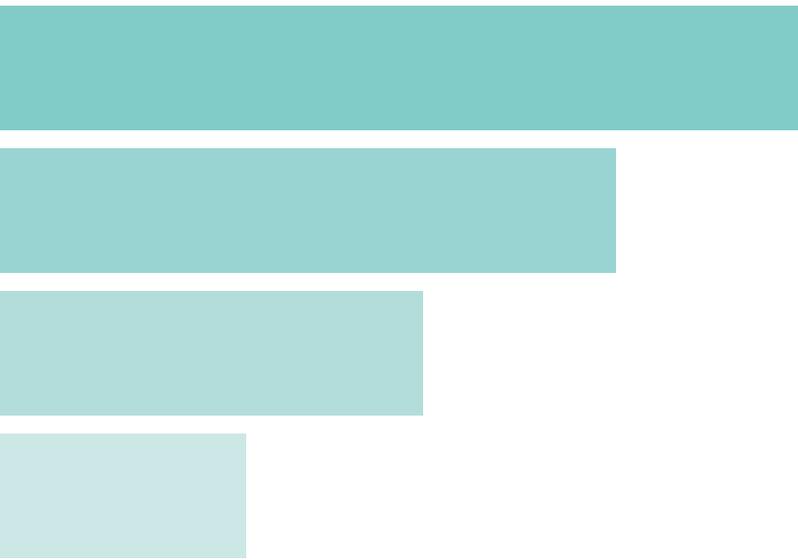


LEVELS OF SUCCESS

The potential of UK apprenticeships

Dr. Philip Kirby
October 2015



Improving social mobility
through education



FOREWORD

A university degree is regarded as the 'gold standard' to set young people up for their future careers. But it may not be the best path for potential graduates and others. With the ever increasing debt burden faced by graduates, and a glut of graduates in the labour market, might there be another option? This report looks at the potential (and it largely remains potential) of apprenticeships as drivers of social mobility, enabling young people to gain the skills that they need for their futures, without compromising their financial burden for years to come.

We challenge the notion that graduates necessarily earn more than their colleagues who pursue vocational qualifications. While this is still the overall trend, research for this report has found that higher apprenticeships can lead to greater lifetime earnings than undergraduate degrees from some of the UK's less selective universities. Degrees from Oxbridge and Russell Group universities remain the surest way to earn higher wages, but there is evidence that the earning power of the best apprenticeships is increasing.

However, for apprenticeships to be genuine paths to success for young people, they will need to be more widely available and better understood. We need to increase the proportion of apprenticeships at levels 4 and 5 (higher) - the best apprenticeships - in addition to ensuring that level 3 (advanced), rather than level 2 (intermediate), is the minimum standard for most apprenticeships targeted at young people. If the Government's promise of three million apprenticeships is to lead to a genuine skills revolution, progression to level 3 must be inbuilt within most level 2 apprenticeships.

Alongside these changes, the culture around apprenticeships also needs addressing. If undergraduate degrees are seen as a gold standard, these vocational qualifications are too often seen as 'second best', or a 'fall back option'. But some of the UK's most famous and successful entrepreneurs were formerly apprentices - from the celebrity chef Jamie Oliver to the billionaire jeweller Lawrence Graff to the late fashion designer Alexander McQueen. Success can come through apprenticeships, but work is needed to boost their quantity and quality, and change their public perception.

This report builds on the report of the Sutton Trust's Higher Ambitions summit, held in 2014, and earlier research in 2013 for the Sutton Trust by the Boston Consulting Group, *Real Apprenticeships*. These earlier reports called for a revolution in the UK's vocational skills, with a focus upon the enhanced provision of apprenticeships, in particular. This report updates these recommendations using the latest data, including research and analysis by Oliver Wyman, and examines the government's progress in this area.

Apprenticeships, as currently implemented, are not a panacea for helping disadvantaged young people in the UK. But they have the potential to be a major engine of social mobility, and this report explores that potential. I'm very grateful to the Boston Consulting Group and Oliver Wyman for their work on this important topic for us.

SIR PETER LAMPL

Chairman of the Sutton Trust and of the Education Endowment Foundation

The earning potential of the best apprenticeships rivals degrees...

- Higher apprenticeships at level 5 result in greater lifetime earnings than undergraduate degrees from non-Russell Group universities, according to the latest modelling by the Boston Consulting Group.
- Across a lifetime, someone with a higher (level 5) apprenticeship averages earnings of around £1.5m, while someone with a degree from a non-Russell Group university earns just under £1.4m on average (when student debt repayments are considered).
- A higher apprenticeship at level 5, and an undergraduate degree from a university (average of all UK universities), result in similar lifetime earnings on average.
- A higher apprenticeship at level 4 and an undergraduate degree from a non-Russell Group university result in similar lifetime earnings on average.
- The earning potential of an advanced apprenticeship at level 3 is slightly better than that of someone whose highest qualification is at A-level.

But, there remain several shortcomings in the apprenticeship sector...

- Currently, the majority of apprenticeships are intermediate (level 2), many of which offer little value for the apprentice and only marginally better lifetime earnings than secondary school qualifications alone.
- Apprenticeships are disproportionately populated by those from less-advantaged backgrounds, so failure in their provision disproportionately affects this group.
- Research by Oliver Wyman suggests that the most elite apprenticeships are disproportionately populated by those from wealthier backgrounds. They are also more likely to have been given specialist preparation by their school.
- There is a sharp gender divide in apprenticeships. For example, engineering apprenticeships remain male-dominated (96% are men); beauty therapy apprenticeships female-dominated (99% are women). It has recently been reported that, because of this imbalance, female apprentices earn over £1 less an hour than male.
- According to the latest data for 2014/15, less than a third (32%) of apprenticeship starts have been by those under 19, but over a third (36%) by those aged 25 or older. This limits the potential of apprenticeships as a vehicle of social mobility.
- The perceived lesser value of apprenticeships compared to degrees appears to be an ingrained part of UK culture, as ComRes polling and Oliver Wyman research for this report suggests.
- This perception extends to teachers and parents, who usually favour degrees over apprenticeships for their students/ children. This needs to be addressed, but can only happen in unison with reform of the apprenticeship system.
- Other countries, particularly Germany, Austria and Switzerland, have more effective apprenticeship programmes, in terms of both the quantity and quality of provision, and offer excellent examples of best practice.

RECOMMENDATIONS

1. **Government, employers and other providers should work together to provide more advanced and higher apprenticeships.**

The government plans to provide 3 million more apprenticeships by 2020, but over the last two years, they have just created 30,000 at higher level. The government should follow Germany by setting a target to ensure that the majority of these new apprenticeships start at or develop to level 3 (advanced) at minimum, and last at least two years.

2. **Level 3 should become the norm for young people through automatic progression from level 2.**

Intermediate apprenticeships (level 2) should normally provide automatic progression to advanced (level 3). Qualifications that only reach level 2 should not be regarded as apprenticeships unless the qualification will develop to level 3. Government and the private sector should both contribute to this aim.

3. **The Careers and Enterprise Company should promote apprenticeships.**

Too many teachers lack awareness of what apprenticeships are available. The government should ensure that the government's Careers and Enterprise Company provides guidance that promotes apprenticeships, as part of their work with schools on careers advice, through the Enterprise Advisers and Coordinator networks.

4. **The government should launch a bigger apprenticeships awareness campaign.**

There has been some advertising of apprenticeships, but a much bigger campaign is needed to reach young people, parents and teachers. This campaign should use experts, employers, and famous former apprentices to challenge preconceptions about apprenticeships and highlight their benefits.

5. **Gender and socio-economic inequalities need to be reduced.**

Those from disadvantaged backgrounds are less likely to be on the best apprenticeship schemes, according to Oliver Wyman research. There are too few female candidates in STEM (science, technology, engineering, mathematics) disciplines. The government should make the reduction of these inequalities the cornerstone of its future apprenticeship policy.

6. **The government should reform the vocational qualification system.**

The government needs to move faster in implementing the 2012 Richard Review of Apprenticeships and the 2013 Wolf Review of Vocational Qualifications to streamline the current qualifications system so that employers, parents, teachers and students understand better what's on offer. As degree apprenticeships expand, this will also be important for regulators assessing the quality of education provided by universities to apprentices, and for universities themselves.

Introduction: The fall and rise of apprenticeships

Apprenticeships have been part of the UK employment landscape for centuries, used as a way of introducing novices to the skills required for the professional trades.¹ A hundred years ago, the most common apprenticeships were in dressmaking, engineering, carpentry, drapery and millinery. Today, while engineering remains in the top ten, these have been replaced by health and social care, business administration, management, hospitality and catering, and customer service, respectively; reflecting the UK economy's shift from the dominance of the secondary employment sector (manufacturing), to the tertiary (services).² Apprenticeships, then, are to be found across some of the UK's largest economic sectors, with the majority located in occupational fields that have been traditionally populated by the more economically disadvantaged in society; fields characterised by manual labour, salaries below the national average, and (almost by definition) a lesser requirement for academic educational qualifications.³ Any failure to provide adequate apprenticeship opportunities, therefore, affects certain groups within society more than others, and it is important that this is borne in mind at the outset.

Table 1: Apprenticeship achievements (starts) by year and age⁴

Age \ Year	2009/10	2010/11	2011/12	2012/13	2013/14
Under 19	73,000 (117,000)	83,000 (132,000)	78,000 (130,000)	61,000 (115,000)	65,000 (120,000)
19-24	64,000 (114,000)	77,000 (143,000)	86,000 (161,000)	79,000 (165,000)	87,000 (159,000)
25+	34,000 (49,000)	40,000 (182,000)	95,000 (229,000)	113,000 (230,000)	104,000 (162,000)
Total	172,000 (280,000)	200,000 (457,000)	258,000 (520,000)	253,000 (510,000)	256,000 (441,000)

The recent history of apprenticeships has been one of fall and rise. In the 1970s and 1980s, apprenticeships experienced a significant decline, as Britain's manufacturing industry struggled to adjust to structural economic change.⁵ Over the last decade, however, they have been given widespread support from across the political spectrum.⁶ They have been a key policy area of the last Labour government (2005-10), the previous Coalition government (2010-15), and the current Conservative government (2015-). This has resulted in the number of apprenticeships greatly expanding. In 2009/10, the government, through the Department for Education (DfE) and the Department for Business, Innovation and Skills (BIS), committed just over £1 billion to funding apprenticeship schemes. The most recent figures show that

this commitment has increased by 50% to nearly £1.5 billion.⁷ Despite a drop-off from the 2012/13 academic year, figures for 2013/14 show that there were 441,000 apprenticeship starts in England (see Table 1).⁸ In the most recent Queen's Speech, the Conservative government restated its manifesto commitment to increase the size of the scheme further, with a target of 3 million new apprenticeships by 2020.⁹ In the latest budget, the Chancellor reiterated this goal, introducing a levy on the UK's largest employers that is intended to support this goal.¹⁰

Why the current popularity? Broadly, apprenticeships have been seen as a solution to several systemic problems. Perhaps most pragmatically, they have been intended to stimulate economic growth and employment, addressing youth unemployment that has reached record highs with the global recession of 2008 onward.¹¹ A recent study by the Centre for Economics and Business Research suggested that apprenticeships contributed as much as £34 billion to the UK economy, with the economy benefitting by £21 for every £1 invested from the public purse.¹² Given the large number of apprenticeships in fields that have traditionally been associated with lower socio-economic groups, apprenticeships have also been seen as a key method of addressing social injustice. As the previous coalition government stated, "Good quality apprenticeships create a fairer society by giving hard working young people the chance to aim for their dream job whilst playing their part in building a stronger economy for Britain."¹³ At the same time, and for longer than the resurgence in apprenticeships, "Successive governments have prioritised access to university as part of their social mobility strategies, leaving those without a degree increasingly at risk of being left behind."¹⁴ (Throughout this report, 'degree' refers to undergraduate degree, unless otherwise specified.) Apprenticeships are one policy that tries to ensure that this risk does not become reality, and that the university route does not become the only path to career success.

There are, then, significant opportunities to improve social mobility through apprenticeships. But there are also significant challenges that will need to be overcome first. To understand these, it is useful to reiterate exactly what constitutes an apprenticeship today.

