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THE VALUE OF APPRENTICESHIPS

Addressing lower wage returns for older apprentices

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Summary

- Much of the increase in apprenticeship numbers in recent years has been amongst people aged 25 and over.
- Apprenticeships are of high value to young people in the 19-24 age group, with high earnings differentials observed (on average between 12% – 22%), typically in sectors such as Automotive, Construction, Engineering and Manufacturing.
- The apprenticeships taken by older apprentices aged 25 and over are of significantly lower value, on average (between 6% - 8% earnings differentials), often taken in sectors such as Business Administration and Health and Social Care.
- For many people, the reason for the lower differentials for older apprentices is that their apprenticeship is of lower value than that of younger apprentices in the same area.



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THE EXPANSION OF APPRENTICESHIPS

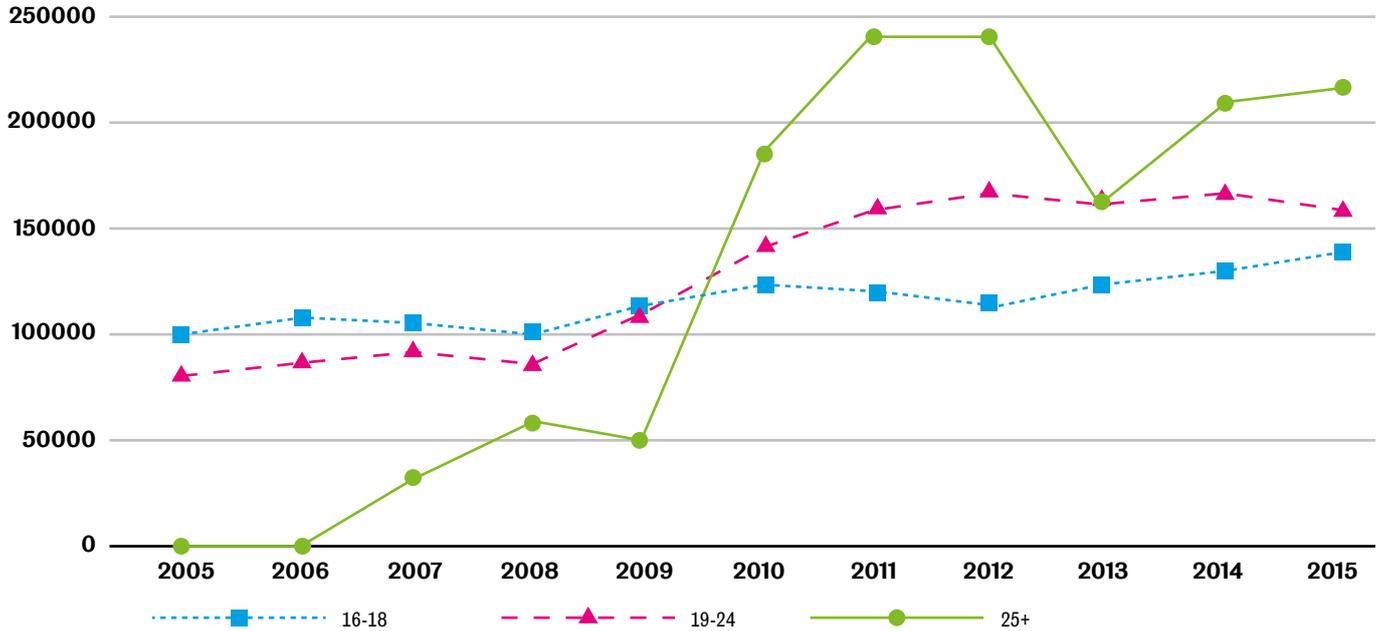


Figure 1: Apprenticeship Starts over Time by Age Group

Source: GOV.UK FE Data library: apprenticeships (<https://www.gov.uk/government/statistical-data-sets/fe-data-library-apprenticeships>)

The expansion of apprenticeships in England has seen the number increase from fewer than 200,000 per year before 2007, to more than 500,000 per year in most years since 2010 (see Figure 1). The government has committed to a target of 3 million new apprenticeships between 2015 and 2020, with the Apprenticeship Levy introduced in 2017 aiming to support this.

Most of this increase in apprenticeships has been amongst people aged 25 and over. Before 2007, nobody over the age of 24 took a funded apprenticeship position. But since a change in policy, apprenticeships among such individuals have increased in number, so that in 2016/17, 46% of all new apprenticeship starts were by people in the 25+ age group.

Older apprentices are more likely to train in non-manual sectors such as 'Health, Public Service and Care,' 'Business, Administration and Law' and 'Customer Services' so the increased numbers of older apprentices mean these are the dominant sectors for apprenticeship numbers, responsible for much of the overall increase. This can be seen in Figure 2, which reports the number of apprentices, by age group, observed within each framework area, in our data set of apprentices whose apprenticeship is their highest qualification.

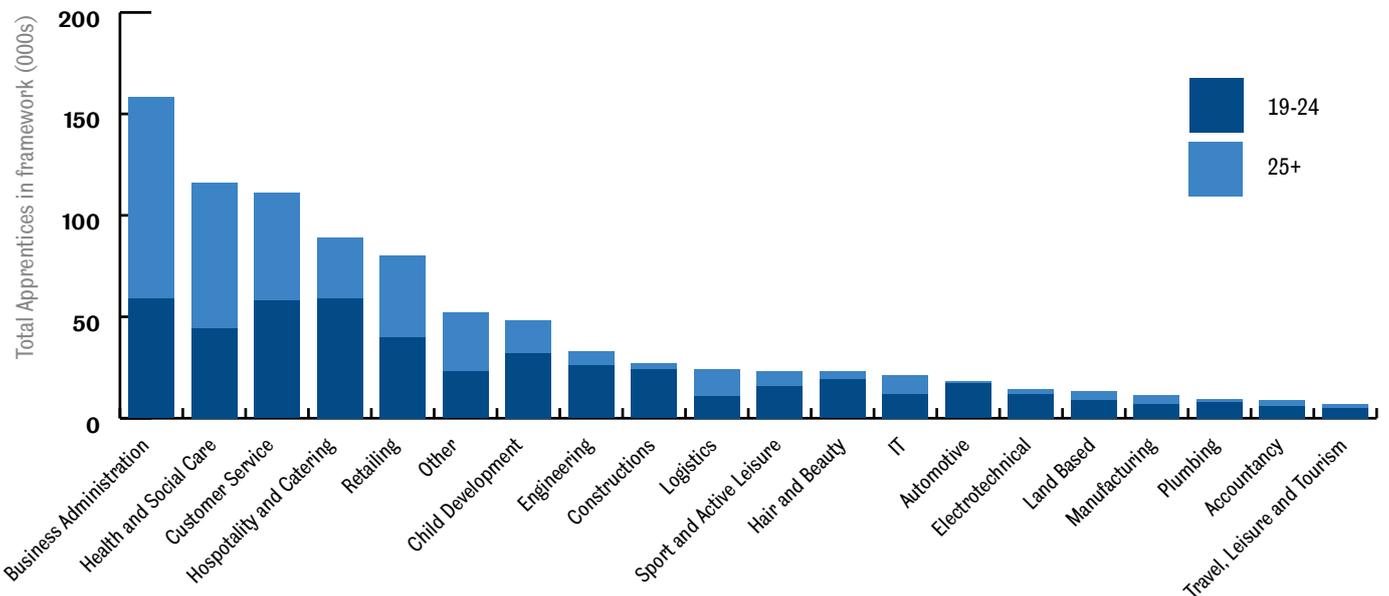


Figure 2: Age Group Total by Framework (Ranked in descending order of framework overall total) Source: ILR, 2004-13.

WHY ARE APPRENTICESHIPS IMPORTANT FOR THE ECONOMY?

Studies have shown that the UK economy is 16% less productive than the other G7 countries (ONS, 2018)¹. The economy requires high-value training to raise technical skills levels for millions of individuals if it is to tackle this productivity deficit (OECD, 2013²; Wilson et al., 2014³; DfE, 2018⁴).

Apprenticeships are seen as one route to raising productivity (BIS, 2009)⁵. Evidence on the earnings differentials received by former apprentices shows their value in the labour market and is an indicator of the productivity increase they produce. The argument is therefore that more apprenticeships in the economy should raise the aggregate productivity of the country.

This is the thinking behind the expansion of the apprenticeship programme into newer areas and involving individuals from a wider range of ages. To support such a policy, though, we need to know that the older apprentices in the newer areas receive the same earnings differentials, suggesting similarly valued apprenticeships, as the younger apprentices have been observed to receive in the more traditional areas. This is the focus of the current research.

RESEARCH METHOD

The earnings that apprentices receive after the completion of their apprenticeship are observed and compared to how much they earned before, to establish the extent to which their earnings increase. This is compared to the change in earnings over the same period for a control group who started an apprenticeship but did not complete it. The latter group give us an idea of how much earnings would have increased anyway for similar individuals, even without completing an apprenticeship.

The results therefore show whether the earnings of those people who complete their apprenticeship increase by more than the earnings of those who fail to complete, with any difference attributed to the apprenticeship itself.

THE EARNINGS OF APPRENTICES BEFORE AND AFTER THEIR APPRENTICESHIP

Intermediate apprentices aged 19-24, both men and women, earn significantly more after an apprenticeship than before. Even though earnings are increasing over time for non-completers too, the change is larger for those who complete their apprenticeship, as shown by the growing gap between the earnings profiles of achievers and non-achievers in Figure 3 below.

Intermediate apprentices aged 25+ have flatter earnings profiles over time, as would be expected since earnings profiles typically level out with age. It is still possible, however, to see a widening of the gap between achievers and non-achievers, showing a value to completing an apprenticeship for this age group too.

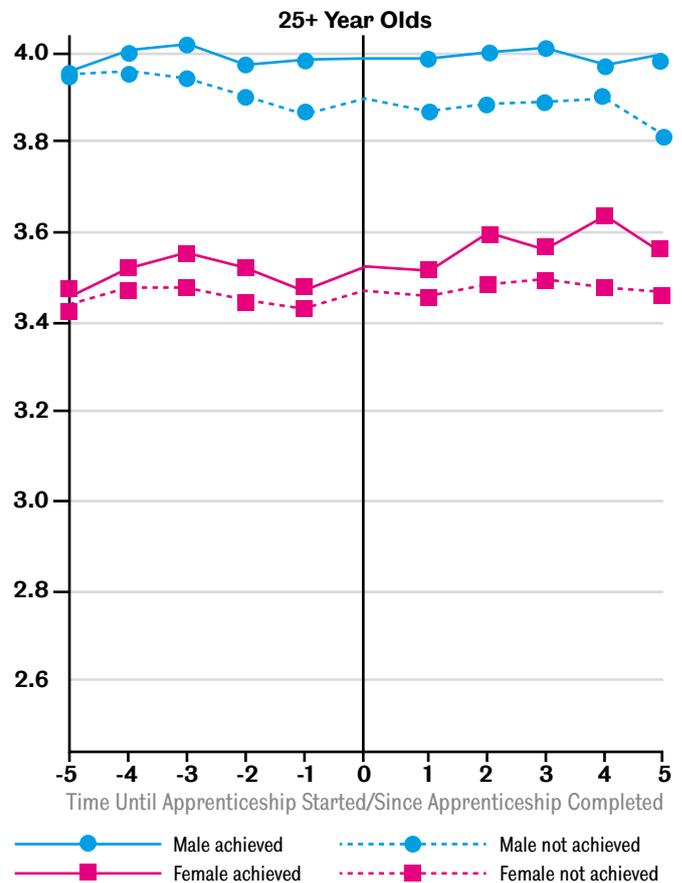
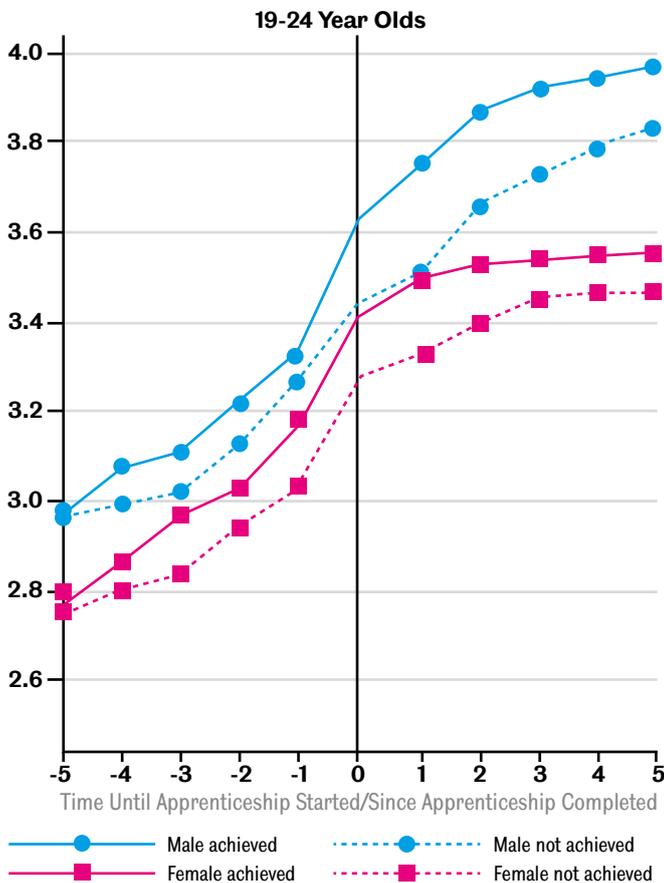


Figure 3: Log Daily Earnings of Intermediate Apprentices

THE VALUE OF APPRENTICESHIPS

Figure 3 plots the average earnings in each year for those who undertook an Intermediate (Level 2) Apprenticeship, separately by age group. 'Year 0' in these charts represents when an apprenticeship was actually undertaken.

Similar patterns for the profiles are observed at the higher, Advanced Apprenticeship level, in Figure 4. For each gender and age group, earnings increase more for those who complete their apprenticeship than for those who fail to complete.

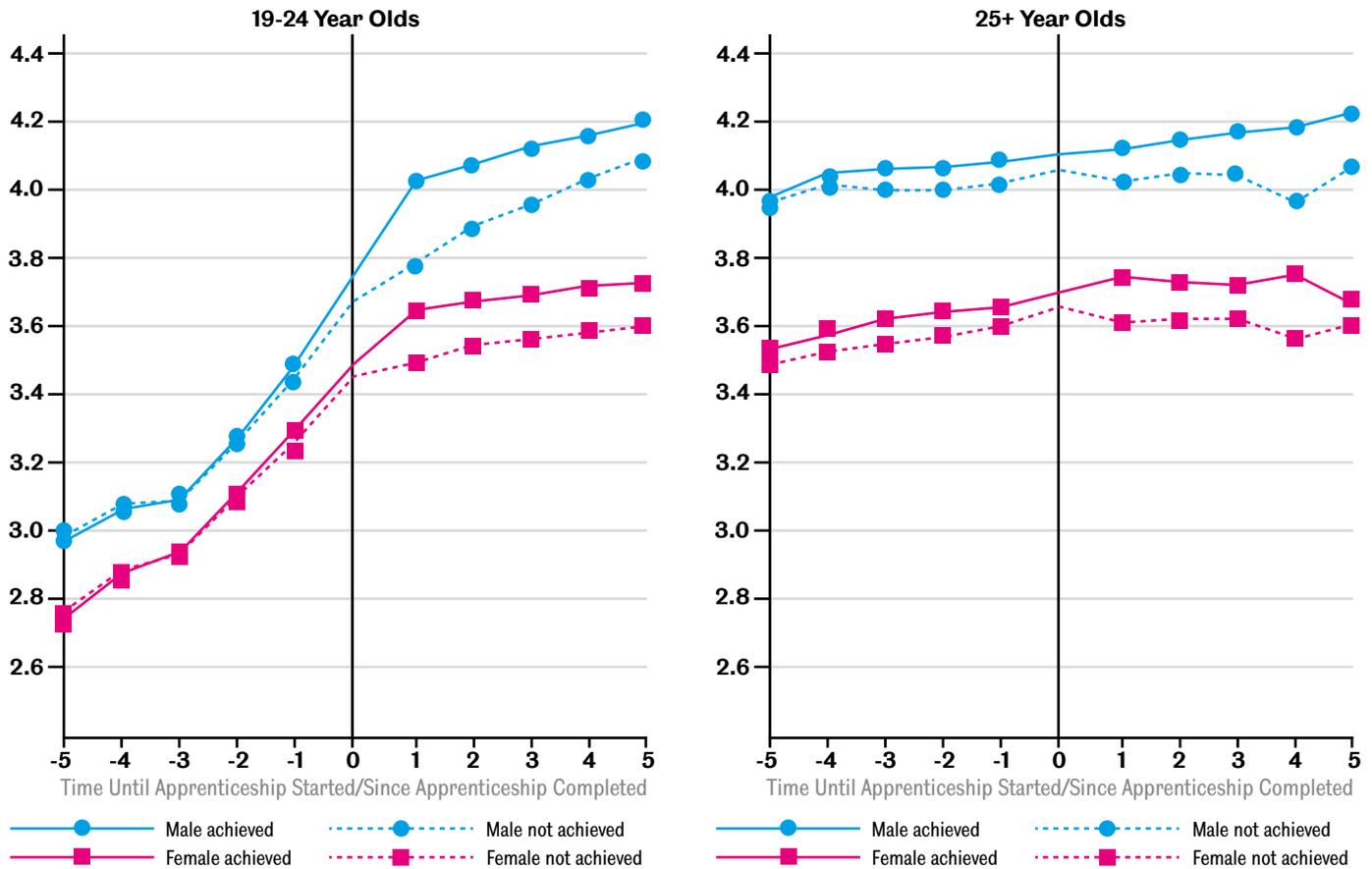


Figure 4: Log Daily Earnings of Advanced Apprentices

Table 1 puts these diagrams into numbers, showing estimates of the extent to which earnings increase by more for completers than for non-completers, while holding constant other factors that could influence earnings, such as ethnicity, duration of apprenticeship and age on completion. These numbers are the estimates of the economic value of apprenticeships: by how much earnings increase when completing an apprenticeship, more than they otherwise would have increased anyway. At each level and for both men and women, the estimated earnings differentials related to apprenticeships are larger for the 19-24 year old apprentices than for those aged 25 and above, typically two to three times larger.

	19-24 AGE GROUP	25+ AGE GROUP
Males, Intermediate Level	15.0%	6.9%
Females, Intermediate Level	12.7%	6.0%
Males, Advanced Level	22.5%	7.7%
Females, Advanced Level	11.9%	5.3%

Table 1: Estimated Earnings Differentials for Apprenticeships, by Age Group

EXPLAINING THE DIFFERENCE IN EARNINGS DIFFERENTIALS BETWEEN AGE GROUPS

Figure 2 earlier showed that older apprentices typically undertake apprenticeships in different areas to younger apprentices. For most groups however (males at the Intermediate (level 2) Level and females at both Intermediate and Advanced (Level 3) Levels), these differences in sector cannot explain the lower differentials for older apprentices. Rather, most of the reason for lower returns on earnings for older apprentices is that their apprenticeship has a lower value than that of younger apprentices training in the same area.

This seems to be particularly the case in non-manual service sectors such as Business Administration, Accountancy and IT.

For male apprentices at the Advanced Level, the issue is that the largest returns on earnings available are in Construction, Electro-technical and Manufacturing, but that small numbers of older men undertake apprenticeships in such sectors, with by far the largest numbers found instead in Business Administration, where the earnings differentials available are much smaller.



CONCLUSIONS

Apprenticeships are seen as a key way for the economy to develop the vocational and technical skills needed in the modern labour market, and there has been a large increase in apprenticeship provision because of this, with a target of 3 million new starts by 2020.

This new evidence shows that apprenticeships remain of high value on average to young people in the 19-24 age group, with some very high earnings differentials available in sectors such as Construction, Engineering and Manufacturing, as well as in IT, Logistics and Travel and Tourism.

The apprenticeships taken by the increasingly large numbers of apprentices aged 25+ are of lower value, on average, though there is still a positive and significant benefit to undertaking one for such people.

For most groups, the reason for the lower average earnings differentials for older apprentices is due to them completing an apprenticeship of lower value than that undertaken by younger apprentices within the same sector. This was particularly the case in non-manual service sectors such as Business Administration, Accountancy and IT.

We know⁶ older apprentices are much more likely to already work for their employer before starting their apprenticeship and therefore potentially more likely to be undertaking continuous or 'top-up' training rather than developing new skills and abilities. While such training is important, it does not need to be part of an apprenticeship programme, and risks diluting the apprenticeship brand.

The research also found that, for males undertaking Advanced (Level 3) Apprenticeships, the reason the earnings differentials for older apprentices were lower than for younger apprentices was that they were undertaking apprenticeships in areas with typically lower earnings differentials on average, such as Business Administration, rather than in higher value Apprenticeship Frameworks.

1. ONS (2018). *International comparisons of UK productivity (ICP), final estimates 2016*. ONS: London.
2. OECD (2013). *OECD Skills Outlook 2013: First results from the survey of adult skills*. OECD Publishing: Paris.
3. Wilson, R., Beaven, R., May-Gillings, M., Hay, G., and Stevens, J. (2014). *Working Futures 2012-2022*. Evidence Report 83. UK Commission for Employment and Skills: Wath-upon-Deerne

4. DfE (2018). *Employer skills survey 2017*. DfE Research Report.
5. BIS (2009) *Skills for Growth: the National Skills Strategy*. BIS: London
6. Department for Education (2017). *Apprenticeships Evaluation 2017: Employers*. DfE Research Report.

THE VALUE OF APPRENTICESHIPS

RECOMMENDATIONS

GOVERNMENT

- The focus should be on quality of apprenticeships, in addition to quantity, in order to ensure apprenticeships create the skills needed.
- Ensure training being undertaken as an apprenticeship meets the definition of an apprenticeship in terms of developing new skills rather than updating existing ones.
- Funding should be prioritised for under 25 apprentices rather than those aged 25 and over, for example by removing the requirement for co-funding for the younger apprentices. This can be justified in terms of the higher returns observed in the labour market, as well as the longer time horizon in which to obtain those returns.
- Take into account the economic value of apprenticeships as well as the cost of provision when allocating funding by sector.
- Provide more information on the economic value of apprenticeships in different sectors, and ensure access to such information, for example through careers advice.

PROVIDERS AND EMPLOYERS

- Ensure training provided is skill-enhancing to meet the career needs of the apprentice, as well as the skill needs of the firm.

EMPLOYERS

- Create sufficient job opportunities to use the skills developed through apprenticeships, particularly in the high value sectors.

INDIVIDUALS

- Acquire information to make active decisions concerning alternatives to academic routes through education, and the choice of sector in which to undertake apprenticeship training.

FURTHER READING

- McIntosh, S and Morris, D (2018) Labour Market Outcomes of Older Versus Younger Apprentices: A Comparison of Earnings Differentials, Centre for Vocational Education Research Discussion Paper 16 (CVER DP016). <http://cver.lse.ac.uk/textonly/cver/pubs/cverdp016.pdf>



ABOUT THE RESEARCHERS

STEVEN MCINTOSH is a member of the Department of Economics at the University of Sheffield. He is an applied labour economist, with a particular focus on education issues and how they relate to labour market outcomes. Steven has produced a large body of work looking at the rates of return to qualifications, particularly vocational qualifications and apprenticeships. A second body of research has considered the match between the demand for and supply of skills, and the extent to which employees work in jobs appropriate for their skills and abilities.

DAMON MORRIS is a full-time researcher with the Centre for Vocational Education Research based in the Department of Economics at the University of Sheffield. He is an applied labour economist. In addition to work on wage returns to qualifications and on skill use and the value of skills for CVER, Damon has also undertaken research on wage inequality and mismatch in the labour market.

About the research:

The research discussed here was undertaken as part of a programme of work for the Centre for Vocational Education Research (CVER), funded by the Department for Education (contract number REP-C266).

The results were obtained through analysis of administrative data from the Individualised Learner Record (ILR), which records all instances of funded learning in post-16, non-university Further Education. The ILR data for the years 2004-2013 were used, to observe all individuals who started an apprenticeship during this period. These records were then matched to HMRC tax records for the same individuals, recording their annual earnings and annual number of days worked, both before and after their apprenticeship. The earnings differentials associated with apprenticeships were then estimated using difference-in-differences regression analysis, which estimates the change in earnings before and after an apprenticeship for both a treatment group of completers and a control group of non-completers, and takes the difference between these two changes as the effect of the apprenticeships on earnings.