in Table

administration and other services. RSA at level 2 provide a positive and significant marginal return in manufacturing, distribution, banking and public administration.

The detailed analyses by industry (Tables 16 and 17) suggest that in this level 2 or below restricted sample, females with NVQ2 as their highest vocational qualification earn a positive marginal wage return in distribution (2%), public admin/education/health sector (4%) and the other services sector (8%). The only industry in which males in this restricted sample earn a positive marginal wage return to NVQ2 is construction (11%).

Marginal returns for the Level 2 vocational or no qualifications group

In Tables 18 to 24 the sample is restricted still further to include only workers with level 2 vocational qualifications and workers with no qualifications at all. The tables report estimates for the return to level 2 qualifications when they are held as a highest qualification by individuals in this group. By construction these level 2 vocational workers are being compared only to workers who have no qualifications at all, so one would expect even larger marginal returns than were found in Tables 11-17. This is generally but not universally the case.

BTEC at level 2 provides a very substantial wage return for females, as compared to unqualified workers. The return for males is nil however. City and Guilds at level 2 also provides a high return for women (10%) but a lower and only marginally significant return for men (5%). RSA at level 2 offers very high returns for women (16%) and particularly high returns for men (60%), again when compared to workers with no qualifications at all. The high return for males contradicts previous literature. However, we must be somewhat cautious about these estimates due to small sample sizes¹³.

Focusing on the value of NVQ2 specifically, the pattern of findings is quite similar to those reported earlier: namely there is evidence of wage returns to NVQ2 for women (5%) but not for men. When broken down by occupation, the positive returns for women to NVQ2 are

25.

¹³ For instance there are only 77 men with RSA2 as their highest qualification (compared to around 600 women).

found in personal services occupations (10%) and for men in skilled occupations (12%). By industry positive significant wage returns to NVQ2 are found in the public administration, education and health sector (8%) for women only. We would stress however that because the sample is so restricted many of the estimates are insignificantly different from zero due to small sample sizes and large standard errors.

9 Wage Returns to Level 3 Vocational Qualifications

Summary: As was the case with level 2 vocational qualifications, the exact choice of comparator group determines the average and marginal return to any particular level 3 qualification (see Figure 3 and Table 40 for overall summaries of results). For this analysis we restrict the sample to individuals who left school with only level 2 academic qualifications or below, and who do not have any vocational qualifications above level 3. Thus here we can consider the value of level 3 vocational qualifications for individuals who leave school, generally at age 16, with a good set of GCSEs at best and who do not go on to higher level vocational study.

When one uses this restricted sample of those with level 3 vocational qualifications or below, the average wage return to holding a level 3 NVQ is just under 5% for women and 3% for men. Marginal wage returns to level 3 vocational qualifications are higher than average returns, i.e. the returns for those who hold a particular level 3 vocational qualification as their highest vocational qualification are higher than for all individuals holding that qualification. This was also the case for level 2 qualifications. Hence, the marginal wage return to NVQ3 in the restricted sample is 10% for females and 13% for males. However, some level 3 vocational qualifications yield much higher marginal wage returns for men and women, namely BTEC (16-17%) and ONC/OND (14-26%), and for women RSA (19%).

The analysis suggests that there are significant and substantial average wage returns to a wide range of level 3 qualifications, although the exact magnitude of the return varies by gender, occupation and sector. NVQs at level 3 yield positive average and marginal wage returns across a number of occupations. Among men positive average and marginal wage returns are found for NVQ3 only in skilled occupations and for process and machine operative occupations. For women NVQ3 yields a positive marginal and average return for those in process/machine jobs, sales/customer, personal service and administrative/secretarial occupations.

NVQ3 also yields a positive marginal wage return across all sectors for the combined sample of men and women. However, closer examination reveals substantial variation in the marginal return by sector and by gender. Positive marginal wage returns to NVQ3 were found for women (Table 38) in the following sectors: energy and water (20%), manufacturing (16%), the hotel/restaurant sector (8%), transport (7%) public administration (10%), banking (5%) and other services (19%). For men there are significant and

positive wage marginal returns to NVQ3 across all industrial sectors except banking (Table 39). A very similar sectoral pattern was observed for average returns to NVQ3.

Level 3 comparator group

We now present the results of an analysis that focuses on the wage returns to level 3 vocational qualifications using a specific comparator group, (“level 3 vocational or below”) which includes all workers who hold level 3 vocational qualifications, as well as any worker with level 1 or 2 qualifications (academic or vocational) or indeed no qualifications at all. In other words, we can focus on the value of level 3 vocational qualifications for workers who may have achieved up to level 2 in school but who have not got other higher level academic qualifications. As the returns to level 2 qualifications have been extensively discussed, we only comment on the returns to level 3 vocational qualifications with particular emphasis on NVQ3. Figure 3 shows how the findings for NVQ3 are affected by the choice of comparison group.

Average returns for the Level 3 vocational or below group

For the “level 3 vocational or below” group, Table 26 shows the estimates of average wage returns, i.e. including in the model all qualifications held. Recall again that for some vocational qualifications, such as NVQ, we only have the individual’s highest qualification. Thus the return to NVQ3, for example, is across individuals who may also hold lower level NVQs but we cannot control for these qualifications in the model. As has been discussed in the context of level 2 qualifications, it is not possible to predict the direction of the bias introduced by this problem. With this caveat in mind, these specifications estimate the average return to a particular qualification, allowing for any other qualifications held by the individual, for a sample who left school with at most level 2 academic qualifications. In policy terms, these estimates are particularly relevant therefore for considering the value of level 3 vocational qualifications for individuals who leave the school system at age 16 having achieved only academic level 2.

Within this restricted lower qualified sample, men earn an average return of approximately 9% for an apprenticeship (including modern apprenticeship) but the average return to a traditional apprenticeship for women is negative and significant, for this restricted sample. Men also have larger average wage benefits than women for City & Guilds and ONC/OND qualifications at level 3. Women obtain a 15% average wage return for RSA level 3 qualifications, while the average return for men is not significantly different from zero. BTECs at level 3 have more evenly distributed average returns with both men and women obtaining a return of about 11-12% for holding these qualifications.

As was the case at level 2, we are particularly interested in the returns to NVQ3. The average wage return to level 3 NVQ is estimated at 5% for women and 3% for men. This finding of small, but positive and significant average wage returns at NVQ3 is consistent with the previous literature.

In Tables 27 to 29 the average wage returns for the “level 3 vocational and below” group are shown by occupation, firstly for both sexes and then separately for women and for men in Tables 28 and 29 respectively. Some level 3 vocational qualifications attract a positive and significant average wage premium across most occupational groupings, for example BTEC level 3 and ONC/OND¹⁴. Equally, there is a positive average return to traditional Apprenticeship in manager, associate professional, skilled, personal service, sales/customer, machine operative and elementary occupations. The average return to both traditional and Modern Apprenticeship is particularly high however, in skilled occupations, as one might expect given the long tradition of apprenticeship in these occupations. As men are over represented in skilled occupations, this partly explains why the return to apprenticeship is positively significant for men but not for women.

For many other level 3 vocational qualifications the return differs substantially across occupational groupings, as was the case with level 2 vocational qualifications. City and Guilds at level 3 for example, attracts a return in the range 5-9% in skilled, personal service, sales/customer, machine operative and elementary occupations. Yet RSA level 3 only attracts a significant return in administrative/secretarial roles (6%) or elementary occupations (11%).

From Table 28 it is apparent that, for women in this restricted sample, NVQs at level 3 yield significant positive average wage returns across a number of occupations including administrative/secretarial (2%), personal service occupations (7%), sales and customer service (9%), and process/machine operative occupations (17%). Among men (Table 29) significant positive wage returns are found for NVQ3 only in skilled occupations (10%) and for process and machine operative occupations (7%).

Tables 30 to 32 show the average returns to level 3 vocational qualifications for the level 3 or below sample but this time by industry. As was the case for level 2 qualifications, there are substantial variations in the returns by sector. RSA at level 3, for instance, yields positive and variable average returns in energy and water, distribution, transport, banking, public administration and other services and nil return in other sectors. Some level 3 qualifications yield a relatively consistent average return across different sectors, such as BTEC level 3 and ONC/OND. BTEC yields a positive and significant average wage return of around 9-11% in every sector apart from agriculture. ONC/OND yields very high average returns (11-18%) in a range of sectors, but no return in agriculture or energy and water. Traditional apprenticeship yields positive and large average wage returns in the energy & water, manufacturing, construction and transport sectors (9-12%), and a positive but somewhat smaller return in distribution, banking and public administration sectors (2-5%). Modern apprenticeships yield a significant positive return only in manufacturing and construction, although the return is significant at the 10% level in the hotel and restaurant and transport and communications sector.

Level 3 NVQs yield a significant positive average return in a range of sectors, namely manufacturing (5%), distribution, hotels and restaurants (4%) public administration, health and education (3%) and other services sectors (9%). Considering the returns to NVQ level 3 by gender, there is some evidence that women also earn a positive average return in energy and water (11%) and men in agriculture and fishing (11%) and transport (4%). Thus the average wage premium earned from these level 3 qualifications clearly varies substantially according to both the occupational and industry context, and by gender.

¹⁴ Although the average return to BTEC does range from zero for machine operatives and those in elementary occupations through to 12% in managerial occupations.

Marginal returns for the Level 3 vocational or below group

In Table 33, the returns to individuals' highest qualification are shown, using the restricted sample "level 3 vocational or below". Here the return to level 3 vocational qualifications will measure the total wage gain for those who achieve this qualification as their highest vocational qualification, regardless of the vocational route taken to achieve these qualifications. The model controls separately for the individual's highest academic qualification, which by construction, cannot exceed level 2. The purpose of choosing this rather select group was to assess the value of vocational level 3 qualifications for individuals who did not exceed level 2 in their academic qualifications. The marginal returns to most vocational level 3 qualifications are large and statistically significant. As was the case with level 2 qualifications, the marginal returns generally exceed the average returns to level 3 qualifications, as summarized in Table 40. For instance, the average return to BTEC level 3 is 11-12%, whilst the marginal return is between 16-17% (Table 40). In particular, BTEC, ONC/OND, City and Guilds (for men), and RSA qualifications (for women) yield very high marginal returns in excess of 14% (Table 40). This implies that the economic value of these qualifications is higher for individuals who hold them as their highest vocational qualification.

There are substantial gender differences however. Some level 3 qualifications yield excellent marginal returns across both women and men, such as BTEC (16-17%) and ONC/OND (14-26%). City and Guilds provide much better returns for men than women (17% compared to 5%) whilst the reverse is true for RSA (19% for women compared to 10% for men). The marginal returns to NVQ level 3 are similar for both women and men at around 10-13%.

Models were also estimated separately by occupation (Tables 34-36) and by industry (Tables 37-39). Similar patterns to those observed for average returns to level 3 vocational qualifications are observed. What is most noticeable is the very large positive and significant returns to level 3 vocational qualifications in the skilled occupations (Table 34), particularly for men (Table 36). This is true of Apprenticeship, BTEC level 3, City and Guilds and ONC/OND. A similar pattern can be observed for NVQ3, which gives a marginal wage return of 29% for workers in skilled occupations, and positive and significant returns in administrative/secretarial occupations, personal service roles, sales/customer jobs and for

machine operatives. RSA by contrast yields highest marginal returns in personal service occupations.

Table 35 shows the returns by occupation for women. It can be seen that women with NVQ3 as their highest qualification earn a wage premium of some 18% if they work as process/machine operatives, while the returns in sales/customer service and personal service occupations for women are around 12% and nearly 5% in administrative/secretarial occupations. The results for men by occupation in Table 36 reveal a very large wage premium to NVQ3, of some 14%, for men in skilled occupations and 15% in process/machine operative occupations.

As was the case for average returns, the marginal return to level 3 vocational qualifications varies by sector, although all level 3 vocational qualifications yield positive marginal wage returns in almost every sector. Apprenticeships, BTEC level 3 and City and Guilds qualifications attract high marginal wage returns across almost all sectors, except agriculture. However the magnitude of the marginal wage return varies. BTEC level 3 qualifications yield marginal wage returns of 23% in construction but only 13% in distribution (Table 37). Likewise, City and Guilds qualifications offer marginal wage returns of 24% in construction but only 7% in banking. ONC/OND qualifications offer significant marginal wage returns across all sectors, with spectacular returns of up to 34% in construction.

NVQ3 also yields a positive marginal wage return across all sectors for men and women combined. However, closer examination reveals substantial variation in the marginal return by sector and by gender. Positive marginal wage returns to NVQ3 were found for women (Table 38) in the following sectors: energy and water (20%), manufacturing (16%), the hotel/restaurant sector (8%), transport (7%) public administration (10%), banking (5%) and other services (19%). For men there are significant and positive wage marginal returns to NVQ3 across all industrial sectors except banking (Table 39).

10 Returns by Age of Acquisition and Elapsed time

Summary: At level 2, for many vocational qualifications such as NVQ2 and RSA the wage return is higher if the person acquired the qualification at a younger age. This is not true of all level 2 qualifications however, such as BTEC and City and Guilds. At level 3, generally wage returns are higher if the qualification is acquired earlier, with the exception of RSA.

Introduction

It is anticipated that both age at acquisition and the length of time since acquisition will affect the wage returns to any given qualification. For this reason an analysis of marginal returns by these factors has been carried out and some key findings are presented here. The purpose of this analysis is to determine whether firstly acquiring vocational qualifications earlier (later) in life yields higher (lower) wage returns. Previous work on this issue has been somewhat pessimistic, suggesting the return to qualifications acquired later in life is generally lower or even nil (Jenkins et al. 2003). Secondly, we want to determine whether the wage return to vocational qualifications occurs only some time after the person actually acquired the qualification. For example, might the low or nil average returns to NVQ2 be down to the fact that it takes a number of years for the benefits of this qualification to accrue in the form of higher wages. We therefore need to separately identify the effect of age when the qualification was acquired and also how long the person has had the qualification. Given data limitations, we have done this in a relatively simple way (as described below) and our results that support the discussion below are presented in Appendix B. However, this is clearly an area for future research.

For this analysis we used LFS data from spring 2001 onwards, since the LFS only started to record the year (or age) of acquisition of the highest qualification held from that date. The highest qualification is determined according to a formula for ranking qualifications embodied in the LFS derived variable “hiqual”. For the vast majority of cases the ordering of this LFS highest qualification variable is consistent with the ranking of highest qualifications used in the rest of the analysis in this report. Therefore, for around 98% of cases we have a year (or age) of acquisition for their highest ranked qualification, and these form the basis of

the regression analysis. For the regressions, where previously we included a dummy variable indicating the highest academic or vocational qualification acquired, here we include two dummy variables per qualification indicating whether the qualification was acquired under or over the age of 25. For all qualifications the set of 2 dummies used is therefore equivalent in scope to a single indicator that the qualification is the sole highest qualification held (Table B1).

For qualifications where numbers allow, these dummies are again split into the following four categories

- Acquired aged < 25 and held for < 10 years (at the date of interview)
- Acquired aged < 25 and held 10+ years (at the date of interview)
- Acquired aged 25+ and held < 10 years (at the date of interview)
- Acquired aged 25+ and held 10+ years (at the date of interview)

Each of these categories is therefore effectively treated like a separate qualification for the purposes of the regression analysis (Table B2). Note that we revert back to using the full sample for this analysis to enable us to explore the influence of age of acquisition and time since qualification acquired for the full range of qualifications available. We are also estimating marginal returns i.e. including only individuals' highest qualification (we do not have data on time of acquisition for other qualifications).

At level 2, there appears to be little significant variation by age of acquisition or time since acquisition for City and Guilds qualifications. At BTEC level 2 it was not possible to do a full breakdown by time since acquisition, and there is no marked differences in the return for older and younger acquirers. RSA qualifications category at level 2 has too few cases to permit a breakdown by time since acquisition, although the return for individuals who acquired RSA level 2 under age 25 does appear higher (28%) than for those who acquired the qualification over the age of 25 (19%).

For NVQ2 there also appears to be a substantial wage penalty for later acquisition but little significant variation by length of time since acquisition. Thus the return to NVQ2 for those acquiring the qualification under the age of 25 is around 13-14%, whilst the return for those

acquiring it over the age of 25 is 3-4%. Some caution is needed however, as disaggregation by occupation and sector is not possible due to sample sizes. Thus some of the apparent penalty for acquiring these qualifications above the age of 25 may actually be down to differences in the average age such qualifications are acquired across different occupations and sectors.

At level 3 those acquiring City and Guilds, ONC/OND and NVQs under the age of 25 earn a substantially higher wage premium as compared to those who acquire their qualifications later in life. Interestingly the opposite is true for RSA whereby older acquirers actually have higher returns. For BTEC qualifications, the length of time the qualification has been held is important with particularly higher returns (47%) for those who acquired their qualifications under the age of 25 and more than 10 years previously.

Just for completeness, we note that for the level 4 NVQ a full breakdown is possible, but reveals little significant variation by either age of acquisition or time since acquiring.

11 Returns by Region

Summary: Vocational qualifications at both level 2 and level 3 show substantial variation in average and marginal rates of return across regions. It is also obvious that many vocational qualifications, for example NVQ and BTEC, tend to have higher wage returns in particular regions that have a larger manufacturing base, such as the North East and Yorkshire, Humberside, and lower returns in London and the South East. However, we do not emphasise these regional results as we cannot control for sector in these regressions and we believe that the higher returns to particular level 2 and level 3 vocational qualifications in some regions partly reflects differences in industry structure rather than inherent differences in regional returns.

We also investigated variation in the returns to qualifications by region. Some but not all regression models were estimated separately for each of the 10 English regions, the results of which are reported in Tables 41 to 52. Sample sizes prevent us from simultaneously estimating returns by region, sector and occupation, so we cannot show the extent to which regional differences in wage returns reflect differences in returns across sector and

occupation. We therefore need to interpret these regional results with caution. The returns by region are descriptive and simply show variation in the return to particular qualifications across regions that may be attributable to other factors, such as the labour market structure and in particular the nature of jobs available in different regions.

Regional differences in wage returns to level 2 vocational qualifications

For this part of the analysis we focus primarily on the extent to which the return to level 2 vocational qualifications varies across regions. Tables 41 to 43 therefore report regression models that revert back to using the Level 2 vocational or below sample and with an all qualifications specification, i.e. provide information on average returns. The sample therefore consists of people who either have no academic qualifications or academic qualifications only at level 1. This is arguably the preferred sample for a policy analysis of the economic value of level 2 vocational qualifications, as it focuses on the return to these qualifications for those who did not succeed in achieving level 2 at school.

Using the Level 2 vocational or below sample, the average returns to level 2 vocational qualifications showed some substantial variation across regions. For example, RSAs at level 2 were found to yield an average return of over 20% in the North West and Eastern regions, over 10% in West Midlands, South East and Yorkshire/Humberside (Table 41) but did not have a significant wage return in London or the South West of England. Also the estimated returns for BTECs at level 2 were 15% or more in the North West, Merseyside and West Midlands but much lower and not statistically significant in other regions. As has already been said, these findings partly reflect the fact that there is considerable variation in the occupational and industrial structure of different regions. As we saw from earlier analysis in section 8, the wage return to level 2 vocational qualifications varies considerably across occupation and sector (regardless of the specification and sample used).

At level 2 NVQs for women were generally not significantly different from zero but yielded strongly negative returns in London (Table 42). The pattern for men (Table 43) was broadly similar, with negative returns most noticeable in London and the South East. Again we suggest that the evidence from Section 8 supports the view that these regional differences are largely attributable to industrial and occupational differences across regions.

Tables 44 to 46 present results for the same sample of those at level 2 vocational or below but this time looking at highest academic and vocational qualification held. Again many vocational level 2 qualifications show substantial variation in marginal returns across regions. BTEC level 2, for instance, shows significantly higher marginal returns in the North East, North West, West Midlands and Merseyside regions than in other regions. Again this is probably because these regions have a greater manufacturing base than some other regions. Our primary interest is in NVQ2. For women (Table 45) who hold NVQ2 as their highest qualification, the marginal return is positive and statistically significant in six of the 10 regions¹⁵. The estimated returns were typically between 3 and 6%¹⁶. For men (Table 46) returns to NVQ2 were uniformly not statistically significant across all regions (again consistent with Table 11).

Regional differences in wage returns to level 3 vocational qualifications

Next we report some analyses for the sample with level 3 vocational as their highest qualification and show models run separately for each region. The sample is therefore made up of individuals who only have level 2 academic qualifications or below. Again we estimate average returns (Table 47-49) and marginal returns (Table 50-52).

At level 3, the average return to specific vocational qualifications showed substantial regional variation, as was the case for level 2 vocational qualifications. For instance, BTECs at level 3 earn women an average wage return of between 8 and 16% depending on the region, while the average wage return for RSAs varies from 8% up to over 20% in the East Midlands and Yorkshire/Humberside (Table 48). The returns to NVQs at level 3 for women also show some variation, ranging from as much as 10% in the South West to not significantly different from zero in London and two other regions (Table 48). For men, the returns for NVQs at level 3 were only statistically significant in three regions: Merseyside, East Midlands and the South West (Table 49). Once again these are regions that have more manufacturing and we believe that sectoral differences across regions may be driving these results.

¹⁵ Consistent with Table 11 which shows the same regression but pooling regions.

¹⁶ The marginal return to NVQ2 using the same sample but pooling across regions is 1.9% for men and women combined, 3.1% for women and insignificant for men (Table 11).

Tables 50 to 52 present the marginal returns to level 3 vocational qualifications using the same sample as above but including only individuals' highest academic and vocational qualification. Thus this specification tells us about the economic value of level 3 qualifications for individuals in this restricted sample who hold such qualifications as their highest vocational qualification. When held as the highest qualification NVQ3 yields a positive wage return for both men and women in most regions (Tables 51 and 52), but returns vary from around 8% in London and the South East up to 15% in Yorkshire and Humberside. For men particularly the marginal return to NVQ3 was noticeably lower in London than elsewhere. Other level 3 qualifications also showed considerable variation in terms of marginal returns across regions. For instance, apprenticeships had a marginal wage return that ranged from 10 to 16% across the regions for men while the marginal returns to BTECs at level 3 were found to range between 12 and 22% for both men and women.

12 Returns by Subject

Summary: For level 3 qualifications (BTEC, City and Guilds, ONC / OND and NVQ), there are no marked differences in the general pattern of returns by subject. The same is true for the two Level 2 qualifications that it was possible to investigate (City and Guilds and NVQ2). The LFS does not collect adequate data to analyse returns to particular lower level vocational qualifications by subject area, a limitation that could be usefully overcome if the survey were redesigned to collect subject information on all qualifications held.

Since 2001, subject area has been coded in the LFS for a selection of vocational qualifications at or above level 2. However, this information has only been collected for individuals' highest qualification. This limits the use we can make of these data in terms of analysing the return to lower level vocational qualifications by subject area. Since 1997 subject area information has also been collected for degree-level qualifications, providing sufficient sample sizes for analysis of the returns to degrees by subject area, although we do not discuss returns by degrees as this is the subject of other more detailed research (Walker and Zhu, 2005). Here we discuss the results for level 2 and level 3 vocational qualifications only.

In total, three distinct coding frames are used; one for single subject degrees, one for joint degrees and a third for vocational qualifications. In order to investigate the difference in returns by subject area the subject coding frames have been harmonised into a 21-point categorisation. (Table 53).

As has already been stated, the analysis we were able to undertake was quite restricted by data availability. Only a limited range, of generally higher-level qualifications, were able to be analysed by subject area. The list of qualifications for which there were sufficient numbers of cases across a range of subject categories to allow analysis is at Table 54. In order to achieve workable cell sizes for analysis, some categories have been collapsed, or combined across levels, or for cells with very few cases (fewer than 40), dropped. Table 55 shows the numbers available in each category.

Modelling the combined effect of subject area, level and type of qualification is complex. We estimated a model in which qualification specific subject dummy variables were incorporated into a wage returns model (using the full sample and containing all highest vocational and academic qualifications as specified elsewhere in the report). The new subject/ qualification combination dummies replaced the relevant qualification dummy variable in the regression. For instance, the subject specific degree dummies replaced the simple degree qualification dummy that was previously included in the average returns model. This enables us to examine the returns to specific qualifications in particular subject areas. For example, we could estimate the average return to an NVQ3 in engineering. Regressions were run using this model for all pooled cases from 2001-2006, along with separate regressions for men and women.

The results for this section are shown in Figures 3-9. The figures suggest that for those level 2 and level 3 vocational qualifications that we were able to analyse by subject area (City and Guilds and NVQ at level 2; BTEC, City and Guilds, ONC/OND and NVQ at level 3), there are no marked differences in the general pattern of returns by subject (i.e. for the most part confidence intervals overlap).

Thus we did not observe large variations in the return to particular vocational qualifications by subject area. However, there are many caveats that apply to this analysis. Firstly sample

sizes are small in some instances. Secondly, we do not have subject information on the full range of different types of vocational qualifications and thirdly we do not have subject information on all levels of vocational qualification.

13 Returns to Level 2 by Mode of Acquisition

Summary: Previous research (Dearden et al. 2004b) has suggested that the return to NVQ2 in particular varies by mode of acquisition, with higher returns to these qualifications if they are acquired through the individual's employment. We therefore ideally wanted to investigate whether the return to other level 2 qualifications varied according to whether the qualification was acquired via government training, in work, in a college or school, or via some other route. However, because of small sample sizes it was only possible to break down the returns to vocational level 2 qualifications by mode of acquisition for NVQ2 and City & Guilds at level 2. The results provide some support for the idea that level 2 qualifications, such as City and Guilds and NVQ, acquired through work tend to yield higher returns while those obtained on government training schemes yield lower returns. However, these findings were not very robust statistically.

Some analyses were also conducted to determine whether the wage returns to qualifications differed according to how they were acquired. It was only possible to do this for the highest qualification held and we therefore estimate a marginal return model, which assesses the value of these qualifications (by mode) for individuals who hold them as their highest vocational qualification. Questions about the mode of acquiring qualifications are only asked for the spring quarter in LFS so the sample sizes are smaller than for other analyses of wage returns. In the LFS data it is possible to distinguish between qualifications obtained at college or school, those obtained at work, those obtained via a mixture of work and attendance at an educational institution, those which were obtained via a government training scheme, those obtained by some other mode, and also where the mode was unknown. The models were run on two restricted samples to match previous analyses in this report, namely the level 2 or below sample which includes individuals who have lower level academic qualifications at level 1, and the level 2 or no qualifications sample, which only includes individuals who have level 2 vocational qualifications and no other qualifications. The results for these samples are discussed in turn.