Apprenticeships today: Challenges and opportunities

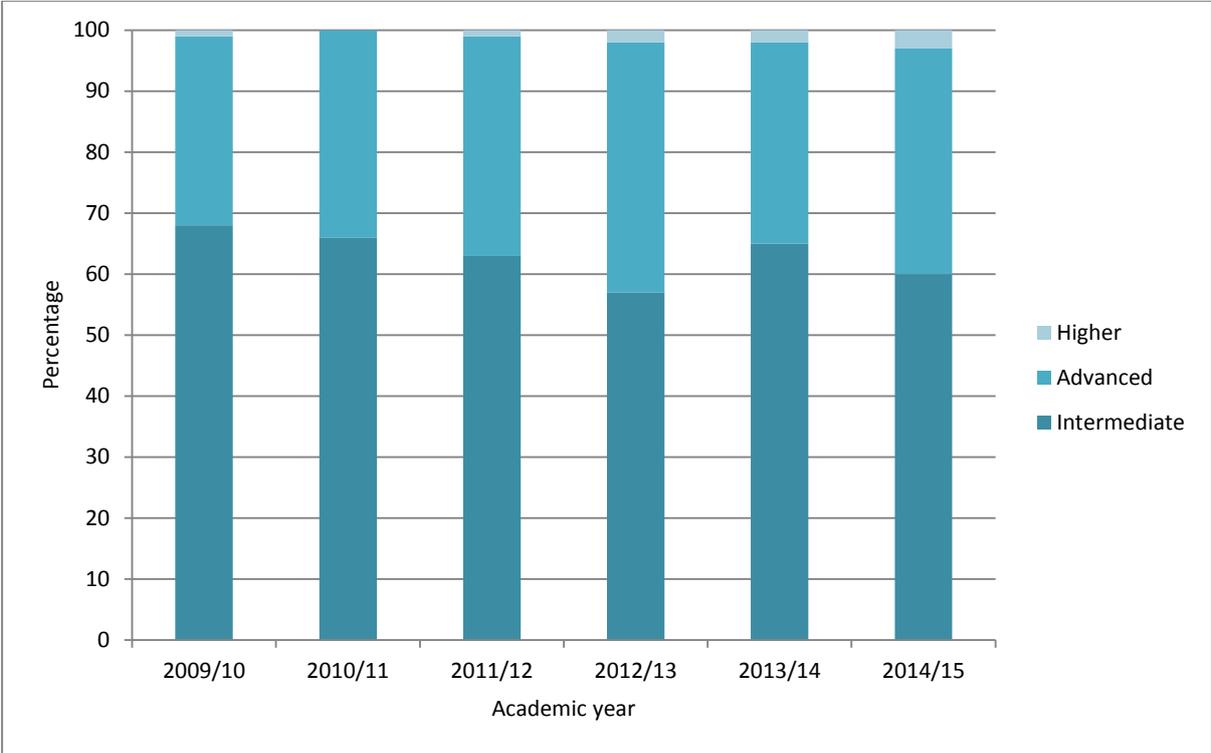
Apprenticeships require a commitment of between one and four years, with the apprentice's time split between work experience, skills training and study toward a related qualification. Responsibility for their delivery, then, is shared across employers and further education colleges, with the Association of Colleges stating that, "54% of large employers train their staff using a local college."¹⁵ As degree apprenticeships expand, the role of universities will also become increasingly important. Apprentices can expect to earn a wage and be given holiday allowance, with the only requirements being that they are over 16, living in England (other UK countries have their own schemes), and not in full-time education. Apprenticeships can be undertaken at three tiers, which are pegged to academic qualifications. The lowest level of apprenticeship, (confusingly entitled) 'intermediate', is equivalent to five GCSEs; the middle level, 'advanced', is equivalent to two A-levels; and the highest level, 'higher', can lead to NVQ (National Vocational Qualification) level 4, or a foundation degree.¹⁶ In the National Qualifications Framework (NQF), intermediate apprenticeships are equivalent to level 2, advanced to level 3, and higher to levels 4 and above. In Table 2, some common types of qualification are compared to the three stages of apprenticeship.¹⁷ According to the government, apprenticeships provide 'proven career progression', 'sought-after qualifications', 'job-specific skills', 'a salary', and 'top quality training'.¹⁸

Table 2: Comparison of apprenticeships with other qualifications¹⁹

Apprenticeship type	National Qualifications Framework level	National Qualifications Framework examples	Framework for Higher Ed. Qualifications examples
	Entry	Entry level certificate Entry level Skills for Life	n/a
	1	GCSE (grades D-G) NVQ level 1	
<i>Intermediate</i>	2	GCSE (grades A*-C) NVQ level 2	n/a
<i>Advanced</i>	3	AS and A level NVQ level 3	
<i>Higher</i>	4	Certificate of higher ed. NVQ level 4	Certificate of higher ed. Higher National Certificate
	5	Higher National Diploma NVQ level 4	Higher National Diploma Foundation degree
	6	NVQ level 4	Bachelor's degree
	7	Postgraduate diploma NVQ level 5	Master's degree
	8	NVQs level 5	PhD

Given this, it is unsurprising that consecutive governments have worked hard to expand the programme. But is this expansion all that it seems? The dramatic increase in apprenticeship starts in recent years can be misleading. As the Sutton Trust has previously stated, “The growth in apprenticeships has been a numbers game with successive governments”, with an emphasis on increasing quantity, but not necessarily quality.²⁰ Central to this has been the rebranding of existing schemes. Intermediate apprenticeships have largely been a replacement for the Conservative’s Youth Training Scheme, introduced in 1983. And the advanced apprenticeships currently advocated by government have been about replacing, in part, Labour’s Train to Gain programme, introduced in 2006, for which funding was cut during the last (coalition) government.²¹ The Youth Training Scheme, in particular, reduced the time needed to complete an apprenticeship, so that apprentices could become productive semi-skilled members of the workforce more quickly. But this “dilut[ed] the concept of apprenticeship to mean little more than work experience rather than a holistic formation process leading to skilled employment.”²² It also introduced the requirement that training be competence-based, meaning that the performance of everyday work duties was given precedence over more knowledge-based training.²³ It is this policy lineage that has ensured that, as of today, the vast majority of apprenticeships in the UK are offered at the lowest level. For the academic year 2014/15 (provisional), 60% of apprenticeship starts were at intermediate level, 37% at advanced and just 3% at higher.²⁴ In other words, the vast majority of apprenticeships are equivalent to the qualifications of GCSEs, rather than A-levels or higher education.

Figure 1: Apprenticeship starts by type by academic year²⁵



Glossary²⁶

Advanced apprenticeship

The level above intermediate and below higher, these apprenticeships are the equivalent of AS- and A-level study. They account for about a third of all apprenticeships

Business and Technology Education Council (BTEC)

Awarded by Pearson, BTECs are work-related qualifications, which can lead to first employment, career progression or university entry, although they are rarely used for the last of these

Degree apprenticeship

Recently introduced by government, degree apprenticeships sit alongside the best higher apprenticeships in terms of quality, leading always to degree level qualifications

Foundation degree

Degree level qualifications that are designed in dialogue with employers, these combine academic skills development and study with workplace experience. They normally last two years

Framework for Higher Education Qualifications (FHEQ)

One of the UK's three regulated qualification frameworks, examples include HNCs and HNDS, as well as traditional university degrees, such as bachelor's, master's and doctoral degrees

Higher apprenticeship

The highest level of apprenticeship, alongside the newly-introduced degree apprenticeships, these are above intermediate and advanced, but account for only a small fraction of apprenticeships

Higher National Certificates/ Diplomas (HNCs/HNDs)

Provided by further and higher education colleges, HNCs are pegged to NQF framework level 4 and HNDs to level 5. HNCs normally take one year to complete and HNDs two years

Intermediate apprenticeship

The entry level for apprenticeships, below intermediate and higher, these are the equivalent of GCSE level study. They account for the majority of apprenticeships undertaken

National Qualifications Framework (NQF)

One of the UK's three regulated qualification frameworks, examples include GCSEs, A-levels and NVQ awards. The framework addresses a range of qualifications, academic and vocational

National Vocational Qualification (NVQ)

Based on national occupational standards, NVQs are undertaken during work and cover the main duties of a particular occupation. They are assessed by portfolio and workplace observation

Qualifications and Credit Framework (QCF)

One of the UK's three regulated qualification frameworks, examples include BTEC awards, higher national certificates and diplomas. The framework generally caters for vocational qualifications

School-leaver scheme

Generally run by larger organisations, school-leaver schemes are provided as alternative pathways to university for career success. They are similar, but not identical, to higher apprenticeships

'Traditional' degrees

By far the most widespread route into well-paid careers in the UK, these include bachelor's, master's and doctoral degrees

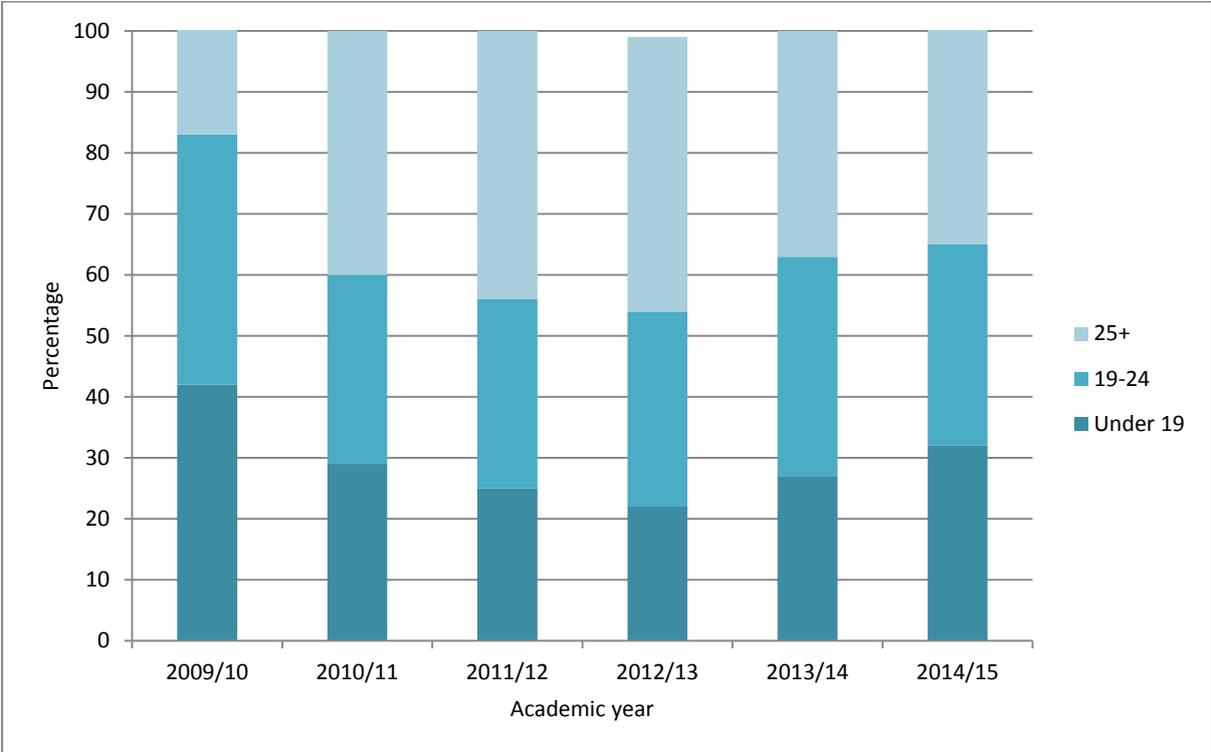
The government's efforts in this respect have not always been helped by employers, either. It was recently reported that companies that promote 'fake apprenticeships' will face government action. "One firm claiming to be offering apprenticeships", for example, "was found to be training employees in IT skills on just six days a year, rather than for one or two days per week as is normal."²⁷ Today, given the size of the apprenticeships market, the government is being forced to rely upon the public to report such incidences. A leaked document from the Department for Business, Innovation and Skills has also stated that some apprentices are existing workers, converted to enable employers to access government funding.²⁸ The Richard review of 2012 found that some apprenticeships were lasting just months, rather than years.²⁹ The coalition government, for example, queried some supermarkets offering 'apprenticeships' lasting a matter of months where skills amounted to little more than shelf-stacking. In dialogue with the government, employers must play their part in creating an apprenticeship market in the UK that is both substantial and dynamic. Estimates have suggested that less than a quarter of UK employers offer apprenticeships, while over half of employers offer them in Germany and Switzerland.³⁰ Research by Oliver Wyman has found that there are many benefits to be accrued by employers that run the best apprenticeship schemes, with apprentices exhibiting a high degree of loyalty to the company that trained them, and thus providing returns on the company's investment.³¹ Skills Training UK have reported that over three quarters of employers that employee apprentices believe that apprenticeships make their companies more competitive and productive.³²

The quality of apprenticeships is not the only issue. Before 2004/05, apprenticeships were only available to those under the age of 25. Since this rule was relaxed, partly in an effort to hit overall enrolment targets, there has been a high uptake of apprenticeships by more mature learners.³³ As of 2013/14, over a third of all apprenticeship starts were undertaken by those over 25, with a similar proportion aged 19-24, and just over a quarter under 19. With the increasing unpredictability of career trajectories, it is important that older workers are able to retrain and switch between economic sectors.³⁴ At the same time, one of the central purposes of vocational training is to prepare young people for the labour market, not least because of the aforementioned high level of unemployment among this age group, and the importance of this period in a person's life to their future life chances. As has been stated by academic experts, "Increasing the number of apprenticeships that are offered to people aged 25 and over has diluted the important role that they should play in socialising young people and preparing them for the world of work."³⁵ Increasing the recruitment of young people into apprenticeships has been a government priority for some time, and there have been small improvements across years.³⁶ This progress needs to be consolidated and continued, if apprenticeships are to provide a robust vehicle for improving the lives of young people in the UK, especially those from disadvantaged backgrounds.

Amidst the challenges of the apprenticeship system, however, there is also great potential, some of which has already been realised by the thousands of former apprentices to have

entered the labour market and to have pursued successful careers. Later in this report, some of the best apprentices from the UK’s leading apprenticeship schemes are profiled, attesting to this potential. Now in its 12th year, apprentices are celebrated annually at the National Apprenticeship Awards, where the best apprentices and employers of the past year are announced.³⁷ Asked what (if anything) they valued most about their apprenticeship, young people interviewed for this research stated: “The supportive values of the firm”; “The empowerment and trust that is given to apprentices from the start”; “The outcome, experience and wage”. Another apprentice stated that, “Colleagues are not teachers, but I learn so much more from them than I would at university”.³⁸

Figure 2: Apprenticeship starts by age group by academic year³⁹



It is this balance between criticism and optimism which has marked much of the formal analysis of apprenticeships, including the Wolf review (of vocational education) and Richard review (of apprenticeships, specifically).⁴⁰ In 2012, the Richard review outlined several key recommendations, which stated that: first, apprenticeships needed to be redefined, so that only substantial and sustained training could be considered under that title; second, the qualification system required reform to make qualifications of genuine use to employers and apprentices; third, apprentices could only complete if they demonstrated a level 2 grasp of English and maths; fourth, there should be a mandatory minimum duration for apprenticeships; fifth, the focus from all stakeholders needed to be on the outcome of apprenticeships, rather than excessive regulation of the apprenticeship process; and sixth, the government needed to create the correct incentives for apprenticeship training, part of

which would be expedited by improving general awareness and knowledge of the apprenticeship scheme.⁴¹

In response, the government endorsed several of the Richard review's recommendations, including the necessity that apprenticeships require substantial genuine training; the improvement of professional standards within the system, including a more rigorous assessment framework; the need for all apprentices to demonstrate competency in English and maths skills; and the requirement that all apprenticeships last a minimum of 12 months.⁴² In addition, they announced the creation and nomination of 'trailblazers' – leading employers and professional bodies that “provide clear examples of effective practice and approaches which others [apprenticeship providers] can build on” – a scheme that the current government seems eager to expand.⁴³ But as the recent Commission on Apprenticeships makes clear, the reform process initiated by the Richard review is still in its infancy. And as the previous tables and figures demonstrate, while there has been some progress in increasing, for example, the proportion and number of apprenticeships at higher level, the majority remain at intermediate level; of which the efficacy is debatable, at best.⁴⁴ In 2012/13, there were over 500,000 apprenticeship starts; in 2013/14, this number had dipped to below 450,000.⁴⁵ Of these, 287,000 were at intermediate level, 145,000 at advanced, and 9,000 at higher; 120,000 were taken up by 19 year olds and under, 159,000 by those aged 19-24 and 162,000 by those over 25.⁴⁶ There is, then, much work left to accomplish, despite some promising signs, which are the topics of this report.

