



University education

Is this the best route into employment?

aat



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In 2011, AAT commissioned the Centre for Economics and Business Research (CEBR) to research levels of graduate unemployment and underemployment. The results were alarming showing new graduates were amongst the hardest hit in the economic downturn and were struggling to find work in roles for which they were qualified.

Since the research, university fees have risen to a maximum of £9,000 for an academic year and it is still an unstable job market. And so two years on, it seemed sensible for AAT to look again at the return on a degree and whether this is in fact the best route into the labour market?

In the current economic climate, it is perhaps predictable that the situation for graduates is not too optimistic. However, the results for those with vocational qualifications were revealing indicating that people who come through this route are less likely to be unemployed and the best qualified can expect the same lifetime earnings as a graduate. In the case of apprenticeships, this comes at very little financial cost to the individual and so the returns are far greater.

Given the results, this does beg the question, are we giving young people the right information? A degree has fantastic benefits for an individual – offering career progression and often impacts greatly on their self-development. But, it is not the only route, and it's not always the best route. We need to give young people all the options.



Jane Scott Paul OBE
AAT Chief Executive

This study examines recent trends in the graduate labour market using statistics from the Higher Education Statistics Agency (HESA), the Office for National Statistics (ONS) and the Department for Business, Innovation and Skills (BIS). In particular, the proportion of recent graduates who are unemployed, as well as those who are underemployed in jobs for which a degree is not necessary.

Divergences between subject areas are examined showing that arts subjects typically result in lower returns and satisfaction than science-based subjects.

Finally, vocational alternatives to university education are explored with an assessment made on the yields these types of routes return.

The main findings of the report are:

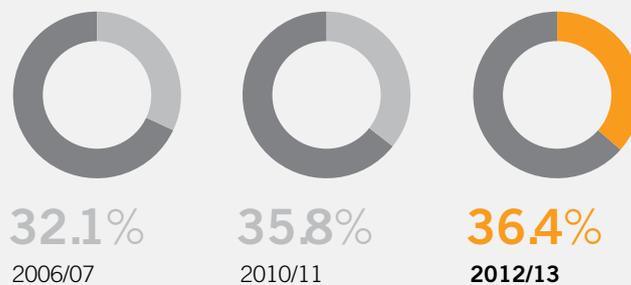
More than two-fifths (44.1%) of those graduating in 2012/13 are predicted to be unemployed or underemployed six months after graduating and leaving full-time education.



12.1% of those graduating in 2012/13 are predicted to still be unemployed six months after leaving full-time education. This figure has remained stagnant since the economic downturn.



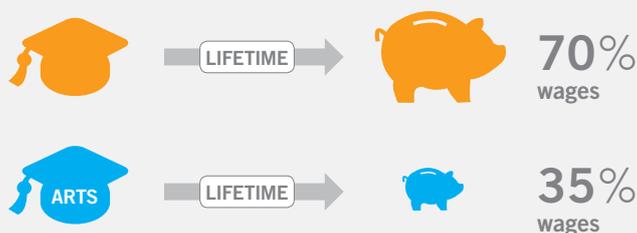
In addition, 36.4% of 2012/13 leavers that are in work six months after graduation are predicted to be underemployed, working in jobs for which they are overqualified. This is an estimated increase from the 35.8% of those who graduated in 2011/12 and a sharp rise from 32.1% in 2006/07.



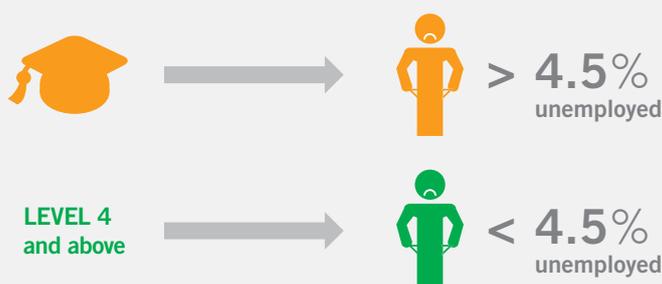
Graduates from 'STEM' subjects (science, technology, engineering and mathematics) enjoy greater returns from their course than arts students. STEM graduates report being more likely to be in employment both six months and 3.5 years after leaving education than arts students, as well as being more highly paid and more satisfied with their career.



University education can still pay off over the lifetime of the student, with graduates' wages some 70% more than non-graduates. However, this premium drops for some subjects, including to just 35% for graduates of creative arts.