We initially focused on four major vocational qualifications at level 2, namely BTECs, RSAs, City & Guilds and NVQ level 2. However, as is apparent from Table 56 once broken down between the different modes there were too few cases for BTECs and RSAs, so the analyses by mode were only conducted for City & Guilds and NVQs at level 2.

Level 2 or below sample

The results for the mode of acquisition of the highest qualification held for the level 2 or below sample are reported in Table 57. This table therefore estimates the marginal return to City and Guilds and NVQ at level 2 by mode, for a low qualified sample. The marginal returns to City & Guilds at level 2 acquired via college or school (the base case) were 13% for men and women. The interaction terms then enable us to determine whether the marginal returns for other modes differed from this. There is some evidence that City & Guilds acquired via government training yield lower marginal returns than for other modes. In the model for both sexes the marginal return to a City and Guild level 2 acquired via a government training scheme was estimated as approximately 2% (13.4-11.6). However, the estimates for males and females separately provide only very weak evidence (men) or no evidence (females) that the marginal return for government training differed from that of other modes. There was also some weak evidence that men obtained higher marginal returns if the City & Guilds qualification was obtained at their place of work.

For NVQs at level 2 the marginal return when acquired via college or school was 9% for women but there were no significant returns for men. However, if men acquired the NVQ2 via work then they earned a marginal return estimated at 8%, consistent with Dearden et al. (2004b). Thus even if on average NVQ2 qualifications do not yield positive returns for men, in some circumstances, namely when acquired through work as the individual's highest vocational qualification, they do. There was also weak evidence of a negative marginal return for men when NVQ2 was obtained through government training, again consistent with previous evidence. For women it does not seem to matter whether the NVQ2 is acquired at college or school, work or via government training: there is no evidence that the marginal returns differ across mode. If the mode is reported as unknown then there are negative returns for women but note that there are an extremely small number of cases in this category.

Level 2 or no qualifications sample

As shown in Table 58, after confining the sample further to individuals who hold only level 2 vocational qualifications and who have no academic qualifications, the overall marginal returns for City & Guilds at level 2 were significant for women but not for men, while there were no significant marginal returns to NVQ2 for either men or women. There was little evidence that the mode through which the qualification was acquired makes a difference to the return to these qualifications. In the case of NVQ 2 marginal returns were higher if the qualification was obtained at the workplace but the results were only significant for the combined sample, not when estimated separately for men and women. For City & Guilds at level 2 there was no evidence that returns differed by mode except for the rather bizarre result of very high returns for the 'other' mode category, but this is based on a very small sample indeed and should be disregarded. In general reducing the sample still further to those who have no academic qualifications reduces sample sizes and makes the analysis even more problematic so we would put more emphasis on the results for the level 2 or below sample.

14 Qualifications and the Probability of being in Employment

Summary: Thus far the report has focused on the relationship between qualifications and earnings. However, previous research has found important employment effects associated with qualifications (Dearden et al., 2000). In this report we focused on the impact of level 2 and level 3 qualifications on the likelihood of being in employment. We also considered the role of qualifications in promoting economic activity, i.e. encouraging people into the labour market as opposed to simply helping them out of unemployment. We found that level 2 and level 3 vocational qualifications did encourage inactive individuals into employment. However, they were not as important in helping individuals move from unemployment into employment.

Starting with our sample of economically active individuals, i.e. those already attached to the labour market, there was some evidence that level 3 vocational qualifications, when held as the individual's highest qualification, were associated with a higher probability of employment. The increased probability of being in employment, as compared to being unemployed, for NVQ3, was estimated at 2.3 percentage points for men and 1.8 percentage points for women. There was less evidence of any association at level 2; for example NVQs at level 2 were non-significant for men and the estimated effect for women was positive but very small, less than 1 percentage point.

For the full sample of economically active and inactive individuals, we found strong positive employment effects from a range of level 2 and level 3 vocational qualifications.

These results may suggest that vocational qualifications such as NVQ3 are important in determining whether or not someone is economically active and play some role in determining whether or not some one is actually in employment. However, because most low and intermediate level vocational qualifications are acquired via work, it is possible that individuals who are economically active have more vocational qualifications as they have had greater opportunity to acquire such qualifications and the relationship we observe is not a causal one.

As well as boosting wages another labour market benefit of acquiring qualifications is that they may increase the chances of being in employment, and conversely reduce the probability of spells of unemployment. There is some evidence to support this. For example, Jenkins (2006) studied a cohort of women all born in 1958 and found that, among women who were out of the labour market in their early thirties, those who obtained qualifications (largely vocational qualifications at level 3 or below) were subsequently more likely to enter employment. Here we investigate this issue using LFS data.

The analysis is limited by the fact that in our data people are only observed at a single point in time so it is not possible to follow them longitudinally to see if gaining qualifications increases the chances of entering or remaining in employment. The best that can be done is to consider whether those with qualifications are more likely to be in employment, and the advantages of the LFS data are that it provides much detail on qualifications held and a very large sample size. One must however be very cautious in the interpretation of our results. Some of these qualifications, particularly vocational qualifications, are generally acquired by people in work. The sample of individuals holding these qualifications may therefore be biased towards a higher rate of employment. Furthermore, employment rates are determined by many factors that we cannot include in our model, such as family formation and health factors. This is particularly so for women. We cannot overcome these problems in the analysis, without the use of longitudinal data. Hence although in this report we refer to “employment effects”, given that the data is not rich and not longitudinal we cannot necessarily attribute causality to the relationship between qualifications and employment, particularly for post school vocational qualifications.

With these caveats in mind, we identified two samples. Firstly, we included only individuals currently defined as economically active, according to the ILO definition used by the LFS. These individuals are therefore, by definition, in work or looking for work. For this sample we investigate the link between qualifications and being in employment. We then included all individuals in our sample, whether economically active or not. This sample would therefore include individuals who are engaged in work in the home and not looking for work. We then estimated a probit model with whether or not the respondent was employed as the dependent variable for both sample. These models included a range of explanatory variables, including the qualification variables, as well as controls for gender, year, region, age, ethnicity and whether the interview was conducted with a proxy respondent.

Table 59 reports results for the average change in the probability of employment associated with each qualification for the active sample and Table 60 for the highest qualification held for the active sample. For much of this report we have focused only on level 2 and level 3 vocational qualifications. However, here we also mention the association between academic qualifications and employment. This is because academic qualifications generally do pre-date work and so we may be more confident the relationship is causal. The results in Table 59 for each qualification indeed show that level 2 *academic* qualifications are associated with increases in the probability of employment. For example, holding ‘good’ GCSEs is associated with an increase in the employment probability of about 3 percentage points. As for vocational qualifications at level 2 most were found not to be significantly related to the probability of employment. This includes BTECs, GNVQs, City & Guilds and RSA at level 2. For NVQ level 2 there was a very small but significant negative ‘effect’ for men only. In contrast NVQ3 was positively associated with the likelihood of being in employment. Those with an NVQ3 among their portfolio of qualifications were about 1 percentage points more likely to be employed than otherwise similar individuals who did not have this qualification. Some other vocational qualifications at level 3, notably apprenticeships and BTECs, were also associated with an increased probability of employment. This was also the case for City & Guilds, but only for men, and ONC/OND, but only for women, while level 3 RSAs were not significantly related to employment probabilities for either gender.

Results for the highest qualification held for the active sample are in Table 60. Several of the level 3 vocational qualifications were strongly associated with an increased probability of employment if individuals held these qualifications as their highest vocational qualification,

although the magnitude of the effect was typically moderate. The probability of being in employment was some 2 percentage points higher for those holding an apprenticeship, 1.5 percentage points higher for BTECs at level 3, 2.5 percent points for City & Guilds at level 3 but about half that for women and 1.5 percentage points for ONC/OND qualifications. The ‘effect’ size was similar for NVQ3, at 2.3 percentage points for men and 1.8 percentage points for women, while RSAs at level 3 were not significantly associated with the probability of being in employment. There was less evidence that level 2 vocational qualifications, when held as the highest qualification overall, had an association with employment probabilities. For example, the results in Table 60 show foundation apprenticeships and level 2 RSAs to be non-significant while level 2 BTECs were only weakly significant. City & Guilds at level 2 were positive and significantly associated with the probability of employment for men but the estimated effect was negative for women. NVQs at level 2 were non-significant for men and the estimated effect for women was positive but very small, less than 1 percentage point.

Table 61 shows an average employment return i.e. an all qualification specification for the broader sample, which includes the inactive. This specification therefore assesses the association between qualifications and being in work for both individuals who are attached to the labour market and those who may be out of the labour market altogether. This is an issue worth exploring as it may be that vocational qualifications can play a role in drawing individuals back into the labour market and employment, as well as helping those actively seeking work. Table 62 shows a marginal return specification, i.e. including only the individual’s highest vocational and academic qualification, for this sample of active and inactive individuals.

The most striking finding from Table 61 is that most qualifications, whether high or low level and whether vocational or academic, are associated with an increased probability of being in employment for this broader sample. At level 3, RSA qualifications are not associated with any increase in employment for men but for women the association is sizeable (9 percentage points) and significant. City and Guilds at level 2 is associated with a 3 percentage points higher employment rate for men but is not significant for women. BTEC at level 2 only offers higher employment probabilities for women and the effect is also small (3 percentage points). For City & Guilds at level 3 it is 2 percentage points for women and 4 percentage points for men while for BTEC at level 3 the effects are estimated at 4 percentage points for men and 9

percentage points for women. All levels of NVQs also have positive marginal employment ‘effects’: at level 3 NVQ qualifications are associated with an increased probability of employment of 6 percentage points for men and 15 percentage points for women; at level 2 NVQs increase the probability of employment by 3 percentage points for men and 12 percentage points for women.

For many vocational qualifications, such as BTEC, RSA, City and Guilds and NVQ, the higher-level qualifications are associated with larger employment effects. The employment effects are also generally larger for women than for men, partly reflecting the lower employment rates for women¹⁷. It is important to note however, that we need to be much more wary of interpreting the association between qualifications and employment for women as causal, given that women have very different employment patterns to men and that we cannot control for family factors.

The results for highest qualification in Table 62 are generally similar, although of course the magnitude of the employment effects are generally greater. Again most qualifications are associated with a higher probability of being in employment, other things equal, and the marginal effects tend to be larger for women than for men. For those with NVQ level 3 as their highest qualification, the employment effect for men was 11 percentage points and for women it was 22 percentage points. For those with NVQ at level 2 as their highest qualification the increase in probability of being in employment was statistically significant and was estimated at 8 percentage points for men and 19 percentage points for women.

15 Conclusions

Previous evidence has suggested that whilst the wage return to higher level vocational (and academic) qualifications is substantial, the wage return to some lower level vocational qualifications such as NVQ2 and NVQ1, is essentially zero. This report revisits this issue, providing a comprehensive analysis of the returns to all types of vocational and academic qualifications currently held by workers, including estimates of both wage and employment

¹⁷ This does not hold for some traditionally ‘male qualifications’, such as City and Guilds.

returns. The focus of the report is the wage and employment returns to intermediate and low-level vocational qualifications, and we pay particular attention to the labour market value of NVQs. The report moves forward previous work not only by updating the evidence base using more recent data and exploring the extent to which previous findings still hold, but also by increasing our understanding of the specific contexts in which particular level 2 and level 3 vocational qualifications give good economic value.

More generally, from a policy perspective it is very important that we understand the labour market value of modern vocational qualifications. This is not least because the uptake of some types of vocational qualification has been substantial and increasing in recent years. For instance, the substantial growth in the number of workers holding degrees has actually been outpaced by the growth in the numbers holding NVQ qualifications, albeit from a relatively low level of 2.7% in 1997 to 7.5% by 2006. With increasing acquisition of these vocational qualifications, it is crucial that we understand better their role in the labour market. It is also right to pay particular attention to individuals with intermediate and low level vocational qualifications specifically. The vast majority of individuals who acquire vocational qualifications such as NVQs do not go on to achieve higher levels of qualification. For example, the proportion of people with an NVQ who had attained level 4 or 5 only reached just over 7% by 2006. Therefore for many, these qualifications are stopping points and reflect individuals' highest level of qualification achievement. Assessing the labour market value of these qualifications for these particular individuals is obviously important.

In the report we present a vast array of estimates of wage returns particularly, and to a lesser extent employment returns. We do not attempt to summarise all these estimates here but rather identify key findings that emerge from the analysis. We recognize two major methodological limitations of the work. Firstly, we cannot control for the ability of workers and our estimates may therefore be subject to ability bias. Secondly, we also present estimates of wage returns by sector and occupation. Of course sector and occupation are the outcome of an individual's human capital (qualification) investments and so the estimates are purely associations, rather than causal, for these analyses.

Like previous research, our initial analyses suggest that familiar patterns of wage returns still hold in the UK labour market. There are high returns to academic qualifications across the board, substantial returns to higher level vocational qualifications and smaller but nonetheless

significant returns to some but by no means all intermediate and lower level vocational qualifications. We also confirm the non-existent average returns to NVQ2.

More in depth analysis however, suggested that the returns to most lower and intermediate level vocational qualifications vary substantially in different contexts, particularly across occupation and sector. In addition the choice of comparator group is extremely important in determining the exact magnitude of the wage returns to different qualifications. The best comparator group is by no means obvious and depends on the research question you are trying to address. Certainly in some circumstances one is less interested in the average return to qualifications (across all individuals holding that qualification), as opposed to a marginal return (the return for individuals who hold that qualification as their highest qualification) for some particular target group, such as the low qualified or even unqualified. For example, one might not expect a very large wage premium for those taking a vocational level 2 qualification if the individual already has a degree or other higher-level qualifications. It is not even obvious that one would expect a substantial return to low-level vocational qualifications, if individuals already have academic qualifications at the same level. In our analysis we therefore explored average and marginal returns to intermediate and low level vocational qualifications, across a range of different comparator groups. We also investigated returns by occupation, sector, age when the qualification was acquired, how long the person had the qualification, region, subject area and mode of acquisition.

This more in depth analysis suggests that the wage return to many vocational level 2 qualifications is significant and substantial for individuals who hold level 2 vocational qualifications as their highest level of qualification. In other words, for individuals who do not achieve good GCSEs at school, most vocational level 2 qualifications offer substantial and significant wage benefits. Examples include BTEC at level 2 or City and Guilds at level 2. This is of course greatly reassuring for policy-makers. It implies that there are vocational routes that can provide a means for unqualified or low qualified individuals who did not achieve level 2 in school, to increase their wage and employment prospects. However, it is noteworthy that the overall average return to NVQ2 remains nil even for otherwise low qualified individuals, and this is the case for both men and women. This would seem to suggest that NVQ2 is not so successful in providing a means for individuals to secure higher wages, not even for individuals who leave school with few or no other qualifications. We did however, identify circumstances in which an NVQ2 did lead to higher wages, i.e. particular

occupations or sectors where the return was positive and significant. The occupations and sectors in which NVQ2 holders earned a return varied across men and women. Thus we can conclude that the NVQ2 route can be beneficial, in terms of providing higher wages, but only in a very limited range of sectors and occupations.

We also examined the wage return to level 3 vocational qualifications. The returns to level 3 vocational qualifications are generally positive and significant, although they vary by gender across different qualifications. The wage return also varies substantially (as was the case at level 2) across occupation, sector and region. For workers who achieve good GCSEs at school, NVQ3 offers a significant and positive marginal return, albeit a small one (just under 5% for women and 3% for men). Level 3 vocational qualifications, including NVQ3, therefore appear to offer a valuable route by which individuals can secure higher earnings, especially for those who do not succeed in achieving level 2 at school.

In general the analyses of the wage returns to both level 2 and level 3 vocational qualifications suggested that the returns vary substantially across gender, occupation, sector and region. Some of this variation is correlated. For instance, gender differences in returns to vocational qualifications often reflect occupational and sector gender segregation. Women are located in different occupations in different sectors and therefore the apparent gender difference in returns is really down to women's choice of sector and occupation. Likewise, we concluded that much of the variation in returns across region was probably attributable to sectoral differences in returns, although sample sizes did not permit us to test this. Genuine differences in the wage returns to different qualifications across sectors and occupations are more likely. Such differences can obviously help policy-makers pinpoint where particular types of qualification are working effectively, i.e. providing positive wage and employment returns for workers.

The report also considers average and marginal employment returns to all qualifications. Some clear messages emerge. Almost all qualifications at all levels are associated with higher employment probabilities but this comes largely from the association between having vocational qualifications and being economically active, rather than any causal link between having level 2 and level 3 vocational qualifications and securing a job. It is worth noting however that one observes positive and significant associations between holding an NVQ2 or an NVQ3 and being employed, for both men and women. The interpretation of the

employment results is however, problematic for two reasons. Firstly employment rates for women vary markedly because of family formation issues and we cannot allow for this in our model. We are almost certainly identifying a spurious qualification effect on employment that is actually caused by unobserved factors, such as differing attitudes towards career and work place ability. Secondly, many vocational qualifications, particularly NVQs, are acquired in work and via an employer. This will bias our employment estimates upwards. Longitudinal analysis of the transitions of individuals before and after acquiring vocational qualifications is needed to unpack the extent to which we can conclude that the associations we observe between holding low and intermediate level vocational qualifications and being economically active and in work are genuinely causal.

In summary therefore, we find high wage (and more arguably employment) returns across a range of contexts for a number of level 2 and level 3 vocational qualifications, such as BTEC, City and Guilds and RSA. However, the wage returns to NVQs are not so large nor so widespread. It is in fact probably meaningless to talk of an average return to an NVQ2. This is because the use made of NVQ2 and the content of the qualification varies across different contexts, thus providing very different economic value across different sectors and occupations. Whilst some level 2 vocational qualifications, such as BTEC, do offer by and large positive wage and employment returns across the full range of sectors, occupations and for both genders, this is not the case for NVQs. These latter qualifications only provide added value in a very limited set of contexts. Economic analysis of individuals' wages and employment prospects can only go so far in telling us why such qualifications do have positive economic value in some settings but do not in others. To truly understand why, for example, NVQs in public administration for women yield a positive marginal wage return, we really need to understand how such qualifications are used in practice and have a better understanding of the training incorporated into that particular NVQ. We would therefore recommend further qualitative research into the curriculum content of different vocational qualifications that are apparently at the same level but that nonetheless provide very different wage and employment returns. Only by understanding the curriculum content, the way in which employers use the skills acquired via these qualifications, and by having a better appreciation of the different types of workers taking different types of qualification, can we move forward our understanding of which qualifications best fit the needs of the labour market.

Post Leitch the UK is moving to adopt a more demand led system of vocational provision, whereby employers, via their sector representatives, have a greater say in the development and delivery of qualifications. However, it is obvious from our evidence that some of the current vocational offer does not meet the needs of employers. In the case of NVQ2 and NVQ3 qualifications, in many sectors and across a range of occupations, even otherwise low skilled individuals do not gain a large wage return to these qualifications, even where they are held as their highest qualification. This suggests that employers do not value them as much as other qualifications, such as BTEC, which provide good returns across a much wider range of sectors and occupations. Yet NVQs were developed supposedly with substantial employer input into their design. With the shift to a more demand led system, it remains critical that we have a better understanding as to exactly why BTEC qualifications are in demand by employers whereas NVQ2 qualifications in certain sectors are not. We cannot assume that the processes set up to enable employers to influence vocational qualification development and provision will automatically ensure that the vocational training system responds effectively to the needs of individuals and employers, and produces qualifications that have good economic value.

References

- Dearden, L., McIntosh, S., Myck, M. and Vignoles, A. (2000) 'The Returns to Academic, Vocational and Basic Skills in Britain', Skills Task Force Research Paper 20.
- Dearden, L., McIntosh, S., Myck, M. and Vignoles, A. (2002) 'The Returns to Academic and Vocational Qualifications in Britain', *Bulletin of Economic Research*, 54, 249-274.
- Dearden, L.,McGranahan, L. and Sianesi, B. (2004a) 'Returns to Education for the 'Marginal Learner': Evidence from the BCS70', Centre for Economics of Education Discussion Paper No. 45.
- Dearden, L., McGranahan, L., and Sianesi, B. (2004b) 'An In-depth Analysis of the Returns to National Vocational Qualifications Obtained at Level 2', Centre for Economics of Education Discussion Paper No. 46.
- Dickenson, A. (2005) 'A Study on Rates of Return to Investment in Level 3 and Higher Qualifications', Warwick Institute for Employment Research: University of Warwick, manuscript.
- Jenkins, A., Vignoles, A., Wolf, A. and Galindo-Rueda, F. (2003) 'The determinants and labour market effects of lifelong learning', *Applied Economics*, Vol.35, No.16, pp.1711-1721.
- Jenkins, A. (2006) 'Women, Lifelong Learning and Transitions into Employment', *Work, Employment and Society*, 20/2, 309-328.
- Leitch, S. (2006) 'Prosperity for all in the global economy – world class skills', Leitch Review of Skills, Final Report, December.
- Machin, S. and Vignoles, A. (2005) 'What's the Good of Education?: The Economics of Education in the UK', Princeton University Press: Princeton and Oxford.

McIntosh, S. (2007) 'A Cost-Benefit Analysis of Apprenticeships and Other Vocational Qualifications', Department for Education and Skills Research Report 834.

Vignoles, A. and Powdthavee, N. (2006) 'Using Rate of Return Analyses to Understand Sector Skill Needs', Centre for Economics of Education Discussion Paper No. 70.

Walker, I. and Zhu, Y. (2005) 'The college wage premium, over education and the expansion of higher education in the UK', University of Warwick mimeo.

Table 1: % Holding each Level 2 and Level 3 vocational qualification

Level 3 Vocational	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
BTEC etc - highest @ national cert/dipl level	0.8	0.9	1.0	1.1	1.1	1.2	1.2	1.2	1.3	1.3
City & Guilds - highest @ advanced craft / part 3	2.0	2.4	2.5	2.6	2.6	2.8	2.7	2.6	2.6	2.7
OND, OND	1.7	1.6	1.5	1.5	1.4	1.5	1.4	1.4	1.3	1.3
RSA - highest @ advanced diploma or certificate	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1
NVQ, SVQ - highest @ level 3	0.6	0.8	1.0	1.2	1.5	1.6	1.8	2.0	2.3	2.3
Apprenticeship (traditional) – above foundation level	9.7	9.3	9.0	8.8	8.3	8.1	7.7	7.7	7.0	6.9
Apprenticeship (modern) – above foundation level	0.3	0.4	0.4	0.6	0.6	0.6	0.6	0.2	0.2	0.3
Level 2 Vocational	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
BTEC, etc - highest @ 1st / gen diploma level	0.4	0.4	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3
City & Guilds - highest @ craft / part 2	2.8	2.5	2.3	2.1	2.0	1.9	1.9	1.9	1.7	1.7
RSA - highest @ diploma	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1
NVQ, SVQ - highest @ level 2	1.2	1.5	1.8	1.9	2.1	2.3	2.4	2.6	2.8	3.0
Apprenticeship (Modern) - foundation level	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.3

