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An analysis of the duration and achievement of apprenticeships in England

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Abstract

For the cohort of all 516,880 intermediate and advanced apprenticeships starting in England in 2011/12, we find that one third were withdrawn and a further 10 per cent were not completed within 36 months.

We find that completion is strongly related to measures of prior achievement (full Level 2 or 3 qualifications) and we observe substantial variation by framework, i.e. apprentices are more likely to achieve if they choose certain vocational areas instead of others. On-going apprenticeship reform should more clearly look at such indicators to evaluate whether reforms actually increase individual achievement or similar outcomes.

Another implication is to provide better information for those interested in apprenticeships on expected outcomes. For example, the 'findanapprenticeship' website could offer a tool for potential apprentices to insert personal characteristics, and be given information on the probability of achievement and expected labour market outcomes for a person with these characteristics.

Keywords: Apprenticeship, United Kingdom, returns to education

JEL codes: I26 (Returns to Education), I28 (Government Policy), C55 (Large Data Sets)

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Executive summary

Aims

The aim of this descriptive paper is to provide evidence about starts, achievement rates and duration for a recent cohort of apprentices to supplement Key Headline figures regularly published by the *Department for Education* (DfE). The achievement rates published by DfE relate to academic years (for most aims the denominator relates to apprenticeships that ended in a given year), but not to the year when the apprenticeships were started. In addition, DfE statistics apply definitions (also referred to as 'business rules'), which exclude some withdrawn apprenticeships.

We focus our analysis on the apprenticeships starting in the academic year 2011/12. The main reason for selecting this cohort is that it is the latest cohort for which we can observe the apprenticeships for at least 36 months (the period after which the vast majority of apprenticeships have usually been completed).

Data

We extracted information on apprenticeships started during the academic year 2011/12 using data from the Individualised Learner Record (ILR) aims files for the years 2011/12 to 2014/15[1]. After removing apprenticeships that ended on the same day as they started, and removing records without a valid Unique Learner Number, we identified 309,371 Intermediate Apprenticeships and 180,882 Advanced Apprenticeships (a total of 490,253 apprenticeships) which started in the academic year 2011/12.

Main findings

Achievement and withdrawals for all apprenticeships started in 2011/12

We find that about a third of Intermediate and Advanced Apprenticeships that started in the academic year 2011/12 have been withdrawn within three years after the start date, and a further 5% of Intermediate Apprenticeships and 10% of Advanced Apprenticeships still continue 36 months after the start date. This suggests that focusing on the published numbers of apprenticeships started and on the published achievement rates (which, to a large extent, exclude apprenticeships that are withdrawn) may not give an accurate picture of the reality of apprenticeship provision. Assuming the same pattern persisted across the 2010-2015 Parliament the 2.4 million reported as starting an apprenticeship translates to between 1.5 and 1.7 million achievements depending how we treat continuers in our calculations.

[1] Data were only available until February 2015

Apprenticeship starts by age-group and framework.

Apprenticeships are typically associated with young people aged 19-24 rather than adults. However, our analysis finds that people aged below 25 account for 60% and 50% of starts for intermediate and Advanced Apprenticeships respectively. These averages hide huge variation by framework: in some frameworks young people account for nearly all starts and in others they account for less than 20%.

Duration

The *average planned duration* was 12.0 months for Intermediate and 15.8 months for Advanced Apprenticeships. These durations are much lower than average durations in countries associated with high quality apprenticeship systems. For example, in Norway an apprenticeship typically lasts around 48 months, whereas in Germany, the typical duration is between 24 and 42 months[2].

Drivers of achievement rates

Finally, we analyse how achievement rate varies by individual characteristics and apprenticeship frameworks using regression analysis. Stark differences in achievement probabilities across frameworks remain once individual characteristics are held constant, suggesting that observed differences are not entirely driven by learners with different characteristics selecting themselves onto different frameworks. Higher achievement rates are also associated with higher levels of prior achievement (full Level 2 or 3 qualifications) but the association between achievement rates and framework selection is stronger.

Conclusions

There are two main conclusions. First, those interested in apprenticeships should be offered better information about their probability of completing and achieving their learning aim, given their individual characteristics, specifically their existing qualifications, so better information may improve choices and reduce drop-out and underachievement. For example, the 'findanapprenticeship' website could offer a tool for potential apprentices to insert personal characteristics, and be shown the average probabilities of achieving an apprenticeship and expected labour market outcomes for a person with these characteristics. It might also enable individuals to compare expected rates of success for different framework and level options (given measurable characteristics).

Second, we recommend re-analysing differences in achievement rates after 'apprenticeship standards' are revised (we are currently undertaking a similar analysis of the impact of the regulatory changes related to the minimum duration of apprenticeships). This enables one to assess whether achievement rates improve following regulatory change.

[2] G20-OECD-EC Conference on Quality Apprenticeship, Country Information on Apprenticeships: http://www.oecd.org/els/emp/OECD%20Apprenticeship%20Note%2026%20Sept.pdf

1. Introduction

The aim of this descriptive paper is to provide evidence about the achievement and duration of apprenticeships for a recent cohort of apprentices, providing some detailed figures for specific age groups, the framework of the apprenticeship and whether an Intermediate or Advanced Apprenticeship is chosen. We also describe apprenticeship withdrawals, i.e. apprenticeships which were terminated and did not result in students achieving the learning outcomes.

This evidence provides further contextualisation for the Key Headline figures on apprenticeship starts and achievement as published in the *Department for Educations* (DfE) *Statistical First Release,* which include:

- Learner starts (i.e. engagement in further education colleges, local community, apprentices and other learning in the workplace) and
- Learner achievement (i.e. achievement of learning outcomes of completed spells)

which are both published for *academic years.* While both learner numbers and achievement are important to understand the Government's targets to create a particular number of apprenticeships, the average achievement rates of apprenticeships shown in this paper are important for individuals making transitions to vocational education or making decisions about particular programmes.[3,4] However, deriving such figures requires a *longitudinal analysis* of specific cohorts of learners engaging in particular FE programmes, e.g. the time it takes them to successfully achieve an apprenticeship, which is both sufficiently recent to be informative for current apprenticeship starts and covers a sufficiently long time period after the start of the apprenticeship to produce informative estimates on duration and achievement of apprenticeships.

The empirical analysis below uses census-level Individualised Learner Record (ILR) data for the academic years 2011/12 to 2014/15 to provide such a longitudinal analysis of apprenticeships started in the academic year 2011/12.

More specifically, we

- Describe withdrawals and achievement up to 36 months after the start;
- Describe average planned and actual durations of apprenticeships;
- Conduct a regression analysis of the drivers of achievement rates, covering individual and firm characteristics and the occupational field of apprenticeship ('Apprenticeship framework').

We focus our analysis on the apprenticeships started in the academic year 2011/12. The main reason for selecting this cohort is that it is the latest cohort for which we can observe the apprenticeships for at least 36 months (the period after which the vast majority of apprenticeships have usually been completed).

[3] https://www.gov.uk/government/statistical-data-sets/fe-data-library-further-education-and-skills

[4] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/477743/SFR_commentary_November_2015__1_.pdf

Our findings show slightly lower numbers of apprenticeship starts than reported in official DfE publications, although our analyses aimed to apply the same definitions (usually referred to as 'business rules'), but key demographic groups and apprenticeships levels are all consistent with official data.

Based on observed durations up to 36 months after the start of the apprenticeships, we find that almost a third of those starting on both programmes in the academic year 2011/12 withdrew from their apprenticeships. About 5% of Intermediate Apprenticeships and 10% of Advanced Apprenticeships were still continuing 36 months after the start date. The achievement rates within three years, computed using the DfE business rules, stand at 70.2% of Intermediate and 67.9% of Advanced Apprenticeships.

Background to the ILR and achievement rates

ILR data are collected for the purpose of funding and monitoring further education courses. Published data focus on high level monitoring with little attention given to achievement rates by learner characteristics and course selection. As a monitoring data set, the ILR records the date a qualification aim has started; the date it is expected to be achieved and subsequently the date it was achieved (or date of withdrawal without achievement).

