



Inequality

The IFS Deaton Review

Inequality in English post-16 education

Simon Field

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Simon Field (Director, Skills Policy)

Introduction

Over the past half-century, a great expansion in education has taken place both in England and around the world. The aim of this commentary is to describe some of the equity challenges arising from this great expansion, with a focus on what happens to young people in England after the age of 16, how it has changed over time, and how it compares internationally. I look at some reforms over the last decade, and advance some suggestions designed to inform policy development in respect of equity. This commentary is selective – I look at equity and equality in terms of socio-economic background and do not examine gender, ethnicity or other dimensions.

- In the next section, I describe how the growth of higher education has disproportionately benefited those from advantaged backgrounds, and why, despite substantial efforts, this problem has proved so difficult to resolve. I conclude that equity will be best served by giving priority to better quality alternatives to higher education, particularly technical education. This focus guides the remainder of the commentary.
- Then I look at the evidence on the basic skills of literacy and numeracy in the post-16 phase of education. Basic skills inequality in England appears to increase during this phase, so that, despite the great education expansion, England is one of the few developed countries where low basic skills are no less common among young adults than among their parent's generation. While there are now more demanding requirements for mathematics and English as part of technical qualifications, raising achievement, as well as just expectations, will be challenging.
- There follows a description of some features of the English policy environment that obstruct employer engagement and therefore damage post-16 technical education. These include a fragmented and volatile landscape of programmes and institutions, weak funding of technical pathways, and a deregulated labour market.
- Next, I look at some of the pathways followed by those young people who do not enter higher education. I point to the limited scope for disadvantaged young people to receive training through employment, the potential of apprenticeship and how it is marred by unenforced minimum requirements on wages and training, and the varying potential of other technical education routes.
- Finally, I draw policy conclusions for equity, noting how the COVID-19 crisis has increased inequalities. I argue first that England should follow an evolutionary path towards an integrated upper secondary system. This evolution should give more attention to pathways designed to reintegrate weaker performers, and effective articulation between apprenticeship and T levels. Secondly, the great potential of apprenticeship as an alternative to more academic forms of education will only be realised if the basic elements of apprenticeship – wages and training – are effectively regulated with minimum standards enforced. Finally, better funding for the alternatives to higher education should be a priority.

The limitations of widening participation and why it makes sense to focus on the quality of pathways other than higher education

Massive expansion of higher education raises two equity questions

Between 1960 and 2010, average years of full-time education in the UK doubled, from around 6.5 to 13 years.¹ The percentage of 17 year olds in full-time education rose from 28% in 1971–72 to 71% in 2009–10 (Bolton, 2012). Higher education (HE) participation increased tenfold, from around 5% of the youth cohort in the early 1960s (Chowdry et al., 2010) to a point in 2019–20, when just over half of young people in England may expect to enter HE by the time they are 30 (DfE, 2021a). Mass HE has changed the whole nature of post-compulsory and post-16 education, raising two equity questions, one about those who successfully enter HE, and one about those who do not.

- Who benefits from the expansion of HE, in terms of social background, and how are the benefits distributed among them?
- What happens to those who do not enter HE in terms of the quality of the education and training they receive?

Those from advantaged backgrounds have disproportionately benefited from HE expansion

Much policy attention has surrounded the first of these questions (Connell-Smith and Hubble, 2018). Drawing on evidence from the 1970s to the 1990s, Blanden and Machin (2004) show that HE growth, in terms both of participation and attainment, has disproportionately benefited those from better-off backgrounds. More recent evidence suggests little progress in alleviating this disparity. Moreover, disadvantaged students who, despite the barriers, succeed in entering HE benefit less than their more advantaged peers. Crawford et al. (2017) show that students from disadvantaged backgrounds are less likely to enter prestigious HE institutions, more likely to drop out, and less likely to obtain good results in their examinations. The same analysis shows that only around 8% of state school students from the 20% poorest families complete a degree by their mid-20s, and only 4% gain a first or a 2:1. By contrast, for their state school counterparts from the top income quintile of families, fully 41% gain a degree and around 30% graduate with a first or 2:1. So birth into the top income quintile of families is associated with a more than seven times greater chance of graduation with a first or a 2.1, relative to those born into the lowest family income quintile.

Higher education acts as an amplifier of initial inequalities

Other research has shown that, although there is some evidence of HE entry arrangements that work against those from poorer backgrounds, most of the disparities observed in HE entrants reflect how more advantaged parents can secure better levels of school attainment for their children (Chowdry et al., 2010; Crawford et al., 2017). Higher levels of school attainment support access to more prestigious and better-quality HE institutions. Therefore, HE acts as a multiplier, amplifying initial inequalities of attainment in the school system, and bestowing further career rewards on those who have already done well in school. As a result, HE, which in the 1960s was a small part of the education system, has come to play a dominating role, allowing large numbers of better-off parents to grant their children the graduate status that puts them ahead in the labour market. A small-scale multiplier of inequality has become a large-scale multiplier.

¹ See 'Average years of schooling' at <https://ourworldindata.org/global-education#years-of-schooling> (Roser and Ortiz-Ospina, 2016).

Extensive efforts to tackle this problem have not been fruitful

In response, 'widening participation', designed to diversify the mix of university entrants in respect of socio-economic background and other dimensions, has become a key objective of HE policy, such that £248 million was spent on this objective in 2016–17 (Connell-Smith and Hubble, 2018). The results have been discouraging. In the ten years to 2018–19, the percentage of those who had received free school meals who subsequently entered HE grew from 17% to 26%, but the entry rates for other students grew from 35% to 45% over the same period (DfE, 2020a), a slight widening of the gap from 18 to 19 percentage points, even if, expressed in terms of the relative probability of entering HE, the gap diminished slightly. At the same time, there is scant evidence that individual measures to widen participation have been effective (Robinson and Salvestrini, 2020). So while investment in widening participation has been substantial, the net impact on the 'inequality multiplier' effect of HE has been minimal.²

Growth in HE participation does not always benefit those who are drawn into HE

Widening participation has coincided with continued overall growth in HE participation: the 'HE initial participation rate', reflecting the chance that a 17 year old will enter HE by the time they are 30, grew from 41.8% in 2006–07 to 52.4% in 2018–19 (DfE, 2020b, 2021a). Widening participation has therefore often been seen as drawing in to HE groups that would previously not have entered HE, raising a question about the benefits of HE to these additional students. In 2012, roughly one in ten HE students in England had literacy or numeracy skills below Level 2, more than most countries, and meaning in the case of literacy that they would, for example, struggle to understand the dosage instructions on an aspirin bottle (this being an example of what Level 2 literacy means). Universities are not well equipped to address basic skills challenges, and those who graduate with weak basic skills earn very much less than others (Kuczera, Field and Windisch, 2016). Since the time of these findings in 2012, HE participation has continued to grow. While average returns from university education are good, this average is heavily influenced by a small proportion with very high earnings. Even before recent changes in the loan regime, around 20% of graduates were estimated to have been better off if they had not gone to university (Britton et al., 2020a). The effect of the recent changes in the loan regime will be to substantially increase this estimate, because of higher repayment costs for lower earners (Waltmann, 2022). The implication is that growth of HE participation may have drawn into the system students who are unprepared for the experience, and where the benefits they obtain are limited or negative.

Why have measures to widen participation failed?