In structure, the report: first, outlines its methodology; second, explores apprenticeships as a vehicle for social mobility, including discussion of the finding that higher apprenticeships at level 5 can result in greater earnings than degrees from non-Russell Group universities; third, critiques the inequalities that are currently present within the apprenticeship system, and how these might be rectified with reference to international best practice; fourth, examines current popular opinion of apprenticeships, especially that of the young people for whom they are most important; and fifth, offers a series of conclusions.

Methodology

This report is informed by two primary sources: the first, a 2015 survey undertaken by ComRes online, representative of all young adults in the UK aged 16-18 by age, gender and region (n=1,017), which sought to understand how young people view apprenticeships, undertaken between May 25 and June 5; and the second, a research piece undertaken by Oliver Wyman across May-June 2015, which looked at the apprenticeship landscape in the UK, including a survey (n=118), focused on the experiences of current apprentices and their employers.⁴⁷

The report has also been supported by positioning point modelling undertaken by the Boston Consulting Group (BCG), which has modelled the career earnings of apprentices at intermediate (level 2), advanced (level 3) and higher levels (levels 4 and 5), and compared these to the lifetime earnings of graduates at various types of UK university, as well as those that leave school with no qualifications. To support these findings, the report draws upon Department for Education (DfE) data sets, including its most recent statistical publications on apprenticeships, as well as other secondary analysis in this area. BCG's calculations were derived from a purpose-built statistical model, which incorporated the latest rates of economic growth, student debt and employment, as well as public data on academic and vocational pay differentials (correct at the date of publication). This was adjusted for real earnings growth and the effect of student loan repayments, and assumed a retirement age of 60. Information from elite apprenticeship schemes, run by some of the UK's largest companies, was collected on a confidential basis, and this confidentiality is retained in this report. These are indicative results, but suggest that there are substantial financial gains to be made by those that are able to enrol on the best apprenticeship schemes. The projections in this report, discussed in the next section, are supported by other modelling in this area, undertaken by UK academics and government agencies, which have explored various aspects of the relationship between qualifications and lifetime earnings. For further information on the BCG model, please see the appendix.

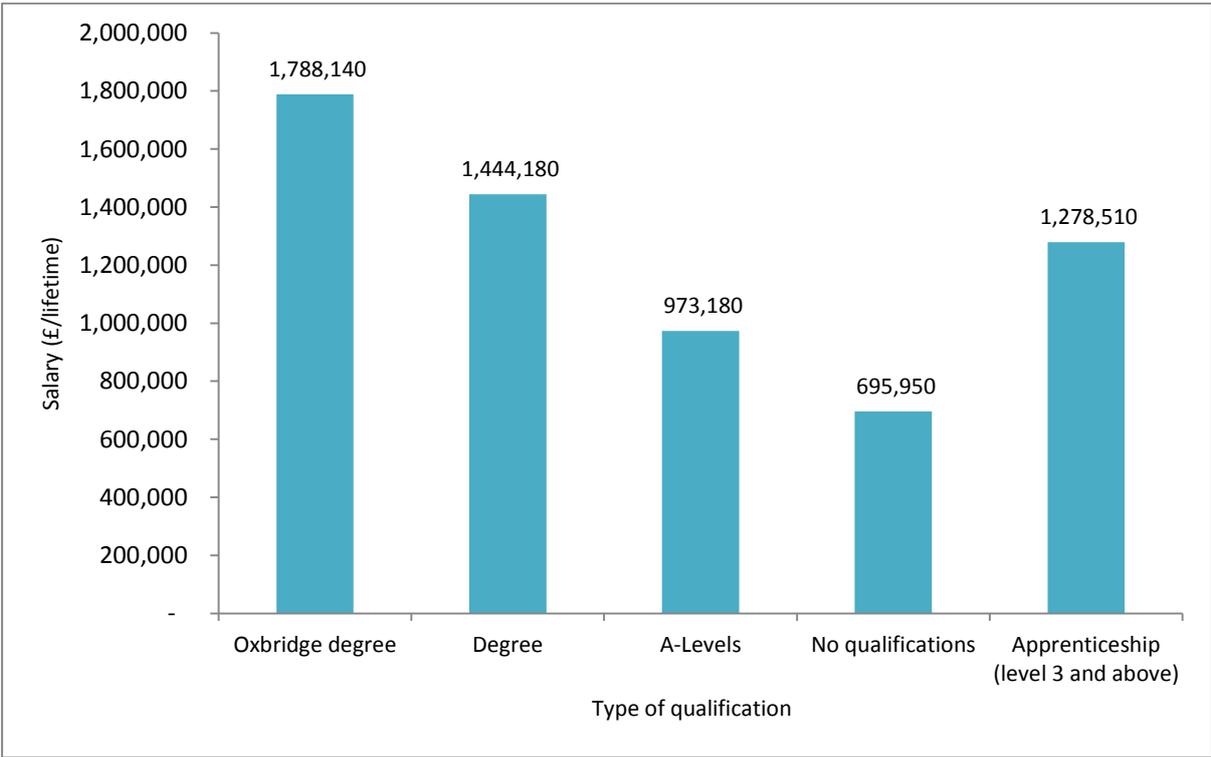
It should be noted that, as with any report of this nature, it is impossible to control for all variables. While qualifications are important for future careers prospects, they are not the only determinant of future career success. Students who undertake the best qualifications, whether academic or vocational, are also likely to be pre-existing high achievers, whose career earnings without undertaking these qualifications may have been higher than average (if not as high as with the qualification in question). Degrees and apprenticeships are pathways to success, but they are not a panacea for success in isolation; rather, they are part of the complex set of opportunities and limitations, both socially and individually-mediated, which structure any person's life.

An alternative path to social mobility: The promise of apprenticeships

For the young person about to leave school, which is the better pathway: the academic or the vocational? It is a complex question, informed by cultural values, pay differentials, socio-economic background, and of course personal preference, as well as a host of other factors. In everyday life, a university degree is still seen as the 'gold standard' for future success by many (see further discussion in the next section), but is this changing?⁴⁸ And should it change? Education experts have recently suggested that, "this summer [2015] may mark the peak of university admissions as other options become increasingly attractive."⁴⁹ In this section, the lifetime earnings of those pursuing these different options are considered as a way of approaching these questions, and of challenging certain preconceptions about the two pathways.

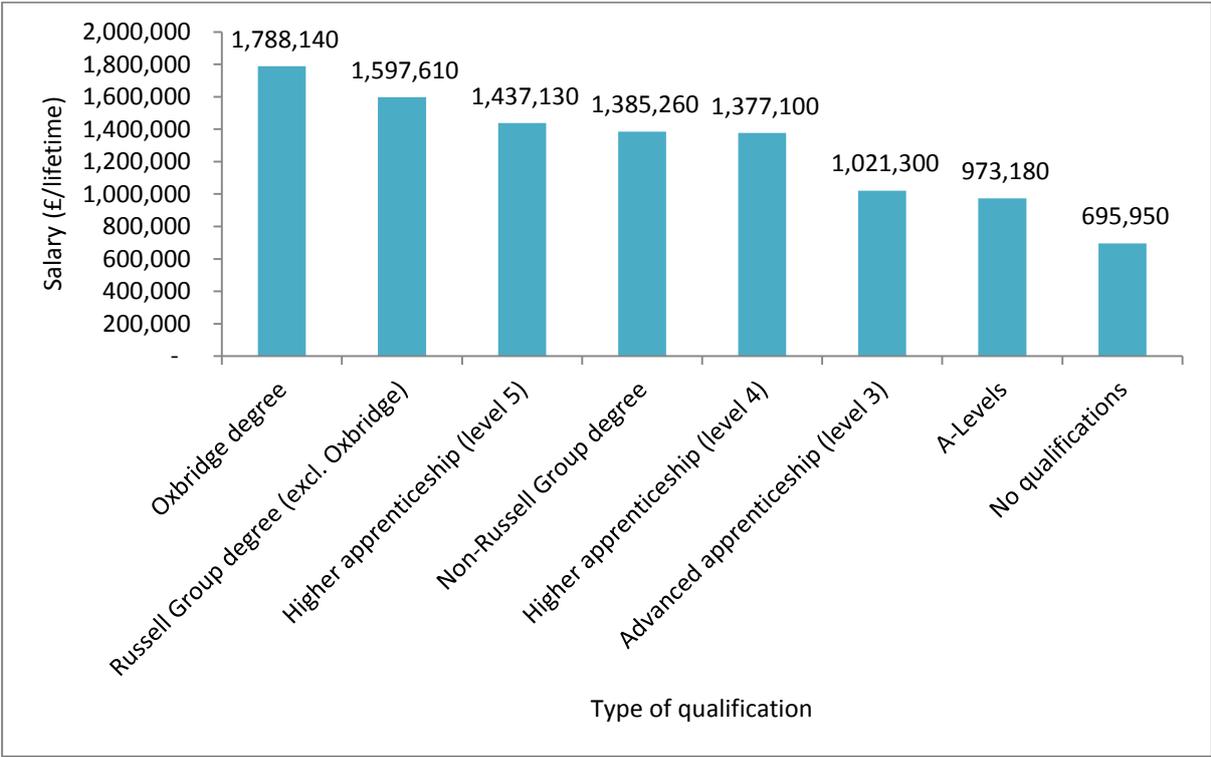
When the overall differential between the lifetime earnings of a graduate and an apprentice are considered, the data shows that there is still a significant advantage held by graduates, as one might expect. In Figure 3, a projection of the average overall lifetime earnings for UK graduates is presented, based upon the BCG model outlined above, alongside the average across those that successfully completed apprenticeships at advanced and higher level. While a graduate can expect to earn nearly £1.5m across a lifetime, which includes deductions from servicing student loans, an apprentice with a qualification at level 3 or above will earn over £150,000 less.

Figure 3: Average lifetime earnings, degree vs. apprenticeship⁵⁰



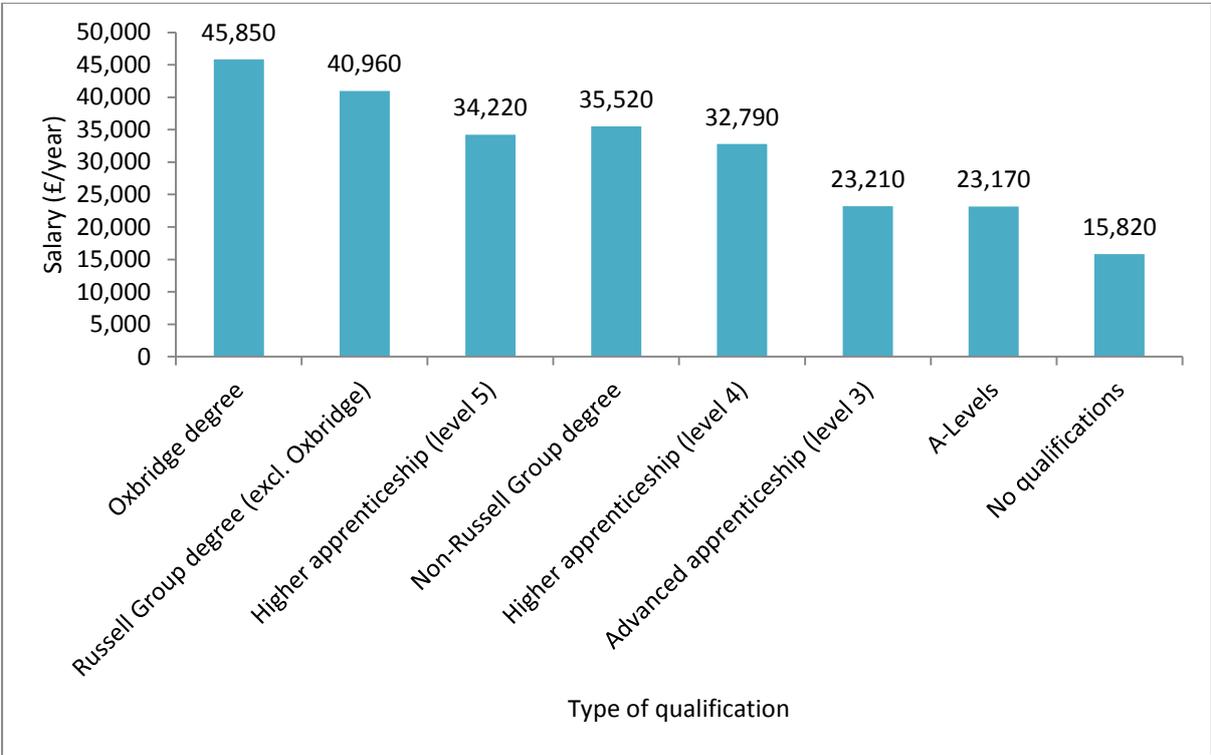
However, when the results are broken-down by type of degree and type of apprenticeship, the picture becomes more complex. Original research for this report suggests that across a person’s lifetime, undertaking a level 5 apprenticeship results in higher earnings than a degree from a non-Russell Group university, with a level 4 apprenticeship resulting in approximately the same earnings.⁵¹ Degrees from Russell Group universities still add a significant premium to an individual’s earning power (degrees from Oxbridge, even more so), but the suggestion that university degrees are always economically preferable at an individual level is a commonly held truth that is worth revisiting. Recently, the Office for National Statistics stated that, “On average, graduates aged 21 earned a lower gross annual wage than 21 year olds who left education with an apprenticeship.”⁵² Given that at 21 graduates are just starting their careers, this is perhaps to be expected, but it is also an important fact to note, because the financial head-start provided during these years appears to keep higher apprentices at level 5 ahead of their peers at non-Russell Group universities for the rest of their lives, in terms of cumulative salary. While university degrees should not be reduced purely to their personal economic impact, of course, the fact remains that with 40% of students suggesting that their course at university does not afford good value for money,⁵³ financial concerns topping the list of students’ worries about university,⁵⁴ and tuition fees ensuring that many emerge from their courses with high levels of debt that they retain well into middle-age,⁵⁵ there are some convincing economic arguments for some young people to follow the vocational, rather than academic route.