Those with high level vocational qualifications are less likely to be unemployed – just 4.5% of those with Level 4 and above vocational qualifications were unemployed, less than the rate for a recent university graduate.



Vocational qualifications such as Higher Apprenticeships could result in increased earnings of an estimated £150,000 over the lifetime of the student – comparable to a return of £150,000 for the average graduate.



Key Recommendations

- Young people must be given career advice outlining all the options open to them. A university degree can no longer be seen as the best route into the labour market.
- A degree must also be thought of as an economic decision with the individual considering the return on the cost of tuition fees.
- Youth unemployment is still a very real issue and young people must be offered courses that will provide them with employability skills helping to secure their future.
- Apprenticeships must be viewed as an effective alternative given the impact they have on employability.

1 Introduction

With the cost of undergraduate tuition fees now at least £27,000 in many universities, depending on course length, the decision of whether or not to get a degree is becoming more of a decision based on economics.

The analysis conducted in this report, carried out by the Centre for Economics and Business Research (CEBR) for AAT (Association of Accounting Technicians), aims to illustrate how the benefits of gaining a degree have been affected by the ongoing recession. A high number of recent graduates are unable to find employment, while a rising number are only able to find low-skilled jobs in which they are underemployed.

However, this report also demonstrates the disparity in the experience of graduates

from different degree subjects. For those studying the STEM subjects of science, technology, engineering and mathematics, job prospects are much higher than those studying arts subjects – both in terms of employability and earnings potential.

At the same time, there is evidence that vocational qualifications offer substantial returns, with the best-qualified benefitting from the same economic rewards as a graduate, as well as escaping the worst of the downturn’s effects.

This report highlights how the much publicised university route into the labour force may not be the best for many young people, with arguments for a greater refocusing of education toward vocational courses gaining greater weight.

2 Trends in unemployment

2.1 Unemployment by age group

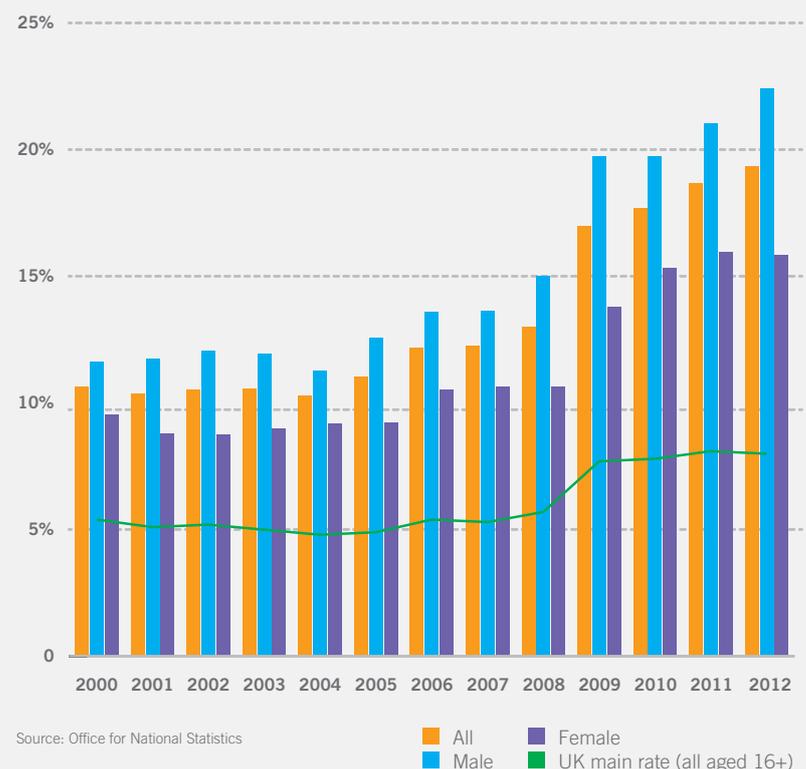
Young workers have been particularly affected by the downturn.

Unemployment rose across the economy in the wake of the 2007-08 financial crisis and UK recession of 2008-09 and remained high in 2012. However, younger people were particularly badly hit by rising joblessness, as illustrated by the chart, with an unemployment rate that reached 20% by the end of 2011.

Indeed, the number of unemployed 18-24 year olds was 86% higher in 2012 than in the years running up to the financial crisis (2000-07), with a 2012 average of almost 800,000 up from a 2000-07 average of 430,000. This compares to a 68% increase for the population as a whole.