One reason for the relative failure of measures to widen participation may be that they directly challenge the interests of more affluent parents. In England, the alternatives to HE are often weak, and/or seen as weak (a point pursued below), and, despite the point just made about the unsuitability of university programmes in handling basic skills weaknesses, HE is still widely seen as a relatively safe bet. Advantaged parents will therefore seek entry into HE for their children, particularly into prestigious programmes, by ensuring strong school attainment. To this end, they can take advantage of private schooling and tutoring. They may game the system by choosing to live in the (more expensive) accommodation in the catchment area of better state schools.³ They can make cultural resources and digital tools available to their children at home, along with strong social networks to support informal careers advice. They may also have more time to directly support their children's learning. Many of these factors are salient in the context of school closures associated with the COVID-19 crisis, as home physical and cultural resources have been critical in maintaining learning during lockdowns. All of these factors reflect how

² Higher fees and income-contingent loans also raise many widely discussed equity issues and bear on the overall equity impact of HE. They are not discussed here.

³ See the 2019 PwC report, 'How does state school performance affect house prices in England?', <https://www.pwc.co.uk/services/economics/insights/how-school-performance-affects-house-prices-england.html>.

individual parents, understandably, try to do their best for their children. But the collective effect is that 'widening participation' faces a formidable and largely successful opponent.

The implication is that equity might best be pursued by improving the quality of alternatives to HE

Efforts to diversify the mix of students in HE need to continue, as without such efforts, the inequality multiplier effect of HE would be even greater. But, in terms of strategic priorities, equity and equality in education would be more effectively supported by concentrating policy attention and resources on improving the quality of alternatives to HE. The argument is as follows.

- For the most disadvantaged, including those with very weak school attainment, there are limited prospects of entering, completing and benefiting from HE. Improving the life chances of this group will have large equity benefits, and this will necessarily require attention to the quality of the post-16 pathways, separate from HE, pursued by this group.
- Better-quality alternatives to HE will diminish the gap in life chances between HE graduates and non-graduates, and consequently reduce overall inequality.
- A diminished gap in life chances between HE and non-HE graduates would also reduce the inequality multiplier effect of HE. This is partly because the diminished gap will reduce the incentives for advantaged parents to pursue HE for their children at all costs, and partly because, if they do secure HE for their children, the benefit of doing so relative to other pathways will diminish.

The implication is that the focus of attention should be given to the second equity question identified above, that of what happens to those who do not enter HE. The remainder of this commentary will be devoted to this issue.

Equity challenges in post-16 transitions as revealed by evidence on literacy and numeracy

This section draws on evidence about basic skills of literacy and numeracy taken from the 2012 OECD Survey of Adult Skills, part of the Programme for the International Assessment of Adult Competencies (PIAAC). It describes how, in England, basic skills inequalities tend to rise during the 16–19 phase of education, and a long tail of poor performers emerges. Efforts to tackle this challenge through new requirements for mathematics and English are welcome but effective implementation is challenging.

In England, basic skills weaknesses appear to grow in the 16–19 phase of education

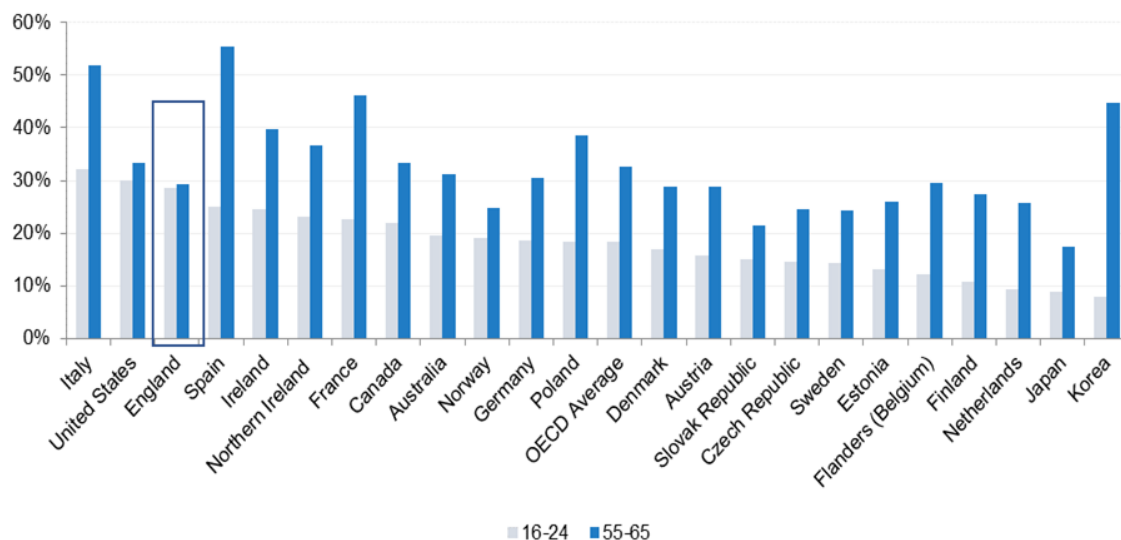
Low basic skills in numeracy or literacy (defined as below Level 2 in the OECD Survey of Adult Skills, PIAAC) limit the capacity of individuals to participate in working, civic and personal life (OECD, 2013). Comparing Programme for International Student Assessment (PISA) results (for 15 year olds) with the 2012 PIAAC results for young adults, while English 15 year olds have similar literacy levels to their counterparts in countries such as Germany, Denmark, Austria and Japan, by the age of 20–22 their literacy skills fall behind. Similar results are found in respect of numeracy (Kuczera, Field and Windisch, 2016). The results for England partly reflect a weak average performance among those aged 16–19 relative to 15 year olds, but also a larger spread in performance, leaving a large tail of the distribution with weak basic skills (Kuczera, Field and Windisch, 2016). In 2012, one-third of teenagers aged 16–19 in England had low basic skills, more than most countries with available data, and three times the proportion found in strong country performers such as Finland, the Netherlands, Japan and Korea. Given the evidence of how weak

basic skills damage life chances, this low-skilled third of teenagers represents a worryingly large pool of young people facing compromised life chances, and a substantial potential source of lifetime inequality.

The expansion in education in England failed to increase minimum levels of basic skills

In nearly all countries,⁴ the great education expansion has led to better minimum standards of numeracy and literacy. Low basic skills are therefore usually less common among (less-educated) older people than among (better-educated) younger adults. However, England stands out as an exception, with very little difference between young and older adults (see Figure 1). One reason is that at every level of qualification, English qualifications appear to be less effective than qualifications in other countries in guaranteeing a minimum level of basic skills. So, for example, of those aged 16–34 with Level 2 or 3 qualifications in England, 21% have low basic skills, compared to just 15% of their counterparts in other OECD countries (see Table 1.1 in Kuczera, Field and Windisch, 2016). In a related finding, the impact of parental education on the basic skills of young adults is higher in England than in most countries (see Figure 2). The potential equity benefit of the great education expansion, realised

Figure 1. Percentage of individuals scoring below Level 2 in literacy or numeracy among those aged 16–24 and 55–65, in 2012