Figure 4: Average lifetime earnings by type of qualification, overall⁵⁶



In Figure 4, the average earnings of apprentices are modelled against the average earnings of graduates from the UK’s most selective universities, defined here as Oxbridge and the Russell Group.⁵⁷ The chart shows that the lifetime earnings for those who successfully completed higher apprenticeships at level 4, and the lifetime earnings of graduates from non-Russell Group universities, are broadly similar. For those who successfully completed higher apprenticeships at level 5, though, earnings were greater than for graduates at non-Russell Group universities, albeit fall some way short of a university degree from one of the UK’s leading universities (Oxbridge, or Russell Group excluding Oxbridge). It is a statistic that would surprise few, but it is worth mentioning that, on average, a graduate from Oxbridge will earn over £1 million more during their lifetime than a student who leaves school with no qualifications. The five years after a student undertakes their GCSEs are fundamental in shaping his or her life; indeed those years are perhaps the most important. Given this, it is crucial that young people are given the best information possible about their options, and how these might (or might not) benefit them in the future. The lead recommendation of the Sutton Trust’s recent report, *Advancing Ambitions*, was that, “The government should strengthen the National Careers Service and give it a clear role to support schools in the delivery of career guidance. Ideally this would include providing schools and colleges with free access to professionally qualified careers advisers including specialist advisers with expertise in vocational options and with knowledge of entry to elite universities.”⁵⁸ This report reiterates that call, and suggests that the Careers and Enterprise Company, formed at the end of 2014, is well-placed to facilitate this.⁵⁹

Figure 5: Average lifetime earnings by type of qualification, annual average



In Figure 5, the same data is presented as in Figure 4, but disaggregated by year. The qualifications are presented in the same order as the previous figure, but as one can see, higher apprenticeships (level 5) and non-Russell Group degrees have traded places. This is because, while lifetime earnings of level 5 apprenticeships are higher, this is partly a product of the head start that is provided by beginning to earn earlier. It is also worth reiterating that the pressures on graduate earnings promise to be increased as the government debates changes to the terms of student loans, as well as the level at which tuition fees should be set. Recent analysis by the Institute for Fiscal Studies with the Sutton Trust found that, “whereas graduates might previously have hoped to pay off all their debts by their late 30s, most will now continue to be paying back their student loan until their early 50s.”⁶⁰ With the government recently announcing that some universities will be able to increase their tuition fees in line with inflation from 2017-18, that maintenance grants will be converted to loans for the poorest students, and that the repayment threshold is likely to be frozen for five years, the burden of student loans across a person’s lifetime threatens only to increase.⁶¹

Higher apprenticeships: Five key facts⁶²

1. About 10,000 higher apprenticeships are undertaken each year
2. Applicants require A-levels, vocational level 3 qualifications or an advanced apprenticeship
3. Available at several levels: from NVQ level 4, to foundation degree, to bachelor’s, to master’s
4. As of 2014, the majority (58%) were in care leadership and management, or management
5. Funding differs, but a high proportion are funded jointly by the employer and government

Comparison with other research that has looked at the earnings differential between various qualifications is not straightforward, given differences in methodology, and the changeability of key economic inputs across time. This report does align, however, with research commissioned by the Department for Business, Innovation and Skills, which has suggested that, while the returns on level 2 qualifications and equivalent apprenticeships are marginal, those at advanced and higher level have a more profound effect on the earning potential of the individual.⁶³ The same trend has been reported elsewhere, including through independent academic analysis.⁶⁴

Overall, the data suggest that, under certain conditions, it can be more beneficial financially for a person to undertake a higher apprenticeship than a degree at university. This finding is dependent, though, on several assumptions, including the current tuition fee arrangement, the amount of debt that the average university student is likely to accrue during their studies (and the amount of time that they will take to pay this off), the type of apprenticeship that is undertaken (it must be at level 5, with level 4 boasting comparable, but lesser returns), and the awarding university of the degree to which the apprenticeship is being compared. Given that young people from disadvantaged backgrounds might be disproportionately deterred by the high levels of debt incurred by university study, and that apprenticeships are accompanied by a starting wage, they can be vehicles for social mobility for this group. If

these findings provide grounds for optimism, though, they should not be seen as presenting apprenticeships as an unproblematic panacea for social mobility. Before apprenticeships can become a robust mechanism for greater equality in the labour market, they must become more equitable, as the next section discusses.

Neil Loftus (Airbus)

Age: 21

School: Worcester College of Technology



After taking my A-levels in maths, physics and economics, I was looking for a way to go to university without paying £9000 tuition fees. Higher apprenticeships seemed the best option, where I could gain experience in a work place, attend university and earn a wage.

I moved to Bristol for the three-year Airbus higher apprenticeship, where I gained an NVQ4 in engineering leadership and a BEng (Hons.) in Aerospace Engineering. The company paid for all my fees and when I wasn't at university, I was working on site in a variety of roles.

I moved around the company in three month placements, experiencing research and development, manufacturing, aircraft structural design and full scale aircraft testing. The experience I picked up during placements has let me apply my university learning in a way that other university students wouldn't be able to. It's given me a professional work ethic, and I'll be applying for my professional accreditation at the end of the year.

During my placements, I got hands on experience of the work that was done on modern aircraft, and worked with knowledgeable engineers who helped me learn my trade. Many of these engineers had also started their careers as apprentices, so they understood how important their support was to me.

After my apprenticeship, I'll be able to continue working at Airbus, and will become a full time employee at 21. This is something that many graduates without an apprenticeship are unlikely to achieve for another few years.

Tobi Ajala (BBC)

Age: 22

School: St. Charles Sixth Form College, London



I wasn't actually looking for the apprenticeship when I came across it. But once I visited the BBC at their London open day I was attracted to how they combine employment, higher education and in-house industry training to give young people the opportunity to become engineers. It was everything I was looking for as I valued education, but also understood how vital it is to be able to apply that education in a working environment.

My title is Apprentice Broadcast Engineer. During the three year program I'll attend university, studying a Broadcast Engineering BEng degree, and have work placements in lots of different areas. During these, I'll learn how to apply my university knowledge in BBC broadcasting house, production companies and in radio/ television transmitter organisations. Other weeks, I receive training by BBC accredited Engineers about specific BBC technologies.

My goal by the end of the apprenticeship scheme is not only to graduate from university, but to gain knowledge and experience that will allow me to succeed within a wide range of engineering sectors.

The best things about the apprenticeship experience are also the most challenging. For example, the university study can be tough due to the amount and level of information, but you're surrounded by other apprentices and we all help each other. Overall, it's a great experience, which has a few challenges just like any other new experience, but the reward at the end is great.

Alice Roberts (Jaguar Land Rover)

Age: 21

School: Heart of England School, West Midlands



I've always been interested in maths and science, but developed a passion for engineering after participating in a Greenpower racing team at sixth form. For this, we had to build and race a battery-powered car: it was a great experience, and I decided I wanted to work in the automotive industry.

I applied to Jaguar Land Rover, knowing that they have an excellent apprenticeship scheme. It allows you to work towards a degree while achieving your apprenticeship, something that other employers don't always offer. The company's also expanding rapidly, so it's a really exciting time to work for them.

During my apprenticeship, I've undertaken a variety of duties. I've completed several cost estimates and worked with engineers on alternative powertrain options. I've also produced two training guides on aluminium stamping processes and brake booster manufacture that can be used by other apprentices and new starters.

My apprenticeship has also given me the opportunity to undertake a variety of training. Recently, I finished a course in cost engineering at Cranfield University. I've also completed two courses on plastics moulding at the Polymer Training and Innovation Centre in Telford. And last summer I was awarded a distinction in my foundation degree in engineering from Warwickshire College.

I think apprenticeships offer lots of advantages over the traditional degree route: you can earn while you learn, receive training tailored to the job you'll have when you finish, and apply the skills and knowledge learnt at university to real life situations.

Luke Gainham (PwC)

Age: 22

School: Wolverhampton Grammar School



The apprenticeship scheme at PwC had lots of attractions for me: PwC is obviously a household name in terms of top employers, so I thought it was a great opportunity to develop as a professional; I'd studied economics before, so thought that tax would be an interesting field to work in; and the 'earning while learning' factor was also an attractive prospect.

My day-to-day job consists mainly of preparing UK tax returns for people coming to or leaving the UK. These can vary from mildly challenging to very difficult, which makes each day interesting and ensures that I'm always switched on. As my role is client facing, I also deal with queries from assignees in relation to their tax returns, as well as client contacts that take care of company pay rolls.

In addition to my office work, I'm studying for the ATT (Association of Taxation Technicians) qualification which, once completed, means I'll be a qualified tax technician. I'm taking a diploma alongside my ATT, too, which tests the various skills required to be a competent employee.

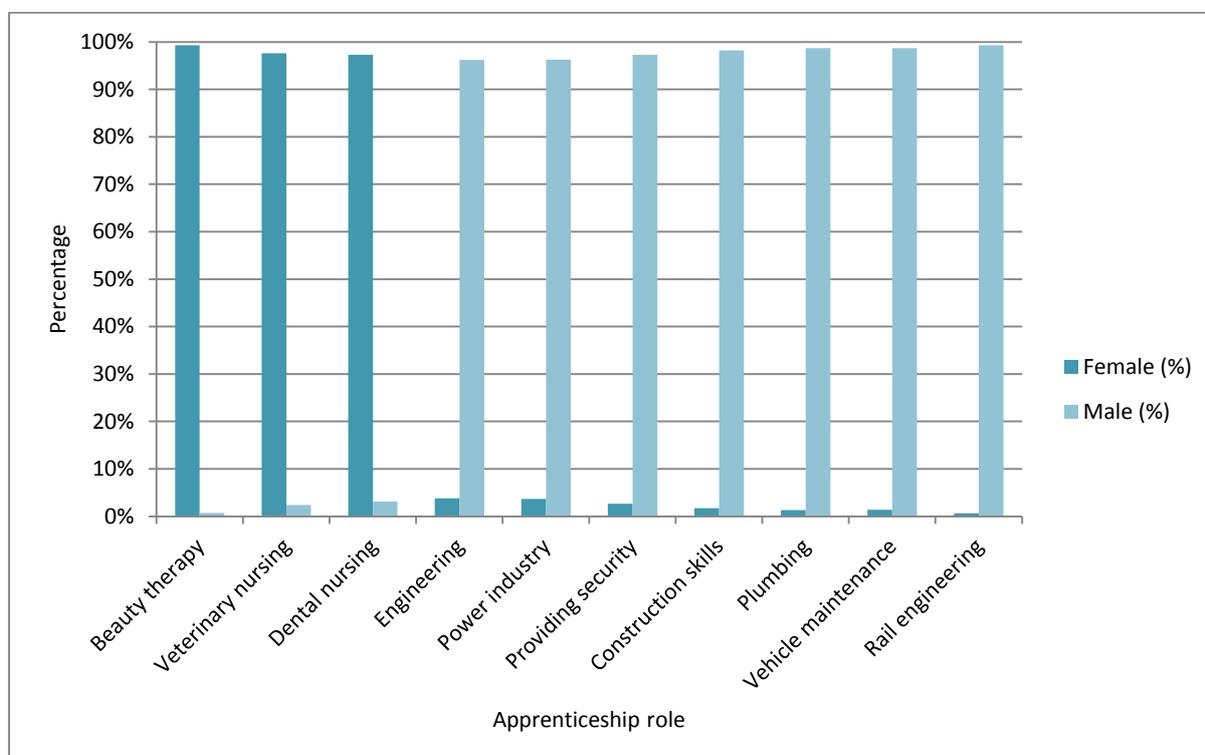
I've really enjoyed my first year at the firm, and my colleagues have made me feel extremely welcome in the Reading office. Looking ahead, I'm looking forward to passing my ATT qualification, taking my CTA (Chartered Tax Adviser) qualification – the highest tax qualification in the UK – and hopefully staying with PwC in the future and progressing with the company.

Reducing inequalities: Improving apprenticeship access and quality

While apprenticeships have the potential to act as drivers of social mobility, with access to some of the UK's most disadvantaged communities, there are existing inequalities. These will need to be addressed before the provision of apprenticeships is adequate for the young people who stand the greatest chance of benefiting from them.

