

Maximizing Apprenticeship Completion Rates in England

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Abstract

This paper summarizes a report on maximizing apprenticeship completion rates in England that was prepared for the former national Learning and Skills Council (LSC). The study was based on a systematic literature review, econometric analysis of individual level data on learners in England and interviews with a number of key stakeholders. The drivers of completion are found to include underlying characteristics of learners, features of the training program and the surrounding context. While there is scope to improve completion rates, it is acknowledged that 100 percent completion is neither feasible nor desirable.

Introduction

In England,¹ there is a strong external training market that includes a wide variety of training providers, such as further education colleges, private training providers and other organizations. These training providers are eligible to receive public funding in relation to a wide range of training initiatives, including apprenticeships. Over the past decade, the Learning and Skills Council, the government agency responsible for the provision of further education (i.e. post-16 education and training, but excluding higher education²) introduced minimum levels of performance (MLP) for training providers in an attempt to both improve the quality of training and increase completion rates. Currently, the MLP stands at 50 percent—i.e. 50 percent of apprentices in a given cohort undertaking specific apprenticeship training are expected to complete.³ If the outcomes achieved by the training provider fall below this threshold, the provider may be subject to financial penalty or withdrawal of the apprenticeship from its portfolio of training courses. The MLP does not indicate anything about the minimum level of skills acquired by an apprentice other than what is needed in order to satisfy the program's requirements for completion. Completion of an apprenticeship requires completion of the full framework, which consists of a

¹ This article focuses on England as opposed to Great Britain. The further education system, including apprenticeships, is not administered by Great Britain as a whole. Great Britain is made of three nations—England, Scotland and Wales. Each of these individual countries has responsibility for further education within its borders.

² For equivalencies to Canada's education system, please see Appendix A.

³ Skills Funding Agency, *Apprenticeships: Funding Arrangements 2010/11* (Coventry: Skills Funding Agency, 2010), http://readingroom.lsc.gov.uk/SFA/Apprenticeship-funding-requirements-2010_11-v1.pdf (accessed January 2011).

National Vocational Qualification (NVQ) as well as completion of Key Skills⁴ and, in most programs, a technical certificate.⁵

The drive towards improving completion rates—which stood at 70.9 percent in 2008-2009 (overall)—has taken place at the same time as policy makers have sought to raise participation levels in apprenticeships. This has created a degree of tension in the system as the drive to increase participation rates potentially increases (a) the number of employers with little or no experience of delivering apprenticeships; and (b) the range of individual would-be apprentices with respect to, for example, prior educational attainment. Other things being equal, the drive to increase participation rates might be expected to have an adverse affect on completion rates, at least over the short term, until such time as training providers have established the means to cope with the consequences of increased and widened participation in apprenticeships.

Based on a review of existing evidence, an econometric analysis of the Individual Learner Record (ILR) data set (which provides a time series of completion rates according to the characteristics of apprentices and their employers, and the type of apprenticeship), and interviews with key stakeholders, this paper identifies the factors related to relatively high completion rates in England.⁶

Completion Rates in England

There are two principal forms of apprenticeship in England: (Foundation) **Apprenticeships**⁷ where apprentices work towards work-based learning qualifications at a level consistent with National Vocational Qualification (NVQ) Level 2 (which is broadly equivalent to International Standard Classification of Education (ISCED) 3C);⁸ and **Advanced Apprenticeships** leading to work-

⁴ Similar to “Literacy and Essential Skills” in Canada, Key Skills in England are defined as a range of essential skills that are foundational for success in education, employment, lifelong learning and personal development.

⁵ There are many differences between the various apprenticeship frameworks in England. Therefore, it is difficult to define the minimum level of skills that should be present upon completion.

⁶ The full report to the Learning and Skills Council (LSC) of England can be found at <http://www.apprenticeships.org.uk/About-Us/~media/Documents/Completions-Research-Final-Report.ashx> (accessed January 2011).

⁷ Foundation Apprenticeships are referred to as apprenticeships for the remainder of the document but “Foundation” has been retained here to make the distinction between Apprenticeships at Level 2 and Advanced Apprenticeships (Level 3).