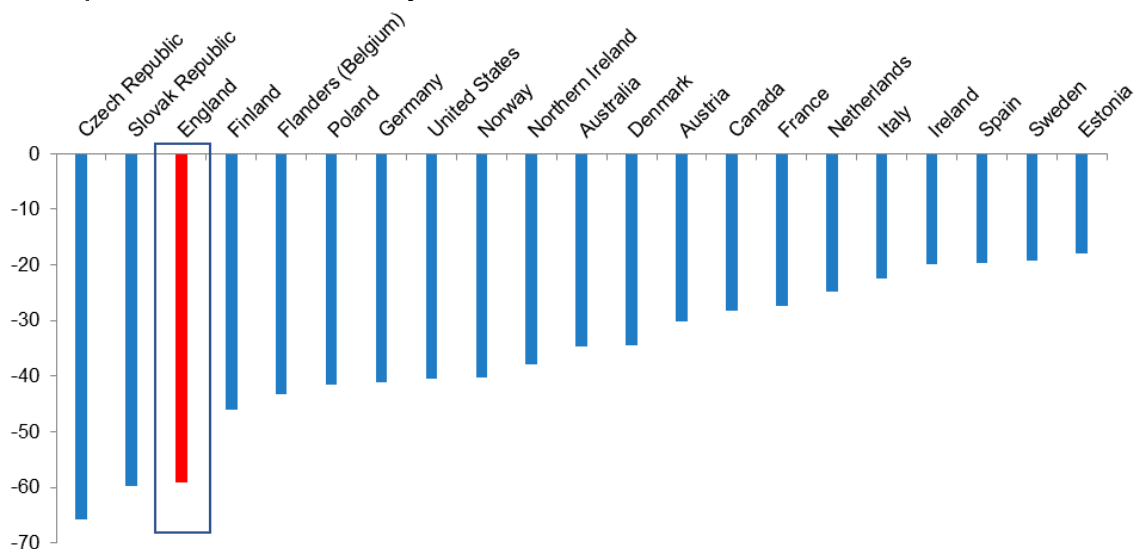


Note: The figure shows that nearly everywhere, except England, improved minimum standards of literacy and numeracy have accompanied the great education expansion.

Source: OECD Survey of Adult Skills (PIAAC) 2012. Adapted from Figure 1.2 in Kuczera, Field and Windisch (2016).

⁴ Figure 1 shows that the US is the only country to share with England the similarity in low skills prevalence between younger and older age groups. However, because the US realised high rates of upper secondary and tertiary attainment earlier than many countries (including England), and these have since plateaued, the older and younger US age groups compared in Figure 1 have similar attainment in terms of qualifications (see Kis and Field, 2013). The results for England are therefore effectively unique.

Figure 2. A comparison between those aged 16–20 (a) where neither parent attained upper secondary or better qualifications and (b) where at least one parent gained such qualifications: score point difference in numeracy, 2012



Note: The figure shows that, in England, the education level of parents has a bigger influence on the basic skills of teenagers than in many other countries.

through minimum levels of basic skills for all, regardless of parental background, appears to have been partially realised in many OECD countries, but much less so in England.

One suggestion is that the shape of English upper secondary education allows skills inequality to rise

Green et al. (2021) have compared PISA results for 15 year olds with PIAAC results for adults, to argue that widening basic skills inequalities in England during the later teenage years reflects the form of upper secondary education. They identify a group of countries, including (alongside England and Northern Ireland) Australia, Chile, Ireland, Israel, Spain and New Zealand, characterised by the absence of any core curriculum at upper secondary level, a diverse offer of technical alternatives, and a dominant academic track. Their conclusion is that countries of this type tend to perform poorly in terms of skills inequality during the upper secondary phase of education, particularly in comparison with countries maintaining relatively strong systems of upper secondary vocational education linked to a common curriculum across different upper secondary tracks.

Post-Wolf reforms have sought to improve literacy and numeracy standards in technical education

One reason for weak post-16 basic skills in England is the historical weakness in literacy and numeracy education after the age of 16. The Wolf review pointed out that 'the UK (including England) is effectively unique in not requiring continued mathematics and own-language study for all young people engaged in 16–19 pre-tertiary education' (Wolf, 2011). Recommendations from this review have been largely implemented, including mandatory requirements for mathematics and English in key technical qualifications. Two questions arise. One question is whether the post-Wolf reforms have been sufficiently well implemented to resolve the historic weakness in literacy and numeracy education. While requirements for English and mathematics in apprenticeships, and now in T levels have been established, enhanced teaching and learning in basic skills to match these formal requirements remains a challenge. The second question is whether, going beyond just mathematics and literacy, there is a sufficiently broad curriculum in the upper secondary phase of education, recognising that many countries nest technical qualifications and

apprenticeships in broader educational requirements (Richmond and Regan, 2021). For example, in dual system apprenticeships, apprentices are normally expected to pursue their education in fields such as history, civics and second languages, in contrast to their counterparts in England (Kuczera and Field, 2018).

In conclusion, the post-16 education and training system provides weak support for the most disadvantaged

The basic skills evidence suggests that, in England, wider educational expansion has left behind some of the most disadvantaged: young adults are no less likely to have low basic skills than their parents' generation, and the impact of parental education on weak basic skills is unusually high. Basic skills inequalities grow in the later teenage years with a long tail of poor performers. Collectively, these findings imply serious weaknesses in post-16 education and training, particularly for those young people most at risk.

Obstacles to technical education in the policy environment: fragmentation, underfunding and labour market factors

The lack of institutionalised social partnership hinders technical education

For those who do not pursue A levels during the 16–19 phase of education, the main education alternative is some form of technical education (see Dickerson, Morris and McDool, 2020). It follows that the focus of efforts to improve the quality of alternatives to HE falls on technical education. However, such efforts face several potential obstacles. The most salient obstacle is the relative absence of the social partnership arrangements that typically play a large role in some of the strongest technical education systems (Wolter and Ryan, 2011). Since the abandonment of Industrial Training Boards in the 1980s, England has maintained few institutions designed to support technical training through partnership between employers, trade unions and government (Pemberton, 2001). One possible exception, the UK Commission for Employment and Skills, has not survived.

Three factors act to weaken social partnership

While the lack of employer engagement in technical education is often attributed to cultural factors, it has its roots in weak incentives on employers to engage in the planning and delivery of technical programmes. This section looks at three potentially inhibiting factors: first, the churn and complexity in policies, qualifications and institutions in the technical field; second, inadequate funding of the technical sector, and third, some features of labour market regulation, including weak employment protection.

Fragmentation

Churn and complexity damage the signalling value of technical qualifications

One of the main tasks of technical qualifications is to signal occupational competence to employers. Effective signalling depends on simplicity and stability in qualifications and programmes over time, so that employers can understand the qualifications, and learn that they can be trusted as reliable signals. Consequently, over the last half century, churn and complexity in technical qualifications has profoundly undermined their value as signals, especially in comparison with the stable academic alternatives of three-year full-time degrees and A levels (in place since 1951). As a contrast, Box 1 describes the system in Singapore, where the basic education system is similar to that of the UK for historical reasons, but it offers two clear technical pathways to those who, at the age of 16, are not obviously bound for academic HE.

Box 1. Singapore: clear quality choices after the age of 16

In Singapore, 60% of young people at age 16 or 17 enter technical programmes with extensive elements of work-based learning, following the GCE exam (similar to GCSEs). Most of the remaining 40% proceed via A levels to university, often starting in a junior college. Of those entering technical programmes, about one-third (20% of the entire cohort) enrol in the Institute of Technical Education (ITE) while the remaining two-thirds (40% of the cohort) enrol in one of five polytechnics.

The ITE takes in students in the bottom quartile of the GCE grade distribution. For students with the weakest attainment, specialised schools with additional resources provide extra support to improve their chances of success at the ITE. Students enrolled in the ITE pursue a Nitec or Higher Nitec (two-year programmes at ISCED 4), or higher level Master Nitecs or Diplomas. These programmes normally involve internships and industry projects, and 90% of graduates receive job offers within six months.