For example, studies have shown that gender segregation remains a significant problem, with the vast majority of apprentices in engineering being male, while the same group represents only a tiny minority in traditionally 'female' sectors, such as hairdressing.⁶⁵ In engineering, nearly 93% of apprentices are male, which is even more unequal than the university sector, where approximately 85% of graduates in engineering and technology are male (a still remarkable imbalance).⁶⁶ These trends are explored in Figure 6. They show that despite government efforts to increase the proportion of women working in STEM (science, technology, engineering and mathematics) subjects, there is a significant distance still to travel.⁶⁷ Research has suggested that such segregation has a marked effect on salaries, too. It was recently reported that female apprentices, on average, were paid at least £1 less an hour than male apprentices, with one reason being that, "they [female apprentices] dominate poorly paid sectors such as administration, health care and retail, while men dominate building and engineering."⁶⁸

Figure 6: Apprenticeships (all levels) by gender and sector⁶⁹



Young people from minority ethnic communities and those with disabilities are also less likely to be enrolled on apprenticeships than their proportion of the national population would suggest.⁷⁰ While prejudice alone may not account for this discrepancy, this may be a contributing factor, along with potentially lesser knowledge of apprenticeship programmes among particular subsets of these communities.⁷¹ Ensuring equal access to apprenticeships will be an important part of reforming apprenticeships into effective drivers of social mobility. The emphasis in many apprenticeships on manual work should also be seen as a challenge to be overcome together, rather than a reason for fewer applications to apprenticeship positions by the latter, whose rights in this respect are protected under equality legislation.⁷²

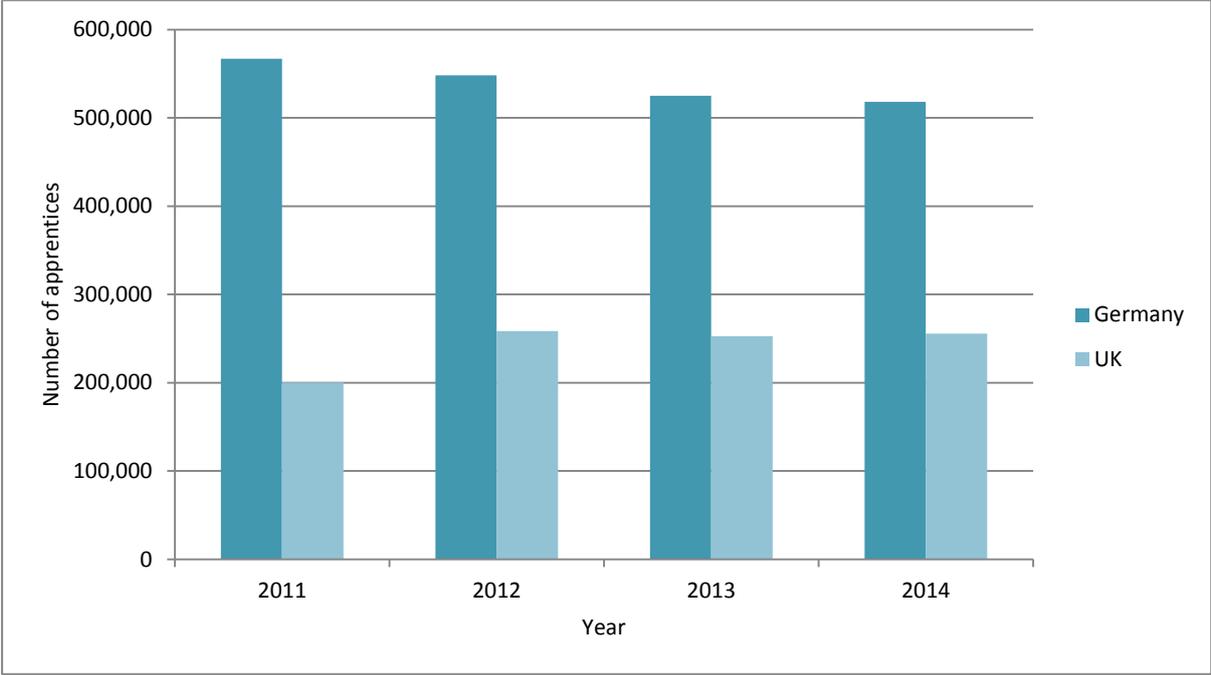
Perhaps ironically, differing levels of academic attainment also appear to affect the quality of apprenticeship open to a young person. Original research for this report by Oliver Wyman has suggested that, of those apprentices enrolled in some of the UK's top apprenticeship schemes, a disproportionately high number seem to have attended schools with higher levels of progression to Russell Group universities and lower levels of students receiving free school meals, and a disproportionately low number seem to have come from low-income families.

What is required is not simply an increase in the number of apprenticeships on offer in the UK, but an increase in the best apprenticeships – higher apprenticeships (particularly at level 5) – which offer an alternative to academia with the prospect of better individual financial security. The race for places on the best apprenticeship schemes is currently much more competitive than that for the nation's top universities, which illustrates the dearth of high quality apprenticeships on offer.⁷³ The best higher apprenticeships offer routes to rewarding careers, with significant earning potential. For those from less advantaged backgrounds, in particular, they ensure that participants are not burdened with unsustainable debt and, indeed, are paid an appropriate salary for their work. The latest government estimates suggest that the average weekly wage for those on level 4 and 5 apprenticeships is £524 for men, £445 for women.⁷⁴ By contrast, the latest NatWest Student Living Index suggests that the average UK student is paying more than 2.5 times their income from part-time jobs on rent alone. The difference, including expenditure on consumables and other necessities, is made up by student loans, parental support, scholarships and grants, in that order.⁷⁵ According to NatWest, up to half of the average student's weekly expenditure is paid for by student loans.⁷⁶ A recent report by the Chartered Institute of Personnel and Development also found that the majority of graduates in the UK (58.8%) are working in non-graduate jobs.⁷⁷ Apprenticeships have the potential to offer a pathway away from what, for some from low-income families, is the financial challenge of studying for degrees, the efficacy of which can be variable.

In increasing the number of top apprenticeships, the UK might follow the German example; a comparison that also highlights the unequal provision of apprenticeships across the UK and other developed economies (Germany is focussed upon because it is the outstanding

example, but Switzerland, Australia and Austria all have effective schemes, which have been addressed elsewhere).⁷⁸ In Germany, all apprenticeships are at level 3 or above and the focus is upon *Jugendliche* (juveniles) (ages 15-19).⁷⁹ In other words, the intermediate apprenticeships that make up the majority of apprenticeship provision in the UK are simply not present in the German system; being of too low a standard to interest employers. Regardless of the prior qualifications of apprentices in the German system, all work toward apprenticeships of level 3 equivalency.⁸⁰

Figure 7: Completed apprenticeships, Germany (15-19 year olds) vs. UK (all)⁸¹



As well as having a significantly better quality of apprenticeships, Germany is also able to provide more of them. With a population about a quarter larger than that of the UK, Germany consistently qualifies over twice as many apprentices aged 15-19 as the UK does in total (see Figure 7). In Germany, provision is also made for off-the-job training, which broadens the skills set and thus labour flexibility of young people at the start of their careers.⁸² As the Edge Foundation, which campaigns for better vocational learning opportunities in the UK,

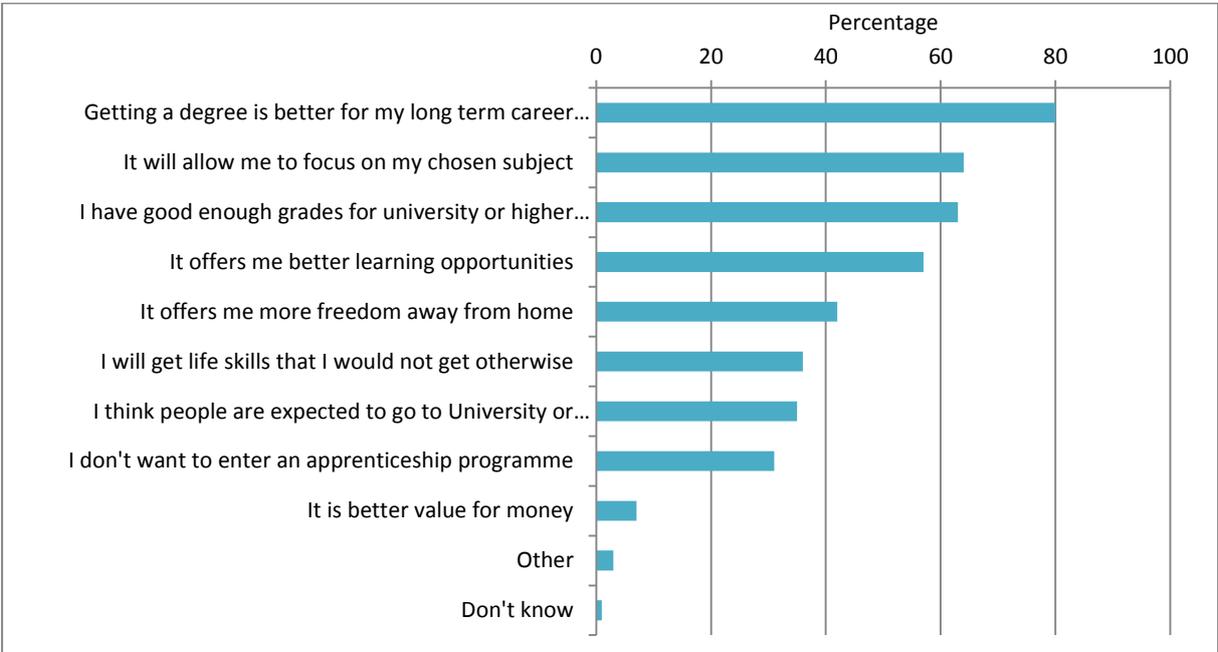
has recently stated, “countries with a strong commitment to vocational education and training (VET) tend to experience lower rates of youth unemployment.”⁸³

In Germany, the culture around apprenticeships, particularly as they relate to university degrees, also differs from the UK. A recent report by the German federal statistics agency, Destatis, stated that the proportion of those starting an apprenticeship eligible to attend university has almost doubled in recent years. “Reasons for the increasing preference for the vocational training among those qualified for university include the desire for more practice-orientated training, which is not covered by university courses”.⁸⁴ Again, the higher demand for apprenticeships is partly cultural, partly based on a rational economic decision by young people in a country where the apprenticeships provided are excellent. “In Germany... more than half of employers offer apprenticeships, compared with around 15 per cent in the UK. In these countries, apprenticeships are understood by potential apprentices as being an investment in their future, by employers as a means of achieving higher productivity, and by wider society as valuable for young people.”⁸⁵ “It is at this point that the more implicit goals of the [German apprenticeship] system become apparent. The broader set of civil capabilities that the system imparts plays an important role in establishing the identity of citizen in the German state.”⁸⁶ As previously stated, the ability of the UK apprenticeship scheme to enact this cultural shift (at least in isolation) is debatable – as the Richard review has noted, Germany has a quite different social contract than the UK, upon which its apprenticeship system has been built – but the German example does show that apprenticeships can, under the correct conditions, form a central pillar of good citizenship, rather than a ‘second best’ alternative to university study.⁸⁷

Closing the knowledge gap: Reforming apprenticeships, in thought and practice

Earlier in this report, we highlighted the significance of the relative cultural value attached to apprenticeships and university courses. The Commission on Apprenticeships has summarised this as, “The powerful cultural assumption that sees an academic path as the gold standard of education and an apprenticeship as a ‘second-best’ route”.⁸⁸ Such an assumption explains, perhaps, why approximately four in five young people aged 16-18 in the UK state that it is likely that they will go to university or into higher education after finishing school (81%), but only about one in five say the same about apprenticeships (22%).⁸⁹ Of those more likely to enter university or higher education than start an apprenticeship, some 80% believe that, “Getting a degree is better for my long term career prospects”, over half (57%) felt that university offered them better learning opportunities, and over a third (35%) cited the perceived societal norm that, “I think people are expected to go to university or higher education these days” (see Figure 8).⁹⁰ These findings suggest that nearly two thirds of young people across the country believe that a university degree is superior to an apprenticeship in terms of career prospects, and that about a quarter of young people explicitly do not wish to enter an apprenticeship programme as things stand.