⁸ For a description of ISCED, copy and paste this link in your URL line:

http://www.uis.unesco.org/TEMPLATE/pdf/isced/ISCED_A.pdf (accessed January 2011). Apprenticeships do not fit easily into ISCED, but the description above gives an indication of where the two types of apprenticeship fit with respect to international classifications.

based learning qualifications at a level consistent with (NVQ) Level 3 (which is broadly equivalent to ISCED 3B) (usually associated with relatively skilled jobs).⁹ Apprentices work towards completing a “framework,” which relates to working in a specific occupation or sector. Frameworks (collectively defined training occupations) are designed such that apprentices must be able to demonstrate not only occupational competence but also the underpinning knowledge or theory relating to occupational competence in order to successfully complete the apprenticeship. There are currently around 190 apprenticeship frameworks spread across many sectors.

In England, the calculation of apprenticeship completion rates is based on the following definition:¹⁰

The cohort used to calculate apprenticeship framework completion rates includes all frameworks (i.e. the combined grouping of qualifications and not each individual qualification aim) whose planned end date is during the reporting year which were achieved on or before that planned end date, plus any programmes that went beyond the planned end date and were either achieved or withdrawn from (i.e. are not still in progress) in the reporting year. Where a learner transfers to another framework, they are treated as a start on the new qualification and not the old one. Learners who leave their programmes within six weeks of starting are excluded from the calculations. Learners who leave programmes to take up alternative employment are classified as not having achieved.¹¹

Apprenticeship completion rates in England from 2005-2006 to 2008-2009 are presented in Table 1. In 2007-2008, overall completion stood at just under 64 percent with completion rates increasing across both Level 2 and Level 3 apprenticeships and among older and younger apprentices since 2005-2006. It is important to note that, at the beginning of 2008-2009, changes were introduced that affected both the collection of data for the ILR and the definition of completion rates. Hence a degree of caution is required when comparing the

⁹ An apprenticeship would be approximately equivalent to completion of Grades 11–13 in Canada while an Advanced Apprenticeship would be considered similar to some postsecondary education in Canada. More complete descriptions of ISCED levels and equivalent qualifications are shown in Appendix A.

¹⁰ This definition was used for the calculation of completion rates in England until 2008–2009 as a result of changes in the definition of learners and in funding arrangements along with a change in the calculation of success rates.

¹¹ *Post-16 Education: Learner Participation and Outcomes in England 2007/8*, Statistical First Release, DS/SFR1, vol. 2, December 22, 2008.

data for 2008-2009 with earlier years. Nevertheless, the trend in Table 1 suggests that completion rates have been steadily improving over time.

Table 1 Apprenticeship Completion Rates (%), 2005–2006 to 2008–2009						
Age	Level of Apprenticeship	2005–2006	2006–2007	2007–2008	% Point Change 2005–2006 to 2007–2008	2008–2009^{i,ii}
16-18	Apprenticeships (level 2)	51.7	60.1	64.1	+12.4	68.3
	Advanced Apprenticeships (level 3)	44.6	57.0	60.8	+16.3	73.6
	Total	49.6	59.3	63.2	+13.6	69.6
19+	Apprenticeships (level 2)	50.7	59.9	64.6	+13.9	72.8
	Advanced Apprenticeships (level 3)	41.2	55.8	64.3	+23.1	71.2
	Total	46.7	58.2	64.5	+17.7	72.2
All ages	Apprenticeships (level 2)	51.3	60.0	64.3	+13.0	70.4
	Advanced Apprenticeships (level 3)	42.9	56.3	62.7	+19.8	72.1
	Total	48.4	58.9	63.7	+15.3	70.9

Sources: *Statistical First Release DS/SFR1 v2*, December 22, 2008, Table 2 and own calculations (2005–2006 to 2006–2007 figures); *Statistical First Release DS/SFR7*, June 24, 2010, Tables 1.3, 2.3 and 3.3 (2008–2009 figures).

Notes: i) Figures for 2008–2009 are not directly comparable to those for earlier years as the introduction of demand-led funding has changed how data is collected and how funded learners are defined from 2008–2009 onwards.

ii) Learner Responsive success rate data for 2008–2009 were amended following a change in the success rate calculation. More information on this is available at http://www.thedataservice.org.uk/News/20100618_lr_duplicate_records.htm.