Polytechnic students come mostly from secondary schools with relatively strong GCEs, some from junior colleges with A levels, and some from the ITE. Polytechnic students usually pursue a three-year diploma programme including industry internships. The first year corresponds to ISCED Level 4, the second and third years to ISCED Level 5. Polytechnic graduates often later enrol in university.

Source: Adapted from Box 2.5 in Field (2020). See Tucker (2016) and Singapore's Ministry of Education booklet on Post-secondary education (<https://www.moe.gov.sg/-/media/files/post-secondary/post-secondary-school-booklet-2021.ashx?la=en&hash=062E39F64657BF114E80752C52D420DBA3B0A9FD>).

The rapidity of policy change undermines the credibility of technical programmes

Norris and Adam (2017) identify further education in England as remarkable for its level of churn, even in the context of a national policy landscape internationally distinctive in its volatility. Since the early 1980s, there have been 28 major pieces of skills legislation, and no skills organisation has survived longer than a decade. City and Guilds (2014) are equally critical, while Keep (2015) describes the sector as 'the fastest changing set of institutional arrangements in the developed world', one reason being the absence of the kind of social partnership arrangements found in many parts of Europe, where reform may need to be negotiated with employer and trade union organisations. While there are no standard international metrics for policy churn, it may suffice to note that, in Switzerland, the two laws governing technical education and training (including at professional level at ISCED 6) date from 2002 and 2003 (European Alliance for Apprenticeships, 2021).

The need to reduce the number of qualifications is widely recognised, but not fully implemented

The need to reduce the number of sometimes low-quality technical qualifications has been widely recognised in influential policy reviews (Wolf, 2011; Independent Panel on Technical Education, 2016). Most recently, in the government's review of Level 3 qualifications, Skills Minister Gillian Keegan described the 12,000 funded technical qualifications at Level 3 and below as a 'ridiculously large number' leading to 'bewilderment' on the part of potential students (DfE, 2020c). But reducing the numbers of qualifications can be challenging. For example, in June 2022, there were nearly 500 apprenticeship standards approved or in development at Levels 2–4,

including 'micro' standards such as the 'dual fuel smart meter installer'.⁵ By way of comparison, in Switzerland, where 70% of the youth cohort enters apprenticeship, there are only around 230 apprenticeship qualifications (Field, 2018a).

The government's aim is that the Level 3 technical offer should be apprenticeship or T levels

Currently, the government is rolling out, alongside apprenticeship, new T level qualifications, with the aim being that the technical offer for 16 year olds will be either apprenticeship or T levels, with funding for other technical qualifications at Level 3 being withdrawn, although allowing for some exceptions (DfE, 2020c). In principle, this could substantially simplify choice, and reduce the number of funded technical qualifications, although there have been vigorous attempts on the part of their defenders to retain Applied General Qualifications (such as BTECs).⁶

Underfunding

The technical alternatives to HE have been under-resourced

Education funding is a complex topic, explored, for example, in Britton et al. (2020b), and here we can simply note some headline figures and trends. Technical education is normally more expensive than academic education as it often requires expensive equipment and special facilities to learn and develop practical skills. On average, across OECD countries, countries spend about 15% more per upper secondary technical student than on their academic counterparts. In countries with recognisably strong technical education systems, such as Austria, Germany and the Netherlands, the differential is larger. But the UK spends 33% less per student for those in technical programmes (see Figure 3). At the higher technical level (Levels 4 and 5), the same pattern is found in England. For example, Higher National Diploma (HND) programmes usually involve fees of around £6,000 per year,⁷ and examples given by the government-backed Prospects website⁸ suggest similar fees for foundation degrees. This compares with around £9,000 per year for most bachelor's degree three-year programmes. Moreover, further education colleges and sixth forms have seen the largest falls in per-pupil funding of any sector of the education system since 2010–11 (Britton et al., 2020b). 16–19 education is also funded quite weakly more generally. At lower secondary level, schools receive £5,000 per pupil plus a pupil premium of nearly £1,000 for those who have been in receipt of free school meals; for 16–19 year olds, funding per pupil is only £4,188 (Richmond and Regan, 2021).

The funding of apprenticeships through the levy raises different issues

An increasing proportion of apprenticeships are now at higher levels, so that the share of apprenticeship starts at Level 2 halved between 2010–11 and 2019–20, from 62% to 31% (DfE, 2021b). While this 'upmarket' shift in apprenticeship has many positive aspects, it raises questions about how well the apprenticeship system is serving young people with relatively weak attainment at age 16, who would not readily access Level 3 programmes. Substantial levy funding is now flowing to degree apprenticeships, with 13,587 starts in 2018–19. While this is less than 5% of all apprenticeship starts, degree apprenticeships are fast growing, and each start represents approaching £27,000 in levy-funded expenditure over the period of the apprenticeship, compared to £10,000 or less for many Level 2 and Level 3 apprenticeships (Hubble and Bolton,

⁵ See the Institute for Apprenticeships and Technical Education (IfATE) webpage of Apprenticeship Standards, <https://www.instituteforapprenticeships.org/apprenticeship-standards/>.

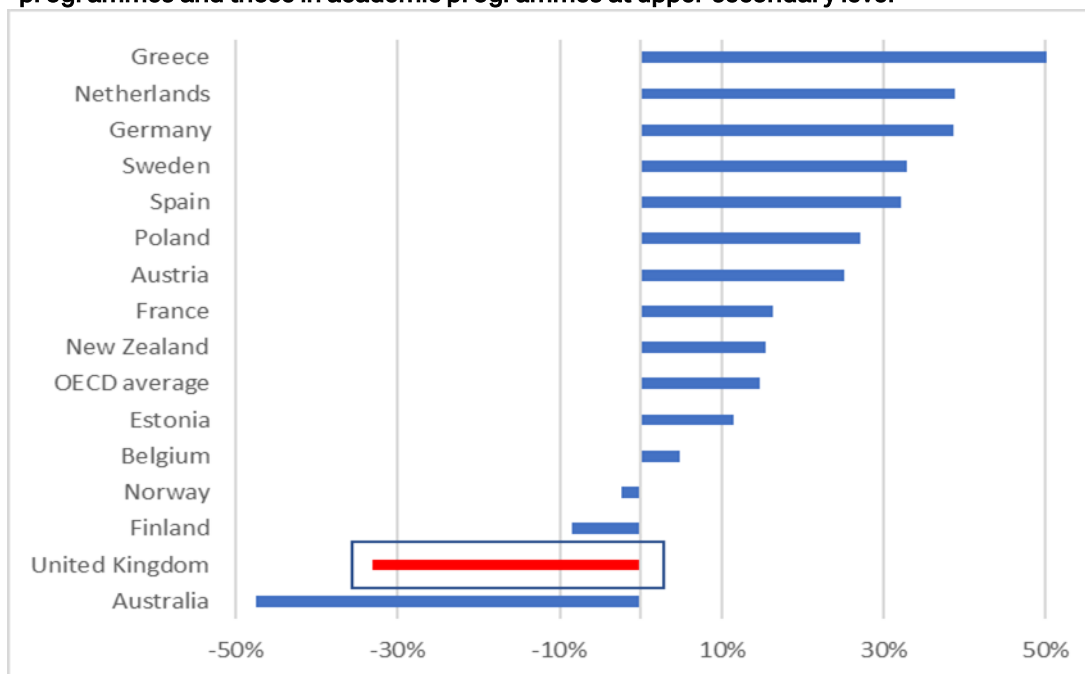
⁶ See the #ProtectStudentChoice campaign, <https://www.protectstudentchoice.org/>.