The expected end date is used to allocate funding across the duration. The actual end date is used to calculate achievement rates and to monitor the extent to which learning is completed by the expected end date. Where learning exceeds the expected duration, providers no longer receive funding for the learner, which may have an impact on the quality of provision and the chances of the learner achievement.

The simplest achievement rate, and the most reliable for comparing year-on-year changes, would be based on cohorts who started in each academic year. Because this cannot be produced for at least 3 years after a learning aim has started (by which point most achievements or withdrawals will have taken place) it would not be useful to assess possible poor performance in a timely manner. For this reason, the DfE publishes achievement rates based on academic years for programmes that ended or were expected to end. Rates are published using two methodologies. They have different purposes but are both available much sooner than the 'start year' method:

- The overall achievement rate is based on the hybrid end year of a learning aim, which is defined as the planned end year of the learning aim, the actual end year of the learning aim or the reporting year, whichever is later.[5]
- The timely achievement rate calculation measures the number of aims that are achieved on or before their planned end date (or no more than 90 days after) as a percentage of the number of aims that were planned to be completed in the reporting year. Achieved aims with an actual end date more than 90 days after the planned end date are not counted as achievements in the timely method. This method was introduced in response to concerns by Ofsted that too many apprenticeships were being recorded as on-going long after the expected end date and not being included

[5] SFA: business rules for qualification achievement rates 2015 to 2016; https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/571536/SFA-business_rules_for_QAR_201516_v1.1.pdf

in the provider's achievement rate. It is typically used at provider level rather than the framework or national level and is not discussed further in this paper.

This paper supplements these measures by looking at the achievement rate based on all people who start in a given year. This is an important supplementary measure to the published rates because it is easier to understand and provides fewer loopholes through which providers can hide under-performance. It is easier to understand because the denominator is tangible rather that being a mixture of expected, actual and reported end date.

In addition to learner and course characteristics, the key variables used in this paper are: start date, expected and actual end date and whether the apprenticeship was achieved or not.

2. Data and Methodology

Data

We focus on apprenticeships started during the academic year 2011/12 and track them for 36 months using data from the ILR aims files for the years 2011/12 to 2014/15[6]. After removing apprenticeships that ended on the same day as they were started, and removing records without a valid Unique Learner Number (ULN), we identified 309,371 Intermediate Apprenticeships and 180,882 Advanced Apprenticeships (a total of 490,253 apprenticeships) which started in the academic year 2011/12.

In our analysis of the drivers of achievement rates, we further applied the DfE apprenticeship business rules[7], which for instance remove apprenticeships from the data when an apprentice transferred to a different programme or a new provider or withdrew from the learning aim within the funding qualifying period.

Size of the identified cohort

Based on our identification as described above, the number of apprenticeships started in 2011/12 (490,253) is 5% lower than the officially reported apprenticeships (Table 1). Once the DfE business rules have been applied we are left with a sample of 437,817, around 85% of the official number of apprenticeships started within the academic year 2011/12. As in official statistics, different apprenticeships started by the same individual in the academic year 2011/12, are included.

Table A1 (Appendix 1) shows the distribution of the different apprenticeship levels within each occupational field (also referred to as the *apprenticeship framework*) and the total number of valid starts at any level in the academic year 2011/12 (with frameworks of less than 100 apprentices aggregated to a residual category 'All other').

The largest frameworks – with more than 20,000 starts in 2011/12 – were Health and Social Care, Customer Service, Business Administration, Management, Hospitality and Catering, Retail and Children and Young People Workforce. Other large frameworks with more than 5,000 starts included Improving Operational Performance, Hairdressing, Construction Building, Vehicle Maintenance & Repair, IT, Software, Web & Telecoms Professional,

[6] Data were only available until February 2015

[7] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/436130/Apps_QAR_Dataset_Production_Spec_2014-15_v1.pdf

Driving Goods Vehicles, IT Application Specialist, Accounting, Warehousing and Storage, Supporting Teaching and Learning in Schools

Most apprenticeship frameworks cover Level 2 and Level 3 qualifications, in the sense of the Regulated Qualifications Framework (RQF), and increasingly Level 4 qualifications, but some focus on one of the levels only. For instance, Engineering Manufacture, Craft and Technician, Health Dental Nursing and Electro-technical are exclusively only Level 3 frameworks. In contrast, there are some frameworks, including larger frameworks such as Improving Operational Performance, which only qualify to Level 2. Where frameworks exist at both levels, the share of Advanced Apprenticeships usually ranges between 20% and 45% of all apprenticeships.

Table 2 shows the distribution of the different apprenticeship levels within different age groups based on age at the start of the programme. A smaller proportion of young (16-18) apprentices are engaged in Advanced Apprenticeships (Level 3) compared to 19 to 24 year olds. Among those within the prime age group of 25-59 year olds, 57% of the apprenticeships are at Level 2 (or intermediate), compared to 74% of the group aged 18 and under. To some extent this is to be expected because a Level 2 framework is often a pre-requisite for enrolment on a Level 3 framework in the same industry or occupational area.

In the following section, we show how duration and achievement of apprenticeships compare for different demographic groups.

3. Descriptive analysis

Achievement and withdrawals for all apprenticeships started in 2011/12

ILR Aims data include valid start and planned end dates for every apprenticeship, but not all apprenticeships have a valid end date, either because the apprenticeship is still on-going or it was terminated but the ILR data have not yet been updated. This right-censoring affects a substantial percentage of apprentices (also as the data are currently limited to the end of the February 2015, i.e. 24-36 months after the start of the apprenticeship). The censoring results in a lower bound estimate of the duration of spells as only apprenticeships that have been completed or withdrawn can be observed for their full duration.

We do not right-censor the data for the achievement analysis because there is a belief that many of the learners reported as continuing after 36 months have actually withdrawn without the withdrawal being reported on the ILR (see achievement rate analysis below). The right censoring does affect the sample available for the duration analysis and its impact is discussed in the duration analysis below.

In Figure 1 we show the status of apprenticeships up to 36 months after they start. Apprenticeships can be 1) completed and achieved, 2) completed but not achieved, 3) withdrawn or 4) continuing. In this section we use all the apprenticeships we identified as valid in the ILR and do not apply the DfE business rules for this descriptive exercise. After 12 months, 37.6% of Intermediate Apprenticeships have been completed and achieved, 0.6% have been completed but not achieved, 28.3% have been withdrawn and 33.5% are continuing. After 24 months, 59.3% of Intermediate Apprenticeships have been completed and achieved, 1.0% completed but not achieved, 32.0% withdrawn and 7.7% are continuing. After 36 months, 60.9% of Intermediate Apprenticeships have been completed and achieved, 1.0% completed

but not achieved, 32.2% withdrawn and 5.9% are continuing. The vast majority of Intermediate Apprenticeships are completed (regardless of whether they are achieved or not) within 24 months.

As expected, Advanced Apprenticeships take more time to complete. After 12 months, 22.8% of Advanced Apprenticeships have been completed and achieved, 0.4% have been completed but not achieved, 24.0% have been withdrawn and 52.8% are continuing. After 24 months, 52.1% of Advanced Apprenticeships have been completed and achieved, 1.0% completed but not achieved, 31.7% withdrawn and 15.1% are continuing. After 36 months, 55.7% of Advanced Apprenticeships have been completed and achieved, 1.2% completed but not achieved, 32.7% withdrawn and 10.4% are continuing. The proportion of apprenticeships that are withdrawn after 24 and 36 months is strikingly similar for Intermediate and Advanced Apprenticeships.

Combining intermediate and Advanced Apprenticeships we find that after 36 months, 60.0% have been completed and achieved, 1.1% completed but not achieved, 32.4% withdrawn and 7.6% continuing. Based on this, we can estimate the number of achievements using the percentage completed and achieved to provide a lower bound of the total. An upper bound also includes those continuing after 36 months, assuming they subsequently achieve their apprenticeship. Assuming the same pattern persisted across the 2010-2015 Parliament the 2.4 million reported as starting an apprenticeship translates to between 1.5 and 1.7 million achievements.