While completion rates have been improving—in part due to the introduction of MLP¹²—they have been historically low compared with other countries that have well established apprenticeship systems. Evidence from Australia and Germany suggests that dropout from apprenticeships may be around 20 percent—though there are definitional problems in making comparisons across countries—indicating a completion rate of around 80 percent. A review of completion rates

¹² T. Hogarth and others, *Maximising Apprenticeship Completion Rates* (Coventry: Learning and Skills Council), <http://www.apprenticeships.org.uk/About/Us/-/media/Documents/Completions-Research-Final-Report.ashx> (accessed January 2011).

across a range of European countries suggests that completion rates are, on average, around 75 to 80 percent, once apprentices have completed an initial probation period.¹³

Factors affecting completion rates: A brief review of the literature

A review of the relevant evidence, drawn from a number of countries with established apprenticeship schemes points to four main factors¹⁴ which account for apprentices failing to complete:

- the quality of the work environment
- the quality and volume of training delivered in the apprenticeship
- the characteristics of the apprentice
- the economic environment

A key reason why some apprentices drop out of their apprenticeship is the poor **quality of the work environment**; indeed, recent evidence has shown an “unpleasant working environment” as the single most common reason for apprentices withdrawing from their apprenticeship.¹⁵ Evidence suggests that in some instances apprentices are treated as a cheap source of labour, work in a high pressure environment, and are subject to bullying, all of which lower the probability of apprentices completing their training.¹⁶ Wages are also a contributing factor of dropout. In many apprenticeship systems, apprentice wages are subject to regulation either through collective bargaining or minimum wage legislation, but it is also apparent that employers, especially in more flexible labour markets, are under pressure to recoup the costs of their investment in an apprentice’s training over a short period, sometimes even before the apprenticeship has been completed.¹⁷ This potentially places a downward pressure on apprentices’ wages since this is the most costly aspect of the

¹³ J. West, *Improving completion rates in apprenticeship: a comparative and numerical approach* (London: Apprenticeship Ambassadors Network, 2005), http://www.employersforapprentices.gov.uk/docs/research/Research_1_309.doc (accessed January 2011).

¹⁴ Laporte and Mueller (2011), in this issue of the *Canadian Apprenticeship Journal*, consider similar factors in an interesting analysis of apprentices’ completion behaviour in Canada using data from the National Apprenticeship Survey.

¹⁵ D. Snell and A. Hart, “Reasons for Non-Completion and Dissatisfaction Among Apprentices and Trainees: A Regional Case Study,” *International Journal of Training Research* 6(1) (2008): 44–73.

¹⁶ M. Cully and R. Curtain, *Reasons for New Apprentices Non-Completions* (Adelaide: National Centre for Vocational Education Research, 2001).

¹⁷ J. Mohrenweiser and T. Zwick, “Why Do Firms Train Apprentices? The Net Cost Puzzle Reconsidered,” *ZEW Diskussionspapiere der DFG-Forschergruppe 3468269275* (2008).

apprenticeship borne by the employer. The evidence points to there being a notional reservation wage below which apprentices regard themselves as little more than a cheap source of labour, which contributes to low morale and, eventually, to early exit from the apprenticeship.¹⁸

The training element of the apprenticeship is typically firmly established through regulation. Nevertheless, in many apprenticeship systems, the employer has a degree of latitude with respect to the organization and delivery of any training. It might be expected that employers that provide a relatively poor working environment similarly oversee the provision of relatively poor quality training or actually provide limited or negligible training. It is recognized though, that external training providers are also responsible for the quality of training, especially the off-the-job element.

Evidence suggests that poor quality of training (however defined), or even the lack of training provision, is usually ranked second in terms of its impact on non-completion.¹⁹ An Australian study identified the following aspects of training provision as being associated with non-completion:²⁰

- lack of relevance to activities in the workplace
- failure to offer something new to the apprentice
- lack of qualified trainers with respect to subject knowledge and capacity to train

The importance attached to the quality and volume of training relates to the signal this sends to the apprentice regarding future employment either with the current employer or others. Rigorous, well-structured training provision signals to apprentices that an investment is being made in them that will bring about a positive return with respect to career progression, wage levels, and job security. Without such signals apprentices will, other things being equal, look elsewhere to secure training in order to improve their future labour market prospects.

