

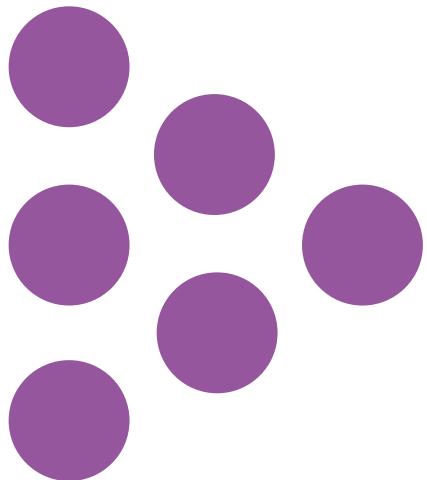
Report

Securing success from start to finish

Investigating factors associated with apprenticeship withdrawal

National Foundation for Educational Research (NFER)

UNDER EMBARGO until 00.01 Tuesday 27 January



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Securing success from start to finish

Investigating factors associated with apprenticeship withdrawal

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A note on terminology

Apprenticeship achievement: constructed by the Department for Education (DfE) and calculated from the number of achieved learning aims in a given reporting year as a percentage of learning aims set to end in that year, excluding the programme aims of any learners that transferred onto another qualification within the same institution (DfE, 2024b).

Apprenticeship withdrawals: constructed for this report and calculated for each year based on the proportion of apprenticeship starters in that year who subsequently withdrew within the period covered by our dataset¹ as a proportion of all learners who had either withdrawn or completed (where learners are counted as completing on finishing their programme of study regardless of outcome), after excluding learners still progressing towards an outcome. An apprenticeship withdrawal may happen for a range of reasons including learners leaving their apprenticeships for other opportunities, and employers terminating an employment contract.

Due to the differences in methodology used, achievement and withdrawal rates reported throughout the report cannot be directly compared. The withdrawal rates estimated in this report will overstate withdrawals in the later years of the period covered by our dataset, compared to DfE's methodology for estimating apprenticeship achievement, because learners still progressing towards an outcome will be more likely to complete than withdraw. The advantage of our approach compared to DfE's methodology is that it enables us to include a larger number of more recent apprenticeships in our statistical analyses and allows for better comparison of withdrawals between apprenticeship frameworks and standards.²

¹ Our dataset covers withdrawals and completions up to the end of the 2020/21 academic year for all qualifications started up to the end of the 2019/20 academic year.

² Frameworks and standards can be better compared in our definition as by focusing on learners who complete rather than pass their qualifications, we are excluding any differences in achievement rates that result from the introduction of end point assessments (EPA). Using a simplified framework, the definition of apprenticeship withdrawals used in this report can be conceptualised as follows, where: O=Apprentices who have been on apprenticeship programme for at least a year; P= Completed all learning and passed assessment activities; NP= Completed all learning but did not pass all assessment activities; D=Apprentices who have not yet completed their apprenticeship and W=Withdrawals. Then, $O=P+NP+D+W$ and apprenticeship withdrawal rate in our report is defined as

$$\frac{W}{P+NP+W}$$

In comparison, under the DfE definition of the apprenticeship achievement rate, where F=Apprentices who have been on apprenticeship programme and are expected to finish their apprenticeship in the current academic year. Then $F=P+NP+D+W$ and the achievement rate is defined by DfE as

$$\frac{P}{P+NP+D+W}$$

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Executive Summary

The apprenticeship achievement rate has fallen markedly over the last decade from 69 percent in 2013/14 to around 53 percent in 2021/22. Although rates have improved in recent years, they remain at 61 percent in 2023/24³. Whilst the benefits of an apprenticeship are not entirely dependent on completion (Cavaglia, McNally and Ventura, 2020), completing an apprenticeship – as compared to not completing it – has a stronger bearing on an individual's future employment, earnings and careers development (Gambin and Hogarth, 2017; Greig, 2019; and DfE, 2021). Reducing withdrawals is therefore a policy priority.

This research investigates the factors associated with apprenticeship withdrawal and considers policy options for reducing withdrawals. This includes examining the effects of employer, provider, and learner characteristics on apprentices' likelihood of withdrawal. Our report also considers the wage and employment benefits of completing an apprenticeship. Findings are discussed in the context of the transition from apprenticeship frameworks to occupation-focused apprenticeship standards.

Research findings

The switch from apprenticeship frameworks to standards is a key factor in explaining the substantial decline in the apprenticeship achievement rate over the last decade

This reflects the much lower achievement rate for apprenticeship standards compared to frameworks. Our research suggests that only a small share of the difference in achievement rates between apprenticeship frameworks and standards is attributable to differences in the composition of learners, apprentices and training providers. Other differences in apprenticeship design, delivery and administration are likely to have been more important.

Learners' prior qualification levels are strongly related to their probability of withdrawing from an apprenticeship standard

Learners who have completed a Level 3 qualification are eight percentage points less likely to withdraw from their apprenticeship standard compared to learners with no prior qualifications⁴. Similarly, apprentices who have a grade C or 5+ in GCSE English and maths have been around four and six percentage points (respectively) less likely to withdraw than their peers without, after controlling for differences in other observed characteristics (including overall GCSE scores). This suggests that learners' maths and English prior attainment affect withdrawal over and above the effects of learners' overall GCSE attainment.

³ Based on the DfE's Qualification Achievement Rate (QAR), which is calculated from the number of achieved learning aims as a percentage of the total number of learning aims in the cohort that ended in the reporting year. Achievement rates since 2020/21 were taken from published National Achievement Rate Tables. They were calculated for 2016/17 to 2019/20 using data published by DfE in: <https://www.gov.uk/government/collections/sfa-national-success-rates-tables>.

⁴ Learners with no prior qualifications are those where no qualification could be identified. Withdrawal rates for this group are not significantly different to those with below Level 1 qualifications.

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Functional skills requirements, which required apprentices without a ‘standard pass’ in maths and/or English to continue studying these subjects, were introduced in 2016. Despite the introduction of functional skills requirements over that period, the relationship between GCSE maths and English results and an apprentice’s probability of withdrawal did not change greatly between 2014/15 and 2018/19. This suggests that the introduction of functional skills requirements did not have a large impact on withdrawals.

The probability of a learner withdrawing from an apprenticeship standard is strongly related to their background characteristics

A learners’ probability of withdrawal varies considerably by age, with younger (16–17-year-olds) and older (25+ year olds) apprentices more likely to withdraw than those aged 18–20. For example, compared to 16-year-olds, 18-year-olds are four percentage points less likely to withdraw from their apprenticeship.

Learners from more deprived backgrounds, black and mixed ethnicity backgrounds and learners for whom English is an additional language (EAL) are also more likely to withdraw from their apprenticeship. For example, pupils identified as eligible for free school meals (FSM) at any point during their education are five percentage points more likely to withdraw from their apprenticeship compared to those who are not. However, learners’ probability of withdrawal does not differ substantially by gender, after controlling for differences in other observed characteristics.

Apprentices based at larger employers, employers who are experienced with the apprenticeship system, and employers who have larger scale apprenticeship programmes, are less likely to withdraw from an apprenticeship standard

Learners working for organisations with 250+ employees are four percentage points less likely to withdraw than learners at organisations that employ less than 50 people. Similarly, learners at employers with 50 or more apprentices are eight percentage points less likely to withdraw than those with an employer hosting just one or two. This suggests that smaller employers that have less experience of the apprenticeship system and employ fewer apprentices may be in most need of additional support to help their apprentices complete their programmes.

Training with a more experienced training provider is associated with lower withdrawal rates⁵

This highlights the benefits of supporting existing providers to scale and avoiding experienced providers exiting the apprenticeship market, particularly in occupational sectors associated with higher withdrawal rates.

⁵ Once difference in other apprenticeship, individual, provider and employer characteristics are accounted for.

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The introduction of the end point assessment (EPA) does not appear to have affected the timing of apprenticeship withdrawals, but may have affected the proportion of apprentices withdrawing

EPAs were introduced for all apprenticeship standards when the previous framework system was replaced. Were EPA a major factor driving withdrawals, we might have expected to see an increase in withdrawers towards the end of the programme, as compared to frameworks, among learners who are concerned about the EPA. However, this is not borne out by our analysis: we find apprentices withdrawing from a standard typically get a similar proportion of the way through their apprenticeship as their peers on frameworks.

This finding does not preclude EPA contributing to the higher average withdrawal rate observed for apprenticeship standards compared to frameworks. Indeed, qualitative research insights have suggested that EPA may be leading some apprentices to withdraw (The St Martin's Group and Learning and Work Institute, 2024; Guy *et al.*, 2024).

Apprentices that are paid more in the first year of their apprenticeship are less likely to withdraw, but effect sizes are small

For every 10 percent increase in earnings in the first year of learners' apprenticeship, we estimate their probability of withdrawing decreased by around half a percentage point. This casts doubt on whether small changes to the apprenticeship minimum wage are likely to have a substantial impact on the achievement rate.

Our findings suggest that learners who completed their apprenticeship earn more afterwards than otherwise similar learners who withdraw

Comparing outcomes averaged over three years for both apprentice withdrawers and completers from the point at which they finished studying towards their apprenticeship, wages were significantly lower for apprentices who withdrew from an apprenticeship standard compared to learners that completed their programme. They are also more likely to be unemployed afterwards, albeit differences are small.

This suggests that apprentices who withdraw may not be doing so to take up better paid work outside of the apprenticeship system in the short- or medium-term. It also highlights the value of reducing the withdrawal rate for apprentices and the wider economy. However, it should be noted that the magnitude of differences may be affected by the fact that withdrawers will generally have less experience in the labour market than completers at the point at which outcomes have been compared (as completers will have spent longer in the apprenticeship programme).

We estimate that the employment benefits and wage premium associated with completing an apprenticeship, compared to withdrawing from one, is larger for standards than frameworks. This might be because of the quality of the training offer, with existing research having already shown that standards are typically longer, which might indicate apprentices are better prepared for an occupation when they have done a standard, rather than a framework (e.g. Cavaglia, McNally and Ventura, 2020).

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Conclusions and Policy Recommendations

Our research identifies many factors that are associated with learners' likelihood of withdrawal. It also highlights that both employers and providers have a role to play in reducing withdrawals. Our findings suggest that considering support for different apprentice, provider and employer groups are likely to be the most promising avenues for improving achievement rates among apprentice learners.

Recommendation 1: Government should consider building on existing initiatives by targeting additional support towards apprentices, employers and providers that are associated with a higher probability of withdrawal.

This might include targeting further support towards apprentices on intermediate apprenticeships (Level 2, equivalent to GCSEs), ethnic minority learners, low prior attainers and those with low / no qualifications, as well as employers that are smaller and have smaller apprenticeship programmes, and more inexperienced providers.

Recommendation 2: Government should ensure that there are adequate pre-apprenticeship programmes which prepare young people to start and complete a full apprenticeship, particularly young people with low prior attainment.

The introduction of apprenticeship standards appears to have resulted in greater inequalities in apprenticeship completion and starts by age, socioeconomic background and between lower and higher prior attainers. Apprenticeships are clearly now harder for young people to get onto and complete, particularly for learners with lower prior attainment and low or no prior qualifications. New foundation apprenticeships may be one way of effectively responding to this challenge. Alternatively, Skills Bootcamps, or the Level 2 occupational pathway qualifications proposed in the Government's Post-16 Education and Skills White Paper (HM Government, 2025), could help provide young people with valuable bridges into apprenticeships.

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1 Introduction

1.1 Overview

Just over half (55 percent) of apprentices who were scheduled to achieve their apprenticeship in the 2022/23 academic year did so (DfE, 2024a). This increased to 61 percent in 2023/24 but remains a long way short of the start of the 2010s, when over 70 percent of apprentices typically completed within the scheduled timeframe⁶.

Low achievement rates are concerning because apprenticeships provide pathways for young people and career changers into skilled occupations, as well as professional development opportunities for other workers. Apprenticeships may support the government's ambition to grow the economy, increase labour market productivity and reduce employers' reliance on high levels of inward migration by meeting employers' requirements for skilled labour (Gambin and Hogarth, 2017).

Completing an apprenticeship is also associated with higher earnings and improved employment outcomes for learners that are sustained 3-5 years after completion, across all age groups and levels (DfE, 2025b). Even lower-level apprenticeships tend to lead to higher earnings, and wage returns are considerably higher for younger age groups, suggesting they are in the best position to benefit financially from apprenticeships (DfE, 2025b, pp. 28-29).