Derived from unweighted wave 5 data from the Labour Force Survey for 1997-2006

Table 2 Wage Returns (all qualifications) 1997-2006

Dependent variable is log gross hourly real wage

	all	female	male
Vocational degree	45.06	51.89	39.93
	[45.02]***	[30.07]***	[32.83]***
Higher degree	10.08	11.96	8.76
	[20.55]***	[16.85]***	[13.00]***
NVQ or SVQ (highest @ level 5)	14.45	20.44	9.75
	[5.84]***	[5.16]***	[3.06]***
BTEC, etc (highest @ higher level)	6.82	7.68	7.04
	[6.41]***	[5.16]***	[4.82]***
HNC or HND	12.86	8.98	12.98
	[28.64]***	[11.06]***	[24.34]***
Nursing/other medical qual	22.51	27.63	7.36
	[45.34]***	[51.34]***	[5.17]***
RSA (highest @ higher diploma)	2.12	5.23	-5.45
	[1.05]	[2.39]**	[0.95]
Teaching qual, excl PGCE	15.49	24.36	1.71
	[24.83]***	[31.06]***	[1.68]*
First / foundation degree	27.63	29.43	26.11
	[70.93]***	[54.24]***	[46.87]***
Diploma in higher education	8.76	10.96	6.08
	[14.08]***	[13.89]***	[6.08]***
NVQ or SVQ (highest @ level 4)	11.74	14.80	9.31
	[11.69]***	[10.89]***	[6.29]***
Other higher education qual below deg level	5.97	7.25	4.60
	[7.30]***	[6.94]***	[3.58]***
Apprenticeship	7.79	-0.90	8.22
	[25.93]***	[1.61]	[22.65]***
Modern Apprenticeship	5.97	-2.18	9.97
	[7.13]***	[1.28]	[10.17]***
BTEC etc (highest@national cert/dipl level)	7.68	7.57	7.57
	[14.73]***	[10.54]***	[9.98]***
City and Guilds (highest @ advanced craft / at part 3)	3.56	-1.78	2.63
	[8.29]***	[1.84]*	[5.50]***
GNVQ, GSVQ (highest @ advanced level)	2.84	2.74	2.63
	[3.44]***	[2.59]***	[2.18]**
ONC or OND	9.42	7.14	8.44
	[17.02]***	[6.04]***	[13.51]***
RSA (highest@advanced diploma or certificate)	5.87	9.97	-4.88
	[3.80]***	[5.99]***	[1.18]
teaching qual, excl PGCE (foundation level)	3.87	1.21	-0.60
	[0.95]	[0.28]	[0.06]
Access to HE qual	-1.39	2.33	-14.19

	all	female	male
	[0.37]	[0.53]	[2.04]**
A-level, voc A-level, equiv (more than one)	14.22	13.77	13.88
	[42.79]***	[31.51]***	[27.94]***
A/S-level, voc A/S-level, equiv (3+)	0.60	-4.21	3.98
	[0.41]	[2.39]**	[1.59]
CSYS or equivalent	4.29	2.94	5.13
	[1.59]	[0.78]	[1.34]
SCE Higher ([>2, DK & degree])	26.87	21.05	31.52
	[12.02]***	[6.71]***	[10.10]***
SNQ (highest @ higher level [>2], advanced higher level [>1])	0.80	0.00	-2.08
	[0.07]	[0.00]	[0.09]
International Baccalaureate	19.96	17.94	24.86
	[3.63]***	[2.52]**	[2.89]***
NVQ or SVQ (highest @ level 3)	0.20	1.41	-0.10
	[0.52]	[2.48]**	[0.16]
BTEC etc (highest @ 1st / gen diploma level)	4.29	2.94	5.65
	[4.14]***	[2.23]**	[3.55]***
City and Guilds (highest @ craft / part 2)	-0.60	-3.25	-0.80
	[1.38]	[4.25]***	[1.58]
GNVQ, GSVQ (highest @ intermediate level)	-1.19	-2.47	0.50
	[1.34]	[2.15]**	[0.43]
RSA (highest @ diploma)	1.41	4.50	-6.85
	[1.05]	[3.17]***	[1.98]**
One A-level, voc A-level, or equiv	5.76	7.25	4.19
	[11.93]***	[11.93]***	[5.49]***
Has A/S-level, voc A/S-level, or equiv (more than one)	-0.70	-4.21	2.84
	[0.53]	[2.55]**	[1.33]
CSE (grade 1 [>4 in total])	-3.92	-4.02	-3.54
	[9.46]***	[7.48]***	[5.61]***
GCSE, vocat GCSE ([>4 in total])	10.63	9.42	11.29
	[28.60]***	[19.15]***	[20.31]***
NVQ or SVQ (highest @ level 2)	-7.23	-5.82	-8.70
	[20.26]***	[13.04]***	[15.08]***
O-level or equivalent ([>4 in total])	29.30	27.12	31.78
	[95.03]***	[67.72]***	[66.95]***
SCE Higher (<3)	6.93	4.29	11.96
	[2.41]**	[1.26]	[2.31]**
SCE standard grade ([>4 in total])	15.84	14.80	17.23
	[7.26]***	[4.90]***	[5.48]***
Modern Apprenticeship (foundation level)	9.20	3.05	13.88
	[4.29]***	[1.07]	[4.64]***
Basic Skills qual	-7.78	-6.48	-8.79
	[3.04]***	[2.28]**	[1.80]*
BTEC etc (highest @ 1st / gen cert level)	3.67	4.08	3.25
	[4.02]***	[3.09]***	[2.60]***

	all	female	male
City and Guilds (highest @ foundation / part 1)	-2.66	-2.86	-2.76
	[7.60]***	[5.52]***	[5.93]***
GNVQ, GSVQ (highest @ foundation level)	-1.39	-1.69	-1.29
	[0.97]	[0.90]	[0.59]
Key Skills qual	-4.21	-5.07	-3.25
	[2.23]**	[2.11]**	[1.07]
Other prof, voc, foreign quals	4.92	4.92	4.50
	[28.40]***	[20.84]***	[17.69]***
RSA (highest @ other)	-0.40	2.12	-5.45
	[1.46]	[7.09]***	[5.95]***
SCOTVEC etc (highest @ 1st / gen cert level)	-1.39	-1.09	-1.00
	[0.35]	[0.17]	[0.19]
YT certificate	-1.29	1.51	-3.73
	[1.90]*	[1.52]	[3.86]***
one A/S-level, voc A/S-level, or equiv	-0.60	-0.50	-0.60
	[0.58]	[0.36]	[0.34]
CSE @ grade 2-5	0.50	-0.70	1.41
	[1.76]*	[1.98]**	[3.52]***
GCSE, vocat GCSE (<5 in total)	4.71	5.02	5.23
	[13.34]***	[10.28]***	[10.21]***
NVQ or SVQ (highest @ level 1)	-7.41	-6.76	-7.32
	[14.04]***	[9.40]***	[9.61]***
O-level or equivalent (<5)	13.77	12.98	14.68
	[46.18]***	[33.09]***	[32.72]***
SCE standard grade(<5)	12.30	14.34	10.96
	[4.90]***	[4.30]***	[3.01]***
Observations	249747	128032	121715
R-squared	0.4532	0.4219	0.4405

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: gender, age, ethnicity, region, year, part-time, proxy respondent

This is an average return specification controlling for other qualifications held

Table 3 Wage Returns (highest qualification) 1997-2006

Dependent variable is log gross hourly real wage

	all	female	male
Highest voc qual is vocational degree	59.68	103.40	52.96
	[56.37]***	[36.29]***	[112.41]***
Highest voc qual is NVQ or SVQ (highest @ level 5)	27.89	35.12	21.05
	[10.84]***	[8.55]***	[6.47]***
Highest voc qual is BTEC, etc (highest @ higher level)	12.98	10.85	13.77
	[9.10]***	[5.82]***	[6.55]***
Highest voc qual is HNC or HND	22.26	15.26	21.90
	[45.92]***	[17.62]***	[37.38]***
Highest voc qual is nursing or other medical qual n.e.c.	28.15	32.45	12.19
	[51.72]***	[53.99]***	[8.42]***
Highest voc qual is RSA (highest @ higher diploma)	6.08	9.31	-2.18
	[2.62]***	[3.78]***	[0.33]
Highest voc qual is teaching qual, excl PGCE	24.86	33.78	8.33
	[36.50]***	[39.95]***	[7.23]***
Highest voc qual is NVQ or SVQ (highest @ level 4)	22.51	24.61	20.20
	[21.18]***	[17.24]***	[12.77]***
Highest voc qual is Apprenticeship	7.79	0.10	7.47
	[22.01]***	[0.09]	[16.97]***
Highest voc qual is BTEC etc (highest @ national cert/dipl level)	9.09	8.33	8.98
	[14.72]***	[9.97]***	[9.98]***
Highest voc qual is City and Guilds (@ advanced/part3)	11.63	0.20	10.41
	[23.62]***	[0.21]	[18.66]***
Highest voc qual is GNVQ, GSVQ (highest @ advanced level)	2.12	2.63	0.40
	[2.23]**	[2.14]**	[0.30]
Highest voc qual is ONC or OND	16.18	7.36	16.30
	[19.98]***	[4.63]***	[17.63]***
Highest voc qual is RSA (highest @ advanced diploma or certificate)	9.86	13.54	2.22
	[5.67]***	[7.15]***	[0.51]
Highest voc qual is teaching qual, excl PGCE (foundation level)	17.12	27.38	-8.70
	[1.18]	[1.56]	[0.46]
Highest voc qual is NVQ or SVQ (highest @ level 3)	5.87	5.34	6.50
	[12.15]***	[8.72]***	[8.43]***
Highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	5.02	5.23	4.39
	[3.77]***	[3.07]***	[2.04]**
Highest voc qual is City and Guilds (highest @ craft/part 2)	-1.19	-0.20	-2.76
	[1.68]*	[0.14]	[3.00]***
Highest voc qual is GNVQ, GSVQ (highest @ intermediate level)	-0.50	-1.78	0.90
	[0.49]	[1.29]	[0.61]
Highest voc qual is RSA (highest @ diploma)	3.56	6.18	-4.59
	[2.28]**	[3.82]***	[0.80]

	all	female	male
Highest voc qual is NVQ or SVQ (highest @ level 2)	-4.02	-2.47	-7.13
	[9.64]***	[4.77]***	[10.23]***
Highest voc qual is SNQ (highest @ intermediate level [>4 equivalents in total])	3.46	1.92	17.82
	[0.39]	[0.18]	[1.74]*
Highest voc qual is Modern Apprenticeship (foundation level)	9.64	-10.86	24.86
	[1.85]*	[1.54]	[3.78]***
Highest voc qual is Basic Skills qual	-5.26	-4.97	-3.63
	[1.31]	[1.01]	[0.57]
Highest voc qual is BTEC etc (highest @ 1st/gen cert level, DK)	6.18	7.14	5.13
	[4.99]***	[4.38]***	[2.78]***
Highest voc qual is City and Guilds (highest @ part1/foundation)	-0.90	0.10	-2.27
	[1.52]	[0.08]	[3.05]***
Highest voc qual is GNVQ, GSVQ (highest @ foundation level, DK)	-0.70	-0.60	-1.19
	[0.37]	[0.23]	[0.42]
Highest voc qual is Key Skills qual	-4.50	-5.07	-5.73
	[1.18]	[1.09]	[0.87]
Highest voc qual is other prof, voc, foreign quals {majority coded to level 3}	7.47	7.47	6.61
	[29.66]***	[21.74]***	[17.90]***
Highest voc qual is RSA (highest @ other, DK)	2.33	4.92	-1.98
	[6.51]***	[12.69]***	[1.46]
Highest voc qual is SCOTVEC etc (highest @ 1st/gen cert level, mods, DK)	12.41	20.92	0.70
	[1.93]*	[2.30]**	[0.08]
Highest voc qual is YT certificate	-2.18	-0.30	-4.40
	[1.73]*	[0.18]	[2.50]**
Highest voc qual is NVQ or SVQ (highest @ level 1, DK)	-5.45	-4.02	-6.67
	[8.47]***	[4.84]***	[6.75]***
Highest acad qual is higher degree	98.97	66.70	95.81
	[41.03]***		[113.71]***
Highest acad qual is first / foundation degree	79.86	80.40	78.78
	[120.92]***		[120.15]***
Highest acad qual is diploma in higher education	46.81	49.78	41.48
	[50.35]***	[43.15]***	[27.10]***
Highest voc qual is other higher education qual below deg level n.e.c.	39.38	39.93	38.96
	[34.08]***	[26.45]***	[21.89]***
Highest acad qual is Access to HE qual	20.56	21.05	13.66
	[3.25]***	[2.78]***	[1.41]
Highest acad qual is A-level, voc A-level, equiv ([>1, 1 & >1 A/S-level, DK & degr])	43.76	41.62	45.35
	[94.49]***	[67.22]***	[66.28]***
Highest acad qual is A/S-level, voc A/S-level, equiv ([>3, DK & degr])	32.05	23.12	38.82
	[15.69]***	[10.10]***	[10.62]***
Highest acad qual is CSYS or equivalent	15.60	12.19	17.94
	[3.63]***	[1.87]*	[3.30]***
Highest acad qual is SCE Higher ([>2, DK & degree])	49.48	43.19	55.12
	[14.96]***	[10.10]***	[11.23]***

	all	female	male
Highest acad qual is International Baccalaureate {majority coded to level 3}	22.75 [2.27]**	28.79 [3.53]***	26.87 [1.54]
Highest acad qual is SNQ (highest @ higher level [>2], advanced higher level [>1])	50.38 [4.67]***	33.64 [2.59]***	78.07 [4.64]***
Highest acad qual is SCE Higher ([<3, DK & no degree])	32.58 [8.79]***	29.69 [7.60]***	40.78 [5.11]***
Highest acad qual is A-level, voc A-level, equiv ([1 & <2 A/S-level, DK & no degr])	34.45 [54.32]***	34.58 [43.02]***	34.45 [34.14]***
Highest acad qual is A/S-level, voc A/S-level, equiv ([2-3, DK & no degr])	27.38 [13.69]***	20.20 [8.58]***	34.99 [10.39]***
Highest acad qual is CSE (grade 1 [>4 equivalents in total])	12.86 [12.83]***	10.41 [7.62]***	15.14 [10.52]***
Highest acad qual is GCSE, vocat GCSE ([>4 equivalents in total])	25.23 [53.41]***	23.61 [37.60]***	25.73 [37.05]***
Highest acad qual is O-level or equivalent ([>4 equivalents in total])	31.92 [86.39]***	29.43 [61.85]***	34.99 [61.02]***
Highest acad qual is SCE standard grade ([>4 equivalents in total])	17.94 [4.11]***	15.03 [2.49]**	20.56 [3.32]***
Highest acad qual is A/S-level, voc A/S-level, equiv ([1])	22.26 [5.62]***	24.23 [5.06]***	22.51 [3.25]***
Highest acad qual is CSE (DK, grade 2-5, grade 1 [<5 equivalents in total])	5.87 [17.41]***	3.98 [8.69]***	7.04 [14.54]***
Highest acad qual is GCSE, vocat GCSE ([DK, <5 equivalents in total])	13.66 [34.29]***	13.77 [24.99]***	14.57 [25.70]***
Highest acad qual is O-level or equivalent ([DK, <5 equivalents in total])	17.94 [52.99]***	16.30 [36.57]***	19.36 [37.95]***
Highest acad qual is SCE standard grade ([DK, <5 equivalents in total])	14.34 [4.41]***	16.77 [3.71]***	12.86 [2.85]***
Observations	249747	128032	121715
R-squared	0.4492	0.4192	0.4351

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: gender, age, ethnicity, region, year, part-time, proxy respondent

Table 4 Wage Returns (all qualifications) 1997-2006 Level 2 Vocational or Below Sample

Dependent variable is log gross hourly real wage

	all	female	male
BTEC etc (highest @ 1st/gen diploma level)	7.68	5.97	9.20
	[4.71]***	[2.88]***	[3.55]***
City and Guilds (highest @ advanced craft/part 2)	1.31	0.70	0.60
	[1.74]*	[0.53]	[0.68]
GNVQ, GSVQ (highest @ intermediate level)	-0.70	-1.09	-0.10
	[0.60]	[0.66]	[0.08]
RSA (highest @ diploma)	12.19	13.88	7.90
	[5.76]***	[6.46]***	[1.03]
NVQ or SVQ (highest @ level 2)	-2.96	-2.08	-5.07
	[6.30]***	[3.56]***	[6.40]***
Modern Apprenticeship (foundation level)	5.02	-5.73	12.98
	[1.39]	[1.08]	[2.56]**
Observations	93304	53479	39825
R-squared	0.2606	0.1954	0.2669
Robust t statistics in brackets			
* significant at 10%; ** significant at 5%; *** significant at 1%			

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is an average return specification controlling for other qualifications held.

Table 5 Wage Returns (all qualifications) 1997-2006 by occupation. Level 2 Vocational or Below Sample: Males and Females

Dependent variable is log gross hourly real wage

	manager	prof	assoc prof	admin/sec	skilled	personal service	sales customer	machine ops	elementary occs
BTEC etc (highest @ 1st/gen diploma level)	3.98	18.06	-3.15	2.43	10.08	11.63	6.72	14.68	-1.98
	[0.74]	[1.78]*	[0.50]	[0.96]	[1.72]*	[2.65]***	[1.75]*	[3.01]***	[0.45]
City and Guilds (highest @ advanced craft/part 2)	-9.15	-1.59	-6.29	-0.60	4.60	3.15	4.19	4.29	0.40
	[3.78]***	[0.33]	[2.59]***	[0.27]	[2.93]***	[1.68]*	[1.33]	[2.33]**	[0.19]
GNVQ, GSVQ (highest @ intermediate level)	-4.11	-15.72	-14.19	-7.50	2.02	3.15	-0.30	-6.01	3.15
	[0.78]	[1.85]*	[2.45]**	[2.99]***	[0.61]	[1.02]	[0.11]	[1.50]	[1.08]
RSA (highest @ diploma)	7.14	-16.81	6.82	7.14	49.78	-2.27	4.29	-0.40	8.65
	[1.16]	[1.30]	[0.55]	[3.19]***	[1.85]*	[0.42]	[0.70]	[0.07]	[1.00]
NVQ or SVQ (highest @ level 2)	-12.45	-23.05	-12.63	-5.35	4.08	1.71	0.10	0.80	2.53
	[6.55]***	[5.20]***	[6.13]***	[5.30]***	[2.52]**	[1.69]*	[0.04]	[0.58]	[2.10]**
Modern Apprenticeship (foundation level)	0.90	44.92	-12.54	9.64	19.84	-12.01	6.40	-1.49	6.40
	[0.03]	[3.97]***	[0.97]	[1.15]	[3.22]***	[1.70]*	[0.50]	[0.21]	[0.40]
Observations	8059	1517	4658	17361	7984	12133	10629	13619	17339
R-squared	0.1905	0.2372	0.2558	0.1721	0.3599	0.2025	0.2174	0.1792	0.217

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is an average return specification controlling for other qualifications held.

Table 6 Wage Returns (all qualifications) 1997-2006 by occupation. Level 2 Vocational or Below Sample: Females

Dependent variable is log gross hourly real wage

	manager	prof	assoc prof	admin/sec	skilled	personal service	sales customer	machine ops	elementary occs
BTEC etc (highest @ 1st/gen diploma level)	14.11	-25.47	-5.07	3.15	46.81	8.87	5.02	11.29	-4.59
	[1.53]	[1.65]	[0.56]	[1.16]	[1.49]	[1.96]*	[1.21]	[1.00]	[0.65]
City and Guilds (highest @ advanced craft/part 2)	-5.82	3.05	-2.27	-2.08	1.01	3.36	4.71	1.01	3.36
	[1.27]	[0.28]	[0.54]	[0.86]	[0.30]	[1.42]	[1.31]	[0.21]	[1.13]
GNVQ, GSVQ (highest @ intermediate level)	-7.13	-35.98	-18.70	-6.95	-9.34	5.97	5.13	-10.60	2.84
	[1.12]	[2.94]***	[2.49]**	[2.30]**	[1.21]	[1.72]*	[1.66]*	[1.23]	[0.64]
RSA (highest @ diploma)	5.65	-16.05	9.75	8.11	0.00	-0.80	2.94	11.40	16.07
	[0.83]	[1.37]	[0.71]	[3.51]***	[.]	[0.15]	[0.48]	[2.02]**	[1.73]*
NVQ or SVQ (highest @ level 2)	-11.04	-20.55	-12.37	-5.54	3.36	3.25	0.30	1.61	2.33
	[5.12]***	[3.27]***	[4.92]***	[5.00]***	[0.85]	[3.03]***	[0.23]	[0.75]	[1.42]
Modern Apprenticeship (foundation level)	0.00	0.00	-37.56	7.90	26.24	-12.54	6.18	0.00	-0.60
	[.]	[.]	[1.56]	[0.97]	[1.94]*	[1.61]	[0.31]	[.]	[0.08]
Observations	3468	652	2347	14398	1514	9739	8555	3213	9590
R-squared	0.1406	0.2228	0.202	0.1519	0.1243	0.1584	0.1486	0.0682	0.0706

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is an average return specification controlling for other qualifications held.

Table 7 Wage Returns (all qualifications) 1997-2006 by occupation. Level 2 vocational or Below Sample: Males

Dependent variable is log gross hourly real wage

	manage r	prof	assoc prof	admin/sec	skilled	Personal service	Sales/ customer	Machine ops	Elementary occs
BTEC etc (highest @ 1st/gen diploma level)	-2.96 [0.57]	31.39 [3.18]***	-1.49 [0.16]	-1.98 [0.28]	9.09 [1.55]	20.20 [1.50]	10.63 [1.27]	14.68 [2.65]***	1.21 [0.24]
City and Guilds (highest @ advanced craft/part 2)	-9.79 [3.49]***	-6.11 [1.11]	-8.42 [2.80]***	3.15 [0.89]	4.71 [2.81]***	-0.10 [0.04]	-1.00 [0.17]	4.39 [2.22]**	-2.47 [0.96]
GNVQ, GSVQ (highest @ intermediate level)	-2.66 [0.40]	-14.36 [1.06]	-19.75 [2.37]**	-6.01 [1.35]	2.22 [0.65]	-3.25 [0.48]	-3.63 [0.86]	-4.50 [1.01]	4.71 [1.27]
RSA (highest @ diploma)	17.59 [1.15]	0.00 [.]	-17.22 [0.83]	-4.40 [0.46]	52.20 [1.98]**	-17.88 [2.94]***	57.15 [11.27]***	-7.41 [0.99]	-26.66 [2.52]**
NVQ or SVQ (highest @ level 2)	-15.80 [4.79]***	-24.35 [3.82]***	-12.10 [3.31]***	-6.39 [2.66]***	3.87 [2.21]**	-9.79 [3.83]***	-1.19 [0.37]	0.50 [0.31]	2.33 [1.28]
Modern Apprenticeship (foundation level)	23.12 [0.65]	53.27 [3.31]***	11.74 [1.81]*	0.00 [.]	18.06 [2.68]***	-32.29 [3.35]***	19.12 [1.19]	-1.19 [0.16]	15.37 [0.53]
Observations	4591	865	2311	2963	6470	2394	2074	10406	7749
R-squared	0.1471	0.2733	0.2327	0.2906	0.3812	0.3003	0.3518	0.1302	0.2535

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is an average return specification controlling for other qualifications held.

Table 8 Wage Returns (all qualifications) 1997-2006 by industry. Level 2 Vocational or Below Sample: Males and Females

Dependent variable is log gross hourly real wage

	agriculture & fishing	energy & water	manufacturing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	other services
BTEC etc (highest @ 1st/gen diploma level)	12.75 [0.81]	-12.10 [0.80]	4.71 [1.48]	11.07 [1.18]	6.82 [2.22]**	7.57 [1.05]	2.33 [0.54]	8.00 [2.48]**	12.98 [2.08]**
City and Guilds (highest @ advanced craft/part 2)	-1.39 [0.34]	3.46 [0.58]	4.50 [2.99]***	8.44 [3.00]***	1.51 [1.03]	2.53 [0.97]	-7.69 [2.77]***	-0.60 [0.37]	1.92 [0.57]
GNVQ, GSVQ (highest @ intermediate level)	30.87 [2.85]***	2.63 [0.32]	-3.73 [1.20]	1.92 [0.39]	2.63 [1.36]	-3.34 [0.91]	-13.58 [3.52]***	-1.98 [0.71]	2.84 [0.46]
RSA (highest @ diploma)	-39.89 [8.58]***	-15.46 [1.24]	10.41 [2.23]**	17.35 [1.21]	9.31 [1.76]*	-1.00 [0.16]	10.52 [2.18]**	13.20 [3.82]***	7.14 [0.81]
NVQ or SVQ (highest @ level 2)	-1.88 [0.36]	0.10 [0.03]	-3.15 [2.90]***	3.77 [1.42]	-0.70 [0.85]	-4.50 [2.58]***	-9.88 [5.50]***	-3.44 [4.18]***	0.70 [0.32]
Modern Apprenticeship (foundation level)	-22.51 [1.86]*	0.00 [.]	6.82 [1.08]	19.84 [2.02]**	1.51 [0.35]	4.71 [0.45]	-15.04 [0.65]	2.43 [0.24]	-5.92 [0.54]
Observations	1072	714	18372	4158	24300	7959	10517	21265	4918
R-squared	0.2469	0.2127	0.2228	0.3008	0.2509	0.17	0.2666	0.2311	0.3135

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is an average return specification controlling for other qualifications held.

Table 9 Wage Returns (all qualifications) 1997-2006 by industry. Level 2 Vocational or Below Sample: Females

Dependent variable is log gross hourly real wage

	agriculture & fishing	energy & water	manufacturing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	other services
BTEC etc (highest @ 1st/gen diploma level)	-5.64 [0.44]	10.08 [0.42]	1.31 [0.32]	14.45 [0.36]	2.63 [0.74]	6.61 [0.58]	1.41 [0.28]	6.40 [1.71]*	22.51 [2.33]**
City and Guilds (highest @ advanced craft/part 2)	-9.79 [0.73]	8.65 [0.63]	9.42 [2.50]**	-10.24 [0.95]	2.94 [1.32]	-3.25 [0.65]	0.80 [0.18]	2.12 [1.16]	-2.37 [0.47]
GNVQ, GSVQ (highest @ intermediate level)	-4.78 [0.23]	18.18 [0.96]	-1.78 [0.37]	-5.92 [0.44]	1.11 [0.49]	-1.00 [0.14]	-9.52 [1.75]*	-1.49 [0.49]	9.20 [1.13]
RSA (highest @ diploma)	-46.10 [6.24]***	-25.02 [1.81]*	9.97 [2.28]**	10.85 [1.23]	11.74 [2.11]**	7.25 [0.97]	9.31 [2.03]**	14.34 [4.14]***	7.04 [0.81]
NVQ or SVQ (highest @ level 2)	-3.25 [0.34]	5.87 [0.76]	-3.25 [1.85]*	-1.39 [0.25]	-0.20 [0.20]	-3.63 [1.32]	-6.39 [2.87]***	-1.39 [1.53]	2.74 [1.00]
Modern Apprenticeship (foundation level)	-4.59 [0.20]	0.00 [.]	4.92 [0.36]	31.78 [2.99]***	-4.59 [1.19]	-6.85 [0.91]	-15.63 [0.78]	3.46 [0.27]	-0.90 [0.07]
Observations	338	199	6790	831	15708	2181	6884	17477	3060
R-squared	0.2882	0.3453	0.1535	0.1196	0.1544	0.2023	0.2557	0.1551	0.2996

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is an average return specification controlling for other qualifications held..

Table 10 Wage Returns (all qualifications) 1997-2006 by industry. Level 2 Vocational or Below Sample: Males

Dependent variable is log gross hourly real wage

	agriculture & fishing	energy & water	manufacturing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	other services
BTEC etc (highest @ 1st/gen diploma level)	17.70	-17.63	7.04	9.75	12.52	7.68	2.63	19.01	6.40
	[0.53]	[0.78]	[1.47]	[1.01]	[2.37]**	[0.82]	[0.34]	[3.50]***	[0.77]
City and Guilds (highest @ advanced craft/part 2)	0.30	5.34	3.36	9.31	-1.00	3.15	-12.19	-6.85	3.87
	[0.08]	[0.76]	[2.05]**	[3.19]***	[0.48]	[1.07]	[3.50]***	[2.57]**	[0.90]
GNVQ, GSVQ (highest @ intermediate level)	45.94	2.74	-4.21	1.21	5.23	-4.21	-16.05	-0.40	-5.82
	[4.62]***	[0.27]	[1.17]	[0.23]	[1.75]*	[1.07]	[3.17]***	[0.07]	[0.63]
RSA (highest @ diploma)			10.96	39.24	8.87	-15.46	46.96	-7.69	
			[0.98]	[1.00]	[0.47]	[1.46]	[1.56]	[0.57]	
NVQ or SVQ (highest @ level 2)	0.00	-2.76	-3.34	3.87	-1.78	-5.82	-17.63	-14.79	-1.00
	[0.00]	[0.60]	[2.47]**	[1.29]	[1.03]	[2.51]**	[5.99]***	[7.12]***	[0.27]
Modern Apprenticeship (foundation level)	-33.70		9.86	18.77	10.19	15.14	0.00	6.72	-41.32
	[4.32]***		[1.36]	[1.81]*	[1.59]	[0.90]	[.]	[0.38]	[1.43]
Observations	734	515	11582	3327	8592	5778	3633	3788	1858
R-squared	0.27	0.1991	0.2194	0.3627	0.3287	0.1488	0.2838	0.2812	0.2585

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is an average return specification controlling for other qualifications held.