Analysis of starts by age group and framework

Apprenticeships have typically been associated with young people to a greater extent than adults. Our analysis finds that people aged below 25 account for 60% and 50% of starts for intermediate and Advanced Apprenticeships respectively, but this hides a huge amount of variation by framework. Figure A1 in Appendix 2 shows for Intermediate Apprenticeships that young people account for nearly all starts in vehicle maintenance and repair and construction but less than 10% for road passenger transport. Similarly for Advanced Apprenticeships, young people account for nearly all starts in providing security services but less than 20% in food manufacture, management and teaching assistants.

Analysis of the duration of apprenticeships

ILR contains information about the planned duration of apprenticeships, and actual duration can be calculated for apprenticeships that were completed or withdrawn. Table 3 shows the average planned and observed durations for Intermediate and Advanced Apprenticeships for the different age groups.

The distributions of planned and observed durations are shown in Figure 2, split by whether the planned duration was up to 1, 2 or 3 years. Figure 2 suggests that planned durations are reasonably accurate on average because there is little change in the number achieved after 1 and 2 years (in the first 2 charts) but achievements continue to build up after two years in the third chart.

The average planned duration is 12.0 months for Intermediate Apprenticeships and 15.8 months for Advanced Apprenticeships. Planned duration is longer for younger than older apprentices. For Intermediate Apprenticeships, the average planned duration is 13.7 months for 16-18 year old apprentices compared to 11.6 and 11.0 for 19-24 and 25-59 year old apprentices.

The average actual duration of completed apprenticeship is 12.1 months for Intermediate Apprenticeships and 14.9 months for Advanced Apprenticeships. Overall the average actual duration of completed apprenticeships is very close to the planned duration but is about 20% shorter for young apprentices engaged in Advanced Apprenticeships.

43.1% of Intermediate Apprenticeships have a planned duration of less than 12 months. This proportion is lower for 16-18 year old apprentices (34.4%) than for 19-24 or 25-59 year olds (47.0 and 46.8% respectively). 30.3% of Intermediate Apprenticeships have a planned duration of exactly 12 months. Almost all (98.5%) Intermediate Apprenticeships are planned to last 24 months or less. Almost a fifth of Advanced Apprenticeships have a planned duration of less than 12 months, and this proportion is also larger for older apprentices. Overall, 9.3% of Advanced Apprenticeships have a planned duration exceeding 24 months. This is the case for 27.3% of 16-18 year old apprentices compared to 2.3% of prime age apprentices (aged 25-59). 19.4% of Advanced Apprenticeships studied by 16-18 year olds have a planned duration of 36 months or more.

While the average actual duration of completed apprenticeships is very close to the planned duration, the distribution differs markedly. 48.3% of completed Intermediate Apprenticeships have an actual duration of less than 12 months. The vast majority of Intermediate Apprenticeships that were completed last 24 months or less (97.4%). Apprenticeships tend to be longer for younger learners.

The right censoring has very little impact on the distribution of key variables in the sample available for the duration analysis[8]. As mentioned above, the right censoring means the estimates of duration will be lower bounds for the true values. This comparison of the distributions pre- and post-censoring coupled with the belief that many 'continuing' apprenticeships have been withdrawn before 36 months suggests that the estimates will only be biased downwards to a small extent by the right censoring.

Note that the cohorts shown in this example reflect the regulation of apprenticeships before the Specification of Apprenticeship Standards for England (SASE) came into effect in the 2012/13 academic year (12 months minimum duration and 280 Guided Learning Hours for both Apprenticeships and Advanced Apprenticeships).

The average duration of 12.0 and 15.8 months for intermediate and Advanced Apprenticeships are much lower than average duration in countries associated with high quality apprenticeship systems. For example, in Norway an apprenticeship typically lasts around 48 months, whereas in Germany, the typical duration is between 24 and 42 months[9].

Achievement rates

Finally, we describe the proportion of apprenticeships that are achieved within 3 years of being started. We follow the DfE business rules and exclude from the analysis apprenticeships where the apprentices 1) transferred to a new provider 2) transferred to a different programme with the same provider, 3) temporarily withdrew due to an agreed break in learning, 4) withdrew

[8] "The full and censured samples contain similar proportions of people with each characteristics of interest. Table 4 shows the characteristic of interest. Results are available on request."

[9] G20-OECD-EC Conference on Quality Apprenticeship, Country Information on Apprenticeships: http://www.oecd.org/els/emp/OECD%20Apprenticeship%20Note%2026%20Sept.pdf

from the framework within the funding qualifying period[10] and 5) were studying non-SFA funded apprenticeships. Finally we also excluded apprenticeships with a planned end date after February 2015. We include in our calculations apprenticeships that are still continuing, and therefore the achievement rates presented in this paper are not conditional on all apprenticeship being finished; only on those with an expected duration of less than 3 years being finished. The rationale for doing so is that there is some uncertainty about whether the apprenticeships that are said to be continuing are genuinely on-going or not. Consequently the unconditional achievement rates are slightly lower than the published achievement rates in the statistics first release.[11]. It should be noted that the rates discussed in this section are also different to the rates presented in the achievement and withdrawal section above because we have applied the DfE business rules.

The overall achievement rate 24 months after apprenticeship start is 64.4% (66.1% for Intermediate Apprenticeships compared to 61.3% for Advanced Apprenticeships). Achievement rates 36 months after apprenticeship starts stand at 69.4% (70.2% for Intermediate Apprenticeships and 67.9% for Advanced Apprenticeships).

In the remainder of this section we focus on achievement rates 36 months after the apprenticeship starts. Achievements rates within 36 months by individual characteristics are displayed in Table 4.

Table 4 presents a breakdown of achievement rates by demographic characteristics and by level of apprenticeship. Similarly, table 5 shows a breakdown of achievement rates by framework and level of apprenticeship. The main finding is that achievement rates do not vary dramatically across demographic characteristics but variations across prior qualification levels are relatively large. Most of the variation however is driven by framework.

The overall achievement rate is slightly higher for females (70.6%) than for males (68.2%). The gap is larger for Advanced Apprenticeships (70% for females compared to 65% for males) than Intermediate Apprenticeships (71% for females compared to 70% for males). Achievement rates of apprentices from an Asian, Black or Mixed background are between 2.8 and 5.9 p.p. lower than that of White British (69.9%) and those from other white backgrounds (70.8%). Differences in achievement rates are similar for Intermediate and Advanced/Higher apprenticeships. Achievement does not seem to vary substantially by age group except for apprentices aged over 60, who are far less likely to achieve their apprenticeships. Apprentices aged 19 or 20 appear to have the highest achievement rate.

Level of prior attainment is strongly related to achievement. The achievement rate stood at 66.6% for those with no prior qualification, and 64.2% and 67.2% for those with Entry Level and Level 1 qualifications respectively. Apprentices with full Level 2 and 3 qualifications have the highest achievement rates (71.0% and 73.6% respectively). The achievement rate is lower (60.1%) for apprentices with existing Level 4 (or above) qualifications, but this is a relatively small group (816). This may suggest something about the extent to which these frameworks

[10] To avoid penalising providers for enrolling apprentices who have yet to determine their vocational pathway the funding agencies give providers a period of grace of 6 weeks during which withdrawal does not count against them in the achievement rate element of the funding formula. The funding agencies monitor the extent to which the grace period is used to ensure it is not unduly common for any individual provider.