An overview of recent policy developments affecting apprenticeships, and how this research builds on the research literature can be found in section 1.3.

Despite widespread acknowledgement of both the decline in the apprenticeship achievement rate and the benefits of completing apprenticeships, quantitative research into the factors associated with withdrawals is scarce. Our research fills this gap, as well as providing up-to-date evidence on how employment outcomes and earnings vary between learners that completed their apprenticeship, relative to those that withdraw.

In this study, we update and extend the existing evidence base by examining:

1. Current trends in apprenticeship achievement (section 2).
2. How a broad range of individual, employer and provider characteristics relate to apprenticeship withdrawal (section 3).
3. The extent to which increases in the duration of apprenticeships may have contributed to the drop in completions (section 4).
4. The wage and employment benefits of completion over withdrawal (section 5).

1.2 Methodology

Our research involves quantitative analysis of data from the Department for Education's (DfE) Longitudinal Educational Outcomes (LEO) dataset from 2013/14 to 2020/21. We draw together data on apprentices' learning aims, their prior educational attainment from the National Pupil Database (NPD), their earnings before, during and after their apprenticeship

⁶ Qualification Achievement Rate (QAR) is calculated by DfE from the number of achieved learning aims as a percentage of the total number of learning aims in the cohort that ended in the reporting year, including continuing learners, planned breaks in learning or transfers that did not return.

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from HMRC, their employers from the Inter-Departmental Business Register (IDBR), and their apprenticeship providers. We focus on learners with records in the NPD from 2001 onwards, such that our analysis excludes any individuals who complete their schooling before then.

Our analytical approach draws on descriptive analysis together with regression analysis which aims to isolate the impact of different learner, provider and employer characteristics on learners' probability of withdrawal, whilst holding all other observed characteristics constant.

The LEO data is a large administrative dataset which enables detailed linking across school, further education and employment data. However, it has several important limitations. First, not all learners could be matched across all datasets. While this is partly due to older apprenticeship learners who are not included in the NPD, there were other records which could not be linked across datasets. Second, earnings data cannot be adjusted for part-time working, and is only available by tax year. For apprentices working multiple jobs or who are working part-time, this will impact our earnings estimates.

Further detail on our research methodology can be found in the Technical Appendix.

1.3 Policy Background

The last decade has seen significant reform to the apprenticeship system. This follows the Richard Review (2012) which highlighted the need to improve quality and better align training with employer needs. Key components of these reforms included the introduction of apprenticeship standards, replacing the old qualification-based frameworks. These standards, phased in from 2014, were designed with input from employers and focused on the skills, knowledge, and behaviours required for the chosen occupation. They were brought in alongside other changes to apprenticeships, including a statutory 20 percent off-the-job training threshold, independent End Point Assessments (EPA), and a minimum duration of 12 months. In addition, functional skills requirements were introduced for apprentices from 2016, with learners who lacked 'standard passes' (grade 4 or C) in GCSE maths and English required to continue studying these subjects.

In addition, the Apprenticeship Levy, launched in 2017 was pivotal to the reforms introduced. This 0.5 percent payroll tax on employers with an annual pay bill of over £3 million created a funding mechanism that gave businesses a direct stake in apprenticeship provision (HM Revenue & Customs, 2023). Levy-paying employers could use their contributions to fund training, while smaller firms paid only five percent of costs, with government support covering the remainder. Prior to this, the government directly funded apprenticeship training providers, covering 100 percent of training costs for apprentices aged 16-18, and up to 50 percent for those aged 19 and above (Powell, 2024). Additional changes followed, such as, the ability to transfer levy funds to other employers, and the removal of training costs for non-levy paying employers.

Other requirements have also been changed recently, with minimum length requirements removed, and functional skills requirements removed for adult learners aged 19 and over. The government has also begun introducing shorter 'Foundation' apprenticeships and stated

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that it intends to restrict funding for Level 7 Apprenticeships and rebalance funding towards younger learners.

1.3.1 Key Trends and Shifts

Apprenticeship starts have declined sharply since the introduction of recent reforms—from nearly 350,000 in 2015/16 to around 200,000 by 2024/25. Intermediate-level programmes (Level 2) have seen the biggest decline in starts, while higher-level apprenticeships (Levels 4–7) have grown, often attracting older learners and those with prior qualifications.

The profile of apprentices has shifted towards older adults, with fewer young people using apprenticeships as a route from school to work (McNally, 2018). Starts have declined most in deprived areas, while degree-level apprenticeships have expanded in more affluent areas. Employers, particularly levy payers, appear to favour using funds to upskill existing staff rather than recruit new entrants (Learning and Work Institute and DfE, 2020).

Progression opportunities have improved under standards, with learners more likely to move on to higher-level apprenticeships than under the old frameworks. The rate at which learners progress onto a higher-level apprenticeship within two years of completing their first apprenticeship is more than four times higher for standards (10 percent) than for frameworks (2.4 percent), amongst learners that started their apprenticeship between 2014/15 and 2019/20. One possible reason for this trend is that the greater number of higher-level apprenticeships have supported more opportunities for progression.

1.3.2 Evidence on withdrawal rates

In the context of these wider trends, withdrawal rates have risen, raising questions about completion and outcomes. International and existing UK-focused research points to factors such as low prior education, learning difficulties, poor working conditions, misaligned learners' expectations and poor career guidance and low wages as key drivers of withdrawal (Daniel *et al.*, 2020; Böhn and Deutscher, 2022; The St Martin's Group and Learning and Work Institute, 2024). These drivers can be further compounded by contextual factors such as the duration of apprenticeship training and availability of employment not requiring a qualification.

In addition, the existing literature has highlighted specific features of recent apprenticeship reforms that may have contributed to declining achievement rates. Several studies have identified functional skill requirements as a barrier, particularly for apprentices with learning difficulties, those on Level 2 programmes and older apprentices without recent experience of education (The St Martin's Group and Learning and Work Institute, 2024; Guy *et al.*, 2024). Research has also highlighted the role of EPA requirements, with the suggestion being that some apprentices may withdraw before completing their EPA, if they have already achieved their professional or industry qualification and/or been promoted (The St Martin's Group and Learning and Work Institute, 2024).

Despite growing interest, there remains limited quantitative evidence on the drivers of the recent rise in apprenticeship withdrawal rates and on the long-term benefits of completion versus withdrawal. This report seeks to fill this evidence gap.

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2 Trends in apprenticeship achievement

This section describes trends in apprenticeship achievement rates between 2013 and 2023.

Summary of findings

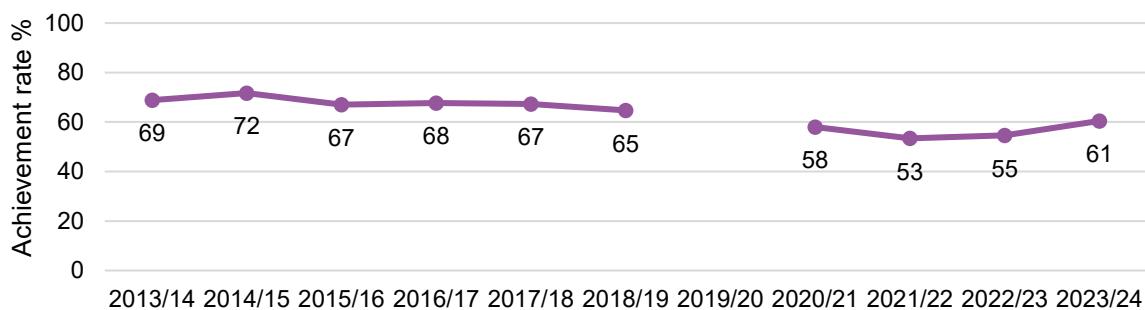
- The decline in the apprenticeship achievement rate is largely attributable to the gradual phasing in of apprenticeship standards and phasing out of apprenticeship frameworks.
- Differences in achievement rates between frameworks and standards have been consistently larger for advanced and intermediate level apprenticeships, whereas higher level apprenticeships experienced a more modest drop.

2.1 Apprenticeship achievement rates have declined over time

Figure 1 shows that the apprenticeship achievement rate dropped from around 70 percent in 2013/14 to 61 percent in 2023/24. Although the achievement rate has recovered since its lowest point in 2021/22, this reverses less than 50 percent of the decline between 2013/14 and 2021/22.

Whilst the start of the decline in achievement rates pre-dates the introduction of apprenticeship standards, the pace of decline accelerated after the reforms, particularly from 2018/19 to 2020/21 when the apprenticeship achievement rate dropped from 65 percent to 58 percent. Apprenticeship education and training was also severely disrupted by the Covid-19 pandemic over this period.

Figure 1 Apprenticeship achievement rates by year, between 2013/14 and 2023/24



Source: Department for Education, 2024c

Note: Achievement rates for the 2019/20 academic year are not available due to disruptions caused by the Covid-19 pandemic

2.2 There has always been a large difference in achievement rates between apprenticeship standards and frameworks

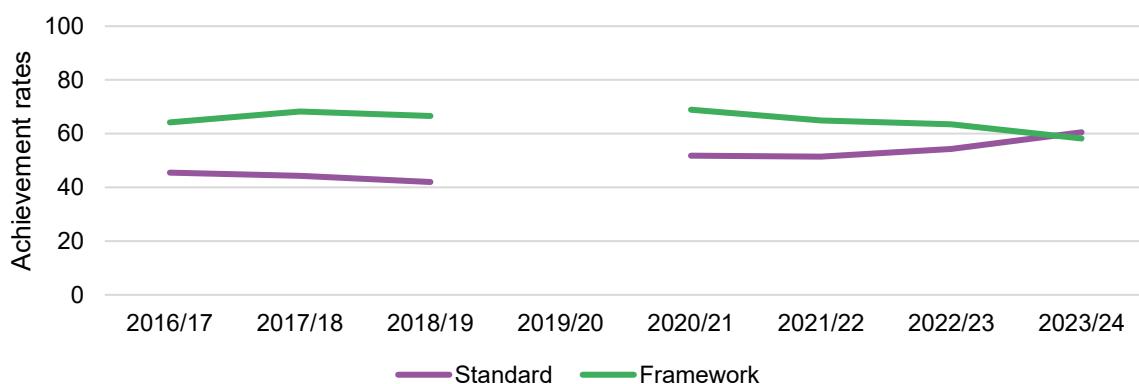
Whilst the trends presented in Figure 1 suggest that the decline in apprenticeship achievements was *gradual*, there have been large differences in apprentice achievement rate between standards and frameworks throughout the period where both qualifications co-existed.

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Figure 2 shows that the achievement rate for frameworks was consistently in the range of 65 to 70 percent between 2016/17 and 2022/23. By contrast, the achievement rate for learners on standards was around 40 to 45 percent between 2016/17 and 2019/20, with the rate increasing to between 50 and 55 percent from 2020/21 to 2022/23, and 61 percent in 2023/24. Overall, the difference in achievement rates between standards and frameworks has narrowed over the period shown in Figure 2, particularly since 2020/21. The lower achievement rate for apprenticeship frameworks in recent years is likely to be a reflection of the small number of learners still studying on a framework at this time (as new starts on apprenticeship frameworks were phased out in August 2020).

This suggests the decline in the overall achievement rate is *gradual* largely because the transition in starts from frameworks to standards was gradual, and that the switch was the main driver for the overall decline. While apprenticeship standards were introduced to improve quality and better align training with employer needs, this finding highlights that their introduction did impact on achievement rates.