Table 11 Wage Returns (highest qualifications) 1997-2006. Sample: Level 2 vocational or below as highest qualification

Dependent variable is log gross hourly real wage

	all	female	male
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	13.31 [7.23]***	13.31 [5.67]***	12.52 [4.19]***
highest voc qual is City and Guilds (highest @ craft/part 2)	6.82 [7.99]***	6.61 [4.64]***	4.81 [4.61]***
highest voc qual is GNVQ, GSVQ (highest @ intermediate level)	1.31 [1.01]	1.11 [0.62]	1.51 [0.80]
highest voc qual is RSA (highest @ diploma)	16.07 [7.19]***	17.47 [7.59]***	13.20 [1.61]
highest voc qual is NVQ or SVQ (highest @ level 2)	1.92 [3.67]***	3.05 [4.87]***	-1.09 [1.32]
highest voc qual is Modern Apprenticeship (foundation level)	5.44 [0.75]	-19.43 [1.89]*	24.61 [2.99]***
Observations	93304	53479	39825
R-squared	0.2623	0.1973	0.268

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is a marginal return specification controlling for highest qualification held

Table 12 Wage Returns (highest qualifications) 1997-2006 by Occupation. Sample: Level 2 vocational or below as highest qualification: Males and females

Dependent variable is log gross hourly real wage

	manager	prof	assoc prof	admin/ sec	skilled	Personal service	Sales customer	Machine ops	Elementary occs
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	4.39 [0.73]	19.12 [1.49]	5.55 [0.84]	4.50 [1.61]	13.31 [1.98]**	15.37 [2.83]***	10.19 [2.31]**	23.61 [4.25]***	-0.20 [0.06]
highest voc qual is City and Guilds (highest @ craft/part 2)	-7.13 [2.64]***	11.29 [1.93]*	-0.90 [0.32]	1.11 [0.50]	8.00 [4.51]***	9.09 [4.03]***	8.00 [2.40]**	7.57 [3.77]***	1.92 [0.91]
highest voc qual is GNVQ, GSVQ (highest @ intermediate level)	-5.16 [0.90]	-7.78 [0.79]	-14.44 [2.31]**	-7.32 [2.51]**	5.97 [1.50]	5.13 [1.38]	0.40 [0.14]	-2.96 [0.64]	2.02 [0.71]
highest voc qual is RSA (highest @ diploma)	8.44 [1.33]	-6.11 [0.42]	18.77 [1.25]	8.76 [3.72]***	52.04 [1.95]*	0.20 [0.03]	6.50 [1.01]	-0.90 [0.16]	6.72 [0.78]
highest voc qual is NVQ or SVQ (highest @ level 2)	-10.68 [5.23]***	-15.04 [2.85]***	-7.87 [3.34]***	-2.86 [2.67]***	7.79 [4.51]***	5.44 [4.72]***	2.53 [1.93]*	3.67 [2.64]***	3.98 [3.12]***
highest voc qual is Modern Apprenticeship (foundation level)	64.54 [3.38]***	57.30 [5.64]***	-14.87 [0.81]	9.09 [0.80]	20.20 [2.16]**	-31.27 [2.59]***	-14.02 [8.20]***	-12.19 [4.41]***	31.26 [1.52]
Observations	8059	1517	4658	17361	7984	12133	10629	13619	17339
R Squared	0.1905	0.2415	0.2577	0.1731	0.3599	0.2019	0.219	0.1789	0.2175

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is a marginal return specification controlling for highest qualification held.

Table 13 Wage Returns (highest qualifications) 1997-2006 by Occupation. Sample: Level 2 vocational or below as highest qualification: Females

Dependent variable is log gross hourly real wage

	manager	prof	assoc prof	admin/sec	skilled	Personal service	Sales custome r	Machine ops	Elementary occs
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	15.14 [1.41]	-29.04 [2.10]**	8.76 [1.18]	6.29 [2.12]**	47.85 [1.55]	12.98 [2.35]**	10.74 [2.32]**	14.11 [1.36]	-6.85 [0.86]
highest voc qual is City and Guilds (highest @ craft/part 2)	-0.60 [0.10]	31.13 [2.19]**	3.67 [0.73]	-1.00 [0.36]	2.02 [0.57]	9.31 [3.17]***	7.68 [2.12]**	6.72 [1.24]	3.56 [1.13]
highest voc qual is GNVQ, GSVQ (highest @ intermediate level)	-6.95 [0.92]	-28.47 [2.10]**	-19.18 [2.29]**	-6.95 [1.96]*	-3.44 [0.30]	1.21 [0.20]	4.92 [0.77]	8.33 [1.52]	13.66 [1.48]
highest voc qual is RSA (highest @ diploma)	7.68 [1.07]	-1.49 [0.11]	24.11 [1.36]	9.75 [4.07]***		1.21 [0.20]	4.92 [0.77]	8.33 [1.52]	13.66 [1.48]
highest voc qual is NVQ or SVQ (highest @ level 2)	-7.87 [3.17]***	-9.06 [1.11]	-6.76 [2.28]**	-2.57 [2.15]**	3.25 [0.79]	6.40 [5.18]***	2.94 [2.12]**	3.05 [1.42]	3.15 [1.92]*
highest voc qual is Modern Apprenticeship (foundation level)			-55.47 [9.62]***	8.55 [0.86]	15.84 [2.53]**	-32.56 [2.68]***			-13.58 [8.56]***
Observations	3468	652	2347	14398	1514	9739	8555	3213	9590
R Squared	0.1403	0.2252	0.2034	0.1529	0.1237	0.1582	0.1497	0.0668	0.0708

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is a marginal return specification controlling for highest qualification held.

Table 14: Wage Returns (highest qualifications) 1997-2006 by occupation. Sample: Level 2 vocational or below as highest qualification: Males

Dependent variable is log gross hourly real wage

	manager	prof	assoc prof	admin/ sec	skilled	Personal service	Sales customer	Machine ops	Elementary occs
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	-2.08 [0.35]	33.64 [2.72]***	1.51 [0.13]	-4.11 [0.54]	11.63 [1.75]*	22.75 [1.27]	10.41 [1.13]	25.61 [3.76]***	5.87 [1.23]
highest voc qual is City and Guilds (highest @ craft/part 2)	-9.70 [3.22]***	3.36 [0.52]	-3.82 [1.07]	5.02 [1.19]	8.00 [4.15]***	4.19 [1.20]	2.33 [0.36]	7.04 [3.28]***	-0.30 [0.12]
highest voc qual is GNVQ, GSVQ (highest @ intermediate level)	-1.88 [0.28]	6.18 [0.62]	-18.78 [2.11]**	-5.64 [1.12]	6.61 [1.64]	-10.15 [1.42]	-2.18 [0.49]	-1.09 [0.21]	2.43 [0.69]
highest voc qual is RSA (highest @ diploma)	18.18 [1.21]	0.00 [.]	-10.33 [0.48]	-8.06 [0.74]	54.03 [2.06]**	-25.25 [6.82]***	52.50 [11.97]***	-5.82 [0.71]	-25.02 [2.18]**
highest voc qual is NVQ or SVQ (highest @ level 2)	-15.13 [4.51]***	-18.05 [2.45]**	-9.34 [2.37]**	-6.39 [2.57]**	7.68 [4.15]***	-5.16 [1.84]*	-0.40 [0.13]	3.56 [2.08]**	3.87 [2.06]**
highest voc qual is Modern Apprenticeship (foundation level)	104.01 [3.36]***	49.03 [3.62]***	22.14 [2.19]**		20.68 [2.00]**		-6.67 [1.56]	-9.61 [2.98]***	60.80 [8.19]***
Observations	4591	865	2311	2963	6470	2394	2074	10406	7749
R Squared	0.1476	0.2819	0.2328	0.2895	0.3809	0.2979	0.35	0.1302	0.2551

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is a marginal return specification controlling for highest qualification held.

Table 15 Wage Returns (highest qualifications) 1997-2006 by industry. Sample: Level 2 vocational or below as highest qualification: Males and females

Dependent variable is log gross hourly real wage

	Agriculture & fishing	energy & water	manufacturing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	Other services
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	7.14 [0.40]	-15.38 [0.87]	9.53 [2.66]***	18.65 [1.63]	10.08 [2.93]***	12.64 [1.52]	10.63 [2.41]**	13.77 [3.46]***	17.35 [3.01]***
highest voc qual is City and Guilds (highest @ craft/part 2)	3.77 [0.73]	14.00 [2.01]**	7.36 [4.43]***	13.66 [4.22]***	4.81 [2.89]***	7.25 [2.47]**	1.21 [0.39]	7.25 [3.92]***	8.98 [2.38]**
highest voc qual is GNVQ, GSVQ (highest @ intermediate level)	24.61 [2.23]**	4.29 [0.50]	-0.10 [0.03]	6.82 [1.27]	3.25 [1.62]	-7.23 [1.77]*	-10.68 [2.55]**	3.36 [1.03]	2.33 [0.34]
highest voc qual is RSA (highest @ diploma)	-40.25 [8.41]***	4.81 [0.80]	13.88 [2.86]***	22.26 [1.55]	11.85 [2.15]**	2.33 [0.36]	18.29 [3.60]***	16.07 [4.31]***	12.75 [1.24]
highest voc qual is NVQ or SVQ (highest @ level 2)	2.22 [0.42]	5.65 [1.29]	0.80 [0.73]	9.42 [3.28]***	1.61 [1.77]*	-1.29 [0.70]	-3.15 [1.66]*	2.53 [2.68]***	6.61 [2.78]***
highest voc qual is Modern Apprenticeship (foundation level)			-1.69 [0.14]	39.24 [3.76]***	5.55 [0.62]	42.76 [2.94]***	-15.38 [0.67]	-2.08 [0.18]	-26.29 [2.31]**
Observations	1072	714	18372	4158	24300	7959	10517	21265	4918
R Squared	0.2422	0.2244	0.2246	0.3017	0.2523	0.1719	0.2728	0.2316	0.3139

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is a marginal return specification controlling for highest qualification held.

Table 16 Wage Returns (highest qualifications) 1997-2006 by industry. Sample: Level 2 vocational or below as highest qualification: Females

Dependent variable is log gross hourly real wage

	Agriculture & fishing	energy & water	manufacturing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	Other services
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	2.63 [0.17]	11.40 [0.50]	9.97 [2.12]**	16.18 [0.39]	5.87 [1.47]	17.59 [1.35]	11.52 [2.32]**	12.08 [2.65]***	23.12 [2.76]***
highest voc qual is City and Guilds (highest @ craft/part 2)	0.50 [0.03]	30.08 [1.44]	13.77 [3.36]***	-19.18 [1.98]**	5.02 [2.11]**	6.29 [1.04]	7.57 [1.54]	9.75 [4.24]***	3.15 [0.55]
highest voc qual is GNVQ, GSVQ (highest @ intermediate level)	9.31 [0.63]	20.68 [1.15]	2.02 [0.35]	-5.45 [0.33]	2.12 [0.83]	-10.42 [1.22]	-6.29 [1.06]	4.19 [1.13]	4.92 [0.54]
highest voc qual is RSA (highest @ diploma)	-45.12 [5.76]***	-7.13 [0.44]	14.45 [3.02]***	10.63 [1.15]	14.11 [2.42]**	13.31 [1.84]*	15.95 [3.26]***	16.30 [4.35]***	11.96 [1.19]
highest voc qual is NVQ or SVQ (highest @ level 2)	0.70 [0.07]	12.30 [1.53]	2.53 [1.37]	-1.59 [0.25]	2.12 [2.03]**	1.31 [0.44]	0.20 [0.08]	4.08 [4.09]***	8.22 [2.69]***
highest voc qual is Modern Apprenticeship (foundation level)					11.07 [6.08]***	21.41 [4.92]***	-13.76 [0.63]	-13.06 [3.61]***	-25.62 [2.12]**
Observations	338	199	6790	831	15708	2181	6884	17477	3060
R Squared	0.2947	0.3645	0.1572	0.1203	0.1557	0.2078	0.2611	0.1552	0.2979

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is a marginal return specification controlling for highest qualification held.

Table 17 Wage Returns (highest qualifications) 1997-2006 by industry. Sample: Level 2 vocational or below as highest qualification: Males

Dependent variable is log gross hourly real wage

	Agriculture & fishing	energy & water	manufacturing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	Other services
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	-24.42 [3.12]***	-28.82 [0.98]	9.31 [1.72]*	18.53 [1.52]	15.37 [2.63]***	10.19 [0.93]	7.36 [0.83]	25.48 [3.84]***	13.66 [1.66]*
highest voc qual is City and Guilds (highest @ craft/part 2)	4.92 [0.89]	13.20 [1.67]*	4.39 [2.48]**	15.26 [4.62]***	2.12 [0.92]	6.18 [1.95]*	-2.76 [0.69]	2.94 [0.92]	12.41 [2.56]**
highest voc qual is GNVQ, GSVQ (highest @ intermediate level)		0.70 [0.07]	-1.98 [0.46]	6.82 [1.22]	4.81 [1.65]*	-4.40 [1.01]	-13.67 [2.47]**	4.81 [0.75]	-2.37 [0.24]
highest voc qual is RSA (highest @ diploma)			16.18 [1.38]	44.34 [1.13]	6.40 [0.34]	-13.76 [1.25]	62.09 [1.96]*	-14.87 [1.23]	
highest voc qual is NVQ or SVQ (highest @ level 2)	2.53 [0.38]	1.92 [0.37]	-1.00 [0.70]	10.52 [3.28]***	0.30 [0.15]	-3.54 [1.46]	-11.13 [3.58]***	-6.95 [2.86]***	5.13 [1.35]
highest voc qual is Modern Apprenticeship (foundation level)			2.12 [0.18]	40.49 [3.89]***	10.96 [0.99]	59.84 [3.30]***		66.36 [6.48]***	
Observations	734	515	11582	3327	8592	5778	3633	3788	1858
R Squared	0.2665	0.2108	0.2202	0.3631	0.3294	0.1503	0.2894	0.2818	0.2595

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Controls: Gender, age, ethnicity, region, year, part-time, proxy respondent.

This is a marginal return specification controlling for highest qualification held.

Table 18 Wage Returns (highest qualifications) 1997-2006. Sample: Level 2 vocational or no qualifications

Dependent variable is log gross hourly real wage

	all	female	male
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	10.74 [1.19]	35.66 [3.01]***	-4.88 [0.49]
highest voc qual is City and Guilds (highest @ craft/part 2)	7.04 [3.38]***	9.53 [2.79]***	4.50 [1.75]*
highest voc qual is RSA (highest @ diploma)	19.60 [3.77]***	15.72 [2.94]***	59.52 [5.65]***
highest voc qual is NVQ or SVQ (highest @ level 2)	3.67 [3.35]***	5.13 [3.97]***	1.31 [0.65]
highest voc qual is Modern Apprenticeship (foundation level)	45.06 [30.11]***		46.37 [19.83]***
Observations	24168	14412	9756
R-squared	0.2375	0.139	0.2408

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 19 Wage Returns (highest qualifications) 1997-2006 by Occupation. Sample: Level 2 vocational or no qualifications: Males and females

Dependent variable is log gross hourly real wage

	manager	prof	assoc prof	admin/ sec	skilled	Personal service	Sales customer	Machine ops	Elementary occs
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	-22.97 [3.85]***			40.07 [14.29]***	24.86 [0.71]	24.36 [3.51]***	-7.32 [0.67]	-19.99 [3.08]***	-11.40 [1.36]
highest voc qual is City and Guilds (highest @ craft/part 2)	1.51 [0.14]	12.08 [0.57]	-15.21 [1.88]*	3.87 [0.95]	2.12 [0.55]	4.71 [1.05]	18.77 [1.90]*	8.00 [1.99]**	3.56 [0.90]
highest voc qual is RSA (highest @ diploma)	2.22 [0.13]			10.19 [1.86]*	118.80 [30.63]***	-1.29 [0.16]	-1.59 [0.15]	7.79 [1.18]	67.70 [2.42]**
highest voc qual is NVQ or SVQ (highest @ level 2)	-11.93 [2.15]**	-8.42 [0.56]	-10.24 [1.53]	1.41 [0.44]	12.52 [3.25]***	9.09 [4.26]***	3.67 [1.27]	3.87 [1.30]	4.19 [1.67]*
highest voc qual is Modern Apprenticeship (foundation level)					54.50 [12.35]***				
Observations	1379	102	529	2849	2457	2844	3287	3865	6855
R-squared	0.1546	0.5334	0.2851	0.1581	0.3205	0.1809	0.2111	0.1849	0.2126

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 20 Wage Returns (highest qualifications) 1997-2006 by Occupation. Sample: Level 2 vocational or no qualifications: Females

Dependent variable is log gross hourly real wage

	manage r	prof	assoc prof	admin/sec	skilled	Persona l service	Sales customer	Machine ops	Elementary occs
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)				40.64	106.68		-1.00		-3.34
				[13.32]***	[9.38]***		[0.09]		[1.57]
highest voc qual is City and Guilds (highest @ craft/part 2)	52.50		-28.11	-0.90	5.44	8.76	15.14	10.74	4.29
	[1.94]*		[3.43]***	[0.27]	[1.21]	[1.71]*	[1.82]*	[1.43]	[0.61]
highest voc qual is RSA (highest @ diploma)	-5.54			8.11		-3.05	-6.57	3.46	64.21
	[0.27]			[1.49]		[0.42]	[0.66]	[0.67]	[2.26]**
highest voc qual is NVQ or SVQ (highest @ level 2)	-9.52	-26.58	-14.36	4.60	10.41	9.86	4.39	3.05	3.98
	[1.62]	[0.89]	[1.89]*	[1.27]	[1.37]	[4.31]***	[1.45]	[0.77]	[1.53]
Observations	587	39	272	2268	601	2295	2784	1439	4126
R-squared	0.093	0.6512	0.2296	0.1452	0.1235	0.1781	0.1389	0.0457	0.0747

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 21 Wage Returns (highest qualifications) 1997-2006 by Occupation. Sample: Level 2 vocational or no qualifications: Males

Dependent variable is log gross hourly real wage

	manager	prof	assoc prof	admin/ sec	skilled	Persona l service	Sales custome r	Machine ops	Elementar y occs
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	-14.02 [1.71]*				-9.97 [1.79]*	42.62 [3.77]***	5.44 [0.32]	-20.71 [3.18]***	-22.28 [7.42]***
highest voc qual is City and Guilds (highest @ craft/part 2)	-10.24 [1.23]	9.97 [0.45]	-12.80 [1.23]	18.41 [2.03]**	0.90 [0.21]	-0.30 [0.04]	27.89 [0.84]	6.61 [1.52]	1.51 [0.30]
highest voc qual is GNVQ, GSVQ (highest @ intermediate level)	17.00 [0.72]				71.94 [11.21]***	2.63 [0.19]	47.70 [3.94]***	18.65 [0.88]	-8.42 [0.61]
highest voc qual is RSA (highest @ diploma)	1.11 [0.14]			47.26 [6.62]***	114.04 [25.68]***		69.55 [7.57]***	23.37 [5.37]***	
highest voc qual is NVQ or SVQ (highest @ level 2)	-15.30 [1.21]	-3.92 [0.31]	5.97 [0.41]	-6.29 [1.07]	12.08 [2.78]***	-5.07 [0.81]	0.80 [0.09]	4.92 [1.21]	4.50 [1.03]
highest voc qual is Modern Apprenticeship (foundation level)					56.99 [11.34]***				
Observations	792	63	257	581	1856	549	503	2426	2729
R-squared	0.0966	0.6067	0.2866	0.264	0.3075	0.2134	0.4008	0.1528	0.2815

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 22 Wage Returns (highest qualifications) 1997-2006 by industry. Sample: Level 2 vocational or no qualifications: Males and females

Dependent variable is log gross hourly real wage

	Agriculture & fishing	energy & water	manufac- turing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	Other services
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	-29.25 [3.34]***	0.00 [.]	-1.19 [0.05]	0.00 [.]	13.66 [1.10]	0.00 [.]	30.34 [8.69]***	-4.78 [1.82]*	52.65 [6.25]***
highest voc qual is City and Guilds (highest @ craft/part 2)	-6.29 [0.94]	-10.15 [0.99]	8.98 [2.32]**	13.20 [1.19]	10.08 [2.19]**	7.04 [0.97]	-5.16 [0.76]	-0.10 [0.01]	11.18 [2.01]**
highest voc qual is GNVQ, GSVQ (highest @ intermediate level)	0.00 [.]	0.00 [.]	13.77 [0.61]	34.72 [1.55]	-6.85 [0.79]	11.85 [2.04]**	0.00 [.]	20.80 [2.22]**	-57.13 [12.07]***
highest voc qual is RSA (highest @ diploma)	0.00 [.]	0.50 [0.02]	30.47 [2.04]**	24.61 [3.46]***	-8.61 [1.14]	13.77 [1.05]	17.23 [1.75]*	32.31 [3.53]***	-7.87 [1.63]
highest voc qual is NVQ or SVQ (highest @ level 2)	-23.74 [4.41]***	12.86 [1.04]	3.56 [1.40]	8.55 [1.34]	-0.80 [0.40]	5.97 [1.24]	-5.35 [0.97]	7.79 [4.33]***	-1.00 [0.24]
highest voc qual is Modern Apprenticeship (foundation level)	0.00 [.]	0.00 [.]	38.68 [11.69]***	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]	0.00 [.]
Observations	355	134	5739	1105	7159	1491	2155	4533	1493
R-squared	0.2111	0.3266	0.2078	0.2615	0.2262	0.2037	0.1962	0.1471	0.2888

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 23 Wage Returns (highest qualifications) 1997-2006 by industry. Sample: Level 2 vocational or no qualifications: Females

Dependent variable is log gross hourly real wage

	Agriculture & fishing	energy & water	manufacturing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	Other services
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)			84.60 [14.20]***		31.39 [1.78]*		31.92 [7.67]***	-5.07 [1.86]*	
highest voc qual is City and Guilds (highest @ craft/part 2)			13.54 [1.46]		16.65 [2.20]**	-2.96 [0.36]	8.55 [1.48]	4.60 [0.95]	19.96 [1.95]*
highest voc qual is GNVQ, GSVQ (highest @ intermediate level)			-12.45 [1.74]*		-1.49 [0.18]			26.24 [1.78]*	-58.36 [7.41]***
highest voc qual is RSA (highest @ diploma)			5.13 [0.66]	30.21 [2.05]**	-8.33 [1.10]	20.80 [0.94]	10.19 [0.98]	31.92 [3.53]***	-8.88 [2.14]**
highest voc qual is NVQ or SVQ (highest @ level 2)		-7.50 [0.10]	6.08 [1.54]	-5.16 [0.43]	1.31 [0.62]	1.31 [0.24]	1.51 [0.19]	8.22 [4.38]***	-3.44 [0.60]
Observations	128	24	2367	193	4944	477	1414	3884	980
R-squared	0.2778	0.973	0.0729	0.1744	0.134	0.2138	0.2189	0.1229	0.2349

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 24 Wage Returns (highest qualifications) 1997-2006 by industry. Sample: Level 2 vocational or no qualifications: Males

Dependent variable is log gross hourly real wage

	Agriculture & fishing	energy & water	manufacturing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	Other services
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	-23.59 [2.24]**		-26.21 [9.77]***		2.43 [0.20]				66.03 [4.49]***
highest voc qual is City and Guilds (highest @ craft/part 2)	-5.82 [0.77]	-12.19 [1.10]	6.50 [1.59]	12.52 [1.15]	2.53 [0.48]	10.08 [1.16]	-10.95 [1.15]	-1.69 [0.23]	17.35 [1.97]**
highest voc qual is GNVQ, GSVQ (highest @ intermediate level)			101.78 [13.66]***	34.99 [1.68]*	-16.81 [1.40]	12.30 [1.72]*		25.23 [1.74]*	
highest voc qual is RSA (highest @ diploma)			68.03 [3.44]***			27.25 [3.03]***	60.16 [4.30]***		
highest voc qual is NVQ or SVQ (highest @ level 2)	-18.21 [3.39]***	13.88 [1.00]	1.41 [0.42]	9.20 [1.27]	-4.88 [1.16]	8.87 [1.23]	-14.02 [1.81]*	4.08 [0.68]	-1.39 [0.25]
highest voc qual is Modern Apprenticeship (foundation level)			45.06 [10.89]***						
Observations	227	110	3372	912	2215	1014	741	649	513
R-squared	0.2795	0.3766	0.1684	0.3205	0.3136	0.1674	0.1639	0.1672	0.2934

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 2 Summary of returns for Level 2 qualifications by gender

	Average returns for Level 2 or below sample (table 4)		Marginal returns for Level 2 or below sample (table 11)		Marginal returns for Level 2 or no qualifications sample (table 18)	
	females	males	females	males	females	males
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	5.97 [2.88]***	9.20 [3.55]***	13.31 [5.67]***	12.52 [4.19]***	35.66 [3.01]***	-4.88 [0.49]
highest voc qual is City and Guilds (highest @ craft/part 2)	0.70 [0.53]	0.60 [0.68]	6.61 [4.64]***	4.81 [4.61]***	9.53 [2.79]***	4.50 [1.75]*
highest voc qual is RSA (highest @ diploma)	13.88 [6.46]***	7.90 [1.03]	17.47 [7.59]***	13.20 [1.61]	15.72 [2.94]***	59.52 [5.65]***
highest voc qual is NVQ or SVQ (highest @ level 2)	-2.08 [3.56]***	-5.07 [6.40]***	3.05 [4.87]***	-1.09 [1.32]	5.13 [3.97]***	1.31 [0.65]
highest voc qual is Modern Apprenticeship (foundation level)	-5.73 [1.08]	12.98 [2.56]**	-19.43 [1.89]*	24.61 [2.99]***		46.37 [19.83]***

This is a marginal return specification controlling for highest qualification held.

Summary table created from tables 4, 11 and 18

Table 26 Wage Returns (all qualifications) 1997-2006. Sample with Level 3 vocational or below

Dependent variable is log gross hourly real wage

	all	female	male
Apprenticeship	7.68	-2.57	8.65
	[21.98]***	[4.09]***	[20.71]***
Modern Apprenticeship	4.71	-3.15	8.87
	[5.20]***	[1.75]*	[8.30]***
BTEC etc (highest@national cert/dipl level)	11.85	11.85	11.18
	[18.66]***	[13.46]***	[12.43]***
City and Guilds (highest @ advanced/part3)	6.72	1.31	5.34
	[13.60]***	[1.11]	[9.67]***
GNVQ, GSVQ (highest @ advanced level)	4.08	4.29	3.36
	[4.15]***	[3.40]***	[2.28]**
ONC or OND	15.14	8.22	14.80
	[17.60]***	[4.76]***	[15.31]***
RSA (highest@advanced diploma or certificate)	10.74	15.03	0.10
	[6.13]***	[7.80]***	[0.02]
teaching qual, excl PGCE (foundation level)	18.53	19.48	3.77
	[1.02]	[0.98]	[1.86]*
NVQ or SVQ (highest @ level 3)	3.25	4.60	2.63
	[6.73]***	[7.38]***	[3.53]***
Observations	163952	84664	79288
R-squared	0.327	0.2427	0.3236

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is an average return specification controlling for other qualifications held.