Within the headline figure, young males (aged 18-24) bore the worst effects of the downturn, with the number of unemployed almost doubling from 260,000 over 2000-07 to almost 500,000 across 2012 and an unemployment rate that reached 23.5% in January 2012.

Unemployment rate for 18-24 year olds, annual averages



Source: Office for National Statistics

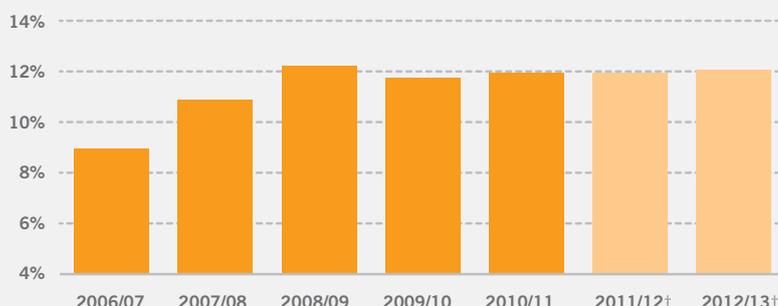
2.2 Graduate unemployment

Unemployment remains a greater risk for graduates than before the financial crisis, while high-skilled jobs are harder to come by.

Alongside rising unemployment for both young people and the population as a whole, the share of recent graduates reporting that they are unemployed six months after graduation rose since the 2008-09 recession and has remained elevated, as the chart shows.

Graduate unemployment reached a high of 12.3% in 2008/09 according to HESA. Although this is well below the unemployment rate of 17% for 18-24 year olds as a whole in 2009, it is a sharp increase from just 7.4% in 2006/07.

Graduate unemployment rate* six months after leaving full-time education



Source: Higher Education Statistics Agency (HESA)

* The number of unemployed leavers divided by the number of economically active leavers (i.e. unemployed leavers / (unemployed + employed leavers))

† Forecast period

3 Destinations

3.1 Destinations of all leavers

Underemployment becomes more prevalent among university leavers.

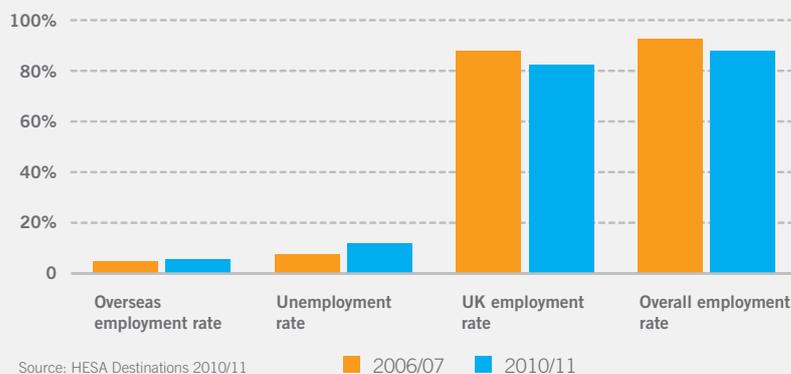
Almost nine in ten university leavers (88.1%) had found employment six months after leaving full-time education in 2010/11, according to the latest data from HESA. However, this is down from 91.9% in 2006/07, before the effects of the financial crisis hit.

In addition and as illustrated by the chart, a greater proportion of leavers are emigrating to find work overseas – 5.5% of leavers in 2010/11 compared to 4.8% before the financial crisis – while the share of those finding employment in the UK has fallen back to 82.5% of leavers from 87%.

Healthcare, education and professional services have traditionally been strong employers of recent graduates, but many leavers find themselves in the retail sector six months after graduation, as illustrated by the chart.

While the education and healthcare sectors show little change in the share of recent

Destinations of university leavers six months after leaving full-time education



Source: HESA Destinations 2010/11

Note: The employment rate is defined as those working divided by the total of those working and those looking for a job. The unemployment rate is defined as those looking for a job divided by the total of those working and those looking for a job.

graduates that they employ – perhaps reflecting the government's ring-fencing of these departments from budget cuts – the changing mix of industry destination also highlights tough hiring conditions for leavers.

The share of leavers employed in professional services has dropped notably, from 20.2%

in 2006/07 to 16.5% in 2010/11, while the share of those in financial services has dipped from 7% to 5.4%. The figures highlight the general public sector job cuts, as the share of those in public administration dropped back 6% to just 3.7%.