Figure 2 Apprenticeship achievement rates by year, between 2016/17 and 2023/24, split by standards and frameworks



Source: National Achievement rate tables (Apprenticeships, Academic year 2024/25 – Explore education statistics – GOV.UK). Achievement rate for 2020/21 taken from published National Achievement Rate Tables. Achievement rates calculated for 2016/17 to 2019/20 from data published by DfE in <https://www.gov.uk/government/collections/sfa-national-success-rates-tables>. Only a small number of learners are included in achievement rates for apprenticeship frameworks in 2022/23 and 2023/24

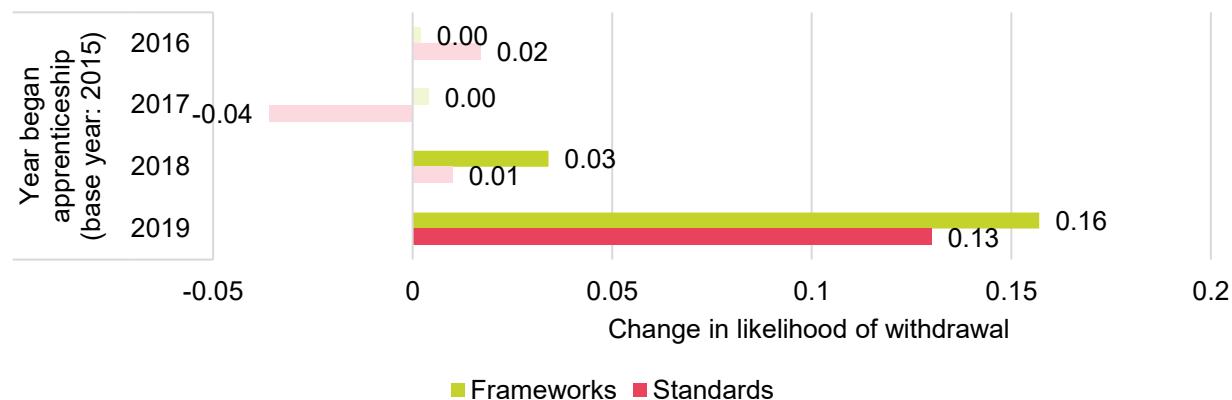
Figure 3 confirms that the decline in achievement rates over the period 2016/17 to 2021/22 was largely attributable to the switch from frameworks to standards. It presents the effect of a learner's year of start on their probability of withdrawing from a standard or framework in any year up to 2020/21, after controlling for differences in learner, provider and employer characteristics⁷. The chart indicates that the probability of learners withdrawing from their apprenticeship did not differ significantly between learners who started between 2015/16 and

⁷ This includes controlling for learner age, disadvantage, ethnicity, special educational needs and prior attainment.

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2019/20. Whilst the chart suggests learners who started in 2019/20 were more likely to subsequently withdraw, this is likely to be a Covid-19 impact⁸.

Figure 3 Effect of year of start on the probability of withdrawing from an apprenticeship framework or standard (starts 2015/16⁹ to 2019/20)



Source: NFER analysis of LEO

Note: Findings that are not statistically significantly different from baseline are shaded in light red and green respectively. Only estimates for starts in 2019 and framework starts in 2018 were significantly different from those who started their apprenticeships in 2015

2.2.1 Differences in withdrawal rates between apprenticeship frameworks and standards after accounting for compositional differences

We examine how much of the raw difference in withdrawal rates between frameworks and standards disappears after controlling for differences between the two in the profile of apprenticeships, learners, employers and providers. To do this, we run regression analysis to assess the effects of standards (compared to frameworks) on withdrawal after controlling for changes between frameworks and standards in the composition of apprenticeship learners, employers and providers.

Our analysis finds that apprentices were 23 percentage points more likely to withdraw from an apprenticeship standard compared to a framework over the period we studied, but this reduces to 18 percentage points after netting out the effects of compositional changes. This indicates that compositional changes have made only a modest contribution to the difference in withdrawal rates between frameworks and standards, suggesting other differences in the design, delivery and administration of frameworks and standards are likely to have played a much bigger role.

⁸ This may also reflect the fact that our analysis is based on data up to 2020/21.

⁹ Regression coefficient for 2014/15 not shown because starts on standards in this year were very small. 2015/16 selected as alternative baseline year.

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3 Apprenticeship withdrawals and learner, provider and employer characteristics

This section presents how a learners' probability of withdrawing from an apprenticeship standard varies depending on the level and sector of their apprenticeship, and their individual learner, employer, and provider characteristics. For each characteristic considered, we present both descriptive statistics and regression results which show differences in withdrawal between groups after controlling for other apprenticeship, learner, employer and provider characteristics.

Detail on the construction of learner, provider and employer characteristics and an additional set of breakdowns can be found in the Technical Appendix.

Summary of results

- Learners' prior qualification levels are strongly related to their probability of withdrawing from an apprenticeship standard.
- Apprentices who have grade C or 5+ in GCSE English and Maths are four and six percentage points, respectively, less likely to withdraw than their peers without these grades, after controlling for differences in other observed characteristics (including overall GCSE scores).
- Learners' probability of withdrawal also varies considerably by age, with younger (16–17-year-olds) and older (25+ year olds) apprentices more likely to withdraw than those aged 18–20. Learners from more deprived backgrounds, and black and mixed ethnicity and English as an additional language (EAL) learners are also more likely to withdraw.
- Learners' probability of withdrawal does not differ substantially by sex, after controlling for differences in other observed characteristics.
- Larger employers, employers who are experienced with the apprenticeship system, and employers have larger scale apprenticeship programmes are associated with learners being less likely to withdraw.
- More experienced training providers, providers who are supporting a smaller number of apprentices on a particular standard and providers competing with fewer others to deliver a standard are associated with lower withdrawal rates.

3.1 Differences in apprenticeship withdrawal rates by learner characteristics

Prior qualification levels

Learners' prior qualifications are associated with their likelihood of withdrawing, with less qualified apprentices being more likely to withdraw, as shown in Figure 4 below. Apprentices with Level 6 and 7 qualifications (equivalent to undergraduate degrees and Masters degrees, respectively) are nearly 20 percentage points less likely to withdraw than learners qualified to Level 1 or below.

Figure 5 presents the results of regression analysis which shows that the effects of higher prior qualification levels remain significant and substantial after controlling for differences in

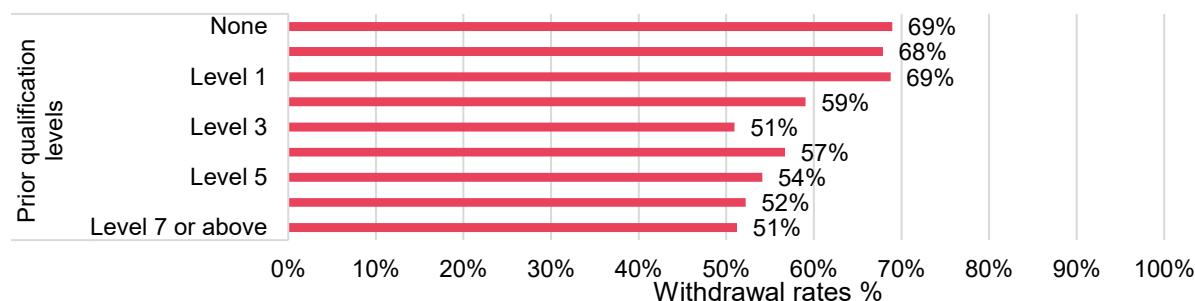
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other individual, employer and provider characteristics, although effects are diminished. Learners with Level 6 and 7 qualifications are around 12 to 14 percentage points (as shown by coefficients of -0.12 to -0.14 in the figure), respectively, are less likely to withdraw than learners without any qualifications.

A note on interpreting figures

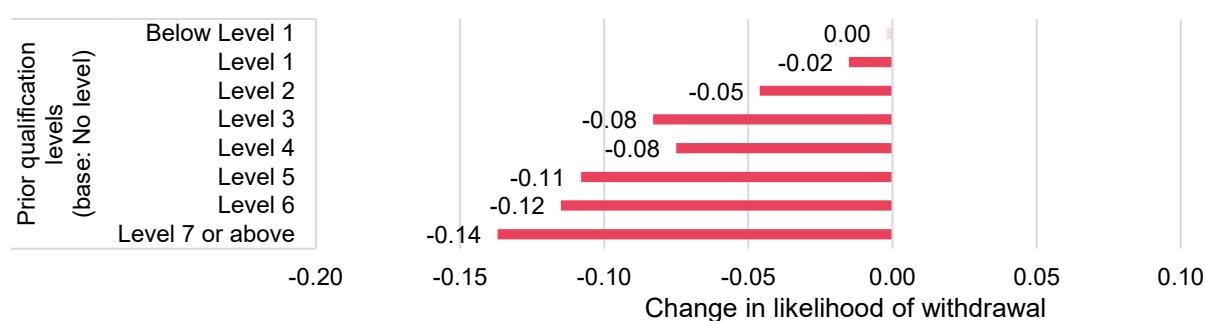
For most characteristics covered in this section, we present two figures. The first figure provides a direct comparison of the raw differences in withdrawal rates between different groups. The second figure presents the change in likelihood of withdrawal between different groups, holding other individual, employer and provider characteristics constant. This is estimated using regression analysis. By drawing on both comparisons, we can understand both how far withdrawal rates vary between groups, and to what extent these differences remain once other differences between groups have been accounted for. For example, withdrawal rates may be higher among those with lower prior qualification levels, but this may be because learners with lower prior qualifications are more likely to be younger learners.

Figure 4 Withdrawal rates from an apprenticeship standard by prior qualification levels (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Figure 5 Effect of prior qualification levels on the probability of withdrawing from an apprenticeship standard (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

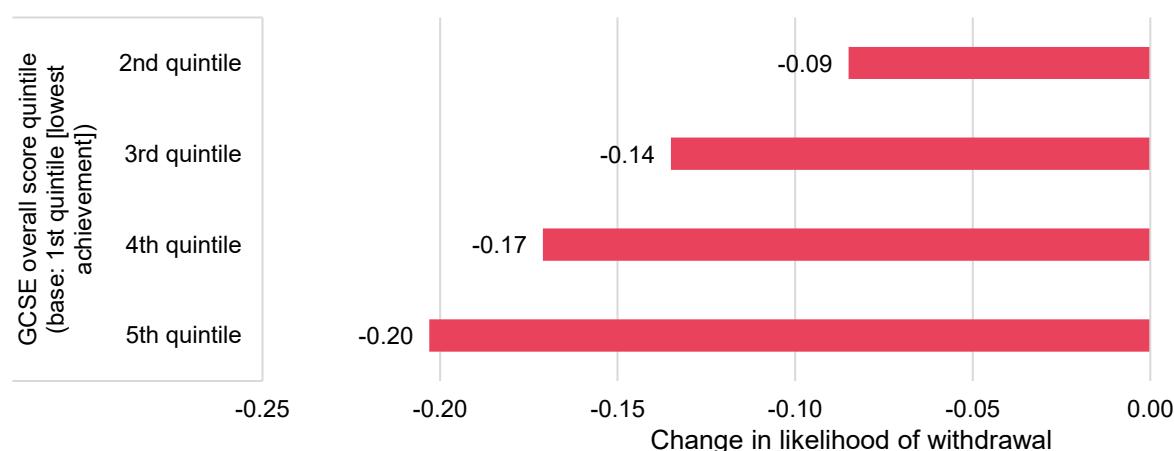
Note: All impacts are statistically significantly different to the baseline aside from below Level 1. Learners with no prior qualifications are those where no qualifications could be identified. Withdrawal rates for this group is not significantly different to those for learners with below Level 1 qualifications

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GCSE attainment

Learners' GCSE attainment is also associated with their likelihood of withdrawing, with those learners that have higher prior attainment being less likely to withdraw. The effects of GCSE attainment on withdrawal remain significant after controlling for differences between other individual, employer and provider characteristics, as shown in Figure 6 below. Learners in the highest performing quintile are 20 percentage points less likely to withdraw compared to learners in the bottom quintile, after controlling for differences in other observed characteristics.

Figure 6 Effect of GCSE attainment quintile on the probability of withdrawing from an apprenticeship standard (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Note: All impacts are statistically significantly different to learners in the quintile with the lowest attainment

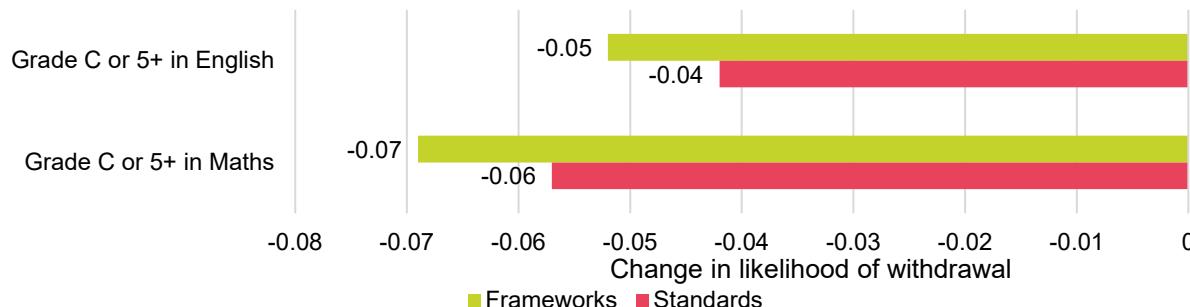
Maths and English requirements

From 2016, functional skills requirements required apprentices without 'standard passes' (grade 4 or C) in GCSE maths and English to continue studying these subjects. Prior research, including a recent 2024 research report based on interviews with 71 employers, has identified functional skills requirements as a key barrier to completion (Guy *et al.*, 2024).