In analyzing apprenticeships in Britain, it has been noted that it is difficult and costly to monitor training. Thus, unsatisfactory situations that may contribute to

¹⁸ J. Gallacher and others, *Modern Apprenticeships: Improving Completion Rates* (Edinburgh: Scottish Executive Social Research, 2004).

¹⁹ D. Snell and A. Hart, "Reasons for Non-Completion and Dissatisfaction Among Apprentices and Trainees: A Regional Case Study," *International Journal of Training Research* 6(1) (2008): 44–73.

²⁰ R. Harris and M. Simons, "Exploring the notion of retention in apprenticeship," *Education + Training* 47(4/5) (2005): 350–365.

non-completion go unnoticed and unchanged.²¹ Arguably, systems such as MLP provide a means of monitoring training provision, though the emphasis in this case is on the performance of the training provider.

It is not just the actions of the employer and training provider that factor into apprentices dropping out. There is also a need to consider the position of the individual apprentice, including

- personal circumstances, which may lead the apprentice to discontinue the training (e.g. problems at home, health problems)
- socio-demographic and educational characteristics (e.g. gender, age, prior educational attainment, etc.).

While apprentices' personal characteristics are found to have an impact on apprenticeship completion rates, the evidence suggests that these factors are less important in explaining non-completion than are issues related to the workplace and training. Nevertheless, the evidence points to levels of educational attainment being an important determinant of completion, with less qualified entrants being less likely to complete.^{22,23} Gender is also an important factor. Relatively high non-completion rates have, for example, been observed where female apprentices train in a typically male occupation.²⁴ The evidence also points towards young people having problems at home, becoming ill, or becoming pregnant, all being related to non-completion.²⁵

It is likely that the personal characteristics of apprentices and their conditions of work and access to high quality training are inter-related, though the research evidence to date has tended not to consider these issues in tandem. This might manifest itself in, for instance, less qualified young people being less likely to find high quality apprenticeships with employers committed to the provision of high quality training linked to some form of career progression beyond completion of

²¹ P. Ryan, "Apprenticeship in Britain: Tradition and Education," in *Analysen zur Vorbildfunktion von Berufsbildungssystemen und berufsbildungspolitischen Entwicklungsperspektiven*, ed. T. DeiBinger (Baden-Baden: Nomos, 2001).

²² M. Cully and R. Curtain, *Reasons for New Apprentices Non-Completions* (Adelaide: National Centre for Vocational Education Research, 2001).

²³ Laporte and Mueller, "The Completion Behavior of Registered Apprentices: Who Continues, Quits or Completes Programs?" *Canadian Apprenticeship Journal* 4 (Ottawa: Canadian Apprenticeship Forum, 2011).

²⁴ D. Bessey and U. Backes-Gellner, *Premature Apprenticeship Terminations: An Economic Analysis*, Swiss Leading House and the Institute for Strategy and Business Economics, University of Zurich (2007), <http://ideas.repec.org/p/iso/educat/0002.html> (accessed January 2011).

²⁵ T.L. Hogarth and others, *Maximizing Apprenticeship Completion Rates* (Coventry: Learning and Skills Council, 2009), <http://www.apprenticeships.org.uk/About/Us/-/media/Documents/Completions-Research-Final-Report.ashx> (accessed January 2011).

the apprenticeship. The econometric analysis, detailed in Appendix B, is able to some degree to control for the characteristics of both employers and apprentices in estimating completion rates.