[11] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/477743/SFR_commentary_November_2015__1_.pdf, page 17

are real training or subsidised lower paying jobs (i.e. illustrated by highly qualified people being more likely to move to fully waged employment instead of completing their apprenticeship). A forthcoming study in our work programme series will examine this potential issue further by looking at post-apprenticeship job destinations and the extent to which they are in an industry or occupation related to the framework

The achievement rate of those with a disability stands at 66.6%, 3.2 p.p. lower than that of learners without disability. The difference is larger for Intermediate than Advanced Apprenticeships. The achievement rate of apprentices working for large employers is not markedly different from those working for small and medium employers.

Table 5 shows the achievement rate of apprenticeships for the most common frameworks. The overall achievement rate varies by framework, ranging from 57.4% in Retail to 82.9% in Accounting, 89.9% in Spectator Safety and 91.5% in the Glass Industry. There is a wide variation in achievement rates within framework by level of apprenticeship. While the achievement rate is 67.3% for Intermediate Apprenticeships in Vehicle Maintenance and Repair, it stands at 78.9% for Advanced Apprenticeships. However, the probability of achievement 36 months after the apprenticeship started is typically lower for Advanced Apprenticeships, since they usually take longer to complete. There is some exceptions to this, notably Construction (65.1% for Intermediate Apprenticeships, 81.8% for Advanced Apprenticeships) and, to a lesser extent, in Hairdressing (71% for Intermediate, 77.0% for Advanced Apprenticeships).

4. Regression analysis

In this section, we use regression analysis to understand the extent to which individual characteristics and choice of framework are related to achievement. This methodology enables us to examine the association between a given characteristic and achievement while holding other observable characteristics constant. Controlling for observable characteristics adds important context to the actual achievement rates because actual rates may be affected by the compositional elements related to the frameworks' intake. For example, the rate for the Accounting framework might be higher because the people who undertake accountancy may have better prior qualifications than participants on other frameworks.

We estimate Probit models and report marginal effects of the independent variables on the probability of achieving an apprenticeship, which are presented in Table 6 separately for Intermediate Apprenticeships and Advanced and Higher Apprenticeships. Most marginal effects of individual characteristics are significant at least at the 5% level. However, these marginal effects tend to be of a relatively small magnitude.

The observed differences in achievement rates between men and women remain significant once other individual and framework characteristics are controlled for. Women are 3.5 p.p. more likely to achieve an Intermediate Apprenticeship and 4.5 p.p. more likely to achieve an Advanced Apprenticeship than men. Results from the regression analysis confirm that younger learners (18 or under) are less likely to complete their apprenticeship within 36 months than learners aged 19-59. The difference in achievement across age groups is typically larger for Advanced than Intermediate Apprenticeships, the only exception being 25-59 year olds.

White British apprentices are more likely to achieve their apprenticeship compared to those from an Asian or Black or Mixed background when other characteristics are held constant. Apprentices from an Asian or Asian British background are 3.4 p.p. and 4.4 p.p. less likely to achieve an Intermediate and an Advanced Apprenticeship compared to White British apprentices. The differential is larger for Black or Black British apprentices, who are 6.0 p.p. less likely to achieve an Intermediate Apprenticeship and 4.8 p.p. less likely to achieve an Advanced Apprenticeship than White British.

Prior attainment is positively associated with achievement of Intermediate and Advanced Apprenticeships. Having an existing full Level 2 qualification increases the achievement rate of Intermediate Apprenticeship by 7.2 p.p. and of Advanced/Higher apprenticeship by 2.8 p.p., while having a full Level 3 qualification is associated with an 8.1 p.p. higher probability of achieving an Intermediate Apprenticeship and a 6.2 p.p. higher probability of achieving an Advanced Apprenticeship. Having some sort of disability has a negative association with the probability of achieving an Intermediate Apprenticeship (-3.9 p.p.), but no association with the achievement of Advanced Apprenticeships.

Table 6 also reports the differential in achievement rate of apprenticeship by framework. The framework coefficients can be interpreted as the difference in completion and attainment of selected frameworks compared to the Apprenticeship in Health and Social Care (the most common framework), holding individual characteristics included in the model constant. We observe statistically significant, and in some instances substantial, differences in completion and attainment across framework. For instance, the probability of achieving an Intermediate (Advanced) Apprenticeship in Accounting is 13.1 p.p. (19.3 p.p.) lower than in Health and Social Care. In Retail, the achievement probability is 6.7 p.p. lower than in Health and Social Care for Intermediate Apprenticeships and 22.4 p.p. lower for Advanced Apprenticeships.

Stark differences in achievement probabilities across framework remain once individual characteristics are held constant: this suggests the observed differences described in section 3 are not entirely driven by learners with different characteristics selecting themselves onto different frameworks.

5. Conclusions and recommendations

In this paper, we show that about a third of the 516,880 apprenticeships started in the academic year 2011/12 were withdrawn, and a further 10 per cent were not completed within 36 months, suggesting that focusing on the number of apprenticeships started and published achievement rates (which, to a large extent, exclude apprenticeships that are withdrawn) may not give an accurate picture of the reality of apprenticeship provision.

Following DfE statistical definitions to derive achievement rates, we analysed how achievement rates varied across individual characteristics and apprenticeship frameworks using regression analysis.

We show that, *ceteris paribus*, women are more likely to achieve their apprenticeship than men, being from a White background is associated with higher achievement rates and having a full Level 2 or Level 3 prior qualification increases the chances of achieving an apprenticeship

within 36 months. Stark differences in achievement probabilities across frameworks remain once individual characteristics are held constant, suggesting that observed differences in achievement across frameworks are not entirely driven by learners with different characteristics selecting themselves onto different frameworks.

The drawback of using this cohort of apprenticeships started in the academic year 2011/12 is that the analysis on the planned and actual duration of apprenticeships could be of little policy relevance[12] if patterns have subsequently changed. On 1st August 2012 new rules on the minimum duration for apprenticeships were introduced which required all apprenticeships to last a minimum of 12 months. However, in an accompanying paper (Nafilyan and Speckesser, 2017), which takes advantage of fact that some apprenticeship frameworks were affected more heavily than others by the introduction of the 12 month minimum duration, a Difference-in-Differences estimator finds that achievement rates declined after the reform.

The main finding in this paper however, is that both individual and framework characteristics are associated with whether an apprenticeship is a successful way of achieving qualifications. This has two implications:

- First, those interested in apprenticeships should be offered more information before they start about the probability of achieving learning aims as well as expected labour market outcomes depending on individual characteristics, most especially existing qualifications.

  This is particularly important because many people, in particular those aged 19 and over, who consider apprenticeships might have left the education system already and started employment. For this group, there is no consistent system to provide guidance like for pupils in schools and FE Colleges covered by the school's statutory duty. It would be beneficial to improve available information for these potential apprentices. For example, the 'findanapprenticeship' website could offer a tool for potential apprentices to insert personal characteristics and the apprenticeship of interest to obtain expected achievement and labour market outcomes based on linked ILR and employment/earnings data for people, who had similar characteristics. Offering such information could help people to decide about starting an apprenticeship or engaging in other, e.g. classroom-based vocational education.

  A similar approach is used for A-Level students, based on GCSE point scores, in the belief that it improves the application of learners, particularly those who have predicted grades lower than they expected. Two organisations have been providing software and systems for target setting based on predicted grade ranges for A-levels for over 10 years: ALPS[13] by a private company of the same name and ALIS[14] by Durham University's Centre for Evaluation and Monitoring (CEM). The typical approach is to give people the range of grades they might expect depending on how well they apply themselves with the expectation that people will put in more effort than they otherwise would have done in order to attain grades at the higher end of their predicted range. Setting such a tool up for those searching for an apprenticeship would also generate

[12] We used this cohort so that we could observe most apprentices for 36 months.
[13] ALPS: https://alps-va.co.uk/target-setting/
[14] ALIS, http://www.cem.org/alis

excellent (and inexpensive) research data to better understand the drivers of completion and achievement of apprenticeships.

- Our second recommendation is that we recommend re-analysing differences in achievement rates after the introduction of the new 'Apprenticeship standards' in 2015 in order to find out whether achievement and labour market outcomes changed, in particular for frameworks with low achievement rates like Retail and Health and Social Care.