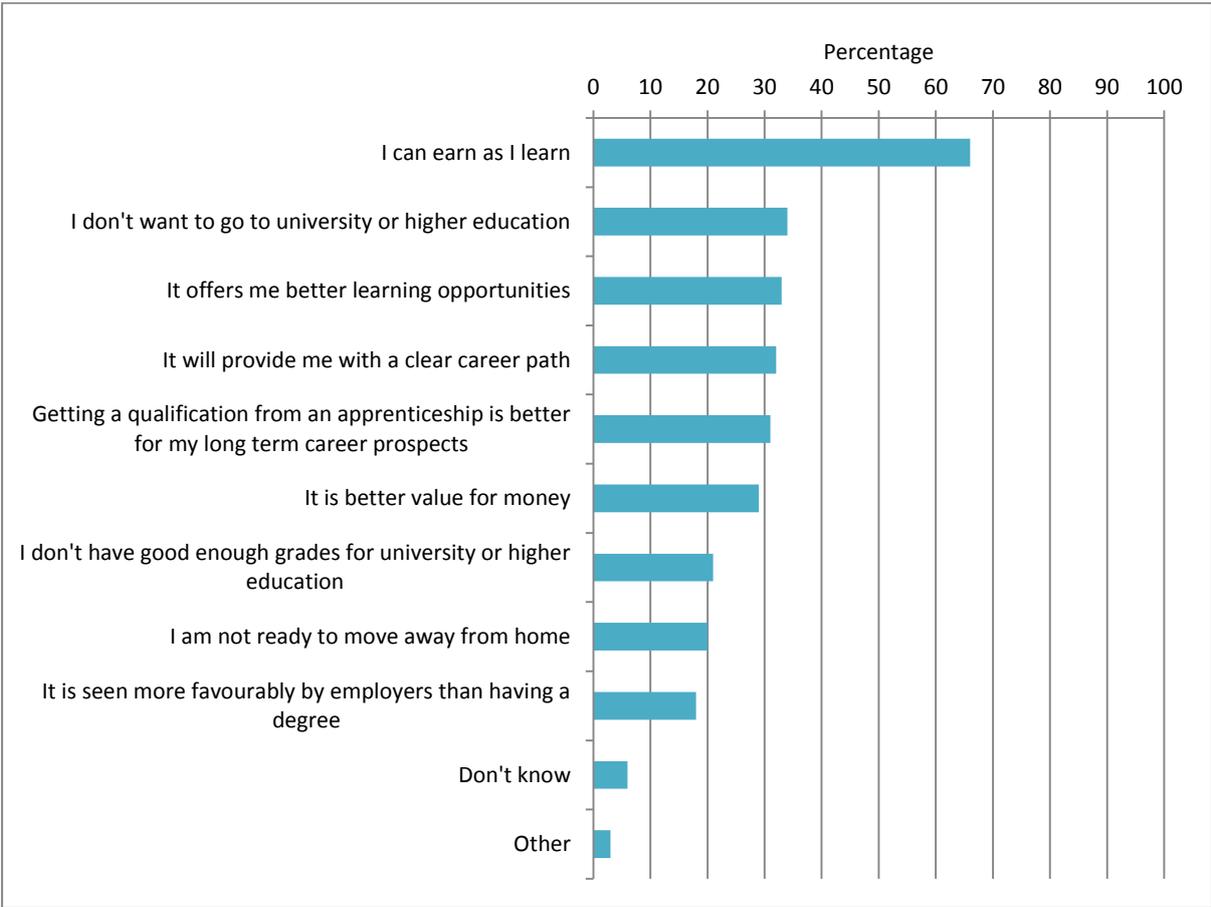
Figure 8: You said that you are more likely to go to university or into higher education than start an apprenticeship. For what reasons, if any, have you considered going to university or higher education over an apprenticeship programme? (All respondents more likely to go to university or higher education than start an apprenticeship, n=822)⁹¹



The reasons that young people say they are more likely to start an apprenticeship rather than going to university or higher education correlate with these findings. By far the most

common reason that young people say they are more likely to pursue an apprenticeship rather than go to university or higher education is the possibility of earning while learning (66%). Just a third (33%) feel that it provides them with better learning opportunities, compared to more than half (57%) of those that intend to pursue university degrees over apprenticeships. Slightly less than 30% believe that apprenticeships are better value for money than degree courses (29%), and perhaps significantly, 21% say that they “don’t have good enough grades for university or higher education.” Almost certainly, the imposition of tuition fees accounts for some of these financial concerns, perhaps the bulk.⁹² Although the minimum hourly-rate for apprentices is just £2.73 (rising to £3.30 as of October 1, 2015), apprentices can reasonably expect to complete their programmes with nominal or no debt.⁹³ In any case, many earn more than this minimum. According to the Department for Business, Innovation and Skills, the average hourly-rate for an apprentice (averaging across all types) is £6.91.⁹⁴

Figure 9: You said that you were more likely to start an apprenticeship than go to university or higher education. For what reasons, if any, have you considered starting an apprenticeship over going to university or higher education? (All respondents more likely to start an apprenticeship than go to university or higher education, n=195)⁹⁵



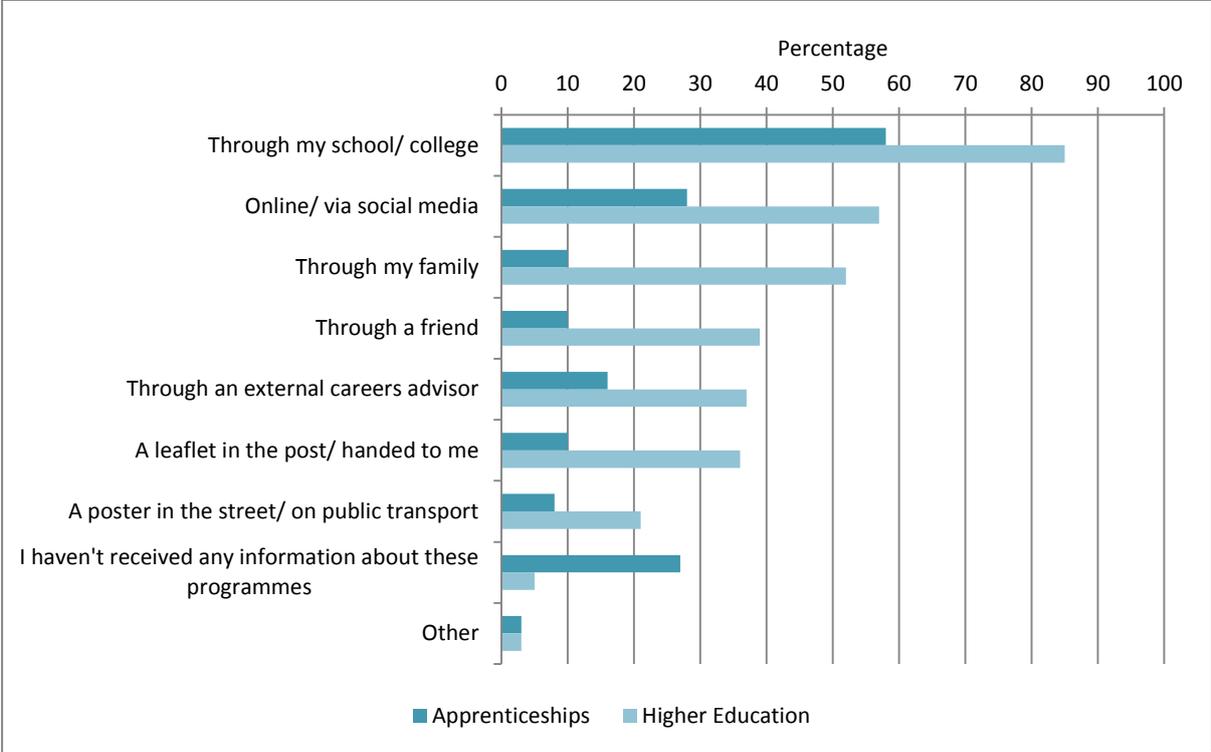
Recent estimates also suggest that the average university graduate leaves university owing over £40,000, with corresponding pressure to immediately enter a well-paid job.⁹⁶ As a result of the summer budget 2015, these projections have been increased further, with some suggesting that the least advantaged students will leave university in future with as much as £53,000 of debt.⁹⁷ Even with the graduate repayment system linked to earnings, those from more economically deprived backgrounds may be less able to hold and service significant levels of debt in the short term, making apprenticeships more attractive from an economic perspective. The recent changes announced in the 2015 summer budget, if all come to pass, will also disproportionately affected those students from disadvantaged backgrounds.⁹⁸ Moreover, as the findings earlier in this report suggest, in not all cases do the career earnings of graduates necessarily overtake those of apprentices. It might also be recalled that the best higher apprenticeships can lead to foundation degrees, a mechanism expanded and enhanced by the government's new (and as yet untested) degree apprenticeships. Course fees for both of these are shared between government (two thirds) and employers (one third), meaning that apprentices at the highest level can graduate without paying tuition fees.⁹⁹

In the future, it is vital that information on apprenticeships and vocational qualifications more broadly should be better conveyed to young people, so that they can make the most informed decisions possible about their educational futures.¹⁰⁰ At present, there is a significant disparity between the levels of information that young people are receiving about each pathway.¹⁰¹ While nearly nine in 10 students (85%) say that they have received information about university or higher education from their school or college, less than two thirds (58%) say that they have received information about apprenticeships from the same sources.¹⁰² As the Sutton Trust has recently stated, there needs to be more and better advice to young people from careers specialists within schools about the opportunities of vocational training and qualifications.¹⁰³ Young people are also disproportionately more likely to be informed about university progression than apprenticeships at home. According to the Commission on Apprenticeships, "just less than a third of parents (32 per cent) think that an apprenticeship would be the best option for their son or daughter, compared with just over a half of parents (52 per cent) who think that university would be the best option for them."¹⁰⁴ And in the secondary education sector, teachers are more likely to encourage their students to pursue university study, rather than apprenticeships; a finding supported by the Sutton Trust's own research in this area, with 65% of teachers saying that they would rarely or never advise a student to taken an apprenticeship if they possessed the requisite grades for university.¹⁰⁵

Why the imbalance? In part explanation, the Richard review of apprenticeships suggests that, "schools are financially incentivised to retain pupils in their sixth forms, and to a large extent, despite the recent introduction of new destination measures which recognise a wider range of outcomes, continue to measure their own success on the number of students they get into university. Thus apprenticeships are, in the best of cases, ignored and in the worst cases, actively discouraged."¹⁰⁶ There is some evidence that this view of schools' approach to

apprenticeships is shared by industry, too.¹⁰⁷ While the importance attributed to apprenticeships by teachers and parents might require, in part, a cultural shift of the kind discussed previously (and predicated upon a reform of the apprenticeship system, in the first instance), the lack of easily accessible information online (Figure 10) is easier to remedy. Given the prevalence of social media, the fact that just over a quarter (28%) of young people have received information about apprenticeships through the same channel seems relatively low.¹⁰⁸ That a similar proportion (27%) have received no information at all is concerning. If the government wants to expand the apprenticeship programme, as it should, then further resources should be committed to cultivating knowledge of the scheme among young people. This might include greater information on apprenticeships at A-level careers events, amongst the stalls traditionally dedicated to higher education.

Figure 10: Via which channels, if any, have you received information about either university and higher education, or apprenticeships? (All respondents, n=1,017)¹⁰⁹



Discussion around apprenticeships often reflects class preconceptions in Britain in a way that is not the case in Germany, where middle class young people are as likely to become apprentices as undergraduates. In the UK, the authenticity of apprentices' experience is often cited as a key selling point. In the foreword to the Wolf review, for example, then Minister of State for Further Education, Skills and Lifelong Learning, John Hayes, stated that, "While there have been many calls over the years for greater parity of esteem between academic and vocational qualifications, in practice this has meant making what is practical more academic, to the detriment of both. It is time, as the [then] Secretary of State [for Education, Michael Gove] has said, that we recognise the 'inherent value of craftsmanship' –

the intrinsic richness of manual work, practical and technical competences.”¹¹⁰ In similar fashion, mainstream media coverage has suggested that, “An apprentice has a number of advantages over interns and volunteers... They can form close personal relationships with industry professionals, witness the inner workings of the business... an apprenticeship means direct, hands-on training. Apprentices learn by seeing *and* by doing... They get a first-hand feel for the nature of the work as well as a chance to hone the skills and tricks needed to become experts.”¹¹¹ These sentiments are made largely in opposition to a culture that praises and values academic pursuits over the practical application of manual skills; at least so far as employment is concerned. But part of this disjuncture undoubtedly stems from the fact that manual labour is synonymous with ‘working class’ culture, traditionally devalued; cerebral labour with the ‘middle classes’. Addressing these perceptions requires both a real improvement in the quality of apprenticeships and radical increases in the number of good apprenticeships.

Conclusions

Apprenticeships offer substantial potential for improving the social mobility of young people in the UK, and this report has shown that the lifetime earnings of those that have undertaken higher apprenticeships at level 5 can exceed those with university degrees from universities outside the Russell Group. For those who have undertaken higher apprenticeships at level 4, the earning potential is similar to those with degrees from non-Russell Group universities, but for those with apprenticeships beneath this level, there is a significant negative pay differential relative to undergraduate degrees, which increases as the apprenticeship level decreases. An apprenticeship under level 3 is only a little better than holding no qualification at all.¹¹² The government's target to recruit 3 million more apprentices by 2020 is to be celebrated, but it must be ensured that the majority of these (at least 1.5 million) start at, or lead to, level 3 qualifications at minimum.

To ameliorate this, and make apprenticeships a genuine way to begin a successful career, significant reform of the system is needed. Too many of the apprenticeships available in the UK are at intermediate level, which does not provide the breadth and depth of skills training required for success in today's labour market, as the earning potential of those that undertake them suggests. While ostensibly level 2 qualifications, equivalent to 5 GCSEs, the first result returned by the government's 'Find an Apprenticeship' website for an intermediate apprenticeship (a hairdresser) listed duties including, "making teas and coffees for clients".¹¹³ It is this kind of advertisement that has led some to criticise intermediate apprenticeships as little more than glorified work experience programmes, allowing employers to pay nominal wages to employees that would otherwise qualify as formal junior staff.¹¹⁴ As City & Guilds have recently stated, the best apprenticeships should provide expertise in an occupation, resourcefulness, craftsmanship, functional literacies, business-like attitudes and wider skills that provide the foundation for a lifetime of learning.¹¹⁵ The recent government promise to protect the term 'apprenticeship' may have some positive effect here, but this remains to be seen.¹¹⁶ And serious concerns have recently been raised that employers are not fulfilling their obligations with regard to training their apprentices.¹¹⁷

In addition, and in an effort, in part, to increase total numbers, apprenticeships have been opened up to those over the age of 25. Given the increasing skills flexibility required of workers throughout their working lives, this has clear benefits, but focus should still be given within the apprenticeship system to the young.¹¹⁸ In this, the UK should take its cue from the German system, where the quantity and quality of apprenticeships is not only much higher, but targeted at younger members of the population, about to enter the labour market and become (it is intended) productive members of the economy. The experience of other European countries, such as Germany, shows how far the UK has to go to create an apprenticeship system that truly offers an alternative path to university, but also the potential and possibility of doing so.

Together with these systemic changes, the public perception of apprenticeships also needs to be addressed. Recent governments have attempted to boost the reputation of apprenticeships through the creation of the National Apprenticeship Awards and the National Apprenticeship Week, but at present, apprenticeships are too often linked with the 'lesser' skills associated with manual labour.¹¹⁹ This traditional division should and can change.