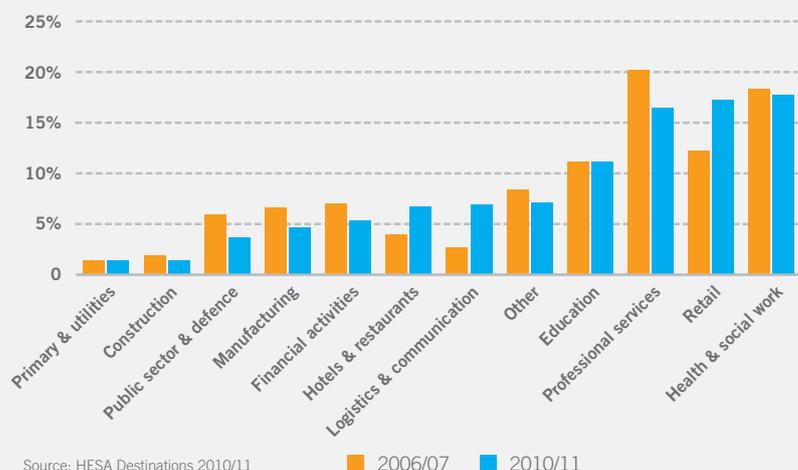
At the same time, the share of those working in less professional-oriented businesses such as retail, hotels and restaurants has climbed, to a combined total of 24%, from 16.2%.

The changing mix in the industry destinations is reflected in the roles that recent graduates are filling. The share of those in professional roles has fallen notably between 2006/07 and 2010/11, from 27.2% to 24.4% and there are fewer going onto become managers, directors and senior officials within six months of graduation.

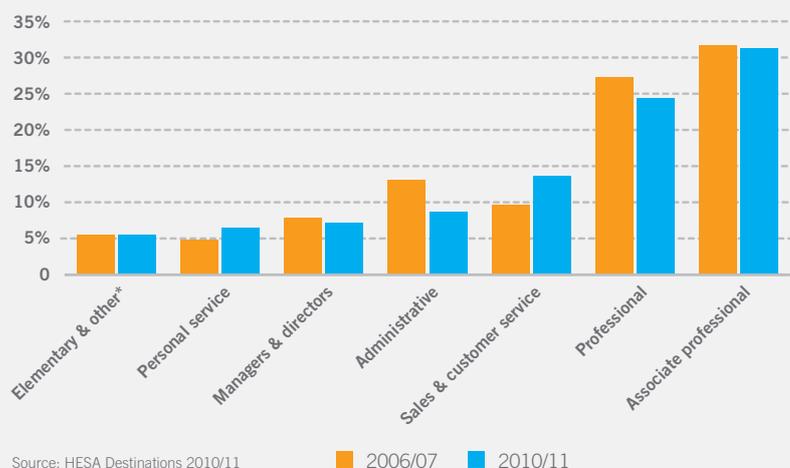
This shortfall in the availability of professional jobs is taken up by the number of those in personal service and customer services roles, as illustrated by the chart.

The increase in the share of recent graduates working in the retail sector and working in customer service roles suggests that more graduates have been finding employment in low skilled jobs in supermarkets and high street retailers.

Industry destination of full-time employed leavers, six months after leaving full-time education



Occupation of full-time employed leavers, six months after leaving full-time education



* Includes skilled trades and machine operatives

3.2 Graduate underemployment

The proportion of recent graduates working in roles for which they are probably overqualified rose during the financial crisis and has since remained at elevated levels. Using data from HESA, we define the following standard occupational classifications as not requiring a degree:

- Elementary occupations
- Personal service occupations
- Sales & customer service occupations
- Administrative occupations
- Plant, process and machine operatives.

We then define a graduate as being underemployed if they are employed in one of the above occupations.

Of those graduates who were in employment six months after leaving, 32.1% were underemployed in 2006/07. We estimate this increased to 35.8% in 2011/12 and will rise further to 36.4% for those graduating in 2012/13, the current academic year.

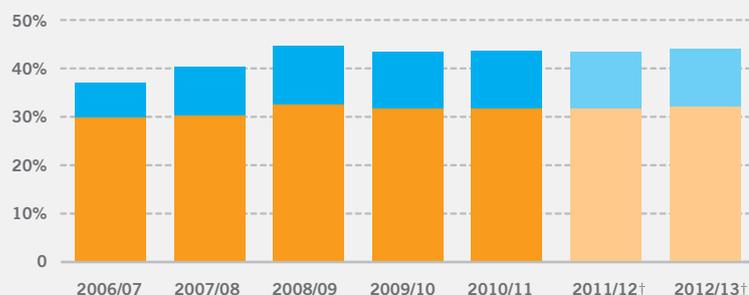
3.3 Destinations by degree subject

Students of STEM subjects more likely to be employed and be more satisfied with their university course than arts students.