Tables and Figures

Table 1: Apprenticeships started in 2011/12

	BIS official statistics	Processed data	Processed data for analysis of achievement
Intermediate Apprenticeships	329,000	309,371	276,993
Advanced Apprenticeships	187,880	180,882	160,824
Total	516,880	490,253	437,817

Source: ILR ('mildly processed'), IES calculations

Table 2: Total number of starts and percentages by age groups, apprenticeship starts 2011/12

		Intermediate Apprenticeships	Advanced Apprenticeships	Total
16-18		93,585	33,221	126,806
	(Row %)	73.8	26.2	100
19-20		42,553	23,531	66,084
	(Row %)	64.4	35.6	100
21-24		52,485	32,256	84,741
	(Row %)	61.9	38.1	100
25-59		118,264	91,046	209,310
	(Row %)	56.5	43.5	100
60+		2,484	828	3,312
	(Row %)	75.0	25.0	100
Total		309,371	180,882	490,253
		63.1	36.9	100

Source: ILR ('unprocessed'), IES calculations

Table 3: Average planned and observed duration by level and age groups

	Planned duration		Actual duration - completers		Actual duration - withdrawals	
	Intermediate	Advanced	Intermediate	Advanced	Intermediate	Advanced
16-18	13.7	20.2	13.2	16.5	6.1	10.0
19-24	11.6	16.0	11.5	14.8	5.9	8.7
25-59	11.0	14.1	11.7	14.3	6.6	8.4
60+	10.6	13.4	11.2	13.9	6.6	8.2
Total	12.0	15.8	12.1	14.9	6.2	8.7

Source: ILR ('unprocessed'), IES calculations

Table 4: Achievement rate of apprenticeships within 36 months after start, by individual characteristics

		All	Intermediate			Advanced		
		Rate	Rate	Difference with respect to overall rate	Difference with highest rate within group	Rate	Difference with respect to overall rate	Difference with highest rate within group
All		0.694	0.702		-	0.679	-	-
Gender	Female	0.706	0.711	-0.009	Highest	0.698	-0.019	Highest
	Male	0.682	0.694	0.008	-0.017	0.653	0.026	-0.045
Ethnicity	Asian or Asian British	0.671	0.683	-0.019	-0.033	0.647	0.032	-0.044
	Black or Black British	0.64	0.65	-0.052	-0.066	0.622	0.057	-0.069
	Mixed	0.643	0.645	-0.057	-0.071	0.638	0.041	-0.053
	White British	0.699	0.706	0.004	-0.01	0.684	-0.005	-0.007
	Other White Background	0.708	0.716	0.014	Highest	0.691	-0.012	Highest
	Other/unknown	0.641	0.654	-0.048	-0.062	0.62	0.059	-0.071
Age at start	16-18	0.692	0.695	-0.007	-0.014	0.679	0	-0.032
	19-20	0.71	0.709	0.007	Highest	0.711	-0.032	Highest
	21-24	0.692	0.7	-0.002	-0.009	0.679	0	-0.032
	25-59	0.693	0.708	0.006	-0.001	0.671	0.008	-0.04
	60+	0.609	0.627	-0.075	-0.082	0.542	0.137	-0.169
Prior attainment	No qualification	0.666	0.672	-0.03	-0.075	0.639	0.04	-0.083
	Entry Level/below Level 1	0.642	0.641	-0.061	-0.106	0.645	0.034	-0.077
	Level 1	0.672	0.679	-0.023	-0.068	0.647	0.032	-0.075
	Full Level 2	0.71	0.733	0.031	-0.014	0.684	-0.005	-0.038
	Full Level 3	0.736	0.747	0.045	Highest	0.722	-0.043	Highest
	Level 4 or above	0.607	0.666	-0.036	-0.081	0.55	0.129	-0.172
	Unknown	0.678	0.693	-0.009	-0.054	0.644	0.035	-0.078
Disability	No disability	0.698	0.707	0.005	Highest	0.682	-0.003	Highest

		All	Intermediate			Advanced		
		Rate	Rate	Difference with respect to overall rate	Difference with highest rate within group	Rate	Difference with respect to overall rate	Difference with highest rate within group
	Disability	0.666	0.664	-0.038	-0.043	0.671	0.008	-0.011
	Unknown	0.649	0.653	-0.049	-0.011	0.637	0.042	-0.045
Employer size	Small or medium employer	0.694	0.702	0	Highest	0.679	0	0
	Large Employer	0.694	0.701	-0.001	-0.001	0.679	0	0

Source: ILR ('unprocessed'), IES calculations

Table 5: Achievement rate of apprenticeships within 36 months of starting

	All	Intermediate		Advanced	
	Rate	Rate	Difference with respect to overall	Rate	Difference with respect to overall
All	0.694	0.702		0.679	
Hospitality and Catering	0.685	0.697	0.005	0.64	0.039
Food and Drink	0.667	0.659	0.043	0.711	-0.032
Warehousing and Storage	0.649	0.648	0.054	0.8	-0.121
IT, Software, Web & Telecoms Professional	0.755	0.774	-0.072	0.746	-0.067
IT Application Specialist	0.627	0.599	0.103	0.771	-0.092
Supporting Teaching and Learning in Schools	0.731	0.769	-0.067	0.718	-0.039
Rail Engineering (Track)	0.715	0.715	-0.013		
Passenger Carrying Vehicle (Bus and Coach)	0.674	0.674	0.028		
Vehicle Maintenance & Repair	0.716	0.673	0.029	0.789	-0.11
Providing Security Services	0.79	0.79	-0.088		
Driving Goods Vehicles	0.759	0.777	-0.075	0.387	0.292
Retail	0.574	0.596	0.106	0.411	0.268
Health and Social Care	0.641	0.653	0.049	0.626	0.053
Children and Young People's Workforce	0.723	0.732	-0.03	0.717	-0.038
Accounting	0.829	0.814	-0.112	0.846	-0.167
Spectator Safety	0.899	0.899	-0.197		
Activity Leadership	0.76	0.76	-0.058		
Advanced Fitness	0.765			0.765	-0.086
Exercise and Fitness	0.675	0.675	0.027	0.333	0.346
Sporting Excellence	0.794	0	0.702	0.794	-0.115
Health Dental Nursing	0.728	0	0.702	0.728	-0.049
Sales & Telesales	0.697	0.71	-0.008	0.659	0.02
Management	0.705	0.725	-0.023	0.685	-0.006
Customer Service	0.687	0.684	0.018	0.698	-0.019
Business and Administration	0.756	0.752	-0.05	0.762	-0.083
Cleaning and Environmental Support Services	0.716	0.716	-0.014		
Glass Industry	0.915	0.923	-0.221	0.859	-0.18
Improving Operational Performance	0.8	0.8	-0.098		
Hairdressing	0.729	0.713	-0.011	0.77	-0.091
Plumbing and Heating	0.575	0.572	0.13	0.581	0.098
Construction Building	0.685	0.651	0.051	0.818	-0.139
Horticulture	0.71	0.726	-0.024	0.643	0.036
HM Forces	0.83	0.83	-0.128		
Engineering Manufacture Craft and Technician	0.567			0.567	0.112
Other frameworks	0.669	0.712	-0.01	0.613	0.066

Source: ILR ('unprocessed'), IES calculations

Table 6: Factors associated with Achievement, Probit models (marginal effects)