Finally, the economic environment also affects completion rates.²⁶ A number of studies have shown that in a labour market with a strong demand for labour, apprentices may be “pulled” out of their program by alternative prospects rather than “pushed” out by the shortcomings of their apprenticeship. A study completed at the end of the 1990s in the UK—at which juncture labour demand was increasing strongly—found that the main reason apprentices dropped out was to take up alternative employment, with relatively few dropouts attributing their decision to leave to the quality of the apprenticeship per se.²⁷ Other studies have pointed to better pay and better prospects with other employers being the main reasons for early exit from an apprenticeship.²⁸ It is not always clear, however, whether apprentices leave to take up apprenticeships with other employers, in which case the impact on completion rates is less than first suggested. These findings also beg questions about the policies and practices of employers with respect to the retention of apprentices in labour markets characterized by excess labour demand. It is apparent that some employers are better able to retain their apprentices despite buoyant conditions in the external labour market. It is also notable that the “pull” factors that result in apprentices dropping out of their program are much less evident in labour markets where apprenticeship acts as a de facto licence to practise. In Germany, for example, apprentices who drop out do not cite the attraction of a job with another employer as the reason for doing so but instead emphasize personal reasons or that they are ill-suited to the occupation in which they are training.^{29, 30}

Weak conditions in the economy drive up non-completion as a result of apprentices losing their job and/or their employer going out of business.^{31, 32}

²⁶ G. Brunello, *The Effect of Economic Downturns on Apprenticeships and Initial Workplace Training: A Review of the Evidence*, IZA Discussion Paper No. 4326 (2009).

²⁷ M. Winterbotham, L. Adams and D. Lorentzen-White, *Modern Apprenticeships: Exploring the Reasons for Non-completion in Five Sectors*, RR217 (London: Department for Education and Employment, 2000).

²⁸ P. Thornhill, *A Study into Reasons for Younger Worker Dropout from Full NVQs/NVQ Units*, Research Report No 298 (London: Department for Education and Employment, 2001).

²⁹ BiBB, “Liste der staatlich anerkannten Ausbildungsberufe,” <http://www2.bibb.de/tools/aab/aabberufeliste.php> (accessed January 2011).

³⁰ J. West, *Improving completion rates in apprenticeship: a comparative and numerical Approach* (London: Apprenticeship Ambassadors Network, 2005), http://www.employersforapprentices.gov.uk/docs/research/Research_1_309.doc (accessed January 2011).

³¹ T. Hogarth and others, *Maximizing Apprenticeship Completion Rates* (Coventry: Learning and Skills Council, 2009), http://www.apprenticeships.org.uk/About-Us/~/_/media/Documents/CompletionsResearch-Final_Report.ashx (accessed January 2011).

Where labour demand is weak, however, there is much less opportunity to transfer their apprenticeship to another employer. In England, provision has been made to allow apprentices to complete their apprenticeship with the training provider if they are made redundant so long as they are near the end of their training program. But those in the early to middle stages of their apprenticeship will effectively drop out if they cannot find another employer with which to continue training. Weak labour demand can have an impact on completion rates insofar as high levels of unemployment in the local labour market can be a disincentive to the apprentice to complete.³³ Apprentices regard the signal sent from the external labour market nihilistically and, because they believe their prospects for employment to be low regardless of their training activity, they may drop out of their apprenticeship. This may well be a marginal effect that effectively pushes over the edge apprentices already dissatisfied with their training.

The role of system effects on completion are also important to consider. In the UK, the apprenticeship is a means of entry to a firm and a job, and the person can then proceed with a change of status and even a change of employer because experience has been gained. As a contrast, in Germany, where completion rates tend to be relatively high, possession of the apprenticeship certificate matters as it is the certificate itself that improves employment chances both within and outside the initial firm.

The factors that have been found to be associated with successful completion emphasize the employer and apprentice's commitment to undertaking the apprenticeship, coupled with an apprenticeship system that meets the needs of both employers and apprentices. Through detailed reading of the literature, the key factors associated with relatively good completion rates are found to include the following:

- **Characteristics of the apprentice**
 - relatively high levels of educational attainment on entry to the apprenticeship
 - an aptitude for the subject studied

- **Employer commitment to the apprenticeship**

³² T. Hogarth and others, *The Equality Impacts of the Current Recession*, EHRG Research Report No. 47 (Manchester: Equality and Human Rights Commission, 2009), http://www.equalityhumanrights.com/uploaded_files/research/47_the_equality_impacts_of_the_current_recession.pdf (accessed January 2011).

³³ D. Bessey and U. Backes-Gellner, *Premature Apprenticeship Terminations: An Economic Analysis*, Swiss Leading House and