As shown in Figure 7 below, learners who have a grade C or 5+ in GCSE English have been 4-5 percentage points less likely to withdraw than their peers with lower grades, and learners who have these grades in GCSE maths have been 6-7 percentage points less likely to withdraw, after controlling for differences in other observed characteristics (including learners' overall capped GCSE scores). This suggests that learners' maths and English prior attainment influence withdrawal over and above the effects of learners' overall GCSE attainment.

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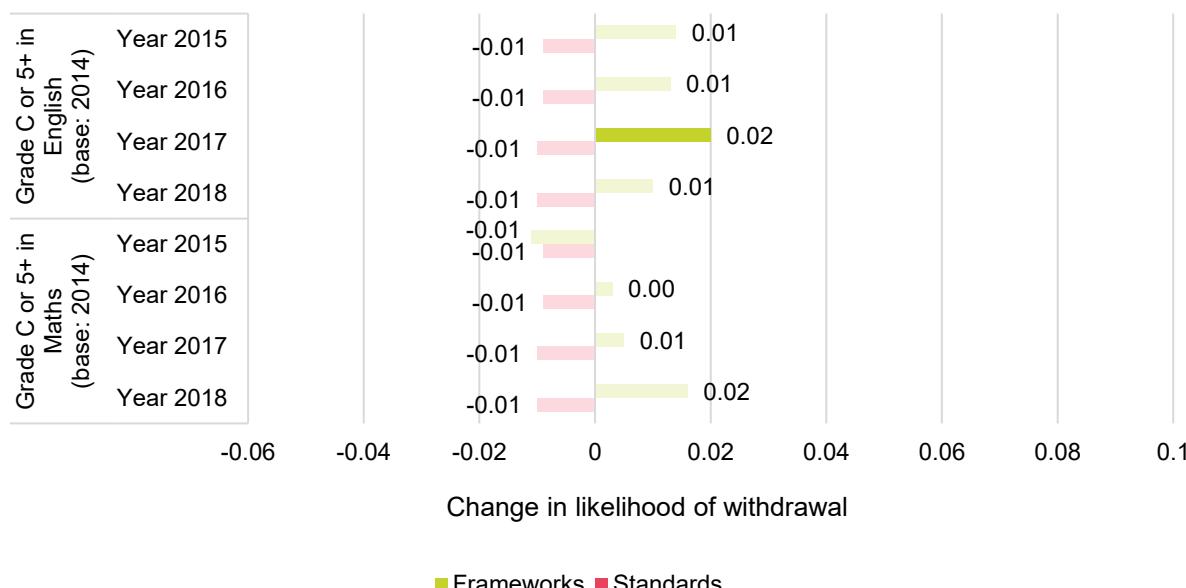
Figure 7 Effect of achieving a grade C or 5+ in English and Maths GCSEs in Year 11 on learners' probability of withdrawing from an apprenticeship standard and framework (starts 2013/14 to 2019/20)



Source: NFER analysis of LEO

Figure 8 suggests that the effects of learners' GCSE maths and English results on their probability of withdrawal did not change greatly between those that started in 2014/15 and 2018/19. These results appear to suggest that the relationship between learners' maths and English GCSE results and withdrawal may not have changed greatly after the introduction of functional skills requirements. However, it could be that the effects of these requirements on withdrawal were lagged, and/or functional skills requirements may have influenced employers' choices about who to accept onto apprenticeships in the first place.

Figure 8 Differences in the effects of having grade C or 5+ in GCSE English and Maths by year (of apprenticeship start) on learners' probability of withdrawing from an apprenticeship standard and framework (starts 2014/15 to 2018/19)



Source: NFER analysis of LEO

Note: The only significant impact was in 2017 for frameworks. All other impacts not statistically different from zero, as indicated by the lighter shading of bars

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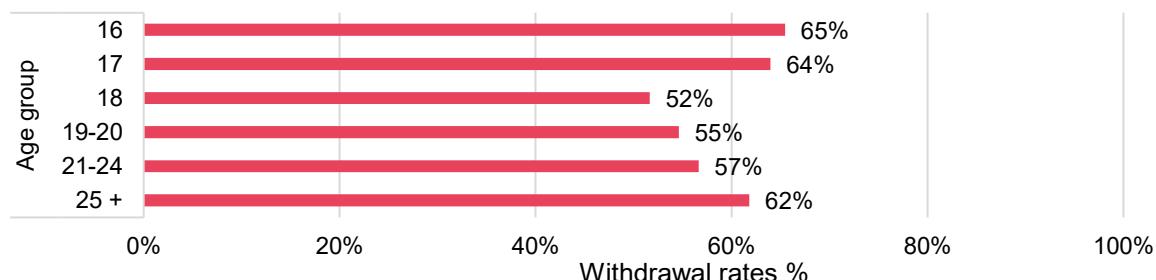
Age

Learners' likelihood of completing their apprenticeship varies considerably by age. Apprentices that are under 18, and apprentices aged 25 and over, are more likely to withdraw from their apprenticeship than learners aged 18-24, as shown in Figure 9 below. More than 60 percent of learners who started their apprenticeship aged 16-17, or 25 and over, subsequently withdrew, whereas nearly half of those aged 18 completed.

Figure 10 presents the results of regression analysis, which suggests that age-effects remain significant after controlling for differences between age groups and other individual, employer and provider characteristics. Apprentices aged 25 are four percentage points more likely to withdraw than 16-year-olds, and 18-year-olds are four percentage points less likely to withdraw than 16-year-olds.

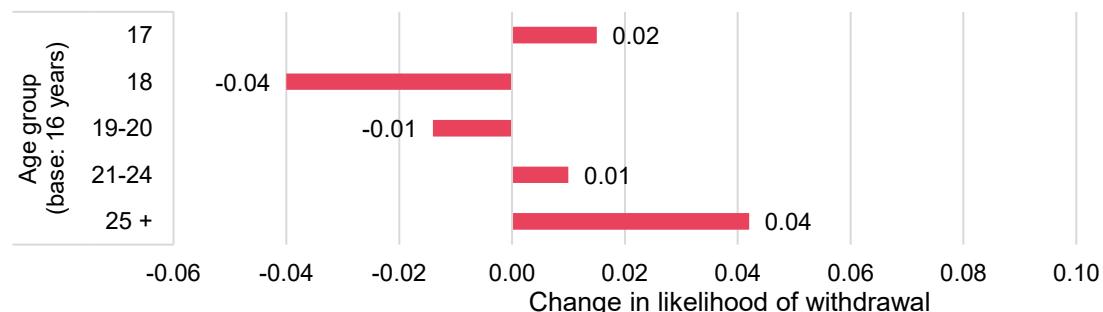
Potential explanations for this are that older apprentices may have better outside options, or more likely to be completing an apprenticeship to support their professional development, rather than to enable entry into a new occupation, which may make completion less important to them. Higher withdrawal rates amongst 16–17-year-olds may be reflective of lower commitment to a specific occupation. Regardless of the reason, withdrawal rates amongst 16-17 year olds are particularly concerning given the growing proportion of 16-17 year-olds not in education, employment or training (ONS, 2025).

Figure 9 Withdrawal rates from an apprenticeship standard by age at which apprenticeship started (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Figure 10 Effect of age on the probability of withdrawing from an apprenticeship standard (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Note: All impacts are statistically significantly different to learners aged 16

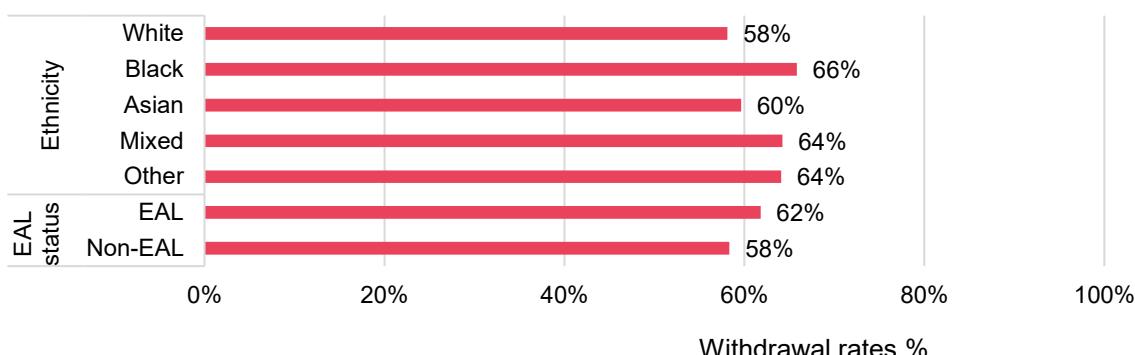
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Ethnicity and EAL

Withdrawal rates vary by learners' ethnicity and EAL status, as shown in Figure 11 below. Learners who identified as being of Black or Mixed ethnicity were 6-8 percentage points more likely to withdraw than their White peers, and EAL learners were also four percentage points more likely to withdraw than native English speakers.

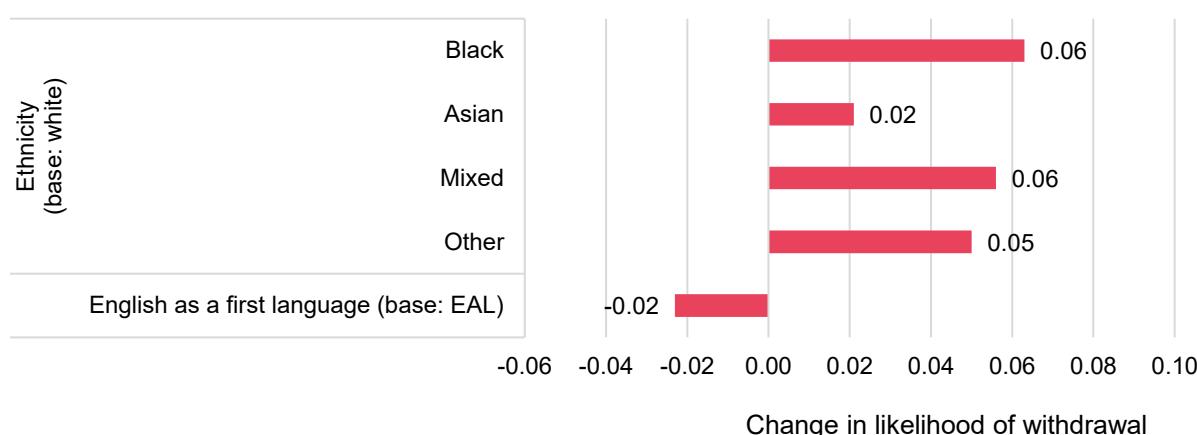
Regression analysis, presented in Figure 12 below, suggests that black and mixed (and to a lesser extent Asian) learners remain significantly more likely to withdraw, even after controlling for differences in other observed characteristics including their GCSE attainment, qualification levels and socioeconomic deprivation, which indicates that ethnicity has a relationship with learners' probability of withdrawal over and above the effect it has via other factors.

Figure 11 Withdrawal rates from an apprenticeship standard by ethnicity and English as an additional language (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Figure 12 Effect of ethnicity and English as an additional language on the probability of withdrawing from an apprenticeship standard (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Note: All impacts are statistically significantly different to base categories

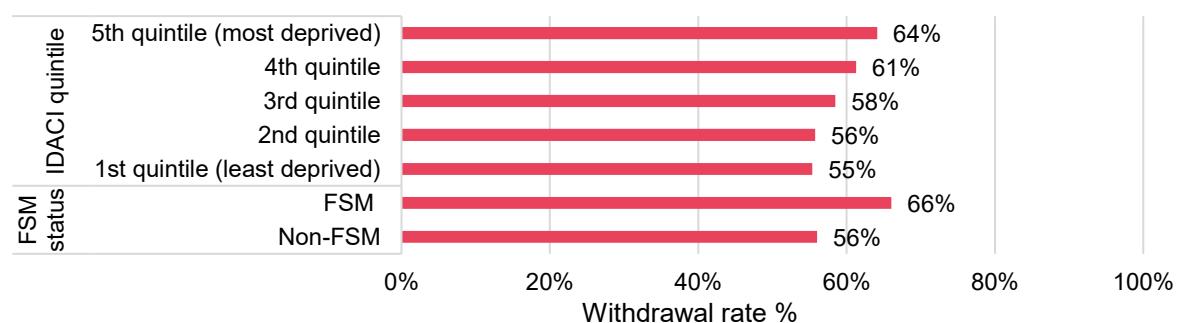
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Socio-economic deprivation

Higher levels of deprivation are also associated with higher withdrawal rates, as shown in Figure 13. Learners registered as eligible for free school meals (FSM) at some point during their schooling were 10 percentage points more likely to withdraw from their apprenticeship. Similarly, learners living in the areas of highest deprivation as measured by the Index of Income Deprivation Affecting Children (IDACI)¹⁰ were nine percentage points more likely to withdraw from their apprenticeship compared to learners in the least deprived areas.