Within the headline figures of analysis by all graduates, there are disparities between those reading different subjects.

The STEM subjects of science, technology, engineering and mathematics typically give a much lower incidence of underemployment than those in more arts-based faculties. Roughly 23.9% of STEM students were underemployed six months after leaving full-time university education; this compares to a full 37.6% for those who read arts subjects.

Graduate underemployment and unemployment rates* six months after leaving full-time education



Source: HESA Destinations 2010/11

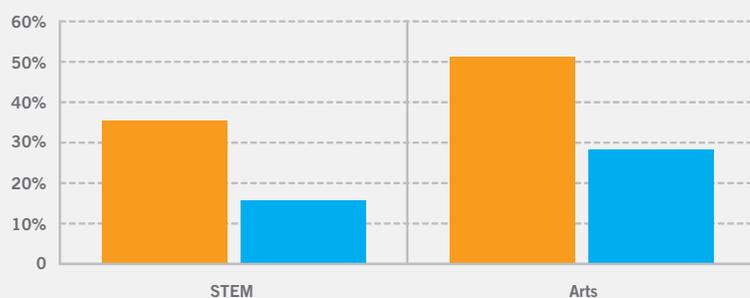
■ 2006/07 ■ 2010/11

* The number of unemployed or underemployed leavers divided by the total number of economically active leavers (e.g. unemployed / (unemployed + employed))

† Forecast period

Adding those that are unemployed and the graph shows how more than two fifths (44.1%) of all graduates leaving full-time education in 2012/13 are projected to be either unemployed or underemployed six months later.

Unemployment + underemployment rate for graduates by subject studied, 2010/11



Source: HESA Destinations, Cebr analysis

■ 6 months from leaving full-time education
■ 3.5 months from leaving full-time education

In addition, the unemployment rate for STEM leavers stood at 11.5% in 2010/11, compared to 13.7% for arts leavers.

These results suggest that roughly half of arts leavers are either out of work or in a role for which they are overqualified after six months from leaving full-time education – compared to just 35% of STEM graduates.

Moreover, this effect is not tied solely to very recent graduates; it persists over a longer time

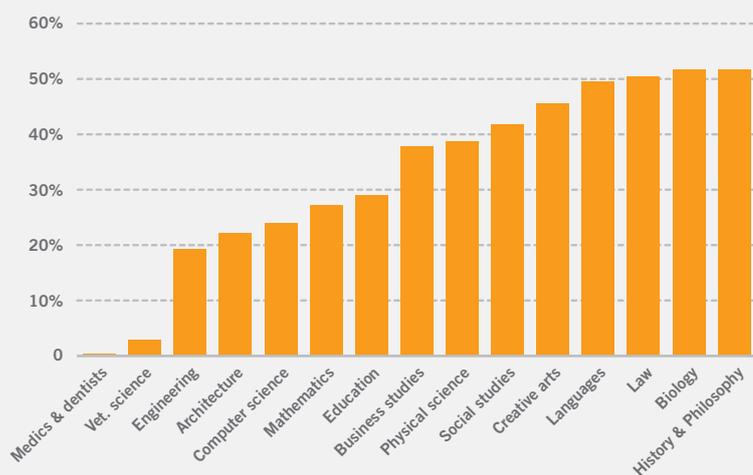
Even within the STEM / arts split, there are divisions in the employability of those that studied different subjects. Those degree subjects that are most directly linked to a profession are least likely to lead to underemployment. For instance, just 0.1% of medical and dentistry students are underemployed, 3% of veterinary science students and 19% of engineering students six months after graduation. At the other end of the scale, roughly half of those who studied creative arts, history, philosophy or languages found themselves underemployed six months after graduation. This is highlighted in the chart on the right.

Not only do some subjects (notably STEM subjects) pay off with a greater chance of employment that requires skills learned during studying, there are other benefits from doing such degrees. Figures from HESA show that 86.4% of STEM graduates were 'fairly satisfied' or 'very satisfied' with their career after three and a half years, compared to 82.7% of arts graduates. Education graduates report one of the highest job satisfaction rates – excluding these means only 81% of arts graduates are satisfied with their career to date.