		(1)	(2)
		Intermediate Apprenticeship	Advanced Apprenticeships
Gender	female	0.0351***	0.0445***
		(0.00288)	(0.00427)
Age (Reference category: 18 or under)	19-20	0.00989**	0.0309***
		(0.00399)	(0.00596)
	21-24	0.00789**	0.0132**
		(0.00392)	(0.00596)
	25-59	0.0207***	0.0112**
		(0.00344)	(0.00558)
	60+	-0.0666***	-0.0968***
		(0.0148)	(0.0287)
Ethnicity (Reference category: White British)	Asian or Asian British	-0.0336***	-0.0441***
		(0.00642)	(0.00941)
	Black or Black British	-0.0601***	-0.0475***
		(0.00739)	(0.00987)
	Mixed	-0.0639***	-0.0539***
		(0.00908)	(0.0136)
	Other White Background	0.0137**	0.0176*
		(0.00620)	(0.00920)
	Other/unknown	-0.0456***	-0.0398***
		(0.0105)	(0.0142)
Level of prior attainment (Reference category: no qualification)	Entry Level/below Level 1	-0.00425	0.0177
		(0.00633)	(0.0129)
	Level 1	0.0261***	-0.00527
		(0.00364)	(0.00750)
	Full Level 2	0.0723***	0.0287***
		(0.00354)	(0.00647)
	Full Level 3	0.0810***	0.0623***
		(0.00428)	(0.00693)
	Level 4 or above	0.00490	-0.0949***
		(0.0225)	(0.0249)

		(1)	(2)
		Intermediate Apprenticeship	Advanced Apprenticeships
	Unknown prior attainment	0.0331***	0.00185
		(0.00821)	(0.0138)
Disability status (Reference category: no disability)	Disability	-0.0392***	-0.0142
		(0.00600)	(0.00900)
	Unknown disability status	-0.0368***	-0.0419***
		(0.00530)	(0.00849)
Employer size (Reference category: small or medium employer)	Large employer	0.0174***	0.0266***
		(0.00353)	(0.00500)
Framework (Reference category: Health and Social Care)	Hospitality and Catering	0.0421***	0.0209**
		(0.00539)	(0.00915)
	Food and Drink	0.0143	0.0922***
		(0.0128)	(0.0259)
	Warehousing and Storage	0.0182*	0.171**
		(0.0101)	(0.0726)
	IT, Software, Web & Telecoms Profession	0.120***	0.131***
		(0.0108)	(0.00889)
	IT Application Specialist	-0.0324***	0.135***
		(0.00950)	(0.0156)
	Supporting Teaching and Learning in School	0.0936***	0.0807***
		(0.0150)	(0.00971)
	Rail Engineering (Track)	0.0914***	
		(0.0126)	
	Passenger Carrying Vehicle (Bus and Coach)	0.0496***	
		(0.0162)	
	Vehicle Maintenance & Repair	0.0562***	0.174***
		(0.00868)	(0.00891)
	Providing Security Services	0.148***	
		(0.00926)	

	(1)	(2)
	Intermediate Apprenticeship	Advanced Apprenticeships
Driving Goods Vehicles	0.143***	-0.222***
	(0.00660)	(0.0403)
Retail	-0.0665***	-0.224***
	(0.00644)	(0.0141)
Children and Young People's Workforce	0.0727***	0.0813***
	(0.00693)	(0.00655)
Accounting	0.131***	0.193***
	(0.00907)	(0.00873)
Spectator Safety	0.239***	
	(0.00607)	
Activity Leadership	0.123***	
	(0.00809)	
Exercise and Fitness	0.0319***	-0.297
	(0.00955)	(0.289)
Sales & Telesales	0.0481***	0.0129
	(0.0153)	(0.0278)
Management	0.0483***	0.0519***
	(0.00593)	(0.00649)
Customer Service	0.0267***	0.0580***
	(0.00505)	(0.00752)
Business and Administration	0.0824***	0.117***
	(0.00516)	(0.00624)
Cleaning and Environmental Support Services	0.0804***	
	(0.00963)	
Glass Industry	0.251***	0.225***
	(0.00582)	(0.0216)
Improving Operational Performance	0.145***	
	(0.00498)	
Hairdressing	0.0629***	0.128***

		(1)	(2)
		Intermediate Apprenticeship	Advanced Apprenticeships
		(0.00661)	(0.00879)
	Plumbing and Heating	-0.0442***	-0.00890
		(0.0109)	(0.0163)
	Electrotechnical	0.0361***	0.194***
		(0.00749)	(0.00938)
	Construction Building	0.0947***	0.0446
		(0.0123)	(0.0280)
	Horticulture	0.151***	
		(0.0182)	
	Other frameworks	0.0650***	-0.00217
		(0.00508)	(0.00657)
	Advanced Fitness		0.137***
			(0.0104)
	Sporting Excellence		0.178***
			(0.0107)
	Health Dental Nursing		0.0837***
			(0.0127)
	Engineering Manufacture Craft and Technicians		-0.0317***
			(0.0104)
	Observations	148,524	76,368

Source: ILR ('mildly processed'), IES calculations

*Note: Probit model, marginal effects. Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1*