⁷ See <https://universitycompare.com/advice/student/hnd/>.

⁸ <https://www.prospects.ac.uk/applying-for-university/choosing-a-course/foundation-degrees>.

2020).⁹ Some degree apprenticeships may involve a rebadging of management training schemes or traditional university degrees to secure funding (Kuczera and Field, 2018; National Audit Office, 2019; Hubble and Bolton, 2020). At the same time, levy funding is not available to support the kind of pre-apprenticeship programmes for youth at risk, which exist at scale in other countries, supported by extensive government funding (Kis, 2016).

Figure 3. Percentage difference between per full-time pupil expenditure on students in technical programmes and those in academic programmes at upper secondary level



Note: The figure shows that, in the UK, more is spent on educating academic upper secondary pupils than on counterparts in technical programmes.

Academic per pupil expenditure provides the baseline. Public and private expenditure. 2017 data. See Annex 3 of OECD (2020) for some of the definitional variations for individual countries that may affect the comparisons.

Source: Figure C1.2. from OECD (2020).

Labour market evidence

One outcome of school-to-work transition in England is high NEET rates

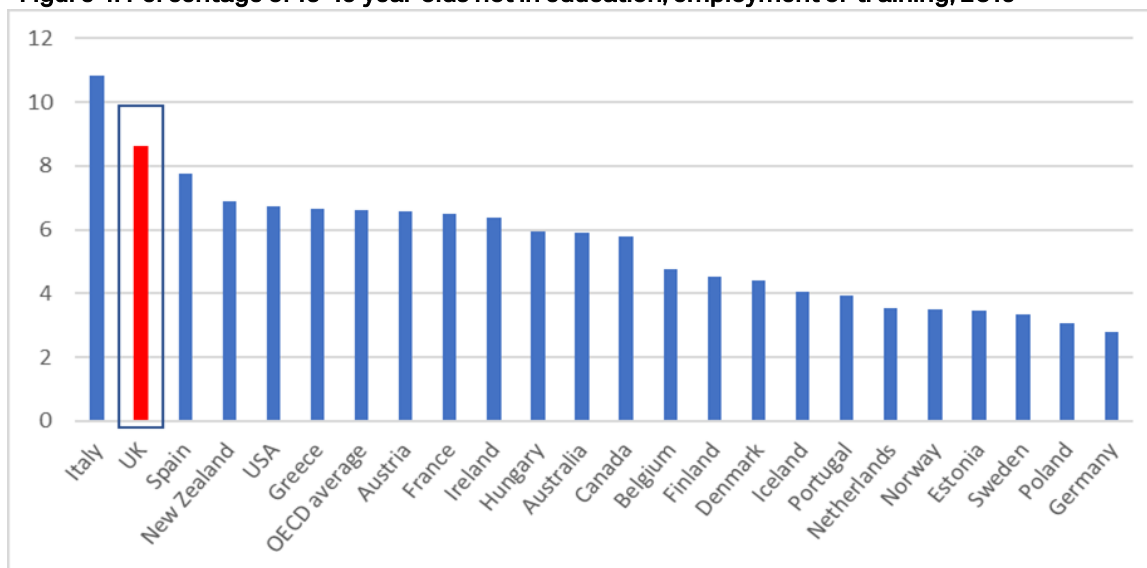
In 2019 (using data from before the COVID-19 pandemic to avoid any potential one-off distortions), the UK unemployment rate stood at 3.9%, well below the OECD average of 5.4%. However, young UK adults fare less well, with an unemployment rate for 15-24 year olds in 2019 (at 11.4%), little different from the OECD average of 11.8%.¹⁰ Moreover, NEET rates (young people not in education, employment or training) are also relatively high in the UK (see Figure 4), particularly for 15-19 year olds. These findings represent the outcomes of school-to-work transition, involving the interaction of education and labour market factors (see, e.g. Quintini and Manfredi, 2009). The dual system countries, with strong apprenticeship systems, appear to be relatively successful in keeping youth unemployment down. Conversely, some English-speaking countries, such as the UK, have relatively low unemployment rates overall, but high youth

⁹ See also the IfATE webpage of Apprenticeship Standards, <https://www.instituteforapprenticeships.org/apprenticeship-standards/>.

¹⁰ See the OECD's 'Unemployment rate by age group' (indicator), <https://data.oecd.org/unemp/unemployment-rate-by-age-group.htm#indicator-chart>.

unemployment relative to adults, and youth unemployment is strongly affected by the economic cycle (Pastore, 2018).

Figure 4. Percentage of 15–19 year olds not in education, employment or training, 2019



Note: The figure shows that, in England, despite low overall unemployment, NEET rates for teenagers are high.

Source: OECD's 'Youth not in employment, education or training (NEET)' (indicator), <https://doi.org/10.1787/72d1033a-en>.

Weak employment protection in the UK may hinder employer engagement

England stands out from other countries in the relative ease with which employees can be fired (see Figure 5). Weak employment protection reduces the cost to employers of recruitment errors so they have less need to rely on technical qualifications at the point of recruitment. Broader studies of how the labour market works in England suggest that many employers rely extensively on low-skilled workers and have few incentives to promote upskilling (see, e.g. Keep, 2017). Stronger employment protection (e.g. in Germany) may support a higher level of employer engagement. This effect is far from automatic: Switzerland has relatively weak employment protection (see Figure 5), but sustains a high level of employer engagement in its technical education system

Other labour market factors may also play a part

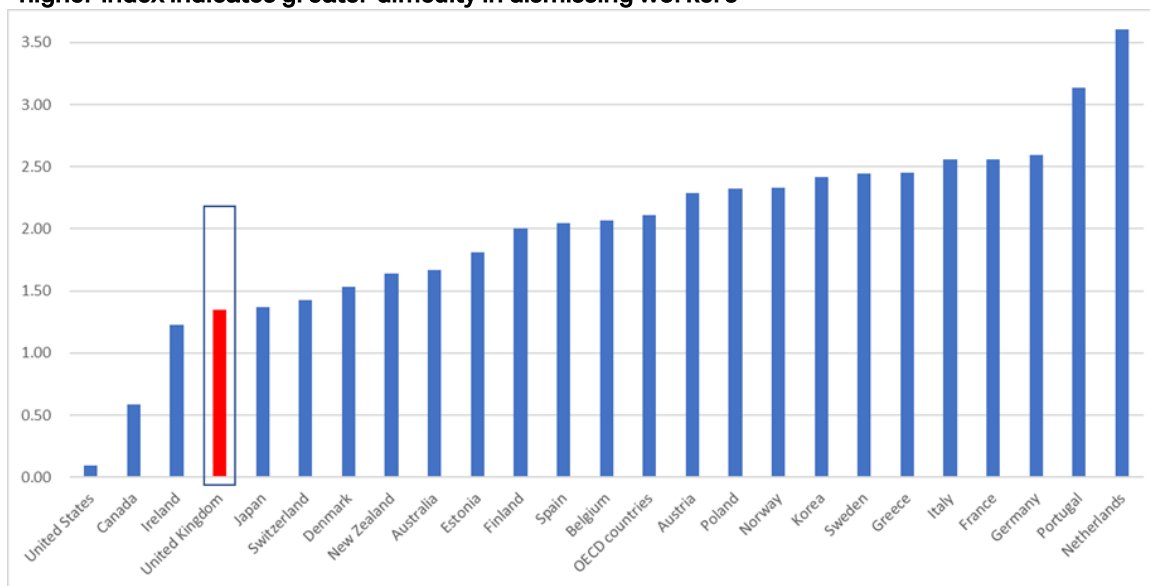
Minimum wages have complex effects both on the incentives on employers to offer training, and on the incentives on employees to pursue training. Lechthaler and Snower (2008) and Hiromi (2015) have suggested that minimum wages may actually increase skills inequality, because the incentive effects bear differently at the high- and low-skilled ends of the workforce spectrum. Licensing and registration requirements, whereby specific qualifications become a legal requirement to practise certain occupations, can be a compelling incentive to obtain relevant training, for example in health-care professions. However, licensing requirements are not especially relaxed in the UK. One estimate is that in the UK in 2015, 19% of jobs were subject to licensing requirements, more than in some European countries, but less than in the United States, where 29% of jobs are estimated to be subject to licence (Kleiner, 2015).