In addition, almost three quarters (74%) of STEM graduates report strongly agreeing or agreeing that their course gave good value for money, after three and a half years. This compares to 68% of arts graduates (65% excluding education).

frame. HESA results suggest that for those that left university education three and a half years ago, almost a quarter (23.2%) of arts graduates remain underemployed, compared to 12% of STEM graduates. In addition, 5% of arts graduates were unemployed after 3.5 years, compared to 3.7% for STEM graduates. These findings are summarised in the chart.

Proportion of graduates entering employment who are underemployed six months after graduating in 2010/11, by subject area



Source: HESA Destinations, Cebr analysis

3.4 Graduate pay levels

STEM subjects more likely to result in higher pay than arts subjects.

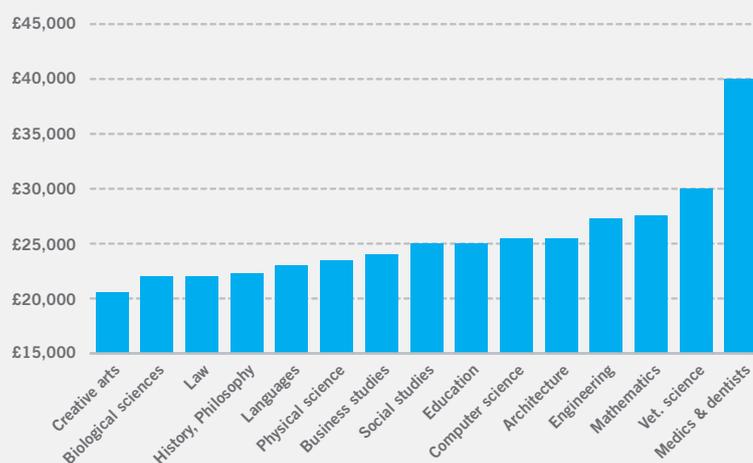
While graduating with a degree may not pay out immediately financially, given time for a career to develop then the monetary benefits of certain degrees become clear.

According to figures from HESA, the median salary in 2011 for those leaving university education three and a half years ago was £25,000; up from a median salary of £20,000 six months after these graduates left.

There was much disparity within different undergraduate degrees however, with medicine and dentistry graduates on a median salary of £40,000 after three and a half years, while those that studied creative arts earned £20,500 on average (although this is a notable increase on the average £16,000 salary six months after graduating with this degree). These figures are summarised in the table above on the right.

In addition, in figures from the ONS, graduates can expect to earn 70% per hour more than

Median Salary, 3.5 years after leaving university education, by subject



Source: HESA Destinations 2010/11

non-graduates over their life on average. Again, this differs by degree subject, with medics and dentists earning some 2.4 times per hour more than non-graduates and creative arts graduates 1.4 times more on average.

4 Comparisons with vocational qualifications

Vocational qualifications can yield a lifetime return of £150,000.

While completing an undergraduate degree can yield significant returns and open the door to a satisfying career, the high levels of underemployment and unemployment for some degree subjects show that it is not necessarily always worth the investment.

An alternative to academic education and a degree is a quality vocational qualification, such as an apprenticeship. As noted in the Wolf Review of Vocational Education, apprenticeships at some blue-chip companies such as BT or Rolls-Royce are more oversubscribed than the most desirable

courses at the best universities, and lead onto a good career at a strong firm.

The chart on the top of page 12 illustrates the average hourly wage that workers with different levels of vocational qualifications, such as apprenticeships, receive.

There are clear gains; those with Level 2 vocational qualifications or an intermediate apprenticeship receive on average a 20% higher wage than a worker with no qualifications.

Further up the qualification ladder and a worker with a Level 3 vocational qualification or an Advanced Apprenticeship

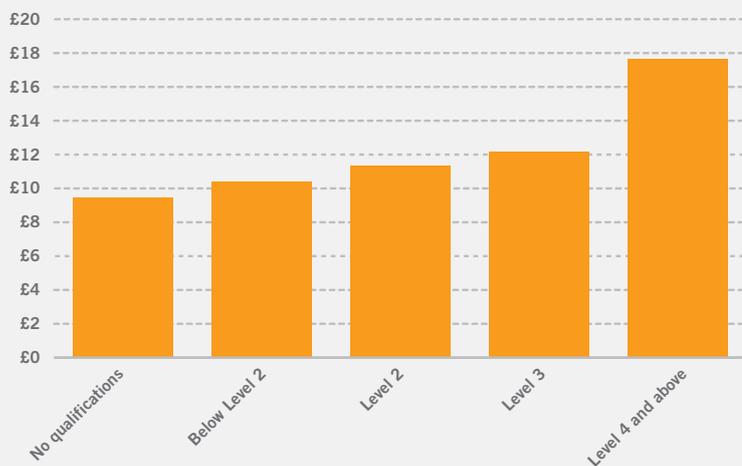
can expect to earn some 29.1% more than a worker with no qualifications.