Table 27 Wage Returns (all qualifications) 1997-2006 by Occupation. Sample with Level 3 vocational or below: Males and females

Dependent variable is log gross hourly real wage

	Manager	Prof	Assoc prof	Admin/ sec	skilled	Personal service	Sales customer	Machine ops	Elementary occs
Apprenticeship	3.56	-2.27	3.15	0.80	13.88	3.05	3.56	5.34	2.43
	[3.43]***	[1.20]	[2.88]***	[0.78]	[20.23]***	[3.20]***	[2.65]***	[6.61]***	[2.73]***
Modern Apprenticeship	-1.00	2.63	-5.45	0.30	15.84	2.53	4.29	2.63	5.87
	[0.31]	[0.42]	[1.55]	[0.08]	[10.92]***	[1.16]	[0.93]	[1.01]	[1.54]
BTEC etc (highest@national cert/dipl level)	11.63	5.87	4.92	6.82	10.08	9.86	7.47	1.11	1.41
	[7.16]***	[2.14]**	[3.34]***	[6.35]***	[5.37]***	[5.68]***	[4.21]***	[0.37]	[0.60]
City and Guilds (highest @ advanced/part3)	0.80	-2.66	-3.82	-1.00	6.72	7.04	5.23	9.42	5.55
	[0.59]	[1.19]	[2.85]***	[0.57]	[8.48]***	[4.07]***	[2.15]**	[6.89]***	[3.22]***
GNVQ, GSVQ (highest @ advanced level)	-5.92	0.90	1.11	-0.40	3.56	3.98	5.65	3.46	4.08
	[1.81]*	[0.11]	[0.36]	[0.26]	[1.05]	[1.42]	[2.65]***	[0.91]	[1.42]
ONC or OND	7.68	8.87	4.29	5.97	14.91	7.36	20.56	7.90	0.30
	[4.12]***	[3.38]***	[2.62]***	[3.16]***	[9.46]***	[2.13]**	[4.73]***	[2.73]***	[0.08]
RSA (highest@advanced diploma or certificate)	7.90	8.00	-1.29	5.87	3.77	8.11	-1.19	4.92	11.18
	[1.34]	[0.46]	[0.24]	[3.00]***	[0.32]	[1.31]	[0.22]	[0.57]	[2.17]**
teaching qual, excl PGCE (foundation level)	0.00	-30.37	55.12	0.40		-16.64			
	[.]	[1.51]	[2.38]**	[0.39]		[2.83]***			
NVQ or SVQ (highest @ level 3)	-8.70	-6.48	-2.57	1.92	9.20	6.18	7.68	8.00	1.31
	[5.76]***	[2.58]***	[2.01]**	[2.24]**	[7.38]***	[5.58]***	[4.28]***	[4.52]***	[0.71]
Observations	18401	4035	11663	30627	19575	19910	17533	19143	23056
R-squared	0.2202	0.2222	0.2716	0.1917	0.3788	0.2354	0.2727	0.2006	0.2321

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is an average return specification controlling for other qualifications held.

Table 28 Wage Returns (all qualifications) 1997-2006 by Occupation. Sample with Level 3 vocational or below: Females

Dependent variable is log gross hourly real wage

	Manager	Prof	Assoc prof	Admin/sec	skilled	Personal service	Sales customer	Machine ops	Elementary occs
Apprenticeship	-4.30	-2.08	3.05	-3.05	1.31	0.20	-3.73	-1.88	-1.59
	[1.87]*	[0.39]	[1.20]	[2.50]**	[0.57]	[0.15]	[2.59]***	[0.83]	[1.08]
Modern Apprenticeship	1.21	-5.35	-17.88	-1.78	6.82	2.22	7.79	-17.72	-3.25
	[0.19]	[0.34]	[1.89]*	[0.45]	[0.70]	[0.91]	[1.48]	[1.84]*	[0.33]
BTEC etc (highest@national cert/dipl level)	12.19	4.81	4.08	6.82	17.82	10.30	9.42	-9.15	2.53
	[4.49]***	[0.87]	[1.82]*	[5.50]***	[1.70]*	[5.30]***	[4.19]***	[1.36]	[0.85]
City and Guilds (highest @ advanced/part3)	-1.49	2.84	-9.43	-5.26	8.98	7.79	0.10	30.47	3.15
	[0.39]	[0.35]	[3.38]***	[2.50]**	[1.96]*	[3.64]***	[0.03]	[2.89]***	[1.05]
GNVQ, GSVQ (highest @ advanced level)	-5.07	16.07	0.20	-1.09	-6.67	7.90	7.25	-1.69	3.87
	[1.21]	[0.82]	[0.05]	[0.56]	[0.72]	[2.56]**	[2.74]***	[0.34]	[0.88]
ONC or OND	6.40	10.96	-1.49	3.25	14.22	4.08	5.55	1.71	-2.86
	[1.67]*	[1.07]	[0.37]	[1.52]	[0.78]	[0.78]	[0.81]	[0.19]	[0.43]
RSA (highest@advanced diploma or certificate)	15.49	16.42	3.25	7.25	56.36	6.93	1.01	2.74	13.66
	[2.16]**	[0.84]	[0.52]	[3.59]***	[1.76]*	[1.17]	[0.16]	[0.13]	[2.74]***
teaching qual, excl PGCE (foundation level)	0.00	-32.56	67.03	0.40		-15.30			
	[.]	[1.58]	[2.21]**	[0.39]		[2.05]**			
NVQ or SVQ (highest @ level 3)	-7.23	-8.61	-0.20	2.12	4.19	7.04	8.98	16.53	2.43
	[3.39]***	[2.09]**	[0.10]	[2.36]**	[0.88]	[6.12]***	[4.42]***	[4.12]***	[0.92]
Observations	6938	1327	5072	25073	2017	15371	13107	3808	11947
R-squared	0.1896	0.1724	0.2014	0.1685	0.149	0.1566	0.1813	0.0868	0.0783

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is an average return specification controlling for other qualifications held.

Table 29 Wage Returns (all qualifications) 1997-2006 by Occupation. Sample with Level 3 vocational or below: Males

Dependent variable is log gross hourly real wage

	Manager	Prof	Assoc prof	Admin/ sec	skilled	Persona l service	Sales customer	Machine ops	Elementar y occs
Apprenticeship	3.25	-2.37	0.90	3.36	13.88	5.65	7.14	5.76	3.15
	[2.79]***	[1.17]	[0.74]	[1.92]*	[19.30]***	[3.29]***	[2.90]***	[6.76]***	[2.77]***
Modern Apprenticeship	-0.80	6.72	-1.29	3.98	16.53	4.60	-0.50	4.50	7.47
	[0.20]	[1.00]	[0.35]	[0.87]	[11.15]***	[0.84]	[0.06]	[1.67]*	[1.93]*
BTEC etc (highest@national cert/dipl level)	10.85	5.23	5.55	5.76	9.42	5.97	1.71	2.94	1.21
	[5.53]***	[1.65]*	[2.91]***	[2.62]***	[4.96]***	[1.79]*	[0.63]	[0.93]	[0.37]
City and Guilds (highest @ advanced/part3)	0.00	-5.26	-4.21	2.33	6.18	3.36	2.43	8.22	3.98
	[0.03]	[2.20]**	[2.74]***	[0.84]	[7.66]***	[1.26]	[0.67]	[6.02]***	[1.94]*
GNVQ, GSVQ (highest @ advanced level)	-6.57	-5.45	1.92	1.01	4.92	-12.37	6.61	5.34	4.92
	[1.33]	[0.74]	[0.43]	[0.35]	[1.42]	[2.41]**	[1.87]*	[1.09]	[1.28]
ONC or OND	7.25	7.47	5.34	12.30	14.68	3.87	16.18	8.00	1.31
	[3.45]***	[2.76]***	[2.90]***	[3.16]***	[9.32]***	[0.95]	[3.28]***	[2.65]***	[0.35]
RSA (highest@advanced diploma or certificate)	-9.61	-19.59	-4.78		-13.24	63.89	2.53	1.21	-19.99
	[1.10]	[3.81]***	[1.08]		[2.59]***	[3.17]***	[0.21]	[0.17]	[4.28]***
teaching qual, excl PGCE (foundation level)			13.77						
			[2.40]**						
NVQ or SVQ (highest @ level 3)	-9.97	-2.96	-3.73	-0.40	9.64	-0.70	6.18	6.72	0.70
	[4.78]***	[0.95]	[2.04]**	[0.18]	[7.55]***	[0.22]	[1.79]*	[3.52]***	[0.26]
Observations	11463	2708	6591	5554	17558	4539	4426	15335	11109
R-squared	0.168	0.2498	0.2512	0.3069	0.3603	0.3497	0.4127	0.1544	0.2757

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is an average return specification controlling for other qualifications held.

Table 30 Wage Returns (all qualifications) 1997-2006 by industry. Sample with Level 3 vocational or below: Males and females

Dependent variable is log gross hourly real wage

	Agriculture & fishing	energy & water	manufac- turing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	Other services
Apprenticeship	0.50 [0.15]	11.96 [4.52]***	9.20 [14.40]***	10.96 [9.42]***	5.44 [7.15]***	8.98 [7.94]***	3.46 [2.49]**	2.12 [2.82]***	2.43 [1.59]
Modern Apprenticeship	-0.10 [0.01]	7.14 [0.80]	8.22 [4.55]***	11.96 [5.46]***	3.15 [1.74]*	5.44 [1.75]*	5.65 [1.49]	-1.19 [0.44]	-1.98 [0.71]
BTEC etc (highest@national cert/dipl level)	0.40 [0.05]	9.09 [2.03]**	11.18 [7.23]***	10.08 [3.27]***	10.85 [8.11]***	10.52 [5.01]***	8.76 [5.84]***	10.41 [9.08]***	9.97 [3.17]***
City and Guilds (highest @ advanced/part3)	9.09 [1.40]	4.92 [1.54]	8.44 [9.68]***	6.08 [4.38]***	5.13 [4.51]***	6.08 [3.65]***	-0.90 [0.47]	4.71 [4.28]***	4.92 [1.95]*
GNVQ, GSVQ (highest @ advanced level)	1.61 [0.15]	-4.11 [0.42]	3.98 [1.39]	4.81 [0.76]	3.36 [2.08]**	6.40 [1.96]*	-5.64 [2.53]**	5.87 [2.51]**	8.33 [1.92]*
ONC or OND	8.55 [1.25]	4.50 [1.02]	17.70 [12.60]***	16.53 [5.76]***	11.52 [4.65]***	15.03 [4.64]***	14.68 [5.48]***	10.63 [6.35]***	10.52 [2.34]**
RSA (highest@advanced diploma or certificate)	-79.11 [25.19]***	28.15 [2.16]**	7.14 [1.79]*	16.18 [1.05]	10.41 [2.30]**	23.00 [2.91]***	9.09 [2.35]**	5.65 [2.53]**	28.53 [3.06]***
teaching qual, excl PGCE (foundation level)								23.86 [1.20]	2.84 [0.94]
NVQ or SVQ (highest @ level 3)	9.09 [1.76]*	6.40 [1.86]*	4.50 [3.93]***	10.30 [5.32]***	3.67 [3.22]***	2.94 [1.50]	-2.37 [1.56]	2.74 [3.41]***	9.09 [4.41]***
Observations	1585	1588	32585	9205	39983	13294	20277	36869	8491
R-squared	0.2548	0.2726	0.2956	0.3169	0.3116	0.2363	0.3105	0.2868	0.3227

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 31 Wage Returns (all qualifications) 1997-2006 by industry. Sample with Level 3 vocational or below: Females

Dependent variable is log gross hourly real wage

	Agriculture & fishing	energy & water	manufacturing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	Other services
Apprenticeship	-6.39	7.25	-1.49	-4.30	-0.60	5.65	-6.11	-0.40	-2.96
	[0.83]	[0.65]	[0.83]	[0.72]	[0.50]	[1.65]*	[2.73]***	[0.41]	[1.55]
Modern Apprenticeship	0.00	9.20	-4.59	-12.54	2.63	0.90	2.12	-0.20	-2.27
	[.]	[0.60]	[0.59]	[1.24]	[0.72]	[0.17]	[0.34]	[0.05]	[0.67]
BTEC etc (highest@national cert/dipl level)	-15.04	23.49	10.85	11.74	11.63	5.76	7.90	11.29	10.63
	[1.34]	[2.83]***	[3.53]***	[1.97]**	[6.14]***	[1.71]*	[4.17]***	[8.28]***	[2.60]***
City and Guilds (highest @ advanced/part3)	-8.06	19.72	10.19	-3.15	0.60	-1.39	-5.07	4.50	6.50
	[0.40]	[2.06]**	[2.17]**	[0.25]	[0.27]	[0.27]	[1.60]	[2.53]**	[1.72]*
GNVQ, GSVQ (highest @ advanced level)	-4.40	8.00	2.22	10.96	3.77	1.82	-8.70	6.82	18.41
	[0.17]	[0.43]	[0.57]	[1.50]	[1.86]*	[0.42]	[2.92]***	[2.56]**	[3.39]***
ONC or OND	-18.70	2.74	14.57	22.63	3.25	10.19	7.47	10.74	12.98
	[1.36]	[0.20]	[2.08]**	[1.72]*	[0.91]	[1.32]	[1.99]**	[4.22]***	[1.64]
RSA (highest@advanced diploma or certificate)	-82.06	39.24	10.63	18.53	14.45	19.12	14.57	8.44	27.00
	[15.78]***	[2.72]***	[2.07]**	[1.33]	[2.81]***	[1.90]*	[3.59]***	[3.61]***	[2.93]***
teaching qual, excl PGCE (foundation level)								26.36	1.21
								[1.19]	[0.36]
NVQ or SVQ (highest @ level 3)	1.51	11.07	6.50	6.29	5.13	1.41	-0.60	4.39	12.64
	[0.12]	[1.91]*	[3.37]***	[1.19]	[3.42]***	[0.46]	[0.31]	[5.00]***	[5.29]***
Observations	480	372	9465	1368	23683	3679	12392	28061	5144
R-squared	0.2608	0.3444	0.2125	0.1479	0.1945	0.2459	0.2775	0.1811	0.2987

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is an average return specification controlling for other qualifications held.

Table 32 Wage Returns (all qualifications) 1997-2006 by industry. Sample with Level 3 vocational or below: Males

Dependent variable is log gross hourly real wage

	Agriculture & fishing	energy & water	manufac- turing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	Other services
Apprenticeship	1.41	11.52	9.31	10.74	5.02	8.87	5.97	3.77	6.93
	[0.41]	[4.13]***	[13.63]***	[9.05]***	[4.98]***	[7.28]***	[3.28]***	[3.34]***	[3.02]***
Modern Apprenticeship	1.01	9.31	10.52	12.98	5.44	7.57	12.98	0.30	-4.78
	[0.10]	[0.95]	[5.64]***	[5.73]***	[2.59]***	[2.01]**	[2.61]***	[0.08]	[0.92]
BTEC etc (highest@national cert/dipl level)	6.08	2.63	11.52	8.11	9.64	14.00	9.86	7.14	9.86
	[0.66]	[0.51]	[6.53]***	[2.23]**	[5.14]***	[5.18]***	[4.02]***	[3.42]***	[1.96]*
City and Guilds (highest @ advanced/part3)	10.30	4.81	7.57	5.87	3.25	6.50	-1.78	2.43	3.25
	[1.50]	[1.43]	[8.35]***	[4.20]***	[2.39]**	[3.69]***	[0.70]	[1.66]*	[0.96]
GNVQ, GSVQ (highest @ advanced level)	-1.78	-14.19	3.67	-2.37	3.15	12.19	0.10	2.84	1.41
	[0.26]	[2.16]**	[0.94]	[0.29]	[1.31]	[2.43]**	[0.03]	[0.70]	[0.24]
ONC or OND	16.30	3.15	17.82	15.72	10.63	14.45	14.57	8.65	7.68
	[2.18]**	[0.68]	[12.60]***	[5.35]***	[3.41]***	[4.11]***	[4.17]***	[4.06]***	[1.40]
RSA (highest@advanced diploma or certificate)			-0.40	-20.39	5.13	31.00	-11.13	-7.78	
			[0.06]	[6.60]***	[0.69]	[2.35]**	[1.13]	[1.20]	
teaching qual, excl PGCE (foundation level)								18.18	
								[3.28]***	
NVQ or SVQ (highest @ level 3)	11.29	2.74	3.56	11.29	3.46	4.19	-6.48	-1.88	0.70
	[1.93]*	[0.64]	[2.66]***	[5.37]***	[2.07]**	[1.69]*	[2.33]**	[1.03]	[0.17]
Observations	1105	1216	23120	7837	16300	9615	7885	8808	3347
R-squared	0.2782	0.2452	0.2728	0.346	0.3805	0.219	0.3251	0.2882	0.2899

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is an average return specification controlling for other qualifications held.

Table 33 Wage Returns (highest qualifications) 1997-2006. Sample with Level 3 vocational or below

Dependent variable is log gross hourly real wage

	all	female	male
highest voc qual is Apprenticeship	11.63 [30.42]***	1.31 [1.90]*	12.64 [26.07]***
highest voc qual is BTEC etc (highest @ national cert/dipl level)	17.47 [24.34]***	16.30 [16.81]***	17.47 [16.74]***
highest voc qual is City and Guilds (@ advanced/part3)	17.23 [32.70]***	4.71 [3.74]***	16.65 [27.54]***
highest voc qual is GNVQ, GSVQ (highest @ advanced level)	6.82 [6.40]***	7.14 [5.18]***	5.23 [3.25]***
highest voc qual is ONC or OND	25.23 [26.63]***	13.88 [7.43]***	26.11 [24.04]***
highest voc qual is RSA (highest @ advanced diploma or certificate)	16.42 [8.75]***	19.12 [9.39]***	9.86 [2.29]**
highest voc qual is NVQ or SVQ (highest @ level 3)	11.40 [21.83]***	9.97 [14.98]***	12.98 [15.66]***
Observations	163952	84664	79288
R-squared	0.3276	0.2443	0.323

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 34 Wage Returns (highest qualifications) 1997-2006 by Occupation. Sample with Level 3 vocational or below: Males and females

Dependent variable is log gross hourly real wage

	manager	prof	assoc prof	admin/sec	skilled	Personal service	Sales customer	Machine ops	Elementary occs
highest voc qual is Apprenticeship	2.12	2.84	3.98	1.82	20.92	8.11	6.08	9.97	4.19
	[1.81]*	[0.97]	[2.75]***	[1.63]	[25.48]***	[7.53]***	[4.30]***	[10.93]***	[4.60]***
highest voc qual is BTEC etc (highest @ national cert/dipl level)	12.19	12.08	7.14	8.11	26.24	15.26	9.42	6.18	2.43
	[6.60]***	[3.26]***	[3.96]***	[6.84]***	[10.69]***	[7.80]***	[4.96]***	[1.89]*	[1.06]
highest voc qual is City and Guilds (@ advanced/part3)	4.50	4.71	1.61	0.90	23.61	14.11	10.08	18.06	8.87
	[3.20]***	[1.53]	[0.95]	[0.47]	[24.73]***	[7.40]***	[3.96]***	[12.66]***	[5.16]***
highest voc qual is GNVQ, GSVQ (highest @ advanced level)	-6.95	6.93	2.74	-0.30	11.74	7.14	7.90	4.81	4.92
	[1.94]*	[0.83]	[0.76]	[0.19]	[2.68]***	[2.26]**	[3.57]***	[1.30]	[1.62]
highest voc qual is ONC or OND	10.30	14.34	8.44	8.00	35.66	14.22	24.61	15.84	2.22
	[5.09]***	[3.95]***	[4.30]***	[3.95]***	[18.79]***	[3.86]***	[5.37]***	[5.12]***	[0.62]
highest voc qual is RSA (highest @ advanced diploma or certificate)	11.29	22.51	2.74	7.68	13.09	17.47	2.53	9.53	13.43
	[1.80]*	[1.10]	[0.50]	[3.70]***	[1.24]	[2.55]**	[0.44]	[1.06]	[2.51]**
highest voc qual is NVQ or SVQ (highest @ level 3)	-6.76	0.50	1.61	4.39	28.53	12.08	11.52	15.26	3.56
	[4.13]***	[0.16]	[1.07]	[4.90]***	[19.57]***	[9.73]***	[6.30]***	[8.11]***	[1.88]*
Observations	18401	4035	11663	30627	19575	19910	17533	19143	23056
R-squared	0.2191	0.2247	0.271	0.1925	0.3769	0.235	0.2742	0.1996	0.2327

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

**Table 35 Wage Returns (highest qualifications) 1997-2006 by Occupation. Sample with Level 3 vocational or below:
Females**

Dependent variable is log gross hourly real wage

	manager	prof	assoc prof	admin/sec	skilled	Personal service	Sales customer	Machine ops	Elementary occs
highest voc qual is Apprenticeship	-5.16 [2.00]**	9.53 [1.22]	7.25 [2.26]**	-1.29 [0.91]	3.05 [1.25]	5.02 [4.11]***	0.60 [0.38]	0.80 [0.33]	0.00 [0.02]
highest voc qual is BTEC etc (highest @ national cert/dipl level)	13.54 [4.44]***	18.18 [2.60]***	6.93 [2.52]**	8.44 [6.10]***	18.41 [1.71]*	14.80 [6.78]***	10.41 [4.40]***	-7.78 [1.07]	4.50 [1.41]
highest voc qual is City and Guilds (@ advanced/part3)	1.31 [0.31]	23.99 [2.14]**	-4.97 [1.44]	-4.97 [2.07]**	8.44 [1.79]*	12.64 [5.35]***	0.20 [0.06]	32.18 [3.00]***	2.94 [0.94]
highest voc qual is GNVQ, GSVQ (highest @ advanced level)	-5.73 [1.23]	30.21 [1.51]	2.22 [0.47]	-0.50 [0.26]	0.80 [0.07]	11.40 [3.24]***	10.19 [3.73]***	-1.49 [0.28]	4.71 [0.99]
highest voc qual is ONC or OND	7.79 [1.85]*	23.74 [1.85]*	2.22 [0.50]	5.23 [2.29]**	15.72 [0.88]	8.76 [1.58]	7.47 [1.00]	3.05 [0.36]	-1.39 [0.21]
highest voc qual is RSA (highest @ advanced diploma or certificate)	20.08 [2.57]**	29.43 [1.40]	7.79 [1.19]	8.65 [4.09]***	56.52 [1.92]*	15.14 [2.35]**	3.77 [0.62]	5.44 [0.26]	14.68 [2.82]***
highest voc qual is NVQ or SVQ (highest @ level 3)	-5.73 [2.45]**	3.98 [0.71]	3.56 [1.72]*	4.50 [4.65]***	5.65 [1.17]	11.74 [9.09]***	12.41 [6.00]***	18.29 [4.42]***	3.77 [1.48]
Observations	6938	1327	5072	25073	2017	15371	13107	3808	11947
R-squared	0.1857	0.1768	0.199	0.1691	0.1473	0.1569	0.1818	0.0838	0.079

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 36 Wage Returns (highest qualifications) 1997-2006 by Occupation. Sample with Level 3 vocational or below: Males

Dependent variable is log gross hourly real wage

	manager	prof	assoc prof	admin/ sec	skilled	Personal service	Sales customer	Machine ops	Elementary occs
highest voc qual is Apprenticeship	1.11	-1.19	0.20	3.98	21.41	11.07	5.55	9.97	4.60
	[0.83]	[0.35]	[0.13]	[2.18]**	[24.28]***	[5.24]***	[2.09]**	[10.00]***	[4.00]***
highest voc qual is BTEC etc (highest @ national cert/dipl level)	10.08	8.33	6.29	5.65	26.36	11.96	4.19	8.55	2.22
	[4.60]***	[1.92]*	[2.69]***	[2.44]**	[10.45]***	[3.15]***	[1.38]	[2.36]**	[0.68]
highest voc qual is City and Guilds (@ advanced/part3)	2.53	-0.80	-1.19	5.23	23.86	12.86	8.44	17.00	8.44
	[1.62]	[0.24]	[0.59]	[1.85]*	[23.70]***	[4.25]***	[2.30]**	[11.68]***	[4.22]***
highest voc qual is GNVQ, GSVQ (highest @ advanced level)	-8.61	-2.27	2.22	-1.00	14.00	-8.88	6.50	6.08	5.44
	[1.61]	[0.30]	[0.44]	[0.36]	[3.09]***	[1.58]	[1.77]*	[1.27]	[1.39]
highest voc qual is ONC or OND	9.09	9.20	6.93	13.88	35.93	14.11	19.12	16.18	3.36
	[3.98]***	[2.33]**	[3.11]***	[3.36]***	[18.77]***	[3.23]***	[3.74]***	[5.00]***	[0.82]
highest voc qual is RSA (highest @ advanced diploma or certificate)	-7.50	0.00	1.01	1.01	-3.25	74.02	20.20	7.14	0.00
	[0.86]	[.]	[0.20]	[0.12]	[0.81]	[3.36]***	[5.96]***	[0.89]	[.]
highest voc qual is NVQ or SVQ (highest @ level 3)	-10.24	-3.63	10.19	-0.40	14.00	14.34	10.08	15.72	4.81
	[2.09]**	[0.25]	[1.36]	[0.06]	[2.30]**	[1.34]	[1.58]	[2.59]***	[1.13]
Observations	11463	2708	6591	5554	17558	4539	4426	15335	11109
R-squared	0.1677	0.2491	0.2515	0.3049	0.3587	0.3457	0.4114	0.1533	0.2769

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 37 Wage Returns (highest qualifications) 1997-2006 by industry. Sample with Level 3 vocational or below: Males and females