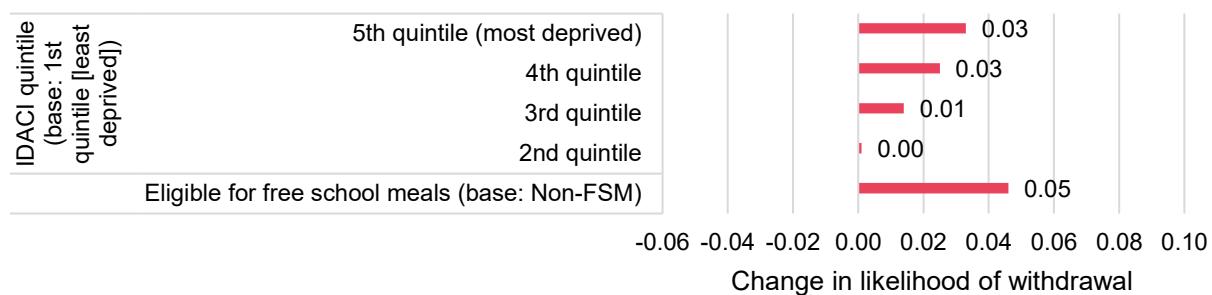
Regression analysis presented in Figure 14 below, suggests that these differences remain significant after netting out the effects of other observed characteristics, although effect sizes are diminished. Learners from the most deprived areas are three percentage points more likely to withdraw than learners from the least deprived areas, and learners eligible at some point for FSM are five percentage points more likely to withdraw.

Figure 13 Withdrawal rates from an apprenticeship standard by socioeconomic deprivation (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Figure 14 Effect of socioeconomic deprivation on the probability of withdrawing from an apprenticeship standard (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Note: All impacts are statistically significantly different to base categories except for the 2nd IDACI quintile. FSM relates to whether the learner has ever been registered as eligible for FSM

¹⁰ These were identified from individuals' last identified postcode in the NPD.

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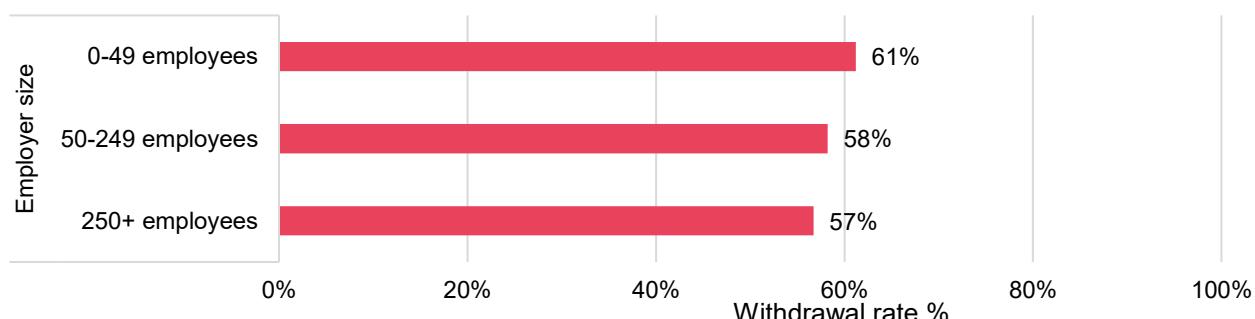
3.2 Differences in withdrawal rates by employer characteristics

Withdrawal rates from apprenticeship standards also vary by employer characteristics. We derived employer characteristics based on the main employer an apprentice had in the first year they started their apprenticeship. These characteristics all have considerable caveats associated with them, which are discussed in the Technical Appendix.

Employer size

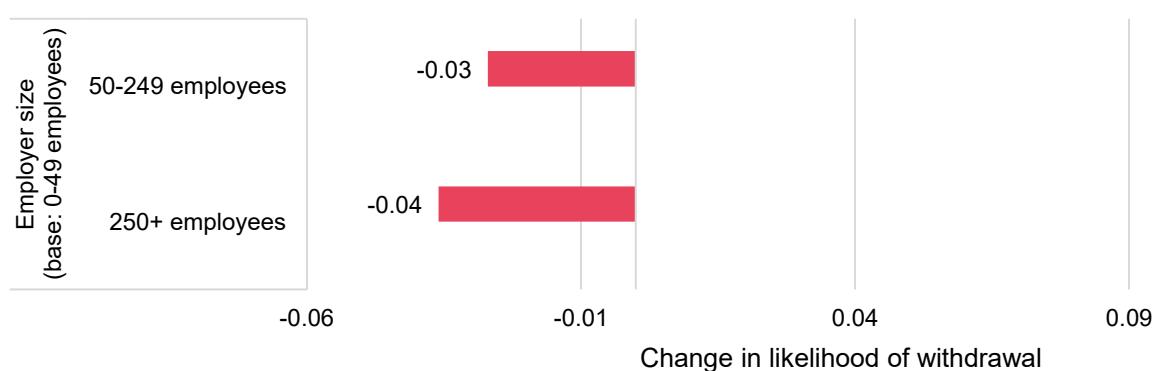
Learners working in larger organisations (250+ employees) were less likely to withdraw than those working in organisations with less than 50 employees, although differences are small, as shown in Figure 15 below. Differences in withdrawal rates between larger (250+ employees) and smaller (less than 50 employees) employers remain significant after controlling for differences in apprenticeship sectors and levels, and employer, learner and provider characteristics. Learners working for larger organisations with 250+ employees are four percentage points less likely to withdraw than learners at organisations that employ less than 50 people, as shown in Figure 16. This could be because larger employers are better set up to provide the support that apprentices need to thrive.

Figure 15 Withdrawal rates from an apprenticeship standard by employer size (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Figure 16 Effect of employer size on the probability of withdrawing from an apprenticeship standard (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

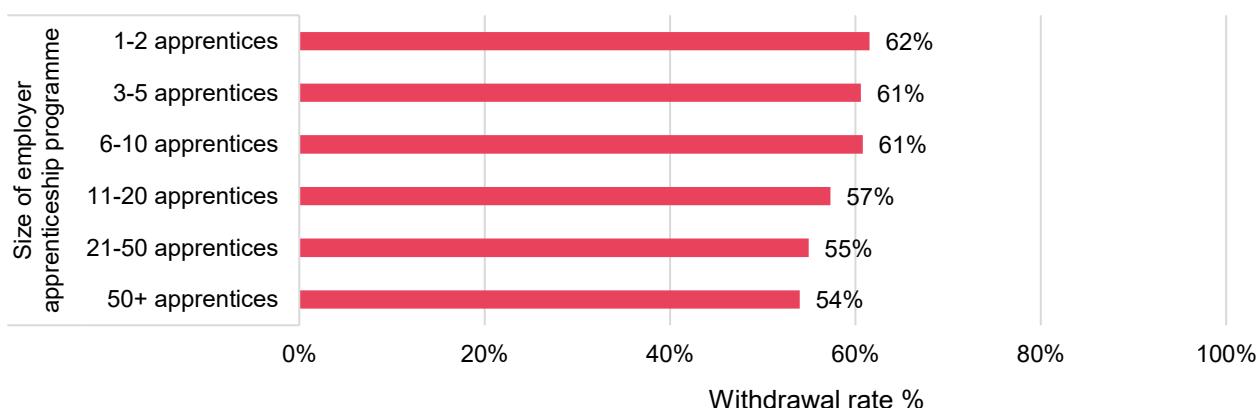
Note: All impacts are statistically significantly different to base categories

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Size of employer's apprenticeship programme

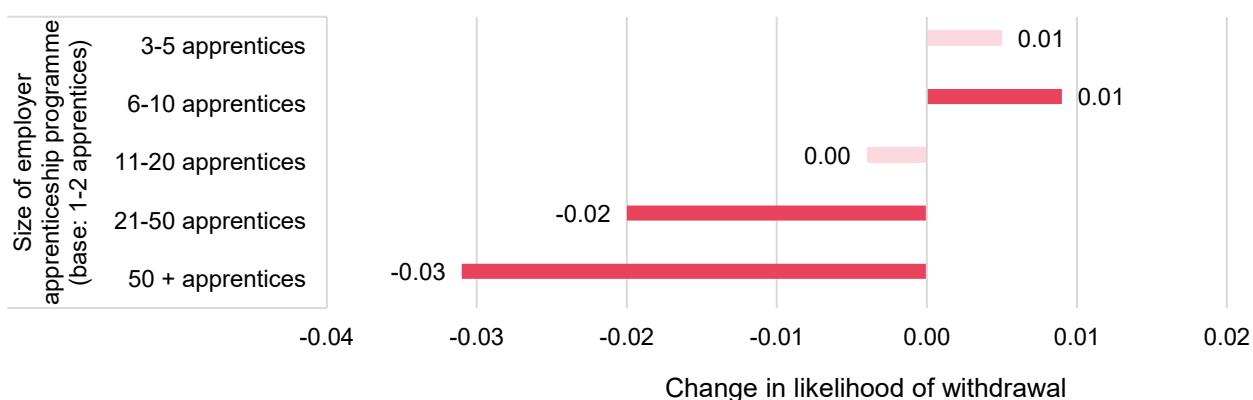
Withdrawal rates also decrease as the number of apprentices within their employer increases, as shown in Figure 17 below. Learners at employers with 50 or more apprentices are eight percentage points less likely to withdraw than those with an employer hosting just one or two (54 percent compared to 62 percent). Regression results, shown in Figure 18 suggest this relationship remains significant, albeit diminished, after controlling for other differences in apprenticeship sectors and levels, and in employer, learner and provider characteristics. This could be because employers with larger numbers of apprentices – who tend to be larger employers – have more comprehensive apprenticeship programmes and/or are more invested in ensuring learners complete their apprenticeship and progress within the organisation.

Figure 17 Withdrawal rates from an apprenticeship standard by size of employer's apprenticeship programme (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Figure 18 Effect of employer's apprenticeship programme on the probability of withdrawing from an apprenticeship standard of size (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

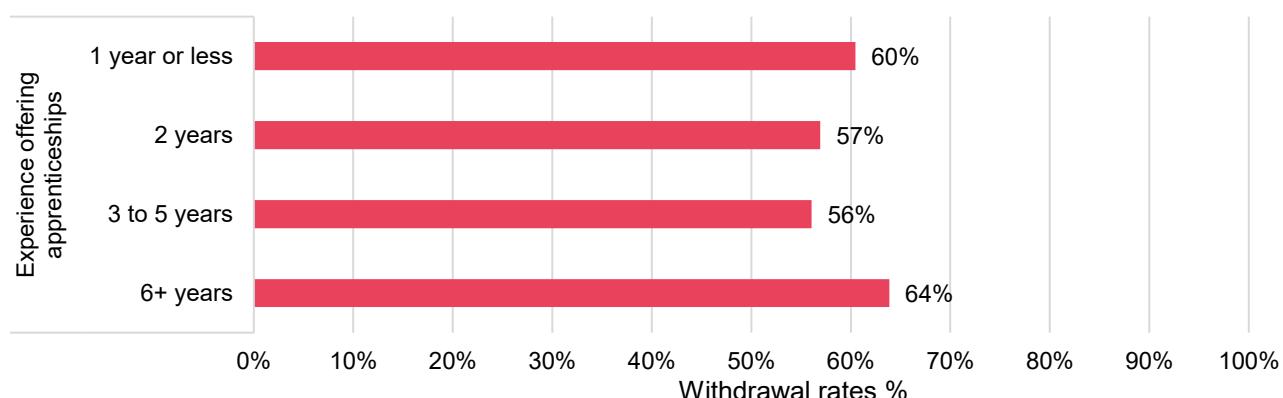
Note: Impacts are only statistically significantly different for employers with 6-10 apprentices, 21-50 apprentices and 50+ apprentices. Non-statistically significant results are indicated in light red

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Employer experience with the apprenticeship system