The highest wage premium is enjoyed by those with a vocational qualification at Level 4 or higher, including a Higher Apprenticeship such as the AAT accountancy apprenticeship, who receive on average a full 87% more than the worker with no qualifications.

Having vocational qualifications also helped workers to escape the worst of the economic effects of the financial crisis and subsequent recession. While the unemployment rate for those with qualifications at Level 1 or below soared to reach 14.5% by 2011, up from 8.5% in 2006, the rate only climbed from 2.9% to 4.5% for those with Level 4 qualifications or higher.

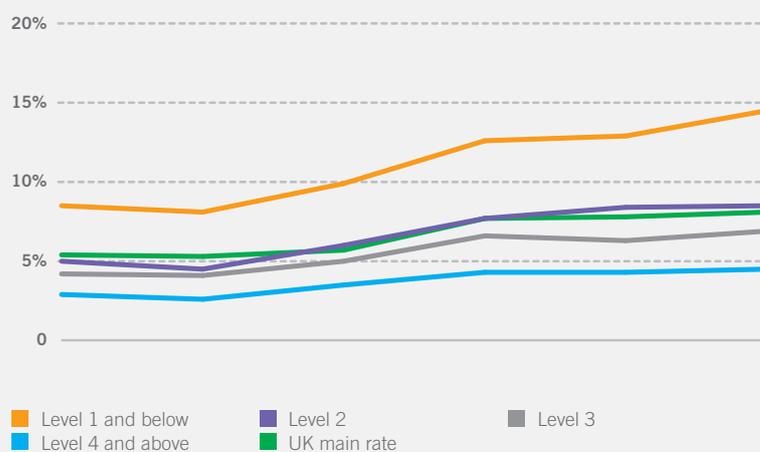
Indeed, as the chart below on the right shows, having a vocational qualification at Level 3 or higher suggests a lower likelihood of unemployment than for the average worker in the UK.

Mean hourly wage of full-time employees aged 19-64 by highest level of vocational qualification* attained, 2011



Source: Department for Business, Innovation and Skills – Statistical First Release

Unemployment rate by highest level of vocational qualification* attained, age 16-64



Source: Department for Business, Innovation and Skills – Statistical First Release

4.1 Focus on Apprenticeships

Apprenticeships can yield significant returns comparable to a university graduate.

The UK government has placed a particular focus on the highest levels of apprenticeships in recent years. In 2009 an additional level was created, the Higher Apprenticeship, a Level 4 qualification that is roughly equivalent to the first year of a bachelor's degree.

Take-up of apprenticeship schemes has been rising swiftly over the past five years, with 520,600 starters in the 2011/12 academic year, as illustrated in the figure below.

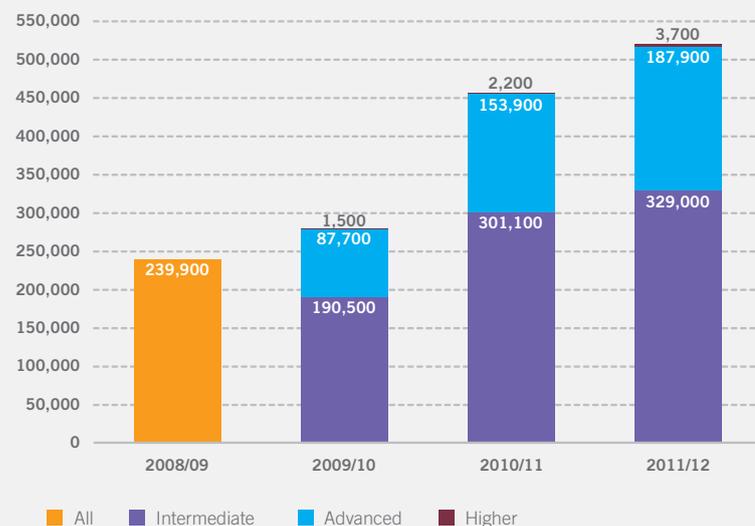
The number of starters of Higher Apprenticeships rose by 68% in 2011/12, following the government's introduction of a £25 million fund for the scheme, which aims to create another 20,000 places over the next three years, focusing on sectors such as engineering, law and accountancy.

The business, administration and law sector is the most popular in which to start an apprenticeship, with some 165,000 starts in 2011/12. With an annual increase of 23.2%, this is also the most rapidly growing sector for apprenticeships.

There are significant estimated lifetime earnings gains to be had for a worker that completes an apprenticeship. For those completing a Level 2 Intermediate Apprenticeship, it is estimated that the net present value of lifetime earnings could be some £74,000 higher than a worker without this qualification. For those going on to complete a Level 3 Advanced Apprenticeship, the gains are estimated to be even higher, at between £77,000 and £117,000¹.

It is too early yet to definitively estimate the lifetime earnings gain for those completing a Level 4 Higher Apprenticeship, as the

Apprenticeship starts by level



Source: Department for Business, Innovation and Skills

scheme was only introduced in 2009 and is likely to run for up to two years for many individuals. However, given the wage premium of those with Level 4 vocational qualifications, the benefit is likely to be significant and could reach above £150,000 on average. This compares similarly to an estimated £150,000 lifetime earnings advantage that a representative graduate would enjoy compared to a non-graduate².

Apprenticeship	Estimated lifetime earning premium (compared with someone with no qualifications)
Level 2	£48,000 - £74,000
Level 3	£77,000 - £117,000
Level 4	£150,000*

* forecast

¹ Returns to Intermediate and Low Level Vocational Qualifications - Department for Business, Innovation and Skills (BIS)

² Graduate Earnings: An Econometric Analysis of Returns, Inequality and Deprivation across the UK, Department for Employment and Learning

5 Conclusions

This study highlights that although university education can generate substantial returns on investment for some graduates; this is by no means the case for every student passing through the system.

The current era of stagnant growth for the UK economy, with concomitant high unemployment, has led to reduced prospects for many of those leaving full-time education post-university. With the increase in tuition fees to £27,000 for many courses, it is important that students understand what their employment prospects are before committing to this large investment.

The Wolf Review of Vocational Education released in 2011 contained key reform recommendations for the government, which were all accepted as points to implement.

The government's response to the Review noted that vocational education is immensely valuable, both as an essential part of a broad curriculum and for developing skills to help drive economic growth. It also acknowledged that broad reforms cannot take place overnight, but for vocational education to become more of a cornerstone of the curriculum, it cannot afford to be complacent.

AAT recently called for better careers guidance for young people in order to raise the status of apprenticeships and demonstrate their effectiveness at starting a career. Given the substantial returns to apprenticeships for individuals that we highlighted earlier, it is clear that making increased access to quality apprenticeships a priority, as Professor Wolf suggests, could bring real benefits to the next generation.

Appendix

The table below sets out different levels of vocational qualification within the Qualifications and Credit Framework (QCF), introduced in 2011 to replace the National Qualifications Framework. Examples are given to illustrate these levels for apprenticeships, other vocational qualifications and academic qualifications.

Qualifications and Credit Framework (QCF) level	Apprenticeship level	Vocational qualification	Equivalent to academic qualification
Level 1		Level 1	5 GCSEs graded D-G
Level 2	Intermediate level Apprenticeship	AAT Level 2	5 GCSEs graded A*-C
Level 3	Advanced level Apprenticeship	AAT Level 3	2 A/AS Levels (any grade)
Level 4	Higher level Apprenticeship	Level 4 AAT Level 4	Certificate of Higher Education (1st year of Bachelor's Degree)
Level 5			Diploma of Higher Education Foundation Degree (2nd year of Bachelor's Degree)
Level 6			Bachelor's Degree
Level 7	Higher apprenticeship routes being developed		Master's Degree

Authorship and acknowledgements

This report has been produced by CEBR, an independent economics and business research consultancy established in 1993, providing forecasts and advice to City institutions, government departments, local authorities and numerous blue chip companies throughout Europe. The main authors of the report were Rob Harbron, CEBR economist and Scott Corfe, CEBR senior economist.

Disclaimer

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The logo for the Association of Accounting Technicians (AAT), consisting of the lowercase letters 'aat' in a green, sans-serif font.

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