Dependent variable is log gross hourly real wage

	Agriculture & fishing	energy & water	manufacturing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	Other services
highest voc qual is Apprenticeship	5.23	16.65	15.14	20.56	7.47	12.52	6.61	6.82	8.00
	[1.50]	[4.75]***	[21.14]***	[14.58]***	[9.28]***	[9.97]***	[4.34]***	[7.76]***	[4.91]***
highest voc qual is BTEC etc (highest @ national cert/dipl level)	3.67	18.65	20.32	23.00	12.86	16.53	12.98	15.72	17.59
	[0.50]	[3.30]***	[11.15]***	[6.14]***	[8.81]***	[6.78]***	[7.65]***	[12.12]***	[5.02]***
highest voc qual is City and Guilds (@ advanced/part3)	12.52	22.63	21.17	23.74	11.29	15.84	7.04	11.52	12.98
	[1.80]*	[5.60]***	[22.10]***	[14.82]***	[9.62]***	[9.05]***	[3.34]***	[9.28]***	[4.74]***
highest voc qual is GNVQ, GSVQ (highest @ advanced level)	5.02	-0.70	8.55	11.29	4.50	9.42	-3.25	9.75	13.09
	[0.44]	[0.06]	[2.71]***	[1.53]	[2.65]***	[2.74]***	[1.31]	[3.81]***	[2.70]***
highest voc qual is ONC or OND	12.98	18.65	32.45	34.04	16.65	22.88	21.90	18.06	18.29
	[1.82]*	[3.33]***	[20.27]***	[10.36]***	[6.41]***	[6.62]***	[7.57]***	[9.89]***	[3.72]***
highest voc qual is RSA (highest @ advanced diploma or certificate)	-78.13	36.21	12.75	27.12	12.75	31.00	14.80	11.07	36.62
	[25.41]***	[2.62]***	[2.94]***	[1.79]*	[2.72]***	[3.73]***	[3.70]***	[4.52]***	[3.76]***
highest voc qual is NVQ or SVQ (highest @ level 3)	14.45	18.41	16.88	27.51	8.22	10.19	3.67	9.31	16.65
	[2.86]***	[4.36]***	[13.56]***	[12.19]***	[6.94]***	[4.91]***	[2.31]**	[10.47]***	[7.46]***
Observations	1585	1588	32585	9205	39983	13294	20277	36869	8491
R-squared	0.2522	0.2703	0.2965	0.3191	0.3128	0.2345	0.3128	0.287	0.3221

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 38 Wage Returns (highest qualifications) 1997-2006 by industry. Sample with Level 3 vocational or below: Females

Dependent variable is log gross hourly real wage

	Agriculture & fishing	energy & water	manufac-turing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	Other services
highest voc qual is Apprenticeship	0.80	9.75	4.92	-6.48	2.84	12.98	-0.80	3.36	2.84
	[0.11]	[0.99]	[2.49]**	[0.95]	[2.47]**	[3.51]***	[0.33]	[3.06]***	[1.42]
highest voc qual is BTEC etc (highest @ national cert/dipl level)	-12.72	37.58	16.88	12.64	13.66	11.18	11.74	15.60	19.12
	[1.14]	[3.59]***	[5.04]***	[1.92]*	[6.78]***	[2.84]***	[5.49]***	[10.27]***	[4.24]***
highest voc qual is City and Guilds (@ advanced/part3)	-2.86	29.30	16.53	-11.04	2.33	5.34	-2.37	9.42	13.31
	[0.13]	[2.64]***	[3.02]***	[0.79]	[1.05]	[0.90]	[0.70]	[4.69]***	[3.18]***
highest voc qual is GNVQ, GSVQ (highest @ advanced level)	1.41	23.86	6.61	8.00	5.55	5.97	-5.35	9.97	25.11
	[0.05]	[1.07]	[1.53]	[1.08]	[2.61]***	[1.23]	[1.62]	[3.39]***	[4.10]***
highest voc qual is ONC or OND	-13.58	12.08	23.74	21.29	4.81	16.18	12.30	16.65	19.96
	[0.87]	[0.77]	[3.09]***	[1.51]	[1.30]	[2.11]**	[3.00]***	[6.10]***	[2.33]**
highest voc qual is RSA (highest @ advanced diploma or certificate)	-80.62	48.29	16.77	21.29	16.18	28.92	19.12	12.41	35.26
	[15.32]***	[3.43]***	[3.06]***	[1.50]	[3.03]***	[2.82]***	[4.50]***	[4.87]***	[3.64]***
highest voc qual is NVQ or SVQ (highest @ level 3)	6.29	20.20	15.72	3.77	8.22	7.04	4.50	9.64	18.77
	[0.52]	[2.80]***	[7.72]***	[0.71]	[5.29]***	[2.24]**	[2.42]**	[9.91]***	[7.22]***
Observations	480	372	9465	1368	23683	3679	12392	28061	5144
R-squared	0.2661	0.3483	0.2168	0.1483	0.1953	0.246	0.2821	0.1811	0.299

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 39 Wage Returns (highest qualifications) 1997-2006 by industry. Sample with Level 3 vocational or below: Males

Dependent variable is log gross hourly real wage

	Agriculture & fishing	energy & water	manufac- turing	construction	distribution, hotels & restaurants	transport & comms	banks finance insurance	pub admin educ, health	Other services
highest voc qual is Apprenticeship	4.81	15.60	13.20	22.51	5.65	11.52	9.09	12.19	12.86
	[1.21]	[3.95]***	[16.80]***	[15.27]***	[5.03]***	[8.39]***	[4.46]***	[8.07]***	[4.78]***
highest voc qual is BTEC etc (highest @ national cert / dipl level)	8.44	12.52	20.32	24.73	10.52	20.56	14.00	15.60	15.60
	[0.90]	[1.77]*	[9.60]***	[5.33]***	[5.13]***	[6.60]***	[5.12]***	[6.25]***	[2.81]***
highest voc qual is City and Guilds (highest@advanced/part 3)	13.77	20.92	18.53	25.48	8.44	15.72	8.55	13.43	12.75
	[1.85]*	[4.66]***	[18.52]***	[15.31]***	[6.02]***	[8.45]***	[3.29]***	[7.68]***	[3.43]***
highest voc qual is GNVQ, GSVQ (highest @ advanced level)	2.22	-12.72	7.36	0.90	3.05	12.86	1.21	8.65	4.08
	[0.32]	[1.86]*	[1.70]*	[0.08]	[1.18]	[2.65]***	[0.34]	[1.90]*	[0.57]
highest voc qual is ONC or OND	19.36	17.59	30.87	35.53	15.49	22.75	24.11	20.44	17.94
	[2.52]**	[2.92]***	[18.96]***	[10.42]***	[4.81]***	[5.97]***	[6.29]***	[8.23]***	[2.95]***
highest voc qual is RSA (highest @ advanced diploma or certificate)			6.82	1.31	10.74	37.71	-5.07	2.53	
			[0.97]	[0.52]	[1.50]	[2.53]**	[0.49]	[0.30]	
highest voc qual is NVQ or SVQ (highest @ level 3)	16.65	15.84	15.95	31.78	8.11	12.41	1.11	8.87	9.20
	[2.94]***	[2.99]***	[10.51]***	[12.80]***	[4.52]***	[4.55]***	[0.38]	[4.17]***	[2.15]**
Observations	1105	1216	23120	7837	16300	9615	7885	8808	3347
R-squared	0.2757	0.2379	0.2722	0.3492	0.3822	0.2165	0.323	0.288	0.2855

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 40 Summary of returns for Level 3 qualifications by gender

	Average returns for Level 3 or below sample (table 26)		Marginal returns for Level 3 or below sample (table 33)	
	females	males	females	males
highest voc qual is Apprenticeship	-2.57	8.65	1.31	12.64
	[4.09]***	[20.71]***	[1.90]*	[26.07]***
highest voc qual is Modern Apprenticeship	-3.15	8.87		
	[1.75]*	[8.30]***		
highest voc qual is BTEC etc (highest@national cert/dipl level)	11.85	11.18	16.30	17.47
	[13.46]***	[12.43]***	[16.81]***	[16.74]***
highest voc qual is City and Guilds (highest @ advanced/part3)	1.31	5.34	4.71	16.65
	[1.11]	[9.67]***	[3.74]***	[27.54]***
highest voc qual is ONC or OND	8.22	14.80	13.88	26.11
	[4.76]***	[15.31]***	[7.43]***	[24.04]***
highest voc qual is RSA (highest@advanced diploma or certificate)	15.03	0.10	19.12	9.86
	[7.80]***	[0.02]	[9.39]***	[2.29]**
highest voc qual is NVQ or SVQ (highest @ level 3)	4.60	2.63	9.97	12.98
	[7.38]***	[3.53]***	[14.98]***	[15.66]***

This is a marginal return specification controlling for highest qualification held.

Summary table created from tables 26, 33

Table 41 Wage Returns (all qualifications) by Region. Males and Females. Sample with Level 2 as highest qualification

	North East	North West	Merseyside	Yorkshire & Humberside	East Midlands	West Midlands	Eastern	London	South East	South West
BTEC etc (highest @ 1st/gen diploma level)	9.97	15.03	19.96	8.11	8.44	15.37	0.50	3.87	8.76	5.97
	[1.35]	[2.35]**	[2.47]**	[1.90]*	[2.12]**	[2.79]**	[0.10]	[0.72]	[2.41]**	[1.31]
City & Guilds (highest@advanced craft/part 2)	2.33	5.87	0.40	2.12	3.05	2.63	2.02	-3.82	-2.08	2.63
	[0.71]	[2.29]**	[0.06]	[1.02]	[1.32]	[1.35]	[0.95]	[1.28]	[1.09]	[1.24]
GNVQ or SNVQ (highest @ intermediate level)	0.30	-0.80	9.75	0.30	6.50	-0.40	-4.69	-4.88	-1.39	0.80
	[0.05]	[0.22]	[1.07]	[0.09]	[1.48]	[0.11]	[1.43]	[1.17]	[0.53]	[0.21]
RSA (highest @ diploma)	7.90	24.86	3.87	15.03	11.07	11.07	22.26	4.19	10.41	4.39
	[1.15]	[3.44]**	[0.34]	[3.19]**	[1.15]	[2.27]**	[2.99]**	[0.70]	[2.11]**	[0.71]
NVQ or SVQ (highest @ level 2)	-0.90	-1.78	-1.88	-1.98	-3.05	-3.15	-0.20	-10.06	-4.78	0.10
	[0.53]	[1.30]	[0.69]	[1.58]	[2.09]**	[2.69]**	[0.13]	[4.98]**	[3.60]**	[0.07]
Modern Apprenticeship (foundation level)	8.87	15.72	8.22	6.72	7.57	-4.88	-8.15	-6.48	10.63	3.05
	[0.52]	[1.41]	[0.53]	[0.78]	[0.84]	[0.70]	[0.53]	[0.52]	[1.60]	[0.24]
Observations	5298	9200	2056	10768	8937	11323	10991	9740	15300	9691
R-squared	0.252	0.250	0.246	0.244	0.243	0.257	0.244	0.209	0.235	0.243

Controls: Gender, age, ethnicity, year, part-time worker, proxy respondent

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is an average return specification controlling for other qualifications held.

Table 42 Wage Returns (all qualifications) by Region. Females. Sample with Level 2 as highest qualification

	North East	North West	Merseyside	Yorkshire & Humberside	East Midlands	West Midlands	Eastern	London	South East	South West
BTEC etc (highest @ 1st/gen diploma level)	2.74 [0.41]	5.76 [0.91]	11.52 [1.19]	6.50 [1.16]	7.79 [1.47]	15.03 [2.16]**	2.02 [0.36]	1.51 [0.19]	10.30 [1.72]*	5.97 [0.94]
City & Guilds (highest@advanced craft/part 2)	-8.06 [1.72]*	10.41 [2.77]***	-5.26 [0.47]	-0.30 [0.09]	1.11 [0.33]	-0.80 [0.21]	4.08 [0.92]	-5.35 [1.25]	0.20 [0.06]	3.05 [0.97]
GNVQ or SNVQ (highest @ intermediate level)	2.33 [0.33]	-0.40 [0.11]	7.25 [0.68]	-2.37 [0.54]	10.08 [1.81]*	2.74 [0.61]	-3.82 [0.69]	-7.78 [1.38]	-3.82 [1.02]	1.31 [0.30]
RSA (highest @ diploma)	15.03 [2.35]**	23.61 [3.36]***	9.20 [0.78]	17.12 [3.67]***	20.32 [1.94]*	9.53 [2.27]**	23.12 [2.86]***	2.22 [0.41]	13.20 [2.51]**	7.36 [1.25]
NVQ or SVQ (highest @ level 2)	0.90 [0.46]	-1.59 [1.00]	0.10 [0.02]	-1.09 [0.70]	-0.50 [0.28]	-2.86 [2.01]**	0.70 [0.31]	-10.24 [4.20]***	-3.63 [2.27]**	0.60 [0.37]
Modern Apprenticeship (foundation level)	-3.92 [0.83]	12.41 [0.62]		3.77 [0.33]	-7.23 [0.39]	-13.84 [1.73]*	-40.07 [2.45]**	-22.12 [3.72]***	1.71 [0.20]	4.71 [0.30]
Observations	3169	5511	1254	6186	5099	6231	6188	5447	8801	5593
R-squared	0.1569	0.1637	0.1866	0.1595	0.1418	0.1484	0.1531	0.1854	0.1591	0.152

Controls: Age, ethnicity, year, part-time worker, proxy respondent

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is an average return specification controlling for other qualifications held.

Table 43 Wage Returns (all qualifications) by Region. Males. Sample with Level 2 as highest qualification

	North East	North West	Merseyside	Yorkshire & Humberside	East Midlands	West Midlands	Eastern	London	South East	South West
BTEC etc (highest @ 1st/gen diploma level)	25.23	43.62	42.33	9.31	8.76	12.75	-2.47	4.60	8.00	7.36
	[1.58]	[2.43]**	[6.08]***	[1.33]	[1.44]	[1.81]*	[0.31]	[0.60]	[1.71]*	[1.22]
City & Guilds (highest@advanced craft/part 2)	7.04	1.21	4.19	3.36	3.15	3.25	-0.60	-4.50	-3.92	1.51
	[1.61]	[0.35]	[0.53]	[1.32]	[0.97]	[1.41]	[0.23]	[1.16]	[1.63]	[0.56]
GNVQ or SNVQ (highest @ intermediate level)	-6.67	-1.09	11.18	3.36	3.98	-0.70	-5.26	-1.69	1.31	1.51
	[0.64]	[0.19]	[0.69]	[0.84]	[0.62]	[0.12]	[1.58]	[0.27]	[0.40]	[0.30]
RSA (highest @ diploma)	-12.54	113.83	-25.17	-0.30	-28.11	28.15	16.07	22.51	2.43	-6.85
	[0.90]	[3.23]***	[5.33]***	[0.01]	[2.55]**	[1.66]*	[1.22]	[0.76]	[0.18]	[0.32]
NVQ or SVQ (highest @ level 2)	-5.64	-3.34	-5.54	-3.44	-7.32	-4.21	-1.78	-11.40	-7.87	-0.70
	[2.05]**	[1.34]	[1.12]	[1.70]*	[3.11]***	[2.03]**	[0.61]	[3.08]***	[3.53]***	[0.33]
Modern Apprenticeship (foundation level)	20.68	31.92	7.04	4.19	8.11	0.10	22.88	11.74	18.18	-19.10
	[0.71]	[2.53]**	[0.30]	[0.36]	[1.21]	[0.00]	[1.22]	[0.67]	[1.63]	[1.75]*
Observations	2129	3689	802	4582	3838	5092	4803	4293	6499	4098
R-squared	0.2932	0.3055	0.2512	0.265	0.2517	0.2659	0.2499	0.2229	0.2461	0.264

Robust t statistics in brackets

Controls: Age, ethnicity, year, part-time worker, proxy respondent

* significant at 10%; ** significant at 5%; *** significant at 1%

This is an average return specification controlling for other qualifications held.

Table 44 Wage Returns (highest qualification held) by Region. Males and Females. Sample with Level 2 as highest qualification

	North East	North West	Merseyside	Yorkshire & Humberside	East Midlands	West Midlands	Eastern	London	South East	South West
Highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	18.65 [2.31]**	20.68 [2.69]***	23.86 [2.69]***	10.85 [2.28]**	11.29 [2.27]**	18.77 [2.83]***	5.87 [1.08]	14.45 [2.62]***	14.80 [3.41]***	12.52 [2.36]**
Highest voc qual is City & Guilds (highest@advanced craft/part 2)	8.98 [2.26]**	11.85 [4.02]***	3.05 [0.39]	6.72 [2.80]***	7.90 [3.11]***	7.14 [3.26]***	7.57 [3.09]***	4.92 [1.56]	2.33 [1.14]	7.47 [3.08]***
GNVQ or SNVQ (highest @ intermediate level)	0.70 [0.10]	0.20 [0.06]	20.44 [1.95]*	4.39 [1.27]	9.42 [1.91]*	0.70 [0.18]	-3.73 [1.10]	-1.69 [0.43]	0.60 [0.21]	2.12 [0.51]
Highest voc qual is RSA (highest @ diploma)	6.50 [0.99]	30.08 [3.78]***	0.30 [0.03]	16.88 [3.48]***	15.26 [1.62]	17.12 [3.37]***	25.86 [3.14]***	10.63 [1.66]*	14.57 [2.75]***	8.22 [1.26]
Highest voc qual is NVQ or SVQ (highest @ level 2)	3.77 [2.12]**	2.53 [1.74]*	0.70 [0.26]	3.05 [2.18]**	0.90 [0.55]	1.41 [1.07]	3.87 [2.03]**	-2.76 [1.29]	0.70 [0.53]	4.08 [2.70]***
Highest voc qual is Modern Apprenticeship (foundation level)	99.37 [31.76]***	-11.13 [6.39]***	-3.25 [0.61]	40.92 [5.21]***	-17.39 [2.98]***	-20.94 [4.49]***	8.44 [0.30]	7.47 [0.55]	22.88 [1.68]*	
Observations	5298	9200	2056	10768	8937	11323	10991	9740	15300	9691
R-squared	0.2541	0.2527	0.2525	0.2464	0.2455	0.2592	0.245	0.2113	0.2361	0.2438

Controls: Gender, age, ethnicity, year, part-time worker, proxy respondent

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 45 Wage Returns (highest qualification held) by Region. Females . Sample with Level 2 as highest qualification

	North East	North West	Merseyside	Yorkshire & Humberside	East Midlands	West Midlands	Eastern	London	South East	South West
Highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	7.68 [1.20]	12.64 [1.67]*	14.68 [1.34]	8.65 [1.35]	14.45 [2.31]**	21.90 [2.75]***	5.65 [0.95]	12.19 [1.75]*	20.32 [2.83]***	16.18 [2.23]**
Highest voc qual is City & Guilds (highest@advanced craft/part 2)	-0.30 [0.04]	17.23 [4.17]***	-4.88 [0.37]	3.36 [0.83]	8.22 [2.24]**	3.98 [0.96]	10.74 [2.07]**	1.61 [0.35]	3.67 [1.09]	9.42 [2.50]**
GNVQ or SNVQ (highest @ intermediate level)	2.74 [0.32]	1.61 [0.39]	11.18 [0.93]	0.20 [0.04]	12.19 [1.89]*	5.44 [0.98]	-4.59 [0.81]	-1.29 [0.20]	-2.18 [0.54]	4.29 [0.75]
Highest voc qual is RSA (highest @ diploma)	13.54 [2.02]**	27.76 [3.59]***	4.71 [0.41]	18.06 [3.66]***	24.11 [2.28]**	16.07 [3.67]***	27.12 [3.04]***	7.14 [1.28]	16.18 [2.91]***	12.08 [1.95]*
Highest voc qual is NVQ or SVQ (highest @ level 2)	5.44 [2.49]**	2.84 [1.66]*	4.50 [1.23]	4.19 [2.34]**	3.77 [1.87]*	2.33 [1.53]	5.65 [2.43]**	-3.15 [1.22]	1.51 [0.87]	6.08 [3.19]***
Highest voc qual is Modern Apprenticeship (foundation level)				24.36 [3.82]***	-24.87 [2.43]**	-28.82 [4.02]***	-62.24 [34.00]***	-12.28 [2.30]**	3.46 [0.19]	
Observations	3169	5511	1254	6186	5099	6231	6188	5447	8801	5593
R-squared	0.157	0.1665	0.1937	0.1618	0.1445	0.1498	0.1557	0.1883	0.1598	0.1537

Robust t statistics in brackets

Controls: Age, ethnicity, year, part-time worker, proxy respondent

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 46 Wage Returns (highest qualification held) by Region. Males. Sample with Level 2 as highest qualification

	North East	North West	Merseyside	Yorkshire & Humberside	East Midlands	West Midlands	Eastern	London	South East	South West
Highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	57.15 [2.60]***	50.08 [2.04]**	42.05 [5.94]***	11.07 [1.49]	6.61 [0.85]	6.40 [0.86]	4.39 [0.47]	15.84 [1.84]*	9.86 [1.84]*	11.07 [1.58]
Highest voc qual is City & Guilds (highest@advanced craft/part 2)	10.63 [2.15]**	6.18 [1.52]	6.40 [0.70]	7.25 [2.43]**	5.65 [1.68]*	6.18 [2.38]**	2.84 [1.04]	5.34 [1.29]	0.50 [0.20]	3.67 [1.18]
Highest voc qual is GNVQ or SNVQ (highest @ intermediate level)	-2.76 [0.25]	-0.20 [0.03]	37.71 [1.82]*	8.65 [1.82]*	7.47 [1.05]	-1.29 [0.22]	-4.69 [1.31]	-1.78 [0.34]	2.43 [0.64]	1.51 [0.27]
Highest voc qual is RSA (highest @ diploma)	-7.96 [0.63]	120.34 [3.66]***	-24.27 [5.07]***	2.94 [0.15]	-21.81 [3.00]***	30.60 [1.78]*	31.00 [2.04]**	40.07 [1.06]	9.20 [0.56]	-6.67 [0.31]
Highest voc qual is NVQ or SVQ (highest @ level 2)	-1.59 [0.55]	0.40 [0.15]	-4.97 [0.99]	0.60 [0.26]	-3.82 [1.56]	-1.29 [0.58]	0.30 [0.10]	-3.92 [1.05]	-2.57 [1.10]	0.60 [0.27]
Highest voc qual is Modern Apprenticeship (foundation level)	90.41 [19.01]***	-2.76 [1.01]	-7.32 [0.83]	35.26 [2.96]***	-8.06 [3.23]***	-12.28 [1.84]*	53.42 [4.48]***	31.39 [1.60]	49.63 [9.31]***	
Observations	2129	3689	802	4582	3838	5092	4803	4293	6499	4098
R-squared	0.2969	0.3071	0.2574	0.2657	0.2518	0.2689	0.2498	0.2260	0.2481	0.2647

Robust t statistics in brackets

Controls: Age, ethnicity, year, part-time worker, proxy respondent

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 47 Wage Returns (all qualifications) by Region. Males and Females . Sample with Level 3 as highest qualification

	North East	North West	Mersey-side	Yorks/ Humberside	East Midlands	West Midlands	Eastern	London	South East	South West
Apprenticeship	11.52	7.90	9.53	8.00	8.33	8.44	6.72	5.55	5.76	7.57
	[8.51]***	[7.91]***	[4.21]***	[8.23]***	[7.67]***	[8.48]***	[6.45]***	[4.09]***	[6.46]***	[7.40]***
Modern Apprenticeship	8.00	8.00	5.87	9.86	0.00	6.40	3.46	-4.11	1.82	6.29
	[2.42]**	[3.27]***	[1.01]	[3.80]***	[0.01]	[2.56]**	[1.03]	[0.91]	[0.80]	[2.34]**
BTEC etc (highest@national cert/dipl level)	10.96	12.19	9.97	11.74	11.40	13.31	11.63	10.74	12.52	12.41
	[4.70]***	[6.34]***	[2.41]**	[6.97]***	[6.04]***	[7.24]***	[5.33]***	[5.07]***	[7.53]***	[6.47]***
City & Guilds (highest @ advanced/part 3)	8.22	6.82	7.90	10.30	5.65	6.61	6.82	2.12	5.87	6.18
	[3.98]***	[4.94]***	[2.36]**	[7.30]***	[3.74]***	[4.67]***	[4.58]***	[1.09]	[4.69]***	[4.42]***
GNVQ or SNVQ (highest @ advanced level)	4.92	8.98	-4.69	2.63	1.01	1.11	3.67	7.79	5.34	3.25
	[1.29]	[2.58]***	[0.65]	[1.03]	[0.28]	[0.45]	[1.18]	[2.36]**	[2.46]**	[1.04]
ONC or OND	22.14	15.60	32.84	17.00	21.29	10.52	14.11	9.64	13.88	11.63
	[6.53]***	[6.97]***	[5.46]***	[6.75]***	[8.24]***	[4.37]***	[4.99]***	[2.35]**	[6.90]***	[4.70]***
RSA (highest@advanced diploma or certificate)	16.65	11.96	19.48	15.03	15.72	3.56	7.04	10.63	7.14	16.88
	[2.30]**	[2.37]**	[1.88]*	[2.43]**	[2.75]***	[0.72]	[1.58]	[1.92]*	[1.66]*	[2.93]***
NVQ or SVQ (highest @ level 3)	2.63	3.67	4.08	5.76	4.92	3.05	3.46	-1.39	0.80	6.40
	[1.59]	[2.93]***	[1.44]	[3.90]***	[3.21]***	[2.21]**	[2.28]**	[0.69]	[0.61]	[4.51]***
Observations	9563	17057	3737	18690	15352	18953	19538	15505	27924	17633
R-squared	0.3282	0.3333	0.3413	0.3181	0.321	0.3229	0.3195	0.2689	0.3099	0.3131

Robust t statistics in brackets

Controls: Gender, age, ethnicity, year, part-time worker, proxy respondent

* significant at 10%; ** significant at 5%; *** significant at 1%

This is an average return specification controlling for other qualifications held.

