

The value of apprenticeships: wages

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We need to know where the highest value apprenticeships are being created

There is strong political commitment to the apprenticeships programme as a part of the strategy to achieve a high quality workforce that can help improve UK productivity and economic growth.¹ Apprenticeships have the potential to provide opportunities for gaining training whilst working, thereby improving career opportunities and helping to fill skills gaps across a range of sectors. The government is planning to implement a new levy on businesses, designed to raise funding that will allow sustainable long-term investment in high-quality apprenticeships.²

The SMF is currently undertaking research to look at what types of apprenticeships create the most value, in terms of both wages and firm performance. This in turn will help inform policy recommendations on how government should support the next phase of the apprenticeships programme.

This briefing paper summarises early findings from the first part of the project, which looks at the value of apprenticeships to workers in terms of how much extra earnings an apprenticeship delivers in England.

In summary, we find that:

- Level 3 apprenticeships deliver high wage returns, providing a premium of 16% on hourly earnings compared to having only a Level 2 qualification.
- But the picture is much more mixed for Level 2 apprenticeships. On average, we do not find a statistically significant wage premium attached to undertaking a Level 2 apprenticeship, although there are differences by sector.
- Manufacturing delivers especially high value apprenticeships across both Level 2 and Level 3 apprenticeships.
- The next phase of the apprenticeship programme needs to focus much more on delivering high quality apprenticeships that meet skill demands and increase productivity. The Government should consider how its new levy system can be designed to incentivise the provision of higher quality apprenticeships.

How we measure the “wage premium” associated with apprenticeships

Our analysis compares the earnings of those who have completed an apprenticeship against those with similar characteristics who have not. The difference between the two – the “wage premium” – is an average at a particular point in time, in this case, during the period 2012 to 2014.

By “similar characteristics”, we mean factors such as age, gender, ethnicity, geographic area, family and household type, and type of work. To allow us to focus on earnings rather than differences between full-time and part-time workers, we look at those in full-time work only.

¹ HM Treasury, Fixing the Foundations: creating a more prosperous nation, July 2015

² BIS, Apprenticeships levy: employer owned apprenticeships training, August 2015; BIS, Apprenticeships levy: employer owned apprenticeships training: Government response, November 2015

We look at Level 2 apprenticeships (equivalent to getting A*-C GCSEs) and Level 3 apprenticeships (equivalent to A-levels). These are the most common apprenticeships taken, and for which sufficient data is therefore available.³ For Level 2 former apprentices, our comparison group is those with similar characteristics who have Level 1 or 2 qualifications, but no apprenticeship. For Level 3 former apprentices, our comparison group is those with similar characteristics but with Level 2 qualifications only. The choice of comparison group is based on common levels of prior attainment amongst those starting an apprenticeship.⁴

Our analysis is based on the Quarterly Labour Force Survey (QLFS), which contains data on earnings, qualifications, type of work, family background and demographics. The analysis we have undertaken is based on a similar methodology and the same data source used by the National Audit Office in its 2012 report on adult apprenticeships.⁵ The NAO findings are based on 2004 to 2010 data, whereas our main findings are based on the 2012 to 2014 period.⁶ For this period, the dataset contains the details of around 450,000 individuals, including 2,400 former apprentices.⁷