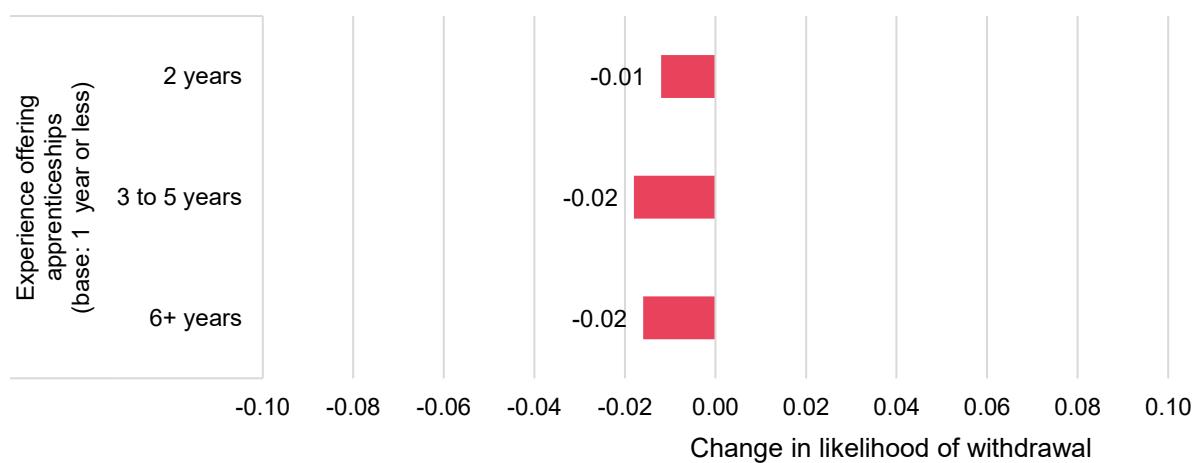
Descriptive statistics, shown in Figure 19 below, suggest that experienced employers who have been offering apprenticeships for six or more years have higher withdrawal rates than employers newer to the apprenticeship system. However, after controlling for differences in other observed characteristics, this relationship reverses. As shown in Figure 20, employers who have been offering apprenticeships for longer are indeed associated with a slightly lower probability of withdrawal, as one might expect.

Figure 19 Withdrawal rates from an apprenticeship standard by employer experience with the apprenticeship system (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Figure 20 Effect of employer experience with the apprenticeship system on the probability of withdrawing from an apprenticeship standard (starts 2014/15 to 2019/20)



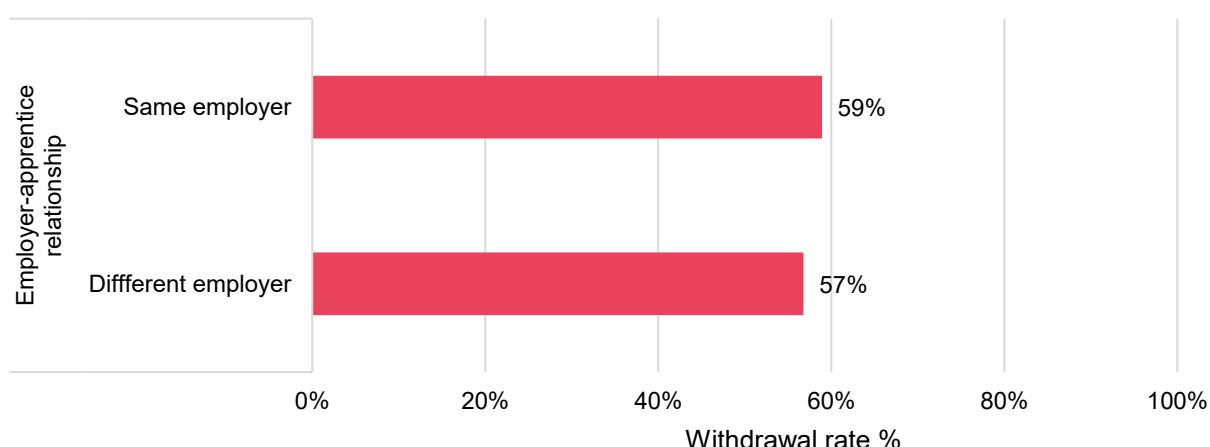
Source: NFER analysis of LEO

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Employer-apprentice relationship

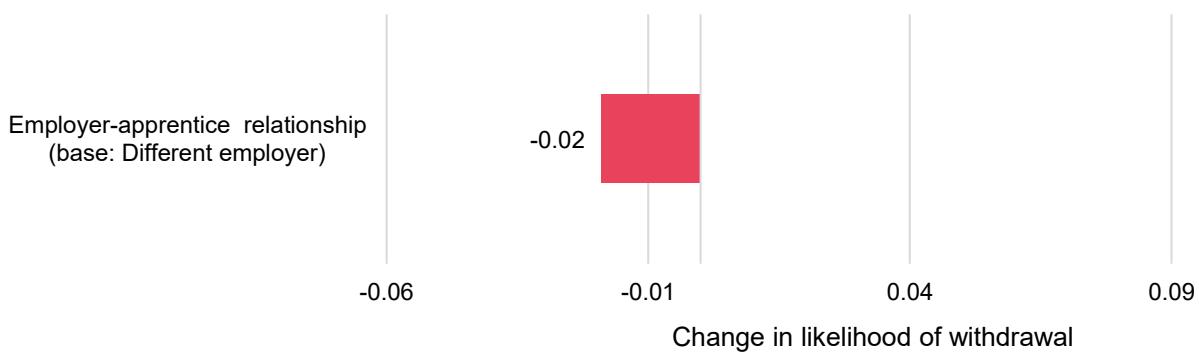
Apprentices who previously worked for their apprenticeship employer are marginally less likely to withdraw than apprentices working for a new employer, as shown in Figure 21 below¹¹. The effects of working for the same employer beforehand on learners' probability of withdrawal are small (two percentage points) but remain statistically significant after netting out the effects of other differences in other observed characteristics, as shown in the regression results presented in Figure 22 below.

Figure 21 Withdrawal rates from an apprenticeship standard by employer-apprentice relationship (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Figure 22 Effect of employer-apprentice relationship on the probability of withdrawing from an apprenticeship standard (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

¹¹ This finding should be treated with caution given apprentices in earlier years of our data series are more likely to have been recorded as working for a new employer since data on prior employment is only partial for earlier years of data.

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3.3 Differences in withdrawal rates by training provider characteristics

Withdrawal rates also differ depending on a range of provider characteristics. We outline the definitions of these characteristics in the Technical Appendix.

Ofsted rating

Learners trained by Ofsted-rated 'Outstanding' providers are 16 percentage points less likely to withdraw compared to learners trained by providers with an 'Inadequate' rating (54 percent compared to 70 percent). However, the difference in withdrawal rates between 'Outstanding' and 'Requires Improvement' providers is a more modest five percentage points, as shown in Figure 23 below.

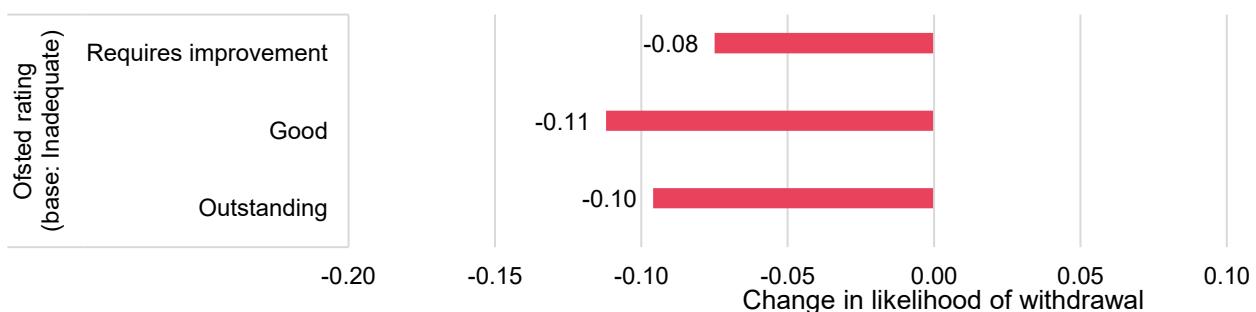
Regression analysis, presented in Figure 24, suggests that differences in withdrawal rates between 'Inadequate' and other providers remain significant and substantial after controlling for differences in other observed characteristics, but differences between 'Outstanding' and 'Requires Improvement' providers diminish to around two percentage points. This suggests that supporting improvements to providers rated 'Inadequate' by Ofsted is likely to benefit achievement rates.

Figure 23 Withdrawal rates from an apprenticeship standard by Ofsted rating (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Figure 24 Effect of Ofsted rating on the probability of withdrawing from an apprenticeship standard (starts 2014/15 to 2019/20)



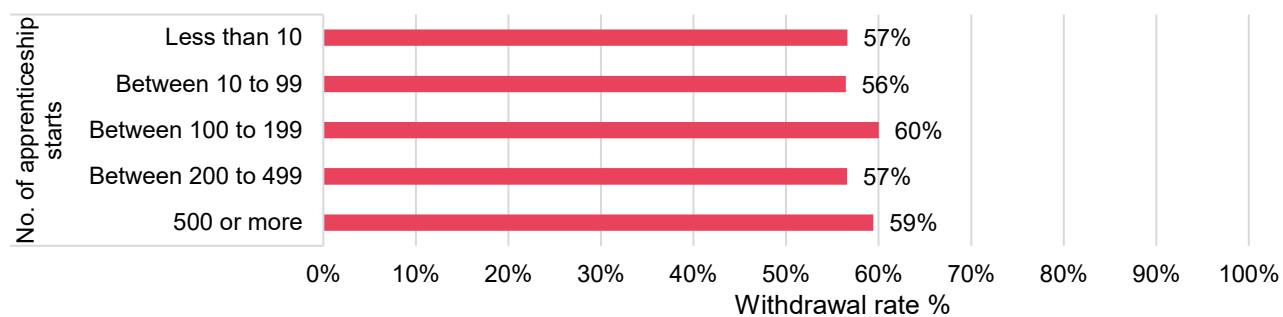
Source: NFER analysis of LEO

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Provider size

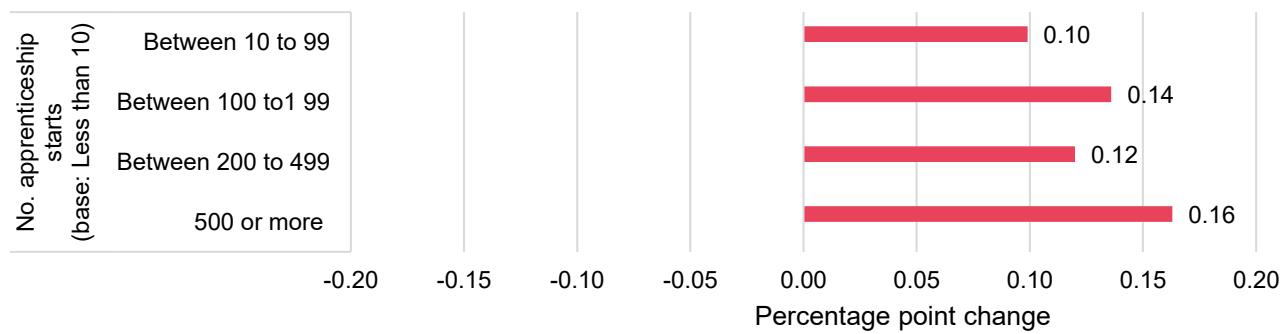
Descriptive statistics, shown in Figure 25 below, suggest there is no clear relationship between provider size (based on the number of learners a provider trains on a particular apprenticeship standard) and withdrawal rates. However, the results from regression analysis, shown in Figure 26 below, indicate that providers with fewer than 10 apprentices starting on a particular standard have statistically significantly lower withdrawal rates, after netting out the effects of other individual, employer and provider characteristics. This could be because providers find it harder to tailor their training or provide adequate one-to-one support once the number of apprentices on a standard exceeds a given scale. Alternatively, it may be that providers with larger numbers of apprentices on a particular standard tend to deliver more of their training and support online, rather than in-person, and that this affects learners' probability of withdrawing. Further research would be needed to explain this result.