In conclusion, these different obstacles to technical programmes reinforce each other

In conclusion, three distinctive factors in England discourage employer engagement in technical education, and are therefore obstacles to quality in post-16 technical alternatives to HE. Employers are less likely to engage with technical education when they face a complex and

volatile landscape of qualifications and institutions, when technical programmes are less well resourced than academic programmes, and when weak employer protection reduces the incentive to rely on technical qualifications. Putting the same points more positively, a stable and simple set of post-16 choices and programmes, combined with stronger funding for technical education, and possibly some modifications of labour market regulation, would promote employer engagement. These developments would therefore substantially enhance the quality and labour market value of technical post-16 qualifications, as well as simplifying the choices to be made regarding technical pathways at the age of 16.

Figure 5. OECD index of difficulty of individual dismissal for workers on regular contracts 2019: a higher index indicates greater difficulty in dismissing workers



Note: The figure shows that the UK has weak employment protection relative to many OECD countries.

Source: OECD, 'Strictness of Employment Protection: individual dismissals (regular contracts)', https://stats.oecd.org/Index.aspx?DataSetCode=EPL_R.

Technical alternatives to higher education

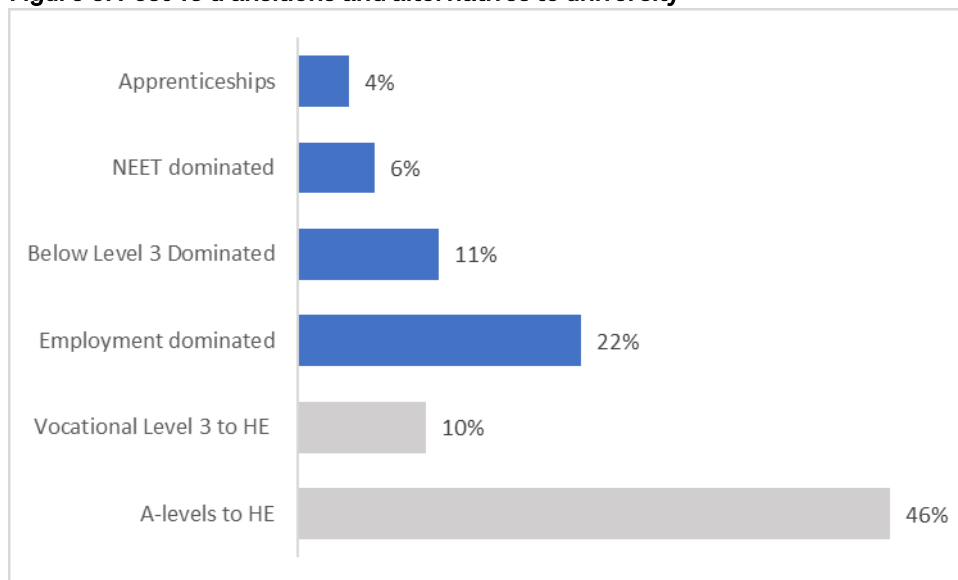
This section looks at the different post-16 pathways available to young people, with a focus on those pathways that do not culminate in HE, drawing on some recent longitudinal analysis. It describes how routes into employment offer little prospect of substantive training to the most disadvantaged. It shows how apprenticeship has great promise but suffers from inadequately enforced minimum standards of wages and training. Other technical programmes are diverse and sometimes weak.

What are the alternatives to higher education?

After the age of 16, while there is a clear route, typically through A levels, to HE, the alternatives have been complex and fragmented. Dickerson, Morris and McDool (2020), and a more recent study by DfE (2020d), draw on a longitudinal dataset covering a cohort who completed compulsory schooling in 2006 at the age of 16. Dickerson and colleagues map patterns in education and employment pathways through a cluster analysis of transitions followed by the cohort over the period to 2015 (see Figure 6). Slightly more than half of the cohort was bound for HE, either through A levels or through vocational qualifications. Of the remaining 44%, around half (22% of the entire youth cohort) followed routes that are employment-dominated, either entering the labour market immediately after school or within two years after some further

education. A second group (11% of the cohort) is dominated by study below Level 3, mostly starting with vocational education below Level 3, or GCSE re-sits, with some progression to employment or vocational Level 3. Around 6% became NEET, either directly or after spells of low-level employment, education or apprenticeship. 4% entered apprenticeships, often following a period of A level or vocational study (Dickerson, Morris and McDool, 2020). These clusters are naturally a simplification: there is heterogeneity within each cluster, and movement between different pathways.

Figure 6. Post-16 transitions and alternatives to university



Note: Cluster analysis of a youth cohort completing compulsory education at age 16 in 2006 based on subsequent transitions. Percentage distribution of the cohort into clusters.

Source: Dickerson, Morris and McDool (2020).

Employer-provided training

For those who enter employment, directly or indirectly, employer training has declined substantially

Of those not bound for HE, around half pursue pathways in which employment features heavily (the 'employment dominated' group in Figure 6). While in theory this group might then upskill through employer-provided training, such training has declined substantially in recent years. Green et al. (2013) estimate that training hours per employee halved between 1997 and 2011, and a recent survey by the Chartered Institute of Personnel and Development (CIPD) describes continued decline. The number of training days per employee fell from 7.8 in 2011 to 6.4 in 2017, and over the period 2005–15 employer expenditure on training per employee fell by 23%, while growing by 22% in the European Union (CIPD, 2020). For disadvantaged young people entering the labour market, training options are even more limited. In the UK in 2017, for employees in elementary occupations with no qualifications, only 6% reported receiving any training in the previous three months, compared with 26% of all employees (ONS, 2019).

Decline in employer training encouraged implementation of the training levy

The reasons for the decline in employer-provided training are not completely understood, but several interconnected trends in the organisation of work may reduce the incentives for employers to invest in training: these include an increase in temporary and casual employment including zero hours contracts, growth in self-employment, outsourcing of some work activities

previously undertaken by permanent employees and the development of the 'gig' economy. The main government response to this decline has been the introduction of the apprenticeship levy, as this, in effect, forces larger employers to fund training in the form of apprenticeship (HM Government, 2015).

Apprenticeship

Recent reforms of apprenticeship have been positive

In the 1960s, about one-third of boys aged 15–17 entered apprenticeship (Harris, 2003). In the following two decades, partly because of government policies, and partly because of industrial restructuring, apprentice numbers fell rapidly. Initial attempts to revive apprenticeship in the form of Modern Apprenticeships in the 1990s ran into many problems, and by the early 2000s, despite some high-quality apprenticeships, some apprenticeships in England had fallen into disrepute, as they were no more than low-level, short-term (sometimes just a few weeks) programmes involving more recognition of existing skills than new training.¹¹ Many features of the apprenticeship system now in place in England stem from measures designed to tackle these issues, through implementation of the Richard review (Richard, 2012) and the introduction of the Apprenticeship Levy. Many reforms have been positive, in particular the establishment of a one-year minimum for apprenticeship, employer-led creation of apprenticeship standards linked to occupational standards and a requirement for a minimum of 20% of the programme in off-the-job training (Powell, 2020), all of which bring English apprenticeship more closely into line with best international practice (Field, 2018a).

Apprenticeship currently has a limited role in post-16 transitions

International experience shows that apprenticeship has the potential to secure smooth transitions from school to work for young people who do not enter HE (Quintini and Manfredi, 2009). In England, apprenticeship has a limited, but important role in securing these transitions. Only a minority of apprenticeship starts, or 76,000, were for those under 19 in 2019–20, down from 131,000 in 2015–16. While only 3% of 16 year olds were in apprenticeships at the end of 2019, the comparable figure for 18 year olds was 8.5%, so some 16 year olds find a route to apprenticeship through an intermediate pathway (Richmond and Regan, 2021). However, the evidence suggests that those with the weakest attainment find it difficult to enter apprenticeship. Lupton et al. (2021) look at 'lower attainers', defined as the 40% of the youth cohort who fail to obtain a grade in both English and mathematics GCSEs at the end of Key Stage 4 – a group much less likely to enter HE. They report that only 5% of their sample were in apprenticeships by the end of Year 12, and of those lower attainers who have benefited from free school meals, only 3% entered apprenticeship, while 8.5% of the same disadvantaged group became NEET (see Table 5.1 in Lupton et al., 2021).

Basic minimum standards in apprenticeship have not been enforced

For apprenticeship to serve young people well, particularly young people at risk, minimum standards are necessary, so that those entering apprenticeship can be confident that they will benefit from the basic elements of apprenticeship, including legal minima for training and wages. Employers taking on qualified apprentices also need to be sure that their recruits have received the required amount of training. Unfortunately these conditions do not currently apply. Thus:

¹¹ See the BBC News article of 2 April 2012, 'One in 10 apprentices in England works at Morrisons', <https://www.bbc.com/news/uk-17564255>.

- A large proportion of apprentices do not receive the legally required amount of off-the-job training. This was a historic problem with previous regulations under apprenticeship frameworks (Field, 2018a). Under the apprenticeship standards that have replaced frameworks, recent government surveys show that either around 70% (DfE, 2020e) or, in a less representative sample,¹² 38% of apprentices fail to receive the required 20% of programme time spent in off-the-job training. So the training requirement is being widely ignored by providers, despite their receipt of levy funds designed to support such training. Moreover, the Education and Skills Funding Agency, which has regulatory responsibility, has, according to the National Audit Office, no effective way of determining whether providers are under-providing training. The National Audit Office report this as an 'important gap in oversight' (National Audit Office, 2019).
- A large minority of apprentices do not receive the wages to which they are entitled. Of those aged 16–18 entitled to the apprentice minimum wage (£4.30 in 2021–22) just over one-quarter received less than the minimum at the time of a survey. More than 30% of those aged 19–24 were paid less than the national minimum wage to which they were entitled (following their first 12 months when they are subject to the apprentice minimum wage). While failure to pay minimum wages is not uncommon generally, the Low Pay Commission estimates that this is about ten times more likely for an apprentice than for an average worker. Evidence over time shows that this is not only a common problem, but also a chronic problem, and the Low Pay Commission has asked the government to tackle it as a priority (Low Pay Commission, 2020).

Failure to secure the most basic elements of apprenticeship (i.e. wages and training) profoundly damages apprenticeship. It represents a particular risk to equity because minimum standards protect the most vulnerable, including disadvantaged young people aged 16–19, who are often least able to identify and challenge breaches in the rules, and are most subject to exploitation.

Other technical programmes

Many 16 year olds are not immediately ready for a T level or Level 3 apprenticeship

As explained above, the government's intention is that the Level 3 technical offer to young people should, in the future, primarily be apprenticeships or T levels. While this has an admirable simplicity relative to the highly confusing technical offer of the past, many 16 year olds are not immediately able to enter an academically demanding T level (the equivalent of three A levels), and apprenticeship currently plays a limited role post-16. As indicated in Figure 6, those who pursued Level 3 technical programmes at the time (such as BTECs) tended to use them as a route into HE. Those who did not fall into an HE-bound track (43% of the cohort) mostly followed pathways that were either employment-dominated or primarily in technical programmes below Level 2, with smaller proportions becoming NEET or entering apprenticeship. One potential risk with T levels is that they might simply reproduce this historic pattern, with T levels becoming a subsidiary route into HE, leaving the life chances of those not bound for HE, and therefore the largest equity challenge, unaffected. One potential answer lies in the T level transition programme, a one-year programme designed to facilitate access to T level programmes for those who at the age of 16 are not yet sufficiently prepared (DfE, 2021c).

Recent research points to a lack of adequate provision for those who do not do well at GCSE

Up to now, those who have entered lower-level technical training (below Level 3) at age 16 or subsequently have relatively poor outcomes on average. Dickerson, Morris and McDool (2020)

¹² From the IfATE Apprenticeship Panel Survey – August 2020, <https://www.instituteforapprenticeships.org/reviews-and-consultations/reports/apprentice-panel-survey-august-2020/>.

report that, for the 11% of the cohort that enter the pathway dominated by technical education below Level 3, the labour market outcomes at age 25 are not very different from the 'NEET' group, at least in respect of hourly earnings, although their chance of employment is a little better. This underlines a key challenge in post-16 pathways: that of providing an effective safety net and re-entry path for the many students who will not immediately be able to enter a Level 3 programme at the age of 16.

Many countries maintain a safety net track to facilitate re-entry into upper secondary education.

Most countries with upper secondary 'systems' maintain, as part of that system, programmes designed to provide a safety net for those who do not initially succeed in entering the main technical pathway, or are otherwise at risk of dropout. Such pathways are normally below ISCED Level 3, but offer the opportunity for re-entry into a Level 3 programme and qualification.

- Austria maintains an apprenticeship scheme (integrative apprenticeship, IBA) for young people with learning difficulties. The scheme defines a special wage scale for IBA apprentices, allows participants to take longer to complete (five or six years instead of four), and is complemented with targeted subsidies. The combination of lower wages in each year of training and targeted subsidies encourages employers to take on IBA apprentices (Kis, 2016).
- In Switzerland, two-year apprenticeships leading to an EBA qualification are designed for young people who face difficulties at school, struggle to obtain a regular (three to four year) apprenticeship, or risk dropping out. Research shows that, on average, companies that offer EBA apprenticeships break even by the end of the apprenticeships. They achieve this while offering good learning opportunities to young people at risk. Nearly half of EBA completers proceed to higher-level apprenticeships, and among those who do not, 75% find a job upon completion (Kis, 2016).
- In Germany, for those with the lowest level of school qualification, less than half manage to obtain the apprenticeship place which nearly always guarantees a smooth transition into employment. The remainder enter the 'transition system', which is a diverse range of often locally organised programmes. Of those in the transition system, about 70% eventually obtain an apprenticeship (Haasler, 2020).
- In the Netherlands, an entry-level programme is designed for those who have struggled at school to prepare them for a regular technical training scheme at Level 3 (see Box 2).