Figure 1: Status of apprenticeships by Levels

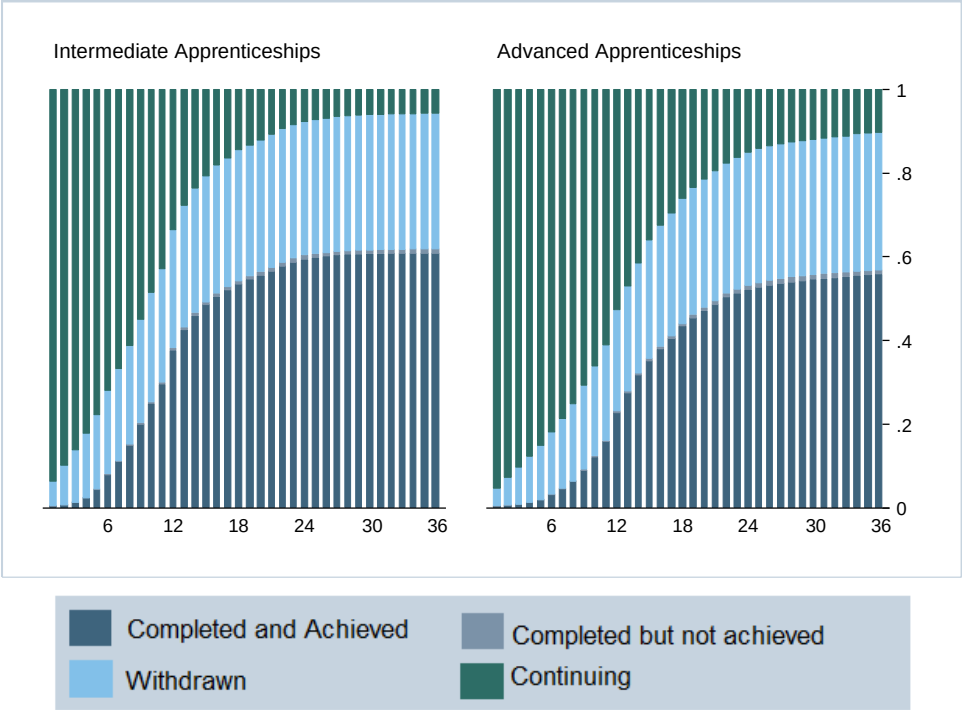


Figure 2: Status of apprenticeships by Levels and planned duration

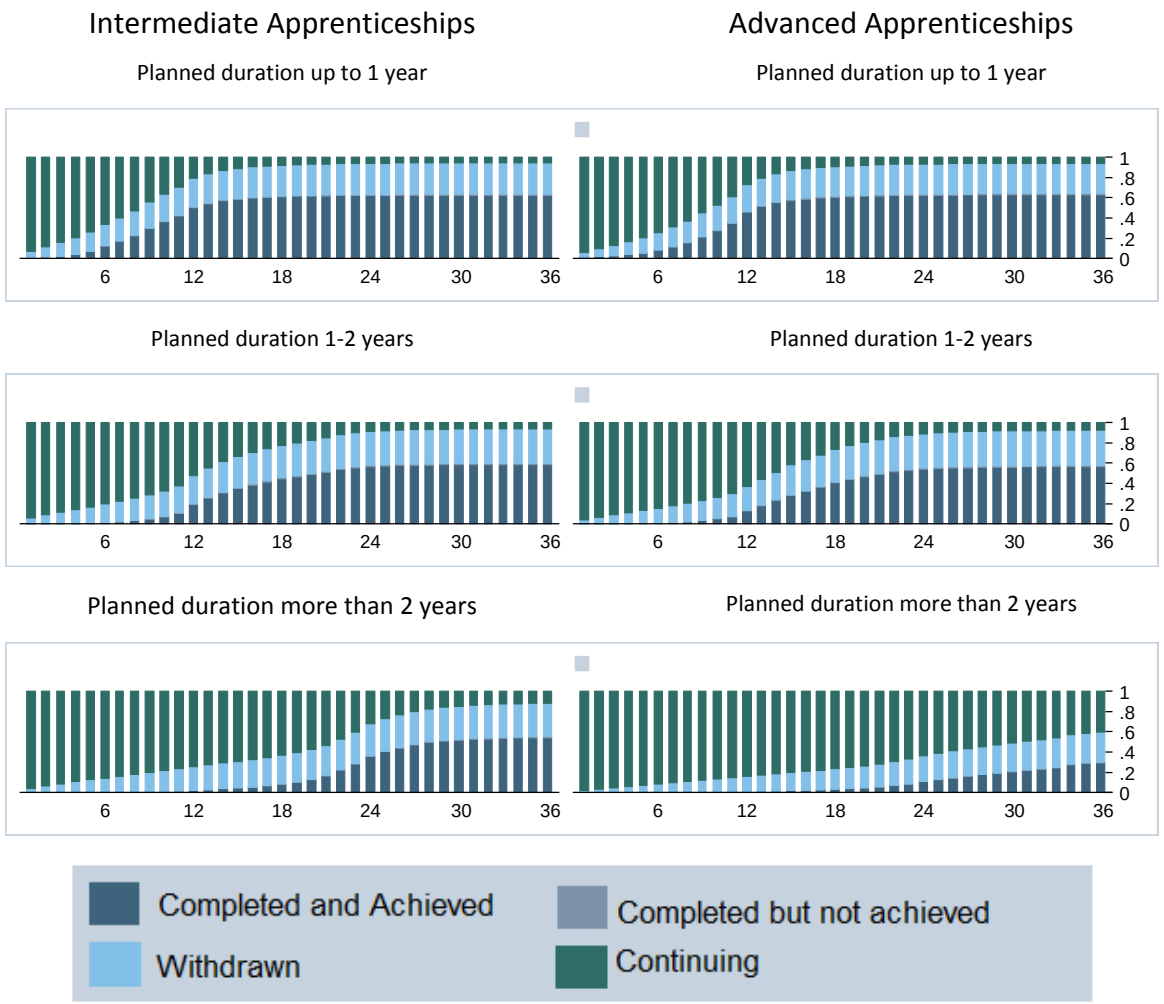
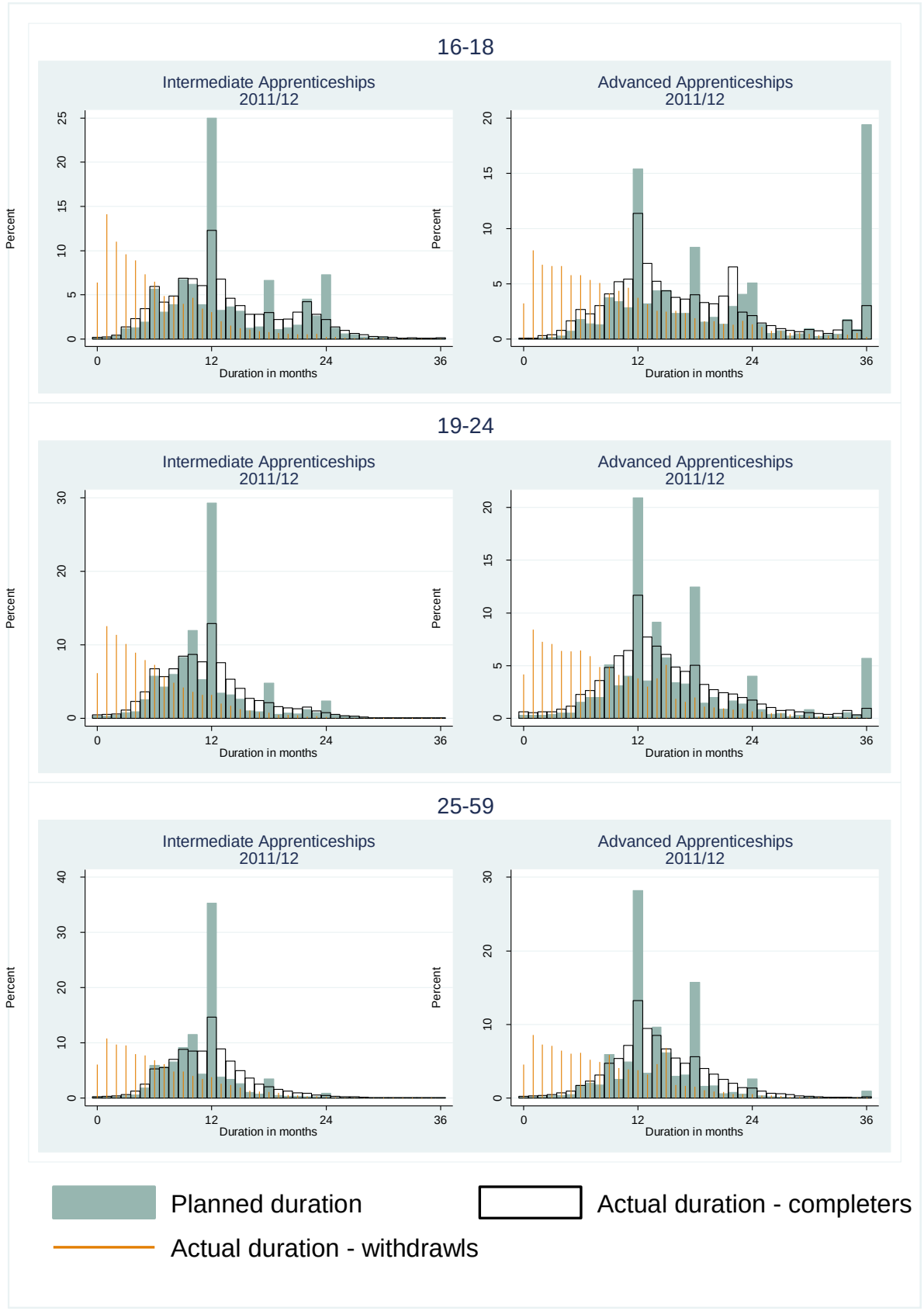


Figure 3: Duration of apprenticeships by age groups and Levels



Appendix 1

Table A1: Total number of starts and percentages at different Levels, apprenticeship starts, 2011/12

	Intermediate Apprenticeship (%)	Advanced Apprenticeship (%)	Total
Health and Social Care	53.3	46.7	53,904
Customer Service	76.1	23.9	46,593
Business and Administration	63.3	36.7	38,499
Management	50.8	49.2	37,010
Hospitality and Catering	79.2	20.8	29,979
Retail	72.6	27.4	23,978
Children and Young People's Workforce	38.0	62.0	22,033
Improving Operational Performance	100.0	0.0	17,719
Hairdressing	68.0	32.0	14,739
Construction Building	76.8	23.2	9,210
Vehicle Maintenance & Repair	60.2	39.8	7,340
IT, Software, Web & Telecoms Professional	32.2	67.8	6,543
Driving Goods Vehicles	96.2	3.8	6,286
IT Application Specialist	77.3	22.7	5,865
Accounting	49.4	50.6	5,489
Warehousing and Storage	98.3	1.7	5,349
Supporting Teaching and Learning in Schools	22.5	77.5	5,227
Exercise and Fitness	91.7	8.3	4,664
Engineering Manufacture Craft and Technician	0.0	100.0	4,520
Plumbing and Heating	71.8	28.2	4,137
Activity Leadership	100.0	0.0	3,984
Cleaning and Environmental Support Services	100.0	0.0	3,470
Food and Drink	77.0	23.0	3,184
Sales & Telesales	66.7	33.3	3,112
Advanced Fitness	0.0	100.0	2,597
Providing Security Services	100.0	0.0	2,433
Glass Industry	81.0	19.0	2,307
Passenger Carrying Vehicle (Bus and Coach)	100.0	0.0	2,297