Figure 25 Withdrawal rates from an apprenticeship standard by provider size (as measured by the number of learners on a particular apprenticeship standard at that provider) (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Figure 26 Effect of provider size on the probability of withdrawing from an apprenticeship standard (starts 2014/15 to 2019/20)



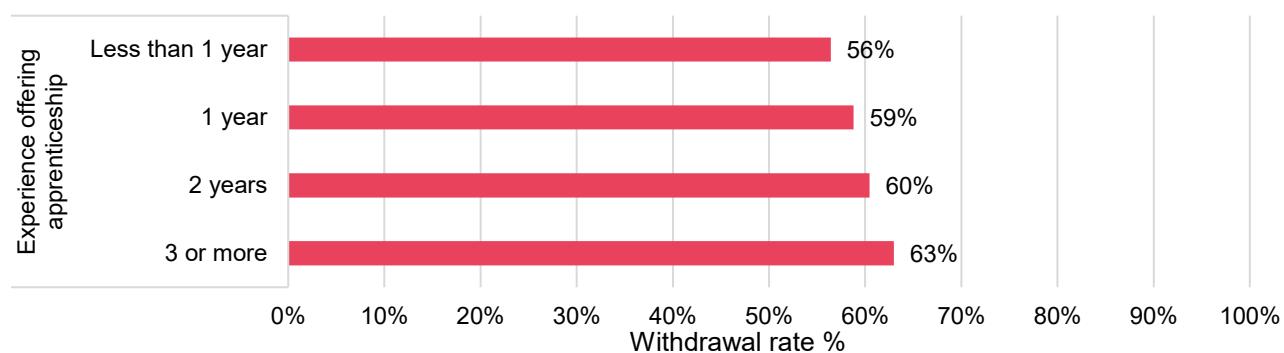
Source: NFER analysis of LEO

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Provider experience (of offering any apprenticeship)

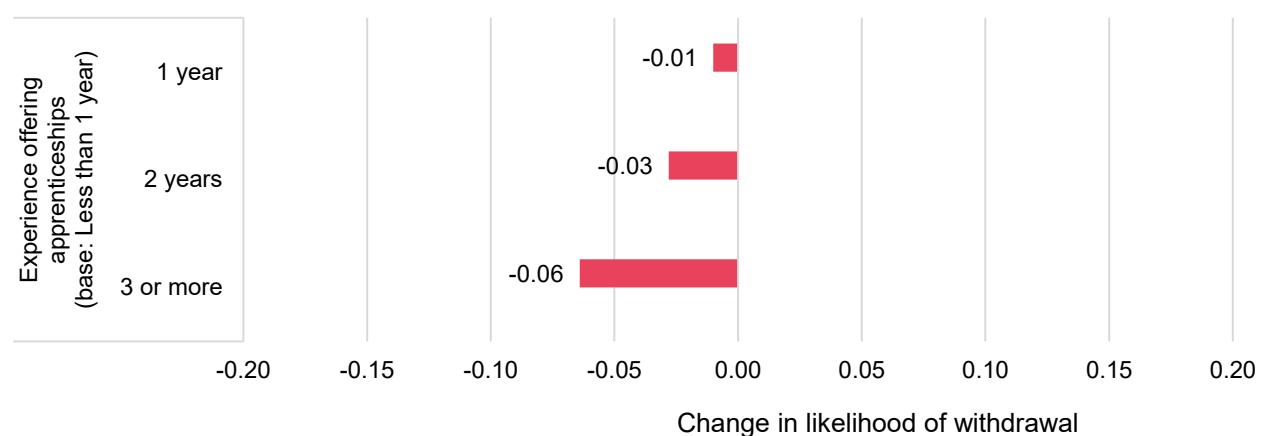
Descriptive statistics, shown in Figure 27 below, suggest that providers with less apprenticeship delivery experience lower withdrawal rates. However, the results of regression analysis, presented in Figure 28, show that this relationship reverses after controlling for other differences in apprenticeship, individual, provider and employer characteristics. This means that more experienced providers are associated with lower withdrawal rates, all else being equal, as one might expect¹². One reason for why this result changes once other characteristics are accounted for is that more experienced providers may be likely to have more apprenticeship learners which is associated with higher withdrawal (as shown in Figure 26).

Figure 27 Withdrawal rates from an apprenticeship standard by provider experience (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Figure 28 Effect of provider experience on the probability of withdrawing from an apprenticeship standard (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

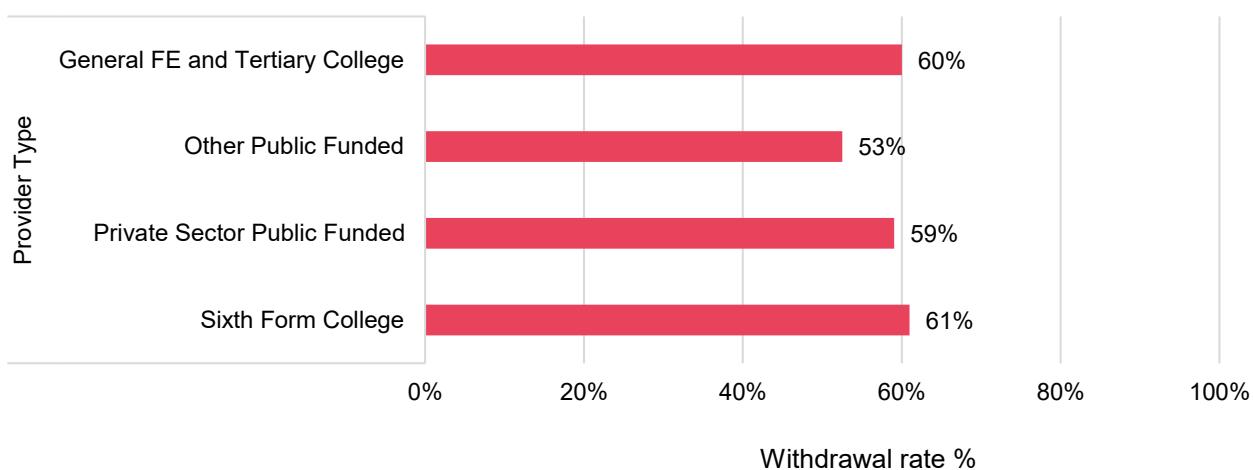
¹² This finding should be interpreted cautiously because providers in earlier years of our data are less likely to have been observed offering apprenticeships in previous years, but their apprentices have longer in our data series to successfully complete an apprenticeship, which could be biasing results.

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Provider type

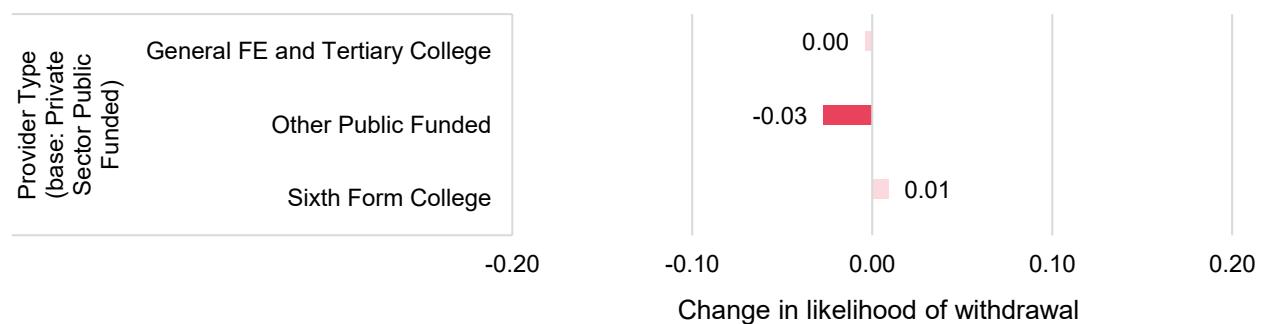
Withdrawal rates do not vary significantly by provider type, except in that 'Other Public Funded' providers have slightly lower withdrawal rates, as shown in Figure 29 below. 'Other Public Funded' providers are primarily comprised of universities and NHS trusts (Burke, 2018). However, Figure 30 shows that, after controlling for other differences in apprenticeship, learner, provider and employer characteristics, learners trained by 'Other Public Funded' providers are only three percentage points less likely to withdraw.

Figure 29 Withdrawal rates from an apprenticeship standard by provider type (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Figure 30 Effect of provider type on the probability of withdrawing from an apprenticeship standard (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Note: Regression coefficients in light red are not statistically significant different from the baseline category

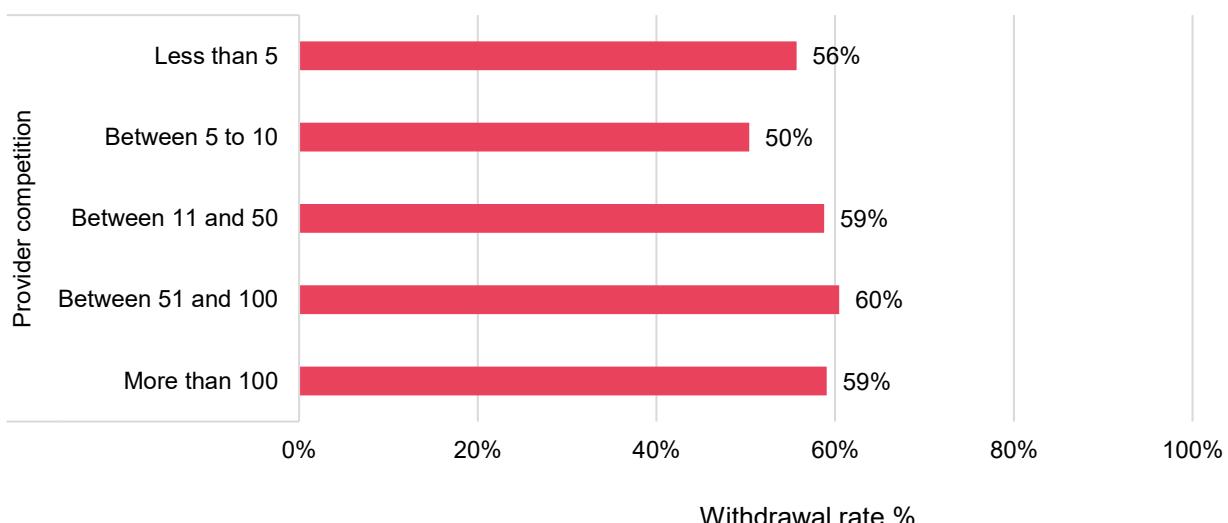
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Provider competition

Learners completing an apprenticeship that is offered by 10 or fewer providers are more likely to complete than those doing an apprenticeship offered by a larger number of providers, as shown in Figure 31. This could potentially be because providers are more able to invest in improving the quality of their training and support when they have a higher market share and greater economy of scale in that particular standard. It may also reflect that more specialised standards may support better apprentice engagement.

Further comparisons on the effects of learner, provider and employer characteristics on apprentice withdrawal are presented in the Technical Appendix.

**Figure 31 Withdrawal rates from an apprenticeship standard by provider competition
(starts 2014/15 to 2019/20)**



Source: NFER analysis of LEO

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4 Apprenticeship withdrawals and duration

In this section, we assess at what point learners tend to withdraw from their apprenticeship, how this varies between frameworks and standards, and how duration varies by apprenticeship level.

Summary of findings

- Apprentices who completed an apprenticeship standard took more additional months beyond the expected duration to get over the finish line compared to apprentices on frameworks.
- Apprentices took longer to reach the point of withdrawing from standards than they did on frameworks. However, those learners that withdrew got a similar proportion of the way through their apprenticeship.

4.1 Expected and actual apprenticeship durations, and how these differ for standards compared to frameworks

Figure 32 presents the expected and actual number of months spent in an apprenticeship for completers and withdrawers. It shows that the expected duration of apprenticeships is longer for standards than frameworks, and that learners on standards have also tended to spend longer than expected to complete their apprenticeship. Whilst the same was true for frameworks, the difference between learners expected and actual durations was smaller for frameworks than it was for standards (+0.7 months, compared to +1.6 months), as shown in Figure 32. Both the longer expected duration for standards, and the greater difference between effective and expected duration for standards, could have contributed to the increase in withdrawal rate for standards as compared to frameworks.

Learners who withdrew from a standard tended to take longer before quitting, compared to learners who withdrew from a framework. However, they got a similar proportion of the way through their apprenticeship (47 percent for standards vs. 43 percent for frameworks). EPAs were introduced for all apprenticeship standards when the previous framework system was replaced. Were EPA a major factor driving withdrawals, we might have expected to see an increase in withdrawers towards the end of the programme, as compared to frameworks, among learners who are concerned about the EPA. However, this is not borne out by our analysis: we find apprentices withdrawing from a standard typically get a similar proportion of the way through their apprenticeship as their peers on frameworks.