In England, by comparison, the traineeship programme is small in scale

In England, the equivalent arrangement to the schemes described above is traineeship, alongside, in the future, the T level transition scheme now being developed and implemented. But traineeship is a small-scale programme, with just under 15,000 starts in 2018–19 prior to the pandemic, down from just over 24,000 starts in 2015–16 (DfE, 2021b), so no more than 2%–3% of the 16-year-old cohort (ONS, 2020). One proposal to expand the scale of such programmes comes from Pullen and Dromey (2016) who argue that Level 2 apprenticeships for young people aged 16–18 should be replaced by a pre-apprenticeship programme that would include more general education and a recognised qualification.

Higher technical qualifications

One further element of the post-16 landscape is higher technical qualifications at Levels 4 and 5. While in the past such qualifications played a substantial role, they have gradually weakened over the past half century to leave a 'missing middle', caught between bachelor's degrees on the one hand and lower level technical qualifications on the other (Field, 2018b, 2020). Other countries –

as different as France, Singapore (see Box 1), Sweden and the United States – have sustained higher technical sectors that are much larger. The government has now launched an initiative to revive this sector (DfE, 2020f). From the equity perspective, while higher technical qualifications would not be the immediate choice for many young people at age 16 with weak prior attainment, they can play an important role as qualifications that might be pursued after an initial lower-level programme, and as a real alternative to bachelor's degrees.

Concluding equity principles: simplicity and stability; minimum standards; and strengthened funding

Post-16 pathways in England have major problems

This commentary has documented how HE has acted as an inequality multiplier, allowing advantaged parents to hand on their own advantages to their children, and the relative failure of attempts to alleviate the problem through widening participation. The implication is that more might be achieved for equity by giving more policy attention, and more resources, to the post-16 pathways and programmes that represent alternatives to HE. These primarily technical pathways have often had major shortcomings, reflected in the finding that England is one of the few developed countries where despite the great expansion in education, low basic skills are no less common among young adults than among older people. One implication is that England is likely to suffer a gradual loss of competitiveness in respect of workforce skills, as in nearly all other developed countries better-skilled young adults will gradually replace lower-skilled retirees in the workforce.

Recent reforms go in the right direction but do not go far enough

Over the last decade, reforms have reinforced basic skills in technical programmes, improved apprenticeship with clearer minimum standards, and consolidated and simplified technical qualifications. This has moved England gradually towards the establishment of an upper secondary 'system' with clearer choices for young people after the age of 16. These are major achievements. But much more needs to be done. The pathways remain less clear for the many young people with weak GCSE attainment who will not directly enter an apprenticeship or T levels following GCSEs. Apprenticeship, while potentially of great promise, suffers from failures to enforce minimum standards. Policy churn continues to be a potential disruptor. Underfunding is a longstanding challenge.

The COVID-19 crisis has reinforced the priority that needs to be given to post-16 alternatives to HE

More recently, the COVID-19 crisis has interrupted face-to-face schooling, with the greatest damage inflicted on those with the fewest home resources to sustain learning. A whole generation of disadvantaged children are at risk of falling behind and entering some of the weaker post-16 pathways described here. Government spending designed to support catch-up is inadequate, according to Sibieta and Cottell (2021). In addition, both apprenticeships and programmes requiring work placements, such as T levels, have been disrupted by the pandemic. For all these reasons, the crisis has redoubled the importance of equity in education. There is extensive evidence that equity is best served by giving priority to the earliest years, including early childhood education and care and basic schooling. But in post-16 education, education equity will be promoted by strengthening the alternatives to HE. Three key principles of how this might be achieved are set out here: first, simplicity and stability; second, minimum standards; and third, strengthened funding.

Simplicity and stability

Current moves towards a clearer upper secondary system are encouraging

Up to now, there has been no upper secondary 'system' in England, and in this respect England differs from most other developed countries. For those not bound for HE, a confusing mix of programmes, sometimes of poor quality, has presented a minefield for all, but especially the most disadvantaged and least informed. This diagnosis is widely shared, and the Wolf, Richard and Sainsbury reviews and their subsequent implementation by government have embodied a more systematic approach to upper secondary technical education with a strong aspiration towards clear and simple post-16 pathways. The direction of travel is right, and bearing in mind the many problems of policy churn that have historically affected the sector, an evolutionary rather than revolutionary approach is well justified.

But there remain some gaps

The main challenge lies in implementation, as simplification of today's fragmented landscape involves tackling vested interests, as every fragment will have its defenders. Historically, the siren call of 'choice' has been a powerful driver of qualification proliferation in the technical domain, and simplification will therefore require a cultural shift in policy, often privileging simplicity and comprehensibility over choice. Two critical pillars of the future system also require more definition, as follows.

- Given that there are large numbers of individuals who will at 16 not immediately enter a Level 3 programme, and that these individuals are most at risk, there should be a more central policy focus on this group and their needs. This focus will naturally include traineeships and the T level transition programme. Apprenticeship might be augmented by the type of large-scale pre-apprenticeship programmes found in some other countries.
- More clearly articulated links between apprenticeships and T levels are required. While the principle of a division of labour between a work-based and more classroom-based pathway was set out in the Sainsbury review, it is unclear in practice what kind of relationship will exist between apprenticeships and parallel T levels (see discussion in Field, 2018a). The Netherlands offers an example of a structured relationship between work-based and largely college-based pathways to the same occupational qualifications (see Box 2).

Minimum standards in apprenticeship

Apprenticeship can and should play an important role, as it does in many countries, in serving those not bound for HE. In England, some good progress has been made in ensuring minimum standards by expecting all apprenticeships to be at least one year in length and to include mathematics and English requirements. However, some basic regulations are not enforced. This means that despite the huge potential of apprenticeship, and the existence of some very strong individual programmes, the fundamental elements of quality apprenticeship – training and wages – remain unsecured. The risks both to the disadvantaged young people seeking apprenticeships, and to the credibility of the apprenticeship system as a whole, are self-evident. Action to resolve these problems, simply through enforcement of existing regulations, deserves to be a central pillar of apprenticeship policy.

The alternatives to higher education should be a funding priority

Finally, the alternatives to HE need adequate funding. Technical education tends to be relatively expensive, and additional interventions to support those most at risk also impose additional costs. A more systematic pathway for young people most at risk, designed to reintegrate them into training, education or employment, is bound to be resource intensive. A review of levy funding

might usefully be undertaken, with a view to the use of levy funds to support not just apprenticeship, but also a high-quality entry route into apprenticeship for those aged 16–18.

Box 2. In the Netherlands, apprenticeship and college-based programmes lead to the same technical qualification

The Netherlands maintains a carefully structured system of upper secondary academic and technical education. Roughly half the youth cohort enters academic general upper secondary education, typically following early tracking (at around the age of 11) into that route. The remaining half pursues technical upper secondary education, including:

- entry level programmes (previously described as MBO 1) of one year (at ISCED 2) designed to prepare students for higher-level MBO programmes (2% of all students entering technical programmes);
- MBO 2 'basic VET' programmes of one to two years (19% of students);
- MBO 3 'professional VET' programmes of two to three years (27% of students);
- MBO 4 'middle management programmes of three to four years (52% of students).

Each programme is offered both as an apprenticeship (including at least 60% of the study time with an employer), and as a school-based programme (with at least 20% of study time with an employer on work placement). Both types of programme lead to the same occupational qualification. Around 20% of students (often older incumbent workers) follow the apprenticeship programmes.

The Netherlands maintains two types of HE institution: academic universities, and 'HBO' universities of applied science, which offer professional bachelor's degrees and two-year associate degrees, a relatively recent innovation that is of growing popularity. MBO graduates have the right to enter HBO programmes, and in 2015 about one-third of them (32%) did so.

Source: Smulders, Cox and Westerhuis (2016).

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