	Intermediate Apprenticeship (%)	Advanced Apprenticeship (%)	Total
Horticulture	81.5	18.5	2,286
Sporting Excellence	0.0	100.0	2,085
Rail Engineering (Track)	100.0	0.0	2,042
Health Dental Nursing	0.0	100.0	2,041
Spectator Safety	100.0	0.0	2,034
HM Forces	100.0	0.0	2,004
Barbering	85.7	14.3	1,973
Engineering Manufacture (Operator and Semi-Skilled)	99.7	0.3	1,956
Electrotechnical	0.0	100.0	1,914
Construction Specialist	89.1	10.9	1,886
Health Clinical Healthcare Support	56.0	44.0	1,712
Beauty Therapy	56.5	43.5	1,379
Equine	74.7	25.3	1,352
Engineering	45.8	54.2	1,307
Contact Centre Operations	66.2	33.8	1,244
Providing Financial services	41.4	58.6	1,232
Vehicle Body & Paint	59.2	40.8	917
Construction Civil Engineering	92.7	7.3	891
Sustainable Resource Management	81.3	18.7	862
Housing	56.4	43.6	844
Learning and Development	0.0	100.0	840
Agriculture	60.1	39.9	819
Health Healthcare Support Services	78.4	21.6	777
Aviation Operations on the Ground	79.5	20.5	736
Vehicle Fitting	95.0	5.0	699
Rail Services	95.6	4.4	684
Children's Care Learning and Development	33.9	66.1	682
IT & TELECOMS PROFESSIONAL	20.9	79.1	669
Health Pharmacy Services	40.6	59.4	638
Logistics Operations	8.9	91.1	630
Business Administration	49.7	50.3	535

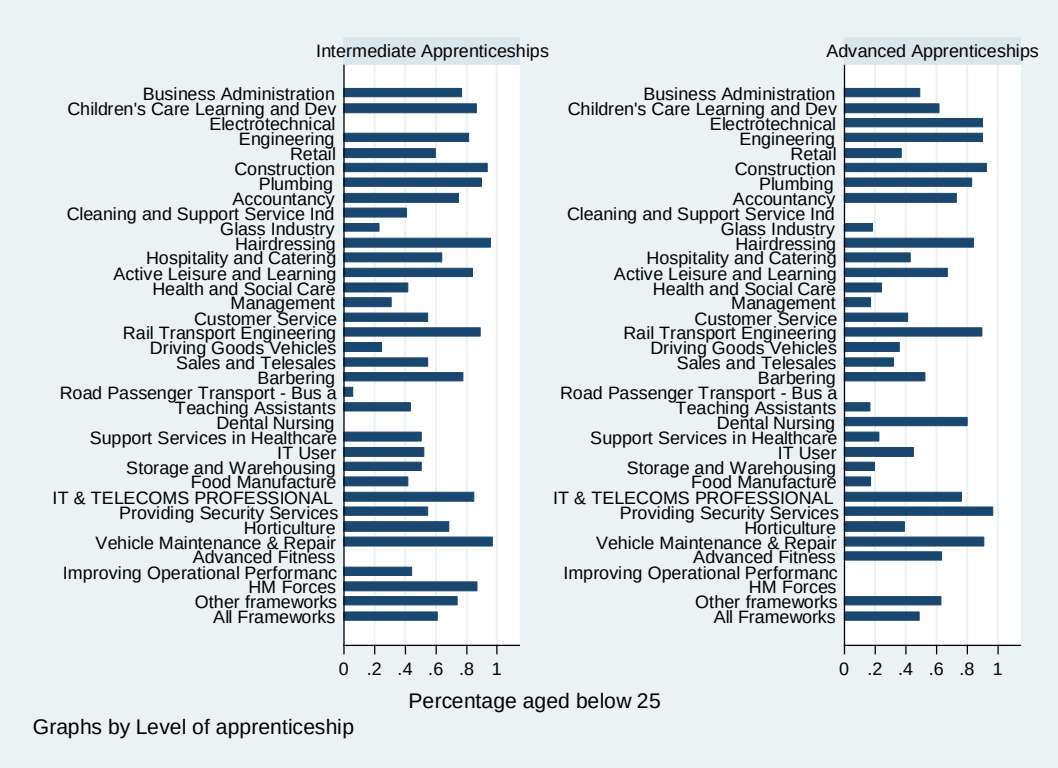
	Intermediate Apprenticeship (%)	Advanced Apprenticeship (%)	Total
Animal Care	79.3	20.7	532
Vehicle Parts	58.5	41.5	523
Leisure Operations	100.0	0.0	504
Creative and Digital Media	0.0	100.0	492
Employment Related Services	0.0	100.0	484
Veterinary Nursing	0.0	100.0	449
Facilities Management	0.9	99.1	445
Travel Services	37.9	62.1	433
Leisure Management	0.0	100.0	419
Furniture, Furnishings and Interiors Manufacturing	68.6	31.4	404
Cabin Crew	100.0	0.0	399
Property Services	60.3	39.7	398
Advanced Playwork	0.0	100.0	389
Rail Infrastructure Engineering	0.0	100.0	386
Youth Work	55.9	44.1	381
Refrigeration & Air Conditioning	92.8	7.2	335
Travel and Tourism Services Leisure and Business	51.6	48.4	335
Sports Development	0.0	100.0	326
Print and Printed Packaging	46.9	53.1	322
Laboratory and Science Technicians	26.5	73.5	321
Nail Services	46.8	53.2	316
Driving Goods Vehicles	46.0	54.0	311
Construction Technical and Professional	0.0	100.0	305
Heating & Ventilating	71.5	28.5	298
The Gas Industry	10.7	89.3	291
Accountancy	54.0	46.0	287
Construction	76.8	23.2	250
Marketing	53.9	46.1	241
IT User	75.9	24.1	232
Environmental Conservation	98.1	1.9	212
Land-based Engineering	74.3	25.7	206

	Intermediate Apprenticeship (%)	Advanced Apprenticeship (%)	Total
Custodial Care	3.2	96.8	185
Playwork	88.6	11.4	185
Trees & Timber	89.6	10.4	183
Warehousing & Storage	100.0	0.0	183
Advanced Engineering Construction	0.0	100.0	180
Bus and Coach Engineering and Maintenance	77.6	22.4	170
Purchasing and Supply	96.4	3.6	167
International Trade and Logistics Operations	100.0	0.0	155
The Power Industry	91.6	8.4	154
Domestic Heating	58.8	41.2	153
Fashion and Textiles	62.5	37.5	152
The Water Industry	56.0	44.0	150
Vehicle Maintenance and Repair	72.6	27.4	146
Licensed Hospitality	100.0	0.0	145
Music Business	24.3	75.7	140
Mail and Package Distribution	100.0	0.0	137
Operations and Quality Improvement	0.0	100.0	135
Plumbing	49.6	50.4	135
Teaching Assistants	10.7	89.3	121
Traffic Office	72.7	27.3	121
Health Maternity and Paediatric Support	0.0	100.0	120
Emergency Fire Service Operations	0.0	100.0	117
Policing	0.0	100.0	116
Active Leisure and Learning	44.2	55.8	113
Security Systems	46.2	53.8	106
Signmaking	91.3	8.7	104
Design	24.8	75.2	101
Other	57.2	42.8	2,976

Source: ILR ('mildly processed'), IES calculations

Appendix 2: Percentage of starts aged below 25 by level and framework

Figure A1: Percentage of starts aged below 25 by level and framework



Source: ILR ('mildly processed'), IES calculations

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