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Figure 32 Duration of apprenticeship (in months) for completers and withdrawers, split by frameworks and standards (starts 2014/15 to 2019/20)



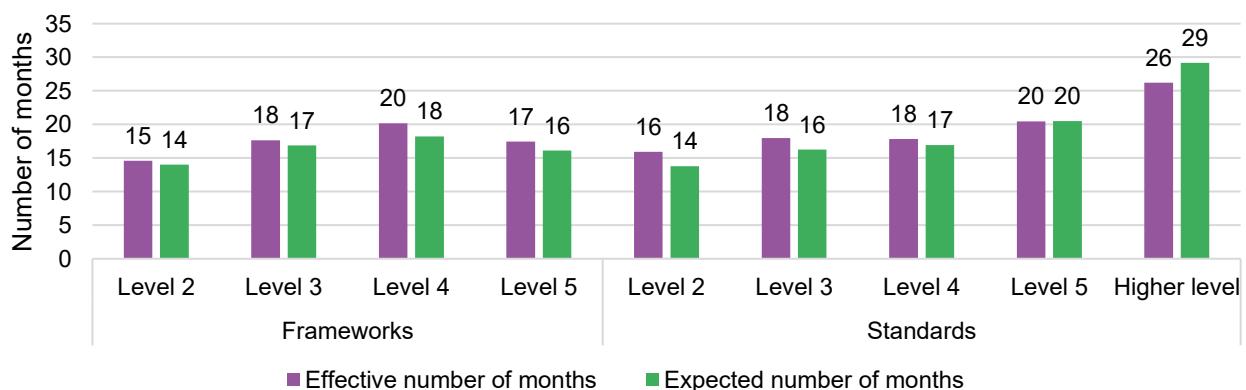
Source: NFER analysis of LEO

4.2 Differences between apprenticeship levels in the expected and actual duration learners take to complete their apprenticeship

The higher the apprenticeship level, the longer the programme is expected to take to complete, as shown in Figure 33. On standards, apprentices have taken two additional months to complete at Intermediate (Level 2) and Advanced (Level 3) levels, one additional month at Level 4, no additional months at Level 5, and at Level 6 they have tended to complete faster than expected. In contrast, on frameworks, apprentices tended to take 1-2 months beyond the expected duration to complete their apprenticeship, and this was consistent across levels.

These patterns may help explain why the drop in completion rates from frameworks to standards has been larger amongst intermediate and advanced apprenticeships than higher level apprenticeships. It also suggests that there may be a need to review expected durations for some apprenticeship standards, in order to provide learners and employers with a more accurate indication of likely duration.

Figure 33 Duration of apprenticeship (in months) for completers, by level, split by frameworks and standards (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

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4.3 Other differences in apprenticeship duration by learner, employer and provider characteristics

Learner characteristics

Learners with higher GCSE scores completed their apprenticeships quicker than those with lower scores. For example, learners in the top GCSE score quintile took 27 days less to complete their apprenticeship when on a standard, compared to those in the bottom GCSE quintile. Older learners (aged 25 and over) completed their apprenticeships quicker than younger learners. Other learner characteristics have very small effects on duration.

Provider characteristics

Learners enrolled with more experienced providers (those who have been offering apprenticeships for three or more years) completed an apprenticeship standard approximately five weeks quicker than apprentices with providers who have been offering apprenticeships for one year or less. This complements results presented in section 3, which showed that more experienced providers are associated with a lower probability of learners' withdrawing.

Employer characteristics

There were not large differences in how long apprentices take to complete their programme between employers with different characteristics (with durations typically differing by one to two weeks).

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5 Apprenticeship withdrawals and earnings and employment

In this section, we examine the effects of learners' earnings and employment history on their probability of withdrawal. Data limitations which impacted on our measure of apprentices' earnings and employment history are described in the Technical Appendix.

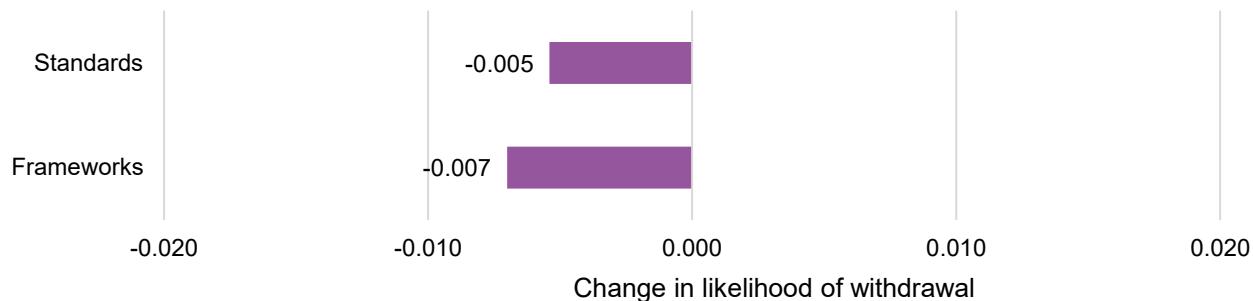
Summary of findings

- Apprentices that are paid more in the first year of their apprenticeship are less likely to withdraw, but effect sizes are very small.
- Apprentices that withdrew from their programme went onto earn substantially less over the three subsequent years than learners that completed their apprenticeship.
- Apprentices that withdraw from an apprenticeship are also more likely to be unemployed over the three subsequent years, compared to those that completed their apprenticeship.

5.1 Differences in withdrawal probability by apprenticeship earnings

Apprentices that are paid more in the first year of their apprenticeship are less likely to withdraw, after controlling for the effects of differences in their apprenticeships, and learner, employer and provider characteristics. However, effect sizes are small, as shown in Figure 34 below. For every 10 percent increase in earnings in the first year of learners' apprenticeship, their probability of withdrawing decreased by around half a percentage point. This casts doubt on whether affecting apprentices' average earnings by increasing the apprenticeship minimum wage would be likely to have a substantial impact on the overall apprenticeship achievement rate.

Figure 34 Effect of increasing apprenticeship earnings by 10 percent on the probability of withdrawing from an apprenticeship, split by standards and frameworks (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

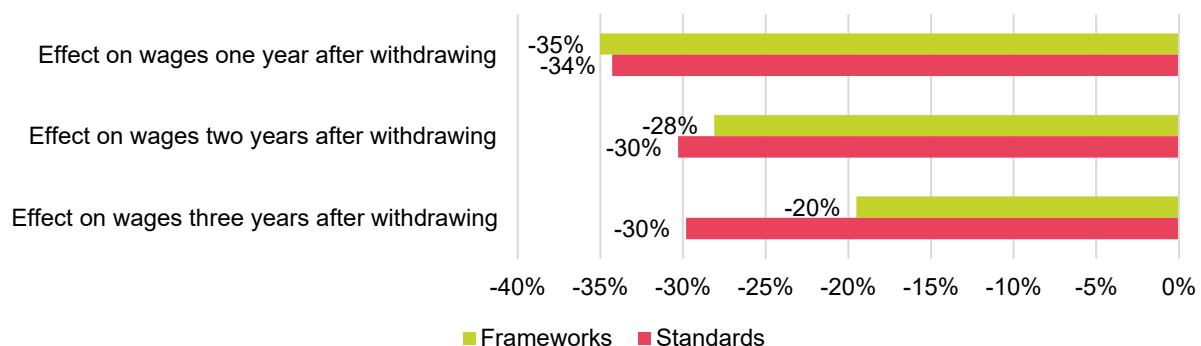
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5.2 The wage penalty associated with withdrawal

Apprentices that withdrew from their programme went onto earn substantially less, over the three subsequent years, than learners that complete their apprenticeship, as shown in Figure 35 below. For both withdrawers and completers, wages are measured relative to the point at which they withdrew or completed their apprenticeship respectively,

This suggests that apprentices who withdraw are not quitting to take up better paid work outside of the apprenticeship system in the medium-term (as we are comparing outcomes once both groups finish their apprenticeship). The wage penalty associated with withdrawal is similar for standards and frameworks in the first year after a learners' apprenticeship, but the gap widens thereafter, meaning that the earnings gap between those who complete and those who withdraw is larger for standards than it was for frameworks when averaged over three years. It is, however, important to note that wage differentials may partially reflect the fact that withdrawers will generally have less experience than completers at the point at which wages are compared (as completers will have spent longer in the apprenticeship programme, and wages in both groups are being compared from the point that learning was completed).

Figure 35 Effects of withdrawing from an apprenticeship standard and framework on wages for each year over the three subsequent years (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Note: Wages are measured relative to the point at which apprentices withdrew from or completed their apprenticeship respectively

5.3 The effects of withdrawal on subsequent employment status

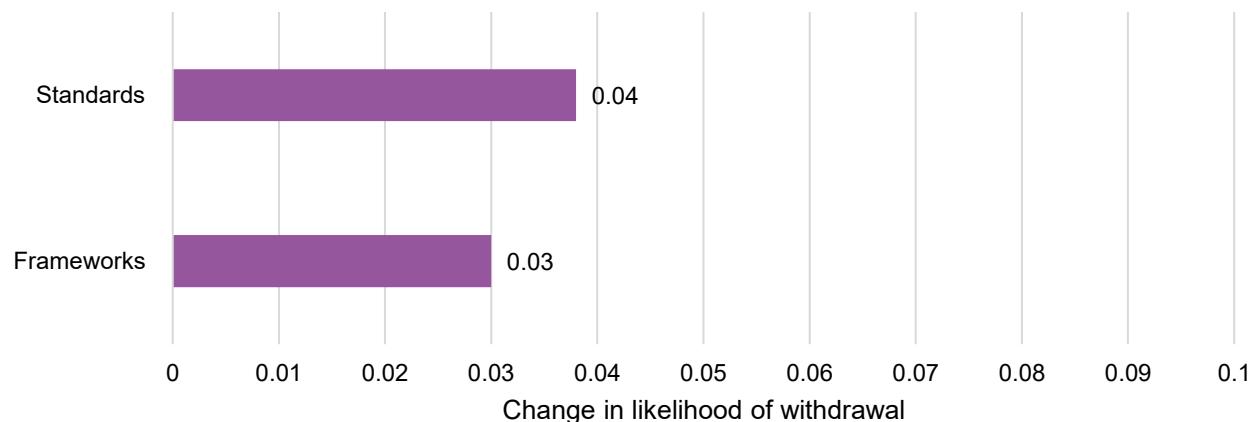
Apprentices that withdraw from an apprenticeship are more likely to be unemployed over the three subsequent years¹³, compared to those that completed their apprenticeship, after netting out the effects of other differences between those that complete and those that withdraw. As shown in Figure 36 below, learners who withdraw from an apprenticeship standard are around four percentage points to have an unemployment spell in the three subsequent years.

¹³ Calculated based on the proportion of the three subsequent years (for which people have employment records) in which they are unemployed.

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As above, unemployment differentials may partially reflect the fact that withdrawers will generally have less experience than completers at the point at which employment outcomes are compared.

Figure 36 Effect of withdrawing from an apprenticeship standard and framework on the proportion of unemployment spells experienced in the three subsequent years (starts 2014/15 to 2019/20)



Source: NFER analysis of LEO

Note: Employment status is measured relative to the point at which apprentices withdrew from or completed their apprenticeship respectively. Unemployment measured as the number of unemployment spells where learners were identified as being unemployed in the subsequent three years to withdrawing or completing their apprenticeship

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6 Conclusions

Our research identifies that many factors are associated with learners' probability of withdrawal. Apprentices' prior attainment and qualification levels have a substantial effect on learners' probability of withdrawing. Other characteristics including their age, ethnicity and socioeconomic background also affect their probability of withdrawing.

Apprentices employed by larger employers, employers who have larger scale apprenticeship programmes, and/or employers who are more experienced with the apprenticeship system are less likely to withdraw.

More experienced providers and providers who are supporting more apprentices on a particular standard are associated with lower withdrawal rates. This highlights the benefits of supporting existing providers to scale and avoiding experienced providers exiting the market, particularly in occupational sectors associated with higher withdrawal rates. In addition, standards which are only offered by a small number of providers are also associated with lower withdrawal rates. One plausible explanation for this finding may be that more niche and specialised standards may attract more engaged learners or support greater engagement.

Apprentices who complete an apprenticeship standard are also taking more additional months beyond the expected duration to get over the finish line (compared to apprentices on frameworks). This could have contributed to the increase in withdrawals. Amongst learners on standards, the additional months it takes learners to complete is also larger for intermediate and advanced apprenticeships, which may help explain why the difference in the withdrawal rate between frameworks and standards is larger at these levels.

Together our findings suggest that considering support for different apprentice, provider and employer groups are likely to be the most promising avenues for reducing withdrawal rates among apprentice learners.

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