Acknowledgements

Thanks to Katie Fletcher and Francien Akkerman at the Boston Consulting Group, and Elizabeth Bragonier, for their work on the lifetime earnings model; Elizabeth Davidson and Lindsey Naylor at Oliver Wyman, for their research on this topic; Neil Loftus (Airbus), Tobi Ajala (BBC), Alice Roberts (Jaguar Land Rover) and Luke Gainham (PwC), for sharing their experiences of their apprenticeships; and Holly Wicks, Rachel Britton and Aahad Ali of ComRes for their polling and research support. Any mistakes remain the author's. Please note that the kind assistance of the aforementioned does not necessarily imply the report's endorsement by the same.

Appendix: The Boston Consulting Group's model

The Boston Consulting Group is a global management consulting firm and one of the world's leading advisors on business strategy. The model constructed for this report has been designed to calculate the lifetime earnings resulting from different UK qualifications, looking at both academic and vocational programmes of study.

The model's calculations are based upon source data from three fields: first, growth and student debt data, which includes the latest figures for national economic growth, inflation and interest rates; second, employment rate data, which considers the employment percentage for those with different qualifications; and third, qualification pay uplift data, which uses predictions for the pay uplift of those with A-levels, different types of apprenticeship, and different types of degree, to work out the various financial returns of each. Specifically, the report uses A-levels as a base, using projections for uplift (or in the case of those with fewer qualifications, downlift) to predict the financial returns of other qualification types using the latest available analysis.

In constructing the model, the following sources (for full references, please see endnotes) have been of particular importance: for growth and student debt data, PwC's latest UK economic outlook; HM Treasury's *Green book*, the latest interest rate and repayment threshold figures from the Student Loans Company, analysis of the 2015 Summer Budget by the Institute of Fiscal Studies, and the 2015 Summer Budget itself; for employment rate data, the Office for National Statistics, and data from the most recent census (2011); and for qualification pay uplift data, the Office for National Statistics' 2011 labour force survey and the 2014 Department for Business, Innovation and Skills' apprenticeship pay survey, as well as the most recent projections from the National Audit Office and the Centre for the Economics of Education at the LSE.¹²⁰ Information pertaining to graduate starting salaries has been acquired from the Higher Education Statistics Agency's most recent Destination of Leavers from Higher Education survey, the Department for Business, Innovation and Skills' most recent report on the earnings differential between degrees awarded by different types of university, and the Sutton Trust's own research into the differences in career outcomes across UK graduates.¹²¹

Throughout the report, the figures quoted are based on real earnings growth, which accounts for national economic factors such as growth and inflation. For figures pertaining to graduates, these have been adjusted for the normal repayment schedule associated with average student debts. It should be noted that a discount rate has not been applied.

As with any models of this nature, there are necessarily limitations. As stated, these projections are based on the latest, most authoritative data, but they are still averages, through which it is impossible to capture all the nuances of the employment landscape. An apprentice in management can expect to earn over £10,000 more per annum than an apprentice in children's care (averaging across levels 2 and 3).¹²² Similarly, recent research by the Sutton Trust found that there was a difference of over £12,000 between the annual starting salaries of graduates in design and creative arts, and medicine and dentistry, in favour of the latter.¹²³ It might also be noted that tuition fees, average student debt, interest rates, and other economic factors change frequently, and can affect the lifetime salary that an apprentice or graduate might reasonably

expect to earn. Every effort has been made to ensure that the model is as accurate as possible, but it is with these caveats borne in mind that it has been used in this report.

Endnotes

¹ Cowman, K. (2014). *Apprenticeships in Britain c. 1890 – 1920: An overview based on contemporary evidence*. London: Skills Funding Agency.

² Skills Funding Agency. (2015a). 100 years of apprenticeships – Most common apprenticeships in 1914 and 2014. Retrieved July 28, 2015, from <https://www.gov.uk/government/publications/key-facts-about-apprenticeships/100-years-of-apprenticeships-most-common-apprenticeships-in-1914-and-2014>.

³ Panel on Fair Access to the Professions. (2009). *Unleashing aspiration: The final report of the panel on fair access to the professions*. London: Panel on Fair Access to the Professions.

⁴ Mirza-Davies, J. (2015b). *Apprenticeship statistics: England*. London: House of Commons; Skills Funding Agency. (2015b, July 2). Apprenticeships by framework, level and gender: Starts 2002/03 to 2014/14. Retrieved July 16, 2015, from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/422356/apprenticeships-starts-by-framework-level-and-gender.xls. Achievements and starts have been juxtaposed here for simplicity. It might be noted, though, that achievements as a proportion of starts for a particular year cannot be used to derive a success rate, because many apprenticeships require more than a year to complete. It should also be noted that, “Data from 2011/12 onwards is not directly comparable to earlier years. Small technical changes have been made leading to a reduction in overall learner numbers of approximately 2 per cent.” (Mirza-Davies, 2015b). The broad trends, however, remain accurate. All figures are rounded to the nearest thousand.

⁵ Thompson, G., Hawkins, O., Dar, A., Taylor, M. (2012). *Olympic Britain: Social and economic change since the 1908 and 1948 London games*. London: House of Commons Library.

⁶ Lanning, T. (2011). Why rethink apprenticeships? In Dolphin, T., & Lanning, T. (Eds.), *Rethinking apprenticeships* (pp. 6-16). London: Institute for Public Policy Research, p. 6; Demos. (2015). *The Commission on Apprenticeships*. London: Demos, p. 10.

⁷ Skills Funding Agency. (2014b). Key facts about apprenticeships. Retrieved August 3, 2015, from <https://www.gov.uk/government/publications/key-facts-about-apprenticeships>.

⁸ Mirza-Davies (2015b) p. 3. Data for 2014/15 is provisional at the time of writing, which is why it has not been included here.

⁹ Mirza-Davies, J. (2015a). *Apprenticeships policy, England*. London: House of Commons.

¹⁰ HM Treasury. (2015). *Summer budget 2015*. London: The Stationery Office.

¹¹ Lanning (2011).

¹² Centre for Economics and Business Research. (2014). *Economic impact of apprenticeships: A Cebr report for the Skills Funding Agency*. London: Centre for Economics and Business Research.

¹³ Skills Funding Agency. (2014a). Congratulations to the National Apprenticeship Award winners and the Top 100 apprenticeship employers. Retrieved August 3, 2015, from <https://www.gov.uk/government/news/congratulations-to-the-national-apprenticeship-award-winners-and-the-top-100-apprenticeship-employers>.

¹⁴ Lanning (2011) p. 6.

¹⁵ Association of Colleges. (2015). Adults, apprenticeships and employers. Retrieved September 17, 2015, from <https://www.aoc.co.uk/term/adults-apprenticeships-and-employers>.

¹⁶ UK Government. (2015a). Become an apprentice. Retrieved July 9, 2015, from <https://www.gov.uk/apprenticeships-guide>. The coalition government also recently announced the creation of 'degree apprenticeships' (Burns, J. [2014, November 26]. Degree apprenticeships launched to boost hi-tech skills. Retrieved October 5, 2015, from <http://www.bbc.co.uk/news/education-30193095>). To differentiate them from existing higher apprenticeships, the Department for Business, Innovation and Skills stated that, "Higher Apprentices are already able to study to degree level as part of their apprenticeship but Degree Apprenticeships will go further. They will involve a degree as an integral part of the apprenticeship" (Department for Business, Innovation and Skills. (2015a). Government rolls-out flagship Degree Apprenticeships. Retrieved August 3, 2015, from <https://www.gov.uk/government/news/government-rolls-out-flagship-degree-apprenticeships>). As yet, it is too early to appraise the scheme, as degree apprenticeships do not appear in government statistics. But their creation does offer encouragement that there is interest in increasing not just the quantity of apprenticeships, but also their quality. They will also offer affordable options for students, "as two-thirds of the course costs and fees will be covered by government, while employers pay trainees' wages and other costs (Apprenticeships.Gov. (2014, November 26). Degree apprenticeships launched to boost hi-tech skills. Retrieved September 24, 2015, from <http://www.apprenticeships.gov.uk/summary/degree-apprenticeships-launched-boost-hi-tech-skills/>). For further information, please see the glossary.

¹⁷ Confusingly, the same qualification appears across different levels of the National Qualifications Framework (e.g. NVQ level 4). The government explains this, thus: "Qualifications at the same level are a similar level of difficulty, but the size and content of the qualifications can vary. AS levels and A levels are both level 3, but you study AS levels over 1 year and A levels over 2 years. You'll therefore have a deeper knowledge of a subject if you've studied it at A level." (UK Government. (2015c). Compare different qualifications: Overview: Retrieved July 31, 2015, from <https://www.gov.uk/what-different-qualification-levels-mean/overview>.) The table provides qualitative comparison, rather than quantitative.

¹⁸ National Careers Service. (2015). Earn while you learn with an apprenticeship. Retrieved July 9, 2015, from <https://nationalcareersservice.direct.gov.uk/advice/courses/typesoflearning/Pages/apprenticeships.aspx>.

¹⁹ UK Government. (2015b). Compare different qualifications: Compare different qualification levels. Retrieved July 31, 2015, from <https://www.gov.uk/what-different-qualification-levels-mean/compare-different-qualification-levels>. There appears to be some confusion over whether higher apprenticeships rise to level 6 or level 7. According to Skills Funding Agency. (2015, September 29). *Higher apprenticeships: Guide for employers*. Retrieved October 5, 2015, from <https://www.gov.uk/government/publications/higher-apprenticeships-guide-for-employers>, they rise to level 6; according to Skills Funding Agency. (2015, June 1). *Higher apprenticeship and degree apprenticeship delivery from April 2015 to April 2016: Higher Education Institutions fact sheet*. London: Skills Funding Agency, they rise to level 7. Here, the more recent figure has been used. It is also not entirely clear how higher apprenticeships will change as degree apprenticeships come to greater prominence.

²⁰ Sutton Trust. (2014). *Higher ambitions: Background report*. London: Sutton Trust.

²¹ Doel, M. (2011). Apprenticeships and further education colleges: The next chapter. In Dolphin, T., & Lanning, T. (Eds.), *Rethinking apprenticeships* (pp. 47-54). London: Institute for Public Policy Research; Peacock, L. (2010, July 22). Train to Gain reaches the end of the track. *The Telegraph*. Retrieved August 12, 2015, from <http://www.telegraph.co.uk/finance/jobs/7905158/Train-to-Gain-reaches-the-end-of-the-track.html>.

²² Fuller, A., & Unwin, L. (2011). The content of apprenticeships. In Dolphin, T., & Lanning, T. (Eds.), *Rethinking apprenticeships* (pp. 29-39). London: Institute for Public Policy Research, p. 32.

²³ Fuller and Unwin (2011).

²⁴ Mirza-Davies (2015b).

²⁵ Mirza-Davies (2015b). Please note that data for 2014/15 is provisional.

²⁶ All About School Leavers. (2012). School leaver programmes vs. apprenticeships. Retrieved September 29, 2015, from <http://www.allaboutschoolleavers.co.uk/articles/article/70/school-leaver-programmes-vs-apprenticeships>; City & Guilds. (2015). National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs). Retrieved September 29, 2015, from <http://www.cityandguilds.com/qualifications-and-apprenticeships/qualifications-explained/nvqs-svqs-keyskills-vocational-skillsforlife>; Isaac, A. (2015, July 24). What do universities look for in a BTEC student? *The Guardian*. Retrieved September 29, 2015, from <http://www.theguardian.com/education/2015/jul/24/what-do-universities-look-for-in-a-btec-student>; NI Direct. (2014). Higher National Certificates and Higher National Diplomas. Retrieved September 29, 2015, from <http://www.nidirect.gov.uk/higher-national-certificates-and-higher-national-diplomas>; Pearson. (2015). National Qualifications Framework and Qualifications and Credit Framework. Retrieved September 29, 2015, from <http://qualifications.pearson.com/content/demo/en/support/support-topics/understanding-our-qualifications/frameworks-ngf-qcf.html/>; UCAS. (2015). Foundation degrees. Retrieved September 29, 2015, from <https://www.ucas.com/ucas/undergraduate/getting-started/what-study/foundation-degrees>; UK Government (2015b); Pearson. (2015). Welcome to BTEC. Retrieved September 29, 2015, from <http://qualifications.pearson.com/en/about-us/qualification-brands/btec.html>.

²⁷ Ross, T. (2015, July 27). Minister pledges to stamp out fake apprenticeships. *The Telegraph*, p. 2.

²⁸ Stratton, A. (2011, October 27). Jobs rebranded as apprenticeships, government report warns. *The Guardian*. Retrieved July 31, 2015, from <http://www.theguardian.com/education/2011/oct/27/jobs-rebranded-apprenticeships-government-report>.

²⁹ Richard, D. (2012). *The Richard Review of Apprenticeships*. London: School for Startups.

³⁰ Boston Consulting Group. (2013). *Real apprenticeships: Creating a revolution in English skills*. London: Sutton Trust.

³¹ Oliver Wyman (2015). *Vocational education landscape* [internal report]. London: Oliver Wyman. Note: these are not the same apprentices as those that have been profiled later in the report.

³² Skills Training UK. (2015). *Employer factsheet: Benefit of apprenticeships*. London: Skills Training UK.

³³ Fuller, A., Leonard, P., Unwin, L., & Davey, G. (2015). *Does apprenticeship work for adults? The experiences of adult apprentices in England*. London: Institute of Education.

³⁴ Richard (2012).

³⁵ Dolphin, T. and Lanning, T. (2011). The way forward. In Dolphin, T., & Lanning, T. (Eds.), *Rethinking apprenticeships* (pp. 120-132). London: Institute for Public Policy Research, p. 121.

³⁶ Wolf, A. (2011). *Review of vocational education – The Wolf report*. London: Department of Education.; Mirza-Davies (2015b).

³⁷ Skills Funding Agency (2014a).

³⁸ Oliver Wyman (2015).