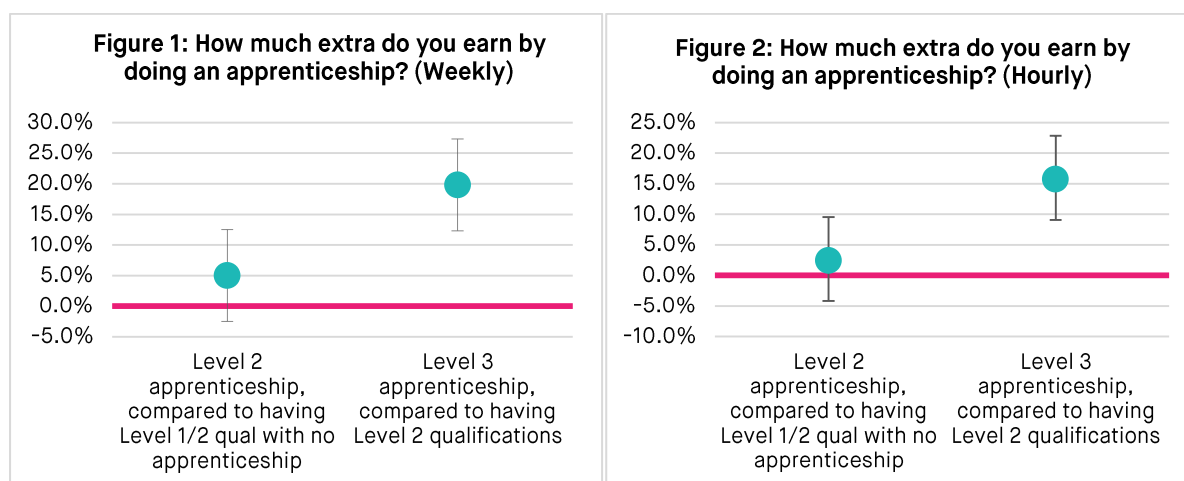
Level 3 apprenticeships provide much higher returns than Level 2

Our analysis finds that there are strong benefits to completing a Level 3 apprenticeship. This applies even for those who already have another type of Level 3 qualification.

- **Holders of Level 3 apprenticeships earned around 16% more per hour, and 20% more per week, compared to similar employees who only had Level 2 qualifications.** This finding is similar to the results from previous studies (NAO and BIS).
- Level 3 apprenticeship holders' earnings also compare well to those who have some other type of Level 3 qualification, such as A-levels. **We find that those who have completed Level 3 apprenticeships earn 9% more per hour, and 11% more per week compared to those who have some other type of Level 3 qualification.**

However, our results for Level 2 apprenticeships paint a less positive picture:

- **For Level 2 apprenticeships overall, we find no statistically significant difference** between those who have completed an apprenticeship and those who have only Level 1 qualifications, or Level 2 qualifications of some other type.⁸



Note: error bars indicate 95% confidence intervals. Where the error bar overlaps with the 0% line, this indicates that the estimated return is not statistically different from 0%. Source(s): Author's analysis.

³ FE data library: apprenticeships <https://www.gov.uk/government/statistical-data-sets/fe-data-library-apprenticeships>

⁴ BIS, Prior qualifications of adult apprentices 2011/2012

⁵ NAO, Adult apprenticeships, 2012

⁶ There are also other studies that have used different data sources and approaches. A [BIS-commissioned report](#) from 2014 uses data from apprentices' individual learner records, combined with data on earnings and benefits claims from DWP. This study calculates the "wage premium" 3-5 years after completing an apprenticeship, using data over the 2002 to 2012 period. Results suggest that the wage premium is highest in the first year after completing an apprenticeship, and falls afterwards.

⁷ Our focus is on "Modern Apprenticeships" and their successors rather than trade apprenticeships.

⁸ This finding applies when former Level 2 former apprentices are compared against those with Level 1 qualifications only, and when they are compared against those with Level 1 or 2 qualifications but no apprenticeship.

There is some evidence that Level 2 apprenticeships may be less valuable than they used to be