Table 48 Wage Returns (all qualifications) by Region. Females. Sample with Level 3 as highest qualification

	North East	North West	Mersey-side	Yorkshire & Humberside	East Midlands	West Midlands	Eastern	London	South East	South West
Apprenticeship	-2.47	-3.25	-0.40	-3.05	-1.39	-0.40	0.20	-2.57	-5.45	-2.37
	[1.10]	[1.98]**	[0.09]	[1.71]*	[0.66]	[0.24]	[0.11]	[1.05]	[3.59]***	[1.44]
Modern Apprenticeship	3.05	1.82	16.30	0.70	-8.97	-5.35	-3.82	-21.42	-3.15	3.77
	[0.51]	[0.32]	[0.96]	[0.11]	[1.87]*	[1.29]	[0.58]	[3.23]***	[0.78]	[0.83]
BTEC etc(highest@national cert/dipl level)	16.30	11.18	14.22	10.85	8.33	15.49	12.08	12.08	12.19	9.42
	[5.56]***	[4.51]***	[2.40]**	[4.88]***	[3.17]***	[6.27]***	[3.50]***	[3.95]***	[4.95]***	[3.63]***
City & Guilds (highest @ advanced/part 3)	3.56	-1.19	-5.54	2.12	1.21	3.36	6.08	-3.54	3.36	-1.69
	[0.75]	[0.38]	[1.07]	[0.58]	[0.36]	[0.95]	[1.55]	[0.88]	[1.10]	[0.62]
GNVQ or SNVQ (highest @ advanced level)	0.50	10.63	-15.38	3.25	-1.09	1.51	1.01	6.61	7.04	9.20
	[0.11]	[2.41]**	[1.33]	[0.91]	[0.28]	[0.43]	[0.26]	[1.55]	[2.52]**	[2.35]**
ONC or OND	15.60	6.82	40.64	11.18	6.93	-9.34	20.44	12.30	10.52	5.23
	[2.36]**	[1.53]	[2.90]***	[2.54]**	[0.98]	[2.20]**	[3.06]***	[2.09]**	[2.67]***	[1.04]
RSA (highest@advanced diploma or certificate)	17.00	13.77	26.49	24.11	23.86	8.44	8.55	13.66	12.08	19.72
	[2.33]**	[2.56]**	[1.92]*	[3.61]***	[3.67]***	[1.51]	[1.75]*	[2.19]**	[2.54]**	[3.30]***
NVQ or SVQ (highest @ level 3)	2.53	5.34	0.60	8.11	4.50	3.77	4.92	-0.10	2.84	9.86
	[1.30]	[3.31]***	[0.17]	[4.25]***	[2.19]**	[2.24]**	[2.25]**	[0.05]	[1.74]*	[5.08]***
Observations	4930	8981	2004	9493	7817	9503	9981	8230	14557	9168
R-squared	0.2325	0.2188	0.2822	0.2145	0.1969	0.2076	0.2055	0.2412	0.21	0.1943

Robust t statistics in brackets

Controls: Age, ethnicity, year, part-time worker, proxy respondent

* significant at 10%; ** significant at 5%; *** significant at 1%

This is an average return specification controlling for other qualifications held.

Table 49 Wage Returns (all qualifications) by Region. Males. Sample with Level 3 as highest qualification

	North East	North West	Mersey-side	Yorkshire & Humberside	East Midlands	West Midlands	Eastern	London	South East	South West
Apprenticeship	12.08	8.87	9.20	8.76	8.76	8.44	7.36	7.04	8.22	8.44
	[7.42]***	[7.14]***	[3.34]***	[7.60]***	[6.79]***	[7.06]***	[5.98]***	[4.26]***	[7.47]***	[6.56]***
Modern Apprenticeship	10.74	11.52	4.29	13.09	3.25	10.74	8.55	5.23	6.18	9.53
	[2.64]***	[4.19]***	[0.71]	[4.44]***	[1.11]	[3.63]***	[2.18]**	[0.92]	[2.28]**	[2.90]***
BTEC etc(highest@national cert/dipl level)	4.60	12.30	7.36	12.19	14.11	8.76	10.52	8.98	12.75	14.68
	[1.26]	[4.18]***	[1.20]	[4.76]***	[5.11]***	[3.34]***	[3.94]***	[3.02]***	[5.63]***	[5.29]***
City & Guilds (highest @ advanced/part 3)	6.82	6.40	11.40	9.31	4.39	5.23	4.50	2.33	3.98	5.34
	[2.98]***	[4.05]***	[2.78]***	[6.10]***	[2.54]**	[3.36]***	[2.73]***	[1.01]	[2.81]***	[3.26]***
GNVQ or SNVQ (highest @ advanced level)	12.19	5.23	1.51	1.61	3.87	-0.70	6.08	8.87	2.63	-3.34
	[1.79]*	[0.99]	[0.16]	[0.46]	[0.58]	[0.22]	[1.31]	[1.72]*	[0.84]	[0.78]
ONC or OND	22.63	15.60	26.62	17.00	22.88	16.30	10.08	6.82	11.85	10.74
	[5.80]***	[6.14]***	[4.16]***	[5.70]***	[8.83]***	[5.98]***	[3.27]***	[1.36]	[5.10]***	[3.89]***
RSA (highest@advanced diploma or certificate)	-34.75	35.93	14.34	-13.24	-14.27	-10.51	16.42	3.36	-7.23	15.49
	[10.83]***	[2.44]**	[1.97]**	[1.68]*	[1.55]	[1.92]*	[1.70]*	[0.28]	[0.99]	[0.88]
NVQ or SVQ (highest @ level 3)	3.67	3.05	10.63	3.77	7.57	2.53	1.82	-3.63	-1.59	4.29
	[1.36]	[1.56]	[2.31]**	[1.68]*	[3.34]***	[1.12]	[0.88]	[1.03]	[0.82]	[2.08]**
Observations	4633	8076	1733	9197	7535	9450	9557	7275	13367	8465
R-squared	0.3204	0.3548	0.3207	0.3113	0.3199	0.3166	0.3244	0.2792	0.3141	0.3236

Robust t statistics in brackets

Controls: Age, ethnicity, year, part-time worker, proxy respondent

* significant at 10%; ** significant at 5%; *** significant at 1%

This is an average return specification controlling for other qualifications held

Table 50 Wage Returns (highest qualification held) by Region. Males and Females. Sample with Level 3 as highest qualification

	North East	North West	Mersey-side	Yorkshire & Humberside	East Midlands	West Midlands	Eastern	London	South East	South West
Highest voc qual is Apprenticeship	15.37	12.08	11.96	12.08	12.19	12.19	10.41	12.19	9.97	9.42
	[10.37]***	[10.96]***	[4.93]***	[11.07]***	[10.18]***	[11.34]***	[8.94]***	[8.39]***	[10.30]***	[8.25]***
Highest voc qual is BTEC etc (highest@national cert/dipl level)	18.89	17.70	14.80	17.59	16.18	18.18	16.42	17.00	17.59	18.53
	[7.12]***	[8.11]***	[3.56]***	[9.10]***	[7.36]***	[8.94]***	[6.80]***	[7.29]***	[9.58]***	[8.15]***
Highest voc qual is City & Guilds (highest @ advanced/part 3)	22.63	17.35	20.92	21.17	15.95	16.42	16.77	13.09	14.34	15.84
	[9.98]***	[11.49]***	[5.92]***	[13.82]***	[9.79]***	[11.03]***	[10.74]***	[6.36]***	[10.79]***	[10.53]***
Highest voc qual is GNVQ or SNVQ (highest @ advanced level)	8.76	12.98	-3.54	5.87	4.29	3.67	4.60	12.19	7.57	5.44
	[1.92]*	[3.37]***	[0.44]	[2.02]**	[1.01]	[1.37]	[1.44]	[3.53]***	[3.33]***	[1.64]
Highest voc qual is ONC or OND	35.53	24.23	43.48	27.38	32.45	19.48	23.61	20.44	23.12	21.17
	[9.50]***	[9.69]***	[6.83]***	[10.34]***	[11.04]***	[7.21]***	[7.63]***	[4.76]***	[10.38]***	[7.70]***
Highest voc qual is RSA (highest@advanced diploma or certificate)	23.37	18.77	22.51	19.72	24.86	9.09	11.18	17.82	11.63	20.56
	[3.05]***	[3.32]***	[2.11]**	[3.17]***	[4.29]***	[1.71]*	[2.30]**	[3.13]***	[2.52]**	[3.41]***
Highest voc qual is NVQ or SVQ (highest @ level 3)	12.64	12.08	10.19	14.80	13.66	11.07	10.85	7.79	7.79	13.43
	[6.86]***	[8.84]***	[3.32]***	[9.23]***	[8.28]***	[7.46]***	[6.60]***	[3.60]***	[5.74]***	[8.66]***
Observations	9563	17057	3737	18690	15352	18953	19538	15505	27924	17633
R-squared	0.3299	0.3341	0.3431	0.3185	0.3206	0.3235	0.3196	0.2711	0.3114	0.3136

Controls: Gender, age, ethnicity, year, part-time worker, proxy respondent

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 51 Wage Returns (highest qualification held) by Region. Females. Sample with Level 3 as highest qualification

	North East	North West	Mersey-side	Yorkshire & Humberside	East Midlands	West Midlands	Eastern	London	South East	South West
Highest voc qual is Apprenticeship	1.51	0.50	3.05	1.61	2.02	2.02	4.29	2.53	-1.49	0.60
	[0.61]	[0.28]	[0.72]	[0.87]	[0.93]	[1.06]	[1.99]**	[0.94]	[0.93]	[0.31]
Highest voc qual is BTEC etc (highest@national cert/dipl level)	22.51	13.77	18.65	15.26	11.40	20.32	16.07	17.59	17.35	14.00
	[6.89]***	[5.16]***	[2.83]***	[6.07]***	[3.92]***	[7.62]***	[4.32]***	[5.28]***	[6.45]***	[4.79]***
Highest voc qual is City & Guilds (highest @ advanced/part 3)	7.25	-0.30	-3.63	6.93	5.65	4.71	13.88	0.80	4.81	2.84
	[1.31]	[0.09]	[0.73]	[1.88]*	[1.37]	[1.16]	[3.27]***	[0.18]	[1.43]	[0.96]
Highest voc qual is GNVQ or SNVQ (highest @ advanced level)	1.92	12.75	-13.50	7.25	1.21	4.60	3.36	10.96	9.86	11.74
	[0.36]	[2.63]***	[1.04]	[1.79]*	[0.26]	[1.19]	[0.78]	[2.42]**	[3.37]***	[2.93]***
Highest voc qual is ONC or OND	19.96	10.85	45.94	17.94	11.96	-4.69	26.62	22.38	16.42	10.41
	[2.94]***	[2.25]**	[3.12]***	[3.91]***	[1.58]	[1.04]	[3.64]***	[3.56]***	[3.83]***	[1.92]*
Highest voc qual is RSA (highest@advanced diploma or certificate)	21.77	19.12	27.63	24.86	28.40	12.98	13.09	19.84	15.60	22.88
	[2.91]***	[3.22]***	[2.04]**	[3.58]***	[4.21]***	[2.20]**	[2.46]**	[3.11]***	[3.07]***	[3.75]***
Highest voc qual is NVQ or SVQ (highest @ level 3)	9.20	10.41	5.55	13.43	9.09	9.31	9.75	8.11	7.90	14.45
	[4.33]***	[6.04]***	[1.44]	[6.54]***	[4.21]***	[5.13]***	[4.19]***	[3.16]***	[4.51]***	[6.95]***
Observations	4930	8981	2004	9493	7817	9503	9981	8230	14557	9168
R-squared	0.2368	0.2202	0.2839	0.2126	0.1994	0.2112	0.2071	0.2428	0.2112	0.1963

Robust t statistics in brackets

Controls: Age, ethnicity, year, part-time worker, proxy respondent

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 52 Wage Returns (highest qualification held) by Region. Males. Sample with Level 3 as highest qualification

	North East	North West	Mersey-side	Yorkshire & Humberside	East Midlands	West Midlands	Eastern	London	South East	South West
Highest voc qual is Apprenticeship	15.60	13.09	11.52	13.20	12.98	11.74	9.75	15.03	12.52	10.30
	[8.22]***	[9.11]***	[3.74]***	[9.32]***	[8.71]***	[8.78]***	[6.74]***	[8.38]***	[9.96]***	[6.86]***
Highest voc qual is BTEC etc (highest@national cert/dipl level)	12.52	21.17	12.86	19.60	20.92	12.75	15.03	15.84	17.35	21.90
	[2.93]***	[5.93]***	[2.27]**	[6.58]***	[6.28]***	[4.31]***	[4.99]***	[4.88]***	[6.93]***	[6.33]***
Highest voc qual is City & Guilds (highest @ advanced/part 3)	21.53	18.06	23.24	21.17	15.49	14.80	13.54	15.60	14.11	15.26
	[8.28]***	[10.30]***	[5.47]***	[11.84]***	[8.33]***	[8.90]***	[7.60]***	[6.61]***	[9.21]***	[8.56]***
Highest voc qual is GNVQ or SNVQ (highest @ advanced level)	18.65	11.07	3.46	3.87	6.72	0.50	5.02	12.64	3.25	-3.25
	[2.22]**	[1.89]*	[0.35]	[1.02]	[0.89]	[0.16]	[1.07]	[2.38]**	[0.96]	[0.67]
Highest voc qual is ONC or OND	36.75	25.36	39.93	29.43	35.80	25.48	19.48	18.89	22.38	21.77
	[8.34]***	[8.79]***	[5.68]***	[9.32]***	[11.73]***	[8.38]***	[5.69]***	[3.55]***	[8.50]***	[7.00]***
Highest voc qual is RSA (highest@advanced diploma or certificate)	0.00	44.48	17.47	-3.15	7.14	-5.45	17.59	16.65	1.31	22.63
	[.]	[3.30]***	[1.89]*	[0.41]	[1.02]	[0.68]	[1.50]	[1.32]	[0.14]	[1.07]
Highest voc qual is NVQ or SVQ (highest @ level 3)	15.26	14.34	17.70	15.49	19.36	11.85	10.74	6.72	7.57	13.09
	[4.88]***	[6.44]***	[3.46]***	[6.16]***	[7.68]***	[4.79]***	[4.66]***	[1.76]*	[3.51]***	[5.65]***
Observations	4633	8076	1733	9197	7535	9450	9557	7275	13367	8465
R-squared	0.32	0.3561	0.3216	0.3101	0.3163	0.3165	0.3233	0.2817	0.3153	0.3215

Robust t statistics in brackets

Controls: Age, ethnicity, year, part-time worker, proxy respondent

* significant at 10%; ** significant at 5%; *** significant at 1%

This is a marginal return specification controlling for highest qualification held.

Table 53 Subject areas for qualifications in LFS

1	Medicine
2	Medical related
3	Biological sciences
4	Agricultural sciences
5	Physical/environmental sciences
6	Maths & computing
7	Engineering
8	Technology
9	Architecture and related subjects
10	Social sciences
11	Legal
12	Business and financial
13	Librarianship and info
14	Linguistics, English, etc
15	European languages
16	Other languages
17	Humanities
18	Arts
19	Education
20	Service activities
21	Transport activities

Note: Codes 20 and 21 are only used for vocational qualifications. Legal qualifications became a separate top-level code (11) for degree qualifications in 2004, so earlier degrees and vocational qualifications have been subdivided accordingly using lower level coding where possible (not possible for the coding frame used for joint degrees).

Table 54 List of qualifications for which subject analysis was possible

HNC / HND	Level 4 vocational
BTEC	Level 3 vocational
City & Guilds	Level 3 vocational
City & Guilds	Level 2 vocational
GNVQ	Level 2+3 combined (voc)
ONC / OND	Level 3 vocational
NVQ	Level 3 vocational
NVQ	Level 2 vocational
Diploma in HE	Level 4 vocational
Other HE qual	Level 3 vocational
Higher degree	Level 5 academic
degree	Level 4 academic

Table 55 Sample sizes for each subject/qualification combination

qualification	level	subject area																				
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Hnc / hnd	4 (voc)	74	72	80	183	305	1850	508	68	6	104	-	0	0	4	5	221	16	212	15		
Btec	3 (voc)	118	77			166	282	59	179	4	947	-	2	0	1	2	260	36	274	8		
City & Guilds	3 (voc)	4	18	4	67	21	94	2137	219	648	39	0	58	-	2	0	2	2	225	51	444	62
City & Guilds	2 (voc)	2	18	1	50	9	82	308	48	70		0	49	-	4	0	0	1			274	
GNVQ	2+3 (voc)	64	54	7	8	21	118	47	13	17	55	0	409	-	1	0	0	2	99	3	293	7
Onc / ond	3 (voc)	2	8		93		30	653	76	7	1	317	-	1	0	1	1	14	0	60	4	
Nvq	3 (voc)	44	445	2	58	6	118	553	119	165	374	7	1237	-	6	0	2	2	28	178	494	41
Nvq	2 (voc)	70	612	1	65	12	164	252	191	128	211	2	1012	-	1	0	7	4	44	48	567	72
Diploma in HE	4 (voc)	64	335		91		60	105	26	272	11	402	-		52			150	155	100	1	
Other HE qual	3 (voc)	74			67		49	102	25	145	23	246	-		47			83	103	49	4	

Note: Combined categories / levels are outlined in bold. Cells which have been dropped from the analysis altogether are shown in grey. These represent about 2% of the sample of people with these vocational qualifications as their highest.

Table 56 Highest vocational qualifications at level 2 by mode of acquisition: number of cases. LFS data (spring quarters) 1997 to 2006.

BTEC (highest @ 1st/gen diploma level)			
	<i>All</i>	<i>Female</i>	<i>Male</i>
School/college etc	98	62	36
At work	6	2	4
Workplace & educational institution	11	8	3
Government Training	1	1	0
Other	1	0	1
Unknown	0	0	0
TOTAL	117	73	44

City and Guilds (highest @ craft/part 2)			
	<i>All</i>	<i>Female</i>	<i>Male</i>
School/college etc	358	136	222
At work	42	8	34
Workplace & educational institution	139	29	110
Government Training	19	8	11
Other	12	5	7
Unknown	3	0	3
TOTAL	573	186	387

RSA (highest @ diploma)			
	<i>All</i>	<i>Female</i>	<i>Male</i>
School/college etc	74	67	7
At work	2	2	0
Workplace & educational institution	6	5	1
Government Training	2	2	0
Other	3	3	0
Unknown	0	0	0
TOTAL	87	79	8

NVQ level 2			
	<i>All</i>	<i>Female</i>	<i>Male</i>
School/college etc	402	263	139
At work	620	406	214
Workplace & educational institution	276	179	97
Government Training	60	30	30
Other	20	13	7
Unknown	8	3	5
TOTAL	1386	894	492

Table 57 Wage Returns (highest qualifications) 1997-2006 and by mode of acquisition. Sample: Level 2 vocational or below as highest qualification

	All	Females	Males
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	23.12 [5.65]***	28.02 [5.88]***	14.57 [2.05]**
highest voc qual is City and Guilds (highest @ craft/part 2)	13.43 [6.25]***	13.09 [3.84]***	12.52 [4.49]***
highest voc qual is GNVQ, GSVQ (highest @ intermediate level)	5.76 [2.04]**	7.79 [1.78]*	4.50 [1.32]
highest voc qual is RSA (highest @ diploma)	29.57 [6.14]***	29.05 [5.80]***	32.98 [1.80]*
highest voc qual is NVQ or SVQ (highest @ level 2)	6.72 [3.54]***	9.09 [3.95]***	0.70 [0.23]

Interactions between City and Guilds (highest @ craft/part 2) and mode of acquisition (base school/college etc)			
	all	females	males
City & Guilds: Mode Work	10.74 [1.57]	-3.25 [0.38]	14.11 [1.69]*
City & Guilds: mode workplace and educational institution	-0.70 [0.23]	-2.18 [0.40]	-1.49 [0.39]
City & Guilds: mode govt training	-11.57 [2.04]**	-7.78 [1.53]	-14.96 [1.70]*
City & Guilds: mode other	4.29 [0.49]	-9.06 [0.71]	14.68 [1.52]
City & Guilds: mode unknown	-12.89 [0.80]		-13.06 [0.82]

Interactions between NVQ (highest @ level 2) and mode of acquisition (base school/college etc)			
	all	females	males
NVQ2: mode work	2.94 [1.33]	0.50 [0.20]	8.33 [2.12]**
NVQ2: mode workplace and educational institution	-0.30 [0.11]	-2.08 [0.65]	4.39 [1.01]
NVQ2: mode govt training	-8.79 [1.86]*	-3.63 [0.54]	-11.75 [1.87]*
NVQ2: mode other	-3.44 [0.37]	2.33 [0.20]	-11.84 [1.07]
NVQ2: mode unknown	-3.34 [0.41]	-20.15 [2.07]**	11.85 [1.55]
Observations	23103	13426	9677
R-squared	0.280	0.203	0.296

Controls: all

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 58 Wage Returns (highest qualifications) 1997-2006 and by mode of acquisition. Sample: Level 2 vocational or no qualifications

	All	Females	Males
highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	-3.73 [0.28]	20.68 [1.08]	-26.51 [9.20]***
highest voc qual is City and Guilds (highest @ craft/part 2)	8.11 [1.47]	23.12 [2.56]**	1.51 [0.23]
highest voc qual is GNVQ, GSVQ (highest @ intermediate level)	23.74 [1.77]*	41.06 [2.26]**	13.43 [0.59]
highest voc qual is RSA (highest @ diploma)	12.08 [1.21]	8.98 [0.84]	51.74 [12.33]***
highest voc qual is NVQ or SVQ (highest @ level 2)	-1.29 [0.29]	-0.30 [0.07]	-3.34 [0.38]

Interactions between City and Guilds (highest @ craft/part 2) and mode of acquisition (base school/college etc)			
	all	females	males
City & Guilds: Mode Work	5.23 [0.41]	-14.27 [1.29]	17.94 [0.87]
City & Guilds: mode workplace and educational institution	-7.96 [1.02]	-14.87 [1.59]	-7.04 [0.66]
City & Guilds: mode govt training	-4.21 [0.39]	-14.36 [0.84]	5.65 [0.74]
City & Guilds: mode other	33.78 [2.55]**		61.61 [3.05]***
City & Guilds: mode unknown			

Interactions between NVQ (highest @ level 2) and mode of acquisition (base school/college etc)			
	all	females	males
NVQ2: mode work	11.07 [2.05]**	8.87 [1.43]	15.60 [1.42]
NVQ2: mode workplace and educational institution	8.65 [1.22]	14.45 [1.69]*	-1.88 [0.16]
NVQ2: mode govt training	-11.13 [1.26]	-12.80 [1.49]	-9.70 [0.53]
NVQ2: mode other	-11.66 [2.59]***		-6.76 [0.74]
NVQ2: mode unknown			
Observations	6090	3662	2428
R-squared	0.2693	0.1742	0.2979

Controls: all

Robust t statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 59 Employment Probit (All Qualifications held) 1997 to 2006 – Active Worker Sample
Marginal effects

	all	female	male
Vocational degree	0.013 [4.28]***	0.010 [1.93]*	0.016 [4.24]***
Higher degree	0.007 [3.80]***	0.006 [2.10]**	0.009 [3.31]***
NVQ or SVQ (highest @ level 5)	0.007 [0.66]	0.010 [0.67]	0.002 [0.18]
BTEC, etc (highest @ higher level)	0.007 [1.66]*	0.008 [1.35]	0.006 [1.02]
HNC or HND	0.005 [3.08]***	0.005 [1.48]	0.006 [2.84]***
Nursing/other medical qual	0.025 [11.54]***	0.023 [10.31]***	0.030 [5.28]***
RSA (highest @ higher diploma)	0.011 [1.12]	0.011 [1.17]	0.002 [0.09]
Teaching qual, excl PGCE	0.002 [0.72]	0.002 [0.55]	0.001 [0.13]
First/foundation degree	0.006 [4.51]***	0.005 [2.95]***	0.007 [3.70]***
Diploma in higher education	-0.001 [0.36]	0.006 [1.85]*	-0.009 [2.29]**
NVQ or SVQ (highest @ level 4)	0.016 [3.62]***	0.020 [3.30]***	0.013 [1.93]*
Other higher education qual below deg level	-0.004 [1.27]	-0.004 [1.01]	-0.003 [0.51]
Apprenticeship	0.014 [13.12]***	0.013 [6.09]***	0.016 [12.36]***
Modern Apprenticeship	0.021 [7.18]***	0.016 [2.72]***	0.023 [6.52]***
BTEC etc (highest@national cert/dip level)	0.011 [5.53]***	0.012 [4.56]***	0.010 [3.51]***
City and Guilds (highest @ advanced craft / at part 3)	0.005 [2.73]***	0.002 [0.51]	0.006 [2.76]***
GNVQ, GSVQ (highest @ advanced level)	0.012 [4.34]***	0.013 [3.71]***	0.010 [2.61]***
ONC or OND	0.004 [1.87]*	0.010 [1.99]**	0.004 [1.42]
RSA (highest@advanced diploma or certificate)	-0.004 [0.66]	-0.004 [0.58]	-0.011 [0.59]
Access to HE qual	-0.037 [2.56]**	-0.041 [2.53]**	-0.011 [0.41]
A-level, voc A-level, equiv (more than one)	0.004 [3.09]***	0.003 [1.98]**	0.005 [2.81]***
A/S-level, voc A/S-level, equiv (3+)	0.007 [1.48]	0.003 [0.58]	0.011 [1.59]
CSYS or equivalent	0.021 [2.08]**	0.019 [1.49]	0.021 [1.34]
SCE Higher ([>2, DK & degree])	0.005 [0.61]	0.012 [1.23]	-0.004 [0.31]
International baccalaureate	-0.016 [1.00]	-0.014 [0.70]	-0.017 [0.68]
NVQ or SVQ (highest @ level 3)	0.011 [6.15]***	0.013 [5.54]***	0.010 [3.44]***
BTEC etc (highest @ 1st / gen diploma level)	0.005 [1.26]	0.003 [0.69]	0.007 [1.27]

	all	female	male
City and Guilds (highest @ craft / part 2)	0.001 [0.81]	-0.003 [1.04]	0.003 [1.59]
GNVQ, GSVQ (highest @ intermediate level)	-0.001 [0.41]	-0.001 [0.30]	-0.001 [0.21]
RSA (highest @ diploma)	-0.009 [1.58]	-0.005 [0.92]	-0.020 [1.59]
One A-level, voc A-level, or equiv	-0.001 [0.49]	0.000 [0.13]	-0.002 [0.60]
Has A/S-level, voc A/S-level, or equiv (more than one)	0.010 [2.31]**	0.006 [0.98]	0.014 [2.30]**
CSE (grade 1 [>4 in total])	0.006 [2.96]***	0.006 [2.48]**	0.006 [1.97]**
GCSE, vocat GCSE (>4 in total)	0.030 [31.79]***	0.029 [22.18]***	0.031 [22.82]***
NVQ or SVQ (highest @ level 2)	-0.002 [1.19]	0.002 [1.30]	-0.006 [2.68]***
O-level or equivalent (>4 in total)	0.025 [24.52]***	0.021 [15.75]***	0.027 [18.82]***
SCE Higher (<3)	0.003 [0.29]	-0.002 [0.16]	0.014 [0.84]
SCE standard grade (>4 in total)	0.018 [2.70]***	0.005 [0.52]	0.028 [3.27]***
Modern Apprenticeship (foundation level)	0.026 [4.02]***	0.028 [2.78]***	0.025 [2.84]***
Basic Skills qual	-0.040 [3.41]***	-0.036 [2.50]**	-0.041 [2.19]**
BTEC etc (highest @ 1st / gen cert level)	0.001 [0.33]	0.002 [0.46]	0.000 [0.09]
City and Guilds (highest @ foundation / part 1)	-0.002 [1.50]	-0.003 [1.13]	-0.001 [0.67]
GNVQ, GSVQ (highest @ foundation level)	-0.014 [3.21]***	-0.011 [1.91]*	-0.017 [2.54]**
Key Skills qual	-0.009 [1.11]	-0.006 [0.59]	-0.013 [1.02]
Other prof, voc, foreign quals	0.012 [19.02]***	0.009 [10.01]***	0.016 [17.25]***
RSA (highest @ other)	-0.001 [1.01]	0.002 [1.69]*	-0.025 [6.55]***
SCOTVEC etc (highest @ 1st / gen cert level)	0.003 [0.21]	-0.011 [0.46]	0.019 [0.82]
YT certificate	-0.008 [2.74]***	-0.013 [3.13]***	-0.003 [0.79]
One A/S-level, voc A/S-level, or equiv	-0.001 [0.32]	-0.002 [0.41]	-0.000 [0.02]
CSE @ grade 2-5	0.014 [13.38]***	0.010 [6.98]***	0.018 [12.18]***
GCSE, vocat GCSE (<5 in total)	0.017 [16.50]***	0.013 [9.01]***	0.020 [14.23]***
NVQ or SVQ (highest @ level 1)	-0.008 [4.00]***	-0.008 [2.88]***	-0.008 [2.76]***
O-level or equivalent (<5)	0.014 [13.32]***	0.012 [8.77]***	0.015 [10.09]***
SCE standard grade (<5)	0.009 [1.15]	0.015 [1.37]	0.006 [0.57]
Observations	376249	177488	198761
Controls: all			

Robust z statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 60 Change to probability of being in employment by highest qualification – active worker sample

Probit with marginal effects

	all	females	males
Highest voc qual is vocational degree	0.020 [7.71]***	0.026 [15.06]***	0.032 [7.53]***
Highest voc qual is NVQ or SVQ (highest @ level 5)	0.018 [2.16]**	0.017 [1.26]	0.019 [1.78]*
Highest voc qual is BTEC, etc (highest @ higher level)	0.014 [3.05]***	0.013 [2.00]**	0.016 [2.40]**
Highest voc qual is HNC or HND	0.017 [11.22]***	0.014 [4.86]***	0.019 [10.87]***
Highest voc qual is nursing or other medical qual n.e.c.	0.029 [14.19]***	0.026 [12.32]***	0.032 [6.10]***
Highest voc qual is RSA (highest @ higher diploma)	0.018 [2.03]**	0.013 [1.39]	0.032 [1.44]
Highest voc qual is teaching qual, excl PGCE	0.011 [4.72]***	0.009 [2.98]***	0.013 [3.08]***
Highest voc qual is NVQ or SVQ (highest @ level 4)	0.024 [6.23]***	0.024 [4.49]***	0.024 [4.41]***
Highest voc qual is Apprenticeship	0.020 [19.49]***	0.018 [8.17]***	0.024 [19.15]***
Highest voc qual is BTEC etc (highest @ national cert/dipl level)	0.015 [7.73]***	0.015 [5.70]***	0.016 [5.42]***
Highest voc qual is City and Guilds (@ advanced/part3)	0.021 [13.70]***	0.012 [3.03]***	0.025 [14.10]***
Highest voc qual is GNVQ, GSVQ (highest @ advanced level)	0.016 [5.82]***	0.017 [5.00]***	0.014 [3.30]***
Highest voc qual is ONC or OND	0.014 [5.44]***	0.017 [2.89]***	0.016 [5.36]***
Highest voc qual is RSA (highest @ advanced diploma or certificate)	0.003 [0.38]	-0.000 [0.00]	0.004 [0.23]
Highest voc qual is NVQ or SVQ (highest @ level 3)	0.020 [12.19]***	0.018 [8.39]***	0.023 [9.18]***
Highest voc qual is BTEC etc (highest @ 1st/gen diploma level)	0.011 [2.53]**	0.009 [1.75]*	0.013 [1.94]*
Highest voc qual is City and Guilds (highest @ craft/part 2)	0.002 [0.86]	-0.010 [2.27]**	0.009 [2.83]***
Highest voc qual is GNVQ, GSVQ (highest @ intermediate level)	-0.002 [0.53]	-0.002 [0.56]	-0.001 [0.23]
Highest voc qual is RSA (highest @ diploma)	0.003 [0.45]	0.003 [0.55]	-0.011 [0.66]
Highest voc qual is NVQ or SVQ (highest @ level 2)	0.006 [3.72]***	0.007 [3.87]***	0.004 [1.49]
Highest voc qual is Modern Apprenticeship (foundation level)	0.016 [1.23]	0.020 [0.98]	0.014 [0.79]
Highest voc qual is Basic Skills qual	-0.036 [2.37]**	-0.053 [2.66]***	-0.013 [0.62]
Highest voc qual is BTEC etc (highest @ 1st/gen cert level, DK)	0.008 [1.98]**	0.008 [1.56]	0.009 [1.38]
Highest voc qual is City and Guilds (highest @ part1/foundation)	0.002 [0.88]	0.004 [1.22]	0.001 [0.56]
Highest voc qual is GNVQ, GSVQ (highest @ foundation level, DK)	-0.011 [2.16]**	-0.009 [1.25]	-0.014 [1.75]*
Highest voc qual is Key Skills qual	-0.011 [0.91]	-0.003 [0.20]	-0.024 [1.11]
Highest voc qual is other prof, voc, foreign quals {majority coded to level 3}	0.016 [21.26]***	0.012 [11.19]***	0.021 [19.11]***

	all	females	males
Highest voc qual is RSA (highest @ other, DK)	0.009 [6.25]***	0.009 [6.01]***	-0.007 [1.41]
Highest voc qual is SCOTVEC etc (highest @ 1st/gen cert level, mods, DK)	-0.005 [0.24]	-0.006 [0.24]	0.002 [0.05]
Highest voc qual is YT certificate	-0.011 [2.44]**	-0.015 [2.32]**	-0.006 [0.93]
Highest voc qual is NVQ or SVQ (highest @ level 1, DK)	-0.005 [2.17]**	-0.004 [1.31]	-0.005 [1.65]*
Highest acad qual is higher degree	0.029 [23.96]***	0.016 [3.68]***	0.025 [19.30]***
Highest acad qual is first / foundation degree	0.029 [32.47]***	0.027 [21.39]***	0.032 [25.14]***
Highest acad qual is diploma in higher education	0.023 [9.82]***	0.025 [8.89]***	0.019 [4.98]***
Highest acad qual is other higher education qual below deg level n.e.c.	0.017 [5.63]***	0.016 [4.15]***	0.018 [4.10]***
Highest acad qual is Access to HE qual	0.004 [0.28]	0.004 [0.29]	0.011 [0.34]
Highest acad qual is A-level, voc A-level, equiv ([>1, 1 & >1 A/S-level, DK & degr])	0.026 [26.29]***	0.024 [17.58]***	0.028 [19.85]***
Highest acad qual is A/S-level, voc A/S-level, equiv ([>3, DK & degr])	0.033 [9.63]***	0.028 [6.55]***	0.038 [7.09]***
Highest acad qual is CSYS or equivalent	0.026 [2.24]**	0.020 [1.31]	0.031 [1.83]*
Highest acad qual is SCE Higher ([>2, DK & degree])	0.011 [1.33]	0.004 [0.32]	0.018 [1.55]
Highest acad qual is International Baccalaureate {majority coded to level 3}	-0.031 [1.27]	-0.052 [1.59]	-0.006 [0.17]
Highest acad qual is SNQ (highest @ higher level [>2], advanced higher level [>1])	0.029 [1.36]	0.009 [0.34]	
Highest acad qual is SCE Higher ([<3, DK & no degree])	0.014 [1.20]	0.002 [0.16]	0.030 [1.83]*
Highest acad qual is A-level, voc A-level, equiv ([1 & <2 A/S-level, DK & no degr])	0.024 [14.76]***	0.022 [10.29]***	0.026 [10.79]***
Highest acad qual is A/S-level, voc A/S-level, equiv ([2-3, DK & no degr])	0.032 [9.25]***	0.031 [6.64]***	0.033 [6.43]***
Highest acad qual is CSE (grade 1 [>4 equivalent in total])	0.016 [4.67]***	0.016 [3.52]***	0.017 [3.15]***
Highest acad qual is GCSE, vocat GCSE ([>4 equivalent in total])	0.029 [30.17]***	0.027 [21.04]***	0.031 [21.49]***
Highest acad qual is O-level or equivalent ([>4 equivalent in total])	0.024 [23.50]***	0.022 [16.16]***	0.026 [17.34]***
Highest acad qual is SCE standard grade ([>4 equivalent in total])	0.016 [1.21]	0.002 [0.11]	0.029 [1.64]
Highest acad qual is A/S-level, voc A/S-level, equiv ([1])	0.023 [2.15]**	0.008 [0.55]	0.035 [2.75]***
Highest acad qual is CSE (DK, grade 2-5, grade 1 [<5 equivalent in total])	0.018 [15.96]***	0.014 [8.67]***	0.022 [13.94]***
Highest acad qual is GCSE, vocat GCSE ([DK, <5 equivalent in total])	0.017 [17.41]***	0.013 [9.03]***	0.021 [15.45]***
Highest acad qual is O-level or equivalent ([DK, <5 equivalent in total])	0.021 [20.33]***	0.020 [13.59]***	0.023 [15.24]***
Highest acad qual is SCE standard grade ([DK, <5 equivalent in total])	0.016 [1.69]*	0.012 [0.89]	0.020 [1.52]
Observations	376418	177639	198757
Controls: all			

Robust z statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 61 Employment Probit (All Qualifications held) 1997 to 2006 – Full sample including inactive

Marginal effects

	all	female	male
Higher degree (vocational)	0.100 [16.34]***	0.168 [13.30]***	0.064 [10.92]***
Higher degree (academic)	0.043 [9.85]***	0.060 [8.46]***	0.031 [6.27]***
nvq or svq - level 5	0.078 [3.31]***	0.138 [3.63]***	0.027 [1.00]
BTEC - level 4	0.069 [6.10]***	0.095 [5.10]***	0.039 [3.06]***
hnc or hnd - level 4	0.052 [13.39]***	0.086 [10.32]***	0.033 [8.86]***
nursing or other medical qualification - level 4	0.116 [27.30]***	0.149 [28.15]***	0.052 [4.86]***
rsa / ocr - level 4	0.073 [3.80]***	0.095 [3.94]***	0.015 [0.36]
teaching qualification (exc PGCE) - level 4	0.050 [10.43]***	0.094 [14.32]***	-0.028 [3.80]***
First degree	0.092 [33.06]***	0.114 [26.04]***	0.068 [21.07]***
diploma in higher education	0.048 [8.80]***	0.081 [10.12]***	0.011 [1.54]
nvq or svq - level 4	0.121 [11.01]***	0.161 [9.66]***	0.075 [5.49]***
other high educ qualif below deg lev - 4a	0.028 [3.96]***	0.045 [4.31]***	0.009 [1.05]
apprenticeship - level 3	0.052 [21.63]***	0.044 [8.36]***	0.047 [19.75]***
Modern apprenticeship - level 3	0.108 [11.96]***	0.108 [5.67]***	0.089 [10.60]***
BTEC - level 3	0.065 [12.82]***	0.085 [11.06]***	0.040 [6.37]***
city & guilds - level 3	0.046 [11.66]***	0.019 [1.98]**	0.035 [9.55]***
gnvq or gsvq - level 3	0.079 [11.13]***	0.111 [9.90]***	0.042 [4.97]***
onc or ond - level 3	0.019 [3.67]***	0.062 [4.93]***	0.009 [1.81]*
rsa / ocr - level 3	0.065 [4.87]***	0.094 [5.80]***	-0.029 [0.89]
teaching qualification (exc PGCE) - level 3	0.082 [2.54]**	0.093 [2.21]**	0.002 [0.03]
access to HE	-0.170 [6.01]***	-0.166 [4.67]***	-0.167 [3.34]***
A-level/vocational A-level or equiv - level 3	-0.027 [10.18]***	-0.021 [5.33]***	-0.032 [9.90]***
AS-level/vocat'l AS-level or equiv - level 3	-0.023 [2.20]**	0.006 [0.40]	-0.057 [4.30]***
csys or equivalent - level 3	0.070 [2.93]***	0.100 [2.83]***	0.034 [1.08]
sce higher or equivalent (Scotland) - level 3	0.011 [0.69]	-0.004 [0.18]	0.021 [1.15]
national qualifications (scotland) - level 3	0.182 [1.76]*		0.114 [1.09]
international baccalaureate - level 3	-0.006 [0.17]	0.010 [0.18]	-0.017 [0.34]
nvq or svq - level 3	0.110	0.153	0.061

	all	female	male
	[24.53]***	[23.78]***	[10.15]***
BTEC - level 2	0.024	0.030	0.018
	[2.46]**	[2.08]**	[1.40]
city & guilds - level 2	0.034	0.011	0.029
	[8.62]***	[1.42]	[7.36]***
gnvq or gsvq - level 2	0.060	0.083	0.035
	[8.54]***	[7.36]***	[4.32]***
rsa / ocr - level 2	0.049	0.074	-0.018
	[4.38]***	[5.31]***	[0.74]
A-level/vocational A-level or equiv - level 2	-0.006	-0.003	-0.013
	[1.47]	[0.46]	[2.23]**
AS-level/vocat'l AS-level or equiv - level 2	0.029	0.049	0.016
	[2.87]***	[3.02]***	[1.42]
CSE at level 2	0.018	0.016	0.027
	[4.12]***	[2.70]***	[4.40]***
gcse / vocational gcse - level 2	0.148	0.196	0.096
	[59.69]***	[49.88]***	[33.21]***
nvq or svq - level 2	0.080	0.121	0.033
	[22.74]***	[24.44]***	[6.80]***
o level or equivalent - level 2	0.116	0.138	0.094
	[55.14]***	[43.08]***	[36.32]***
sce higher or equivalent (Scotland) - level 2	0.008	0.007	0.021
	[0.35]	[0.21]	[0.73]
sce standard grade (scotland) - level 2	0.086	0.098	0.072
	[5.62]***	[4.03]***	[4.09]***
apprenticeship foundation (=level 2)	0.134	0.173	0.096
	[6.01]***	[4.13]***	[4.49]***
basic skills - level 1	-0.061	-0.022	-0.097
	[2.57]**	[0.68]	[2.81]***
BTEC - level 1	0.031	0.038	0.023
	[3.53]***	[2.81]***	[2.23]**
city & guilds - level 1	0.020	0.009	0.019
	[6.11]***	[1.68]*	[5.35]***
gnvq or gsvq - level 1	0.019	0.040	-0.000
	[1.74]*	[2.35]**	[0.00]
key skills - level 1	0.040	0.063	0.008
	[2.07]**	[2.22]**	[0.33]
other qualifications at level 1	0.111	0.143	0.076
	[81.15]***	[67.65]***	[45.28]***
rsa / ocr - level 1	0.054	0.083	-0.041
	[21.03]***	[26.39]***	[5.89]***
Scotvec at level 1	-0.078	-0.095	-0.052
	[1.97]**	[1.59]	[1.06]
yt / ytp certificate = level 1	-0.056	-0.097	-0.008
	[8.15]***	[9.46]***	[0.93]
AS-level/vocat'l AS-level or equiv at level 1	-0.023	-0.019	-0.025
	[2.42]**	[1.39]	[2.20]**
CSE at level 1	0.048	0.050	0.052
	[20.40]***	[14.25]***	[17.03]***
gcse / vocational gcse , level 1	0.114	0.116	0.102
	[44.57]***	[28.75]***	[35.12]***
nvq or svq - level 1	0.036	0.064	0.010
	[7.51]***	[8.73]***	[1.64]
o level or equivalent at level 1	0.077	0.101	0.055
	[33.80]***	[29.18]***	[19.51]***
sce standard grade (scotland) at level 1	0.080	0.130	0.041
	[4.56]***	[4.69]***	[1.99]**
Observations	495387	257541	237838

Robust z statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 62 Change to probability of being in employment by highest qualification – full sample including inactive people

Probit with marginal effects

Highest Qualification	all	female	male
Higher degree, vocational	0.158 [30.05]***	0.231 [49.90]***	0.125 [38.38]***
NVQ or SVQ level 5	0.157 [8.33]***	0.219 [6.97]***	0.097 [4.65]***
BTEC etc level 4	0.138 [12.02]***	0.186 [10.14]***	0.086 [6.39]***
hnc or hnd, at level 4	0.139 [41.91]***	0.184 [25.70]***	0.099 [31.21]***
nursing qual, at level 4	0.164 [42.91]***	0.212 [43.24]***	0.095 [9.91]***
rsa / ocr, at level 4	0.141 [7.99]***	0.176 [7.93]***	0.107 [2.77]***
teaching qualification level 4	0.118 [27.55]***	0.166 [28.09]***	0.039 [5.83]***
nvq or svq, at level 4	0.183 [20.74]***	0.242 [17.76]***	0.121 [10.93]***
apprenticeship, at level 3	0.135 [59.91]***	0.152 [30.16]***	0.102 [45.15]***
BTEC etc level 3	0.125 [25.98]***	0.165 [22.72]***	0.080 [13.20]***
city & guilds, at level 3	0.144 [41.84]***	0.129 [13.44]***	0.107 [33.93]***
gnvq or gsvq, at level 3	0.122 [17.76]***	0.174 [16.44]***	0.063 [7.49]***
onc or ond, at level 3	0.120 [20.84]***	0.156 [11.66]***	0.086 [16.19]***
rsa / ocr, at level 3	0.123 [9.93]***	0.164 [10.73]***	0.045 [1.47]
teaching qualification at level 3	0.164 [2.36]**	0.195 [2.19]**	
nvq or svq, at level 3	0.168 [42.74]***	0.221 [38.01]***	0.111 [21.48]***
Btec etc at level 2	0.088 [8.64]***	0.116 [7.91]***	0.058 [4.15]***
city & guilds, at level 2	0.087 [15.20]***	0.104 [10.51]***	0.058 [9.30]***
gnvq or gsvq, at level 2	0.089 [11.83]***	0.128 [10.88]***	0.045 [5.09]***
rsa / ocr, at level 2	0.114 [9.83]***	0.155 [10.92]***	0.019 [0.64]
nvq or svq, at level 2	0.138 [40.31]***	0.192 [39.95]***	0.075 [15.15]***
national quals (scotland), at level 2	0.013 [0.16]	0.052 [0.39]	-0.002 [0.02]
apprenticeship (foundation) at level 2	0.178 [4.81]***	0.264 [3.77]***	0.107 [2.94]***
basic skills, at level 1	0.018 [0.64]	0.062 [1.55]	-0.023 [0.55]
Btec etc at level 1	0.094 [9.86]***	0.127 [8.94]***	0.062 [5.02]***
city & guilds, at level 1	0.069 [16.09]***	0.089 [12.47]***	0.043 [8.67]***
gnvq or gsvq, at level 1	0.056 [4.62]***	0.097 [5.23]***	0.015 [1.01]
key skills, at level 1	0.096	0.115	0.064

Highest Qualification	all	female	male
	[3.69]***	[3.03]***	[1.87]*
other qualifications, at level 1	0.132	0.170	0.091
	[80.48]***	[66.41]***	[45.91]***
rsa / ocr, at level 1	0.116	0.159	0.023
	[43.51]***	[47.69]***	[2.71]***
scotvec at level 1	0.026	0.060	-0.013
	[0.58]	[0.91]	[0.22]
yt / ytp certificate, at level 1	-0.021	-0.051	0.012
	[2.13]**	[3.39]***	[0.94]
nvq or svq, at level 1	0.092	0.138	0.043
	[18.66]***	[19.11]***	[6.63]***
Higher degree (academic)	0.182	0.243	0.108
	[61.75]***	[21.19]***	[21.84]***
First degree level, at level 4	0.172	0.229	0.117
	[78.61]***	[65.32]***	[46.55]***
diploma in HE, at level 4	0.139	0.199	0.075
	[25.22]***	[25.09]***	[10.28]***
other HE below deg lev, at level 4	0.113	0.161	0.069
	[16.26]***	[15.43]***	[7.84]***
access to he, at level 3	-0.055	-0.022	-0.092
	[1.64]	[0.53]	[1.51]
A-level at level 3	0.100	0.145	0.057
	[41.39]***	[37.96]***	[20.10]***
AS-level or equiv, at level 3	0.161	0.224	0.092
	[16.25]***	[15.03]***	[7.39]***
csys or equivalent, at level 3	0.118	0.141	0.092
	[4.28]***	[3.28]***	[2.80]***
sce higher (Scotland), at level 3	0.095	0.100	0.086
	[5.17]***	[3.51]***	[3.95]***
international baccalaureate, at level 3	0.039	0.048	0.042
	[0.78]	[0.66]	[0.65]
national quals (scotland), at level 3	0.120	0.125	0.108
	[2.33]**	[1.45]	[2.04]**
sce higher (Scotland), at level 2	0.074	0.096	0.073
	[2.99]***	[2.74]***	[2.24]**
A-level or equiv, at level 2	0.112	0.150	0.075
	[28.26]***	[25.38]***	[14.79]***
AS-level or equiv, at level 2	0.169	0.225	0.116
	[16.44]***	[13.41]***	[10.39]***
cse, at level 2	0.096	0.132	0.063
	[11.36]***	[10.89]***	[5.48]***
gcse / vocational gcse, at level 2	0.159	0.206	0.111
	[59.53]***	[48.39]***	[36.24]***
o level or equivalent, at level 2	0.117	0.157	0.080
	[50.69]***	[45.34]***	[27.92]***
sce standard (scotland), at level 2	0.084	0.127	0.050
	[2.87]***	[2.71]***	[1.54]
AS-level or equiv, at level 1	0.126	0.117	0.128
	[4.48]***	[2.74]***	[4.04]***
cse, at level 1	0.076	0.093	0.065
	[27.98]***	[22.78]***	[18.66]***
gcse / vocational gcse, at level 1	0.120	0.123	0.110
	[47.14]***	[29.92]***	[38.76]***
o level or equivalent, at level 2	0.101	0.133	0.072
	[42.95]***	[37.28]***	[24.80]***
sce standard grade (scot), at level 1	0.115	0.159	0.077
	[5.13]***	[4.56]***	[2.91]***
Observations	495387	257549	237833

Robust z statistics in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%

Figure 1: Wage Returns to NVQ2 Qualifications

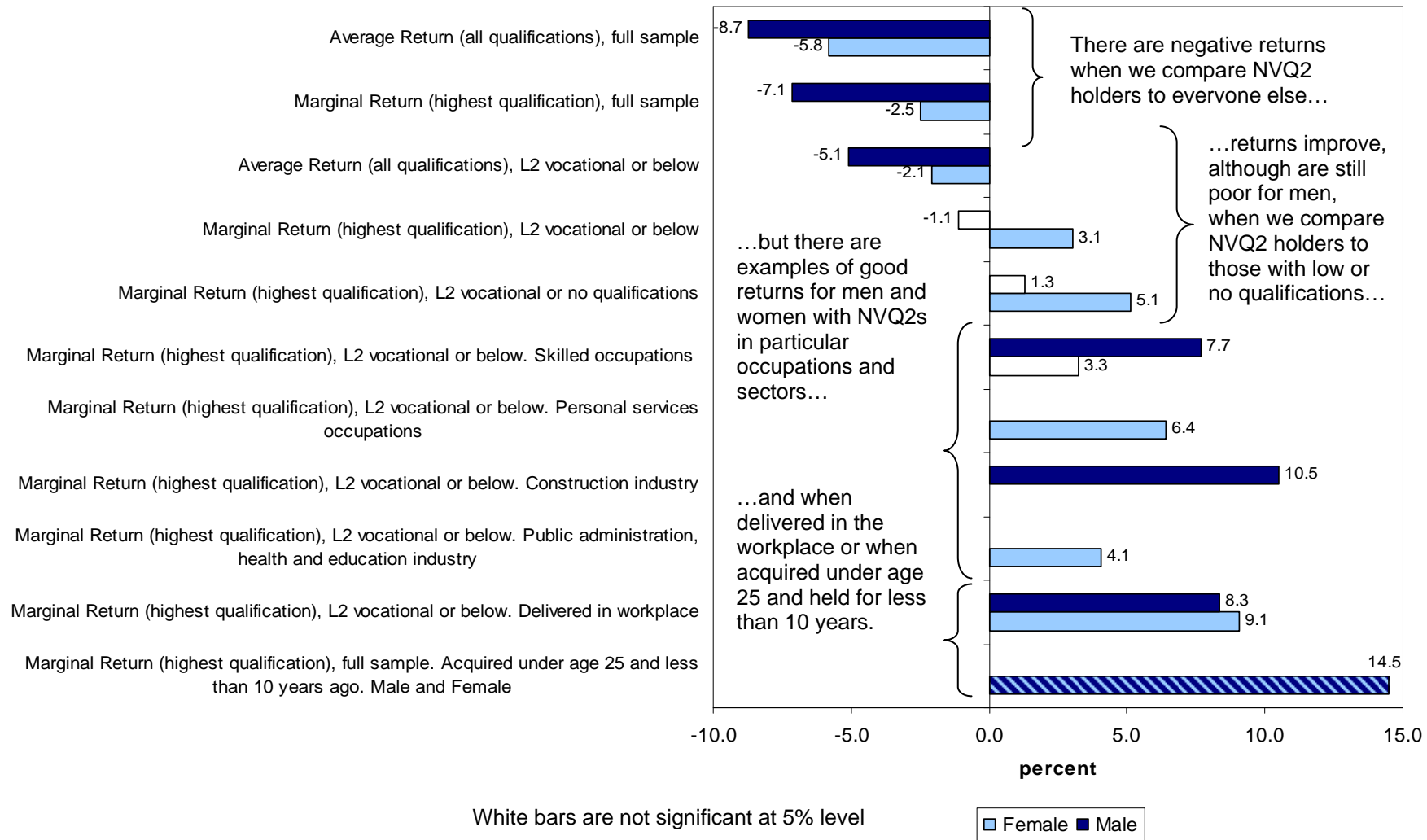


Figure 2: Wage Returns to NVQ3 Qualifications