³⁹ Mirza-Davies (2015b). Please note that data for 2014/15 is provisional.

⁴⁰ Wolf (2011); Richard (2012).

⁴¹ Richard (2012).

⁴² HM Government. (2013). *The future of apprenticeships in England: Implementation plan*. London: Department for Business, Innovation and Skills.

⁴³ HM Government (2013), p. 5; HM Government. (2015). *The future of apprenticeships in England: Guidance for trailblazers – From standards to starts*. London: Department for Business, Innovation and Skills.

⁴⁴ Skills Funding Agency. (2015b).

⁴⁵ Mirza-Davies (2015b).

⁴⁶ Mirza-Davies (2015b).

⁴⁷ ComRes interviewed 1,017 young adults in the UK aged between 16-18 online between 25th May and 5th June 2015. Data were weighted to be representative of all young people by age, gender and UK region. ComRes is a member of the British Polling Council and abides by its rules. Full data tables can be found at: <http://comres.co.uk/>. Given the relatively small sample size of the Oliver Wyman survey, this has been used for qualitative, rather than quantitative assertions.

⁴⁸ Demos (2015).

⁴⁹ Griffiths, S., & Burgess, S. (2015, August 16). University challenged. *The Sunday Times*. Retrieved August 17, 2015, from <http://www.thesundaytimes.co.uk/sto/news/focus/article1594267.ece?shareToken=f6158b49772f573b3ffac4feb078237>.

⁵⁰ Boston Consulting Group, statistical model.

⁵¹ This takes into account average student debt levels, including the recent changes to funding announced in the 2015 summer budget. All data is adjusted for real earnings growth, but no discount rate has been applied. For further discussion of methodological decisions that have been made in this report, please see the appendix.

⁵² Office for National Statistics. (2013). *Full report – Graduates in the UK labour market 2013*. London: Office for National Statistics.

⁵³ ComRes (2015, June 22). BBC Radio 5 Live final year undergraduates survey. Retrieved September 1, 2015, from <http://comres.co.uk/polls/bbc-radio-5-live-final-year-undergraduates-survey/>.

⁵⁴ UNITE. (2014). *Students matter: The UNITE STUDENTS student experience survey 2014 full report*. Bristol: UNITE.

⁵⁵ Britton, J., Crawford, C., & Dearden, L. (2015). *Analysis of the higher education funding reforms announced in Summer Budget 2015*. London: Institute of Fiscal Studies.

⁵⁶ Boston Consulting Group, statistical model.

⁵⁷ The Russell Group consists of: University of Birmingham, University of Bristol, University of Cambridge, Cardiff University, Durham University, University of Edinburgh, University of Exeter, University of Glasgow, Imperial College London, King's College London, University of Leeds, University of Liverpool, London School of Economics and Political Science, University of Manchester, Newcastle University, University of Nottingham, University of Oxford, Queen Mary University of London, Queen's University Belfast, University of Sheffield, University of Southampton, University College London, University of Warwick, University of York. The Russell Group includes the universities of Oxford and Cambridge, but in this report, these have been excluded. This is to provide clear contrast to Oxbridge figures, which have also been included.

⁵⁸ Hooley, T., Matheson, J., & Watts, A. G. (2014). *Advancing ambitions: The role of career guidance in supporting social mobility*. London: Sutton Trust.

⁵⁹ Department for Education. (2014). New careers and enterprise company for schools. Retrieved August 17, 2015, from <https://www.gov.uk/government/news/new-careers-and-enterprise-company-for-schools>.

⁶⁰ Crawford and Jin (2014) p. ii.

⁶¹ Thompson, J. (2015). *Unfair deal*. London: Sutton Trust.

⁶² National Careers Service. (2015). Introduction. Retrieved September 29, 2015, from <https://nationalcareersservice.direct.gov.uk/youngpeople/Pages/HigherApprenticeships/HigherApprenticeship.s.aspx>; National Apprenticeship Service. (2014). *Employer guide to higher apprenticeships*. London: National Apprenticeship Service.

⁶³ Department for Business, Innovation and Skills. (2011). *Returns to intermediate and low level vocational qualifications*. London: Department for Business, Innovation and Skills.

⁶⁴ Winterbotham, M., Davies, B., Murphy, L., Huntley Hewitt, J., & Tweddle, M. (2014). *Apprenticeship pay survey*. London: Department for Business, Innovation and Skills. For further research on the pay uplift associated with particular qualifications, see: Lee, J. (2010, January 8). Career benefit of NVQs in doubt. *TES*. Retrieved August 17, 2015, from <https://www.tes.co.uk/article.aspx?storycode=6031816>; Matthews, D. (2013). Russell Group graduate employment data released. *Times Higher Education*. Retrieved August 17, 2015, from <https://www.timeshighereducation.co.uk/news/russell-group-graduate-employment-data-released/2009135.article>.

⁶⁵ Grindrod, F., & Murray, I. (2011). Making quality count: The union view. In Dolphin, T., & Lanning, T. (Eds.), *Rethinking apprenticeships* (pp. 71-84). London: Institute for Public Policy Research, p. 79.

⁶⁶ Higher Education Statistics Agency. (2012). The gender gap at universities: Where are all the men? Retrieved July 6, 2015, from https://docs.google.com/spreadsheets/d/1M_D77jtNIQszh9fqCf3Q_Ja2dF0-VmhPdZ67KYt7kEY/edit?pli=1#gid=4.

⁶⁷ Science and Technology Committee. (2014). *Women in scientific careers: Sixth report of sessions 2013-14*. London: House of Commons.

⁶⁸ Urwin, R. (2015, September 7). Women apprentices lose out in pay gap. *Evening Standard*, p. 13.

The original research from which this statistic was drawn was undertaken by Young Women's Trust in partnership with ComRes. Please see: Young Women's Trust. (2015, September 8). Apprenticeships – Where pay gap first appears. Retrieved October 12, 2015, from http://www.youngwomenstrust.org/what_we_do/media_centre/press_releases/319_apprenticeships_where_pay_gap_first_appears.

⁶⁹ Skills Funding Agency (2015b).

⁷⁰ Grindrod and Murray (2011).

⁷¹ Grindrod and Murray (2011).

⁷² *Equality Act 2010* (2010). London: The Stationery Office.

⁷³ Skills Taskforce. (2013). *A revolution in apprenticeships: A something-for-something deal with employers: The Husbands review of vocational education and training*. London: Labour Party.

⁷⁴ Winterbotham et al. (2014) p. 219.

⁷⁵ NatWest. (2015). *Student living index 2015*. London: NatWest.

⁷⁶ NatWest (2015).

⁷⁷ Chartered Institute of Personnel and Development. (2015). *Over-qualification and skills mismatch in the graduate labour market*. London: Chartered Institute of Personnel and Development.

⁷⁸ Boston Consulting Group (2013).

⁷⁹ Boston Consulting Group (2013).

⁸⁰ Steedman, H. (2010). *The state of apprenticeship in 2010*. London: LSE.

⁸¹ Destatis. (2012). *1,2% mehr neue Ausbildungs – Verträge im Jahr 2011*. Wiesbaden, Germany: Statistisches Bundesamt; Destatis. (2013). *3,1% weniger neue Ausbildungs – Verträge im Jahr 2012*. Wiesbaden, Germany: Statistisches Bundesamt; Destatis. (2014a). *4,3% weniger neue Ausbildungs – Verträge im Jahr 2013*. Wiesbaden, Germany: Statistisches Bundesamt; Destatis. (2015). *1,4% weniger neue Ausbildungs – Verträge im Jahr 2014*. Wiesbaden, Germany: Statistisches Bundesamt; Mirza-Davies (2015b). Please note that the UK statistics presented here are for the academic year (ending), the German statistics for the calendar year. Both represent a 12-month period.

⁸² Doel (2011).

⁸³ Habourne, D. (2015). *Professional and vocational education and training in Switzerland: An Edge study visit*. London: Millbank p. 2.

⁸⁴ Destatis. (2014b). *Sustainable development in Germany: Indicator report 2014*. Wiesbaden: Federal Statistical Office for Germany.

⁸⁵ Demos (2015) p. 10.

⁸⁶ Bynner, J. (2011). Youth transitions and apprenticeships: A broader view of skill. In Dolphin, T., & Lanning, T. (Eds.), *Rethinking apprenticeships* (pp. 17-28). London: Institute for Public Policy Research.

⁸⁷ Richard (2012); Lehman, W., & Taylor, A. (2015). On the role of habitus and field in apprenticeships. *Work, employment and society*. *Work, Employment & Society*, 29 (4), p. 608. For further analysis of Switzerland, which boasts another of Europe's leading apprenticeship sectors, see: Center on International Education

Benchmarking. (2015). *Gold standard: The Swiss vocational education and training system*. Washington, DC: National Center on Education and the Economy.

⁸⁸ Demos (2015).

⁸⁹ ComRes polling undertaken for this report.

⁹⁰ Ibid.

⁹¹ ComRes polling undertaken for this report.

⁹² Independent Commission on Fees. (2015). *Independent Commission on Fees 2015 Final Report*. London: Sutton Trust.

⁹³ Mirza-Davies (2015a); Department for Business, Innovation and Skills. (2015b). New national minimum wage rates announced. Retrieved July 29, 2015, from <https://www.gov.uk/government/news/new-national-minimum-wage-rates-announced>.

⁹⁴ Winterbotham at al. (2014).

⁹⁵ ComRes polling undertaken for this report.

⁹⁶ Crawford and Jin (2014).

⁹⁷ Britton, Crawford and Dearden (2015).

⁹⁸ Thompson (2015).

⁹⁹ Department for Business, Innovation and Skills. (2015a). Government rolls-out flagship Degree Apprenticeships. Retrieved August 3, 2015, from <https://www.gov.uk/government/news/government-rolls-out-flagship-degree-apprenticeships>.

¹⁰⁰ Lee, J. (2010).

¹⁰¹ Oliver Wyman (2015).

¹⁰² ComRes polling undertaken for this report.

¹⁰³ Hooley, Matheson and Watts (2014).

¹⁰⁴ Demos (2015) p. 25.

¹⁰⁵ Demos (2015); Nash, I. (2014). *Higher ambitions summit: Rapporteur report*. London: Sutton Trust.

¹⁰⁶ Richard (2012) p. 132.

¹⁰⁷ Belgutay, J. (2015, July 23). Schools are 'blindly' steering students away from apprenticeships, business warn. *TES*. Retrieved July 29, 2015, from <https://www.tes.co.uk/news/further-education/breaking-news/schools-are-blindly-steering-students-away-apprenticeships>.

¹⁰⁸ ComRes polling undertaken for this report.

¹⁰⁹ ComRes polling undertaken for this report.

¹¹⁰ Wolf (2011: 6). And see Hayes, J. (2011). Restoring the worth of apprenticeships. In Dolphin, T., & Lanning, T. (Eds.), *Rethinking apprenticeships* (pp. 40-46). London: Institute for Public Policy Research.

¹¹¹ Telegraph (2015, July 3). The ultimate guide to apprenticeships. Retrieved July 3, 2015, from <https://jobs.telegraph.co.uk/article/the-ultimate-guide-to-apprenticeships/>.

¹¹² See Department for Business, Innovation and Skills (2011).

¹¹³ This is based on a website search, July 29, 2015 (UK Government. (2015d). Find an apprenticeship. Retrieved July 7, 2015, from <https://www.findapprenticeship.service.gov.uk/apprenticeshipsearch>).

¹¹⁴ Richard (2012).

¹¹⁵ Lucas, B., & Spencer, E. (2014). *Summary report: Remaking apprenticeships: Powerful learning for work and life*. London: City & Guilds.

¹¹⁶ Mirza-Davies (2015a).

¹¹⁷ Ross (2015).

¹¹⁸ Dolphin and Lanning (2011).

¹¹⁹ Skills Funding Agency (2014a); UK Government. (2015e). National Apprenticeship Week 2015. Retrieved August 3, 2015, from <https://www.gov.uk/government/topical-events/national-apprenticeship-week-2015/about>.

¹²⁰ PwC. (2015, July). *UK economic outlook*. London: PwC; HM Treasury. (2011). *The green book: Appraisal and evaluation in central government*. London: The Stationery Office; Student Loans Company. (2015). Latest news. Retrieved August 12, 2015, from http://www.studentloanrepayment.co.uk/portal/page?_pageid=93,3866911&_dad=portal&_schema=PORTAL; Britton, J., Crawford, C., & Dearden, L. (2015). *Analysis of the higher education funding reforms announced in Summer Budget 2015*. London: Institute of Fiscal Studies; HM Treasury (2015); Office for National Statistics. (2011). Earnings by qualification, 2011. London: Office for National Statistics; Office for National Statistics. (2013). *Full report – Graduates in the UK labour market 2013*. London: Office for National Statistics; Office for National Statistics. (2014b). Local area analysis of qualifications across England and Wales. London: Office for National Statistics; Office for National Statistics. (2014a). 2011 census, qualifications and labour market participation in England and Wales. London: Office for National Statistics; Winterbotham et al. (2014); National Audit Office. (2012). *Adult apprenticeships: Estimating economic benefits from apprenticeships – Technical paper*. London: National Audit Office; Greenwood, C., Jenkins, A., & Vignoles, A. (2007). *The returns to qualifications in England: Updating the evidence base on level 2 and level 3 vocational qualifications*. London: Centre for the Economics of Education.

¹²¹ Higher Education Statistics Agency. (2014). Free online statistics – Destinations of leavers. Retrieved August 12, 2015, from <https://www.hesa.ac.uk/stats-dlhe>; Walker, I., & Zhu, Y. (2013). *The impact of university degrees on the lifecycle of earnings: Some further analysis*. London: Department of Business, Innovation and Skills; De Vries, R. (2014). *Earning by degrees: Differences in the career outcomes of UK graduates*. London: Sutton Trust.

¹²² Winterbotham et al. (2014).

¹²³ De Vries (2014).