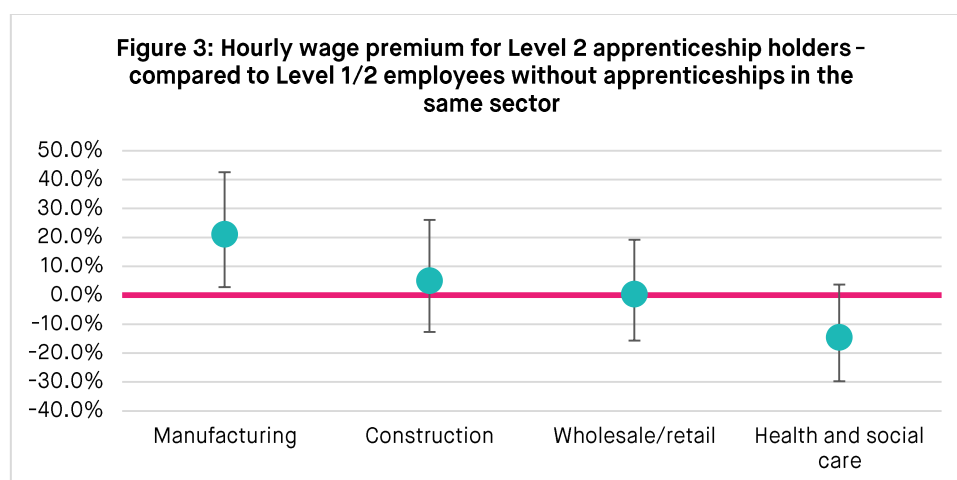
Previous studies confirm our finding that Level 3 apprenticeships add more value in terms of wages compared to Level 2 apprenticeships. However, in our analysis the gap between the two is much larger. We find less positive results for Level 2 apprenticeships compared to previous studies, such as that by the NAO.

When we repeated our analysis using 2004 to 2011 data, we found that during this period, **Level 2 apprenticeships did provide a higher earnings advantage**. This provides some evidence that the value of Level 2 apprenticeships may have fallen, for example, due to lower quality or the difficult labour market conditions during 2012 to 2014 (when wage growth was especially muted).⁹

But Level 2 apprenticeships still add value in some sectors

There is substantial variation in the “wage premium” across sectors. We look at four broad sector areas, where sample sizes are large enough to undertake analysis of the effect of apprenticeships on wages.

- **Within manufacturing, we find that those who have a Level 2 apprenticeship earn more per hour** than employees in the same sector with only Level 1 qualifications, or Level 2 qualifications of some other type. There is little evidence of a wage gain from Level 2 apprenticeships in other sectors that we looked at.
- The data points to Level 2 apprenticeships playing a role in **providing access to higher paying sectors** (like manufacturing), but also to very **wide variation in value across different sectors**, as shown in the chart below.



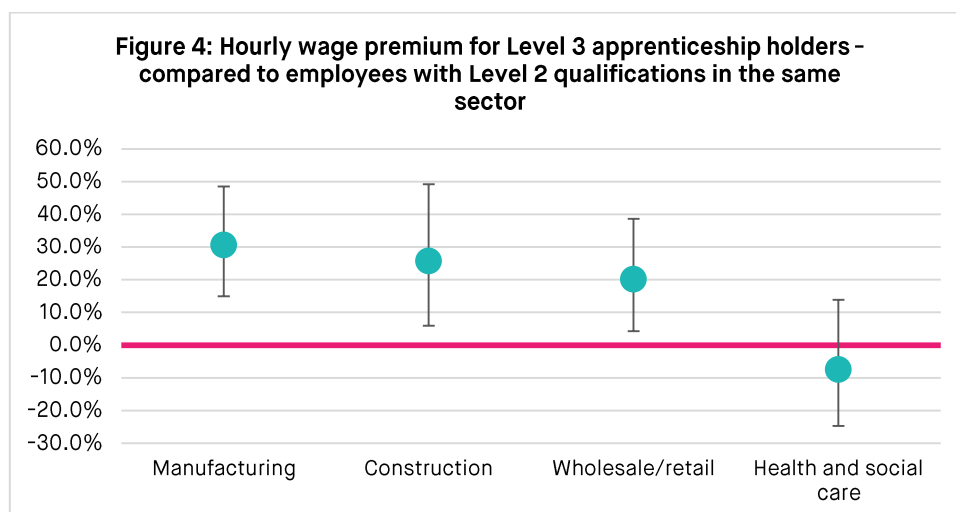
Note: error bars indicate 95% confidence intervals. Where the error bar overlaps with the 0% line, this indicates that the estimated return is not statistically different from 0%. Source: Author's analysis.

The value of Level 3 apprenticeships also differs by sector

This pattern of wide variation is also reflected across Level 3 apprenticeships, with some sectors delivering much higher wage returns than others.

⁹ A more technical possible explanation is a change in the wording of the Labour Force Survey questionnaire in 2012: previously, individuals were asked if their apprenticeship was a “modern apprenticeship” i.e. part of the Government’s apprenticeship initiative, to distinguish from the older-style trade apprenticeships. From 2012 onwards, individuals were instead simply asked when their apprenticeship was completed. We think that the latter formulation of the question is more likely to yield accurate results.

- **Level 3 apprenticeships in manufacturing deliver an average boost of just over 30% to hourly earnings** compared to not having any Level 3 qualifications whilst working in the same sector.
- Level 3 apprenticeships in construction and wholesale/retail also provide gains compared to these in the same sector with only Level 1 or 2 qualifications (although the estimate is more uncertain).
- We find no significant wage effect associated with undertaking a Level 3 apprenticeship in health and social care. This is not say that there is no wider social value from these types of apprenticeships. Instead, it may be that there are limited prospects for wage rises in this sector due to cost pressures.



Note: error bars indicate 95% confidence intervals. Where the error bar overlaps with the 0% line, this indicates that the estimated return is not statistically different from 0%. Source: Author's analysis.

Are apprenticeships more valuable to those in younger age groups?

One criticism of the apprenticeship system has been that more and more apprentices are drawn from older age groups, and include existing employees, to whom apprenticeships may provide less value. We find some evidence of differences in value across age groups. However, the most recent data suggests any difference is relatively small, and that apprenticeships can still add some value to older age groups.

We find that for Level 2 apprenticeships:

- In line with our overall results, there is no significant difference in earnings during 2012 to 2014 between former apprentices and those with other Level 2 or Level 1 qualifications, regardless of at what age they completed the apprenticeship.
- In the earlier, 2004 to 2011 period, there is **some evidence that former apprentices who completed their apprenticeship whilst under 25 benefited more.**

For Level 3 apprenticeships:

- **In the 2012-2014 period, apprentices who completed the apprenticeship aged 24 or under benefit from higher weekly pay,** but not higher hourly wages, compared to those who completed aged over 25. This indicates that younger individuals benefit more from undertaking apprenticeships, but that much of the benefit is counter-balanced by working longer hours for similar levels of hourly pay.

Government and industry need to target higher quality apprenticeships

The next stage of the SMF's research is to look at benefits from apprenticeships to firms. However, it is already clear from our findings on wages that there is huge variation in the value of

apprenticeships across qualification level and sector. Manufacturing performs especially strongly, but apprenticeships in other sectors deliver little by way of additional wages.

In some respects this is unsurprising: manufacturing has experienced persistent, long-term skills shortages, which apprenticeships can play a valuable role in filling.¹⁰ Yet it is concerning that, so far, the growth in apprenticeships has not been highest in areas where shortages are the most severe, and where apprenticeships are likely to add most value in terms of wages and productivity.¹¹

The Government's new levy scheme has the potential to raise more funding that will make it possible to fund higher quality apprenticeships. However, close attention also needs to be paid to how much employers are able to draw down for different types of apprenticeships. There is an opportunity for Government to ensure that funding is geared towards apprenticeships that deliver most value.

That means making sure that more apprenticeships are created in sectors where they are likely to add most value in terms of wages and productivity. It also means focussing on increasing progression from Level 2 apprenticeships to Level 3 apprenticeships, which deliver much higher wage returns. Options include allowing different amounts of funding for specific qualifications or sectors, or tying funding to measures of value, such as earnings. Another option is to bundle together Level 2 and Level 3 apprenticeships, so that apprentices automatically progress onto higher value apprenticeships. We will be exploring these options in more detail in the next phases of our work.

The SMF is currently undertaking a research project to look at the link between apprenticeships, wages and productivity, kindly supported by Gatsby Charitable Foundation. This briefing paper outlines early findings of the first phase of the project examining the link between apprenticeships and wages.

¹⁰ UKCES Employer Skills Survey 2013: UK Results

¹¹ SMF, Fixing a broken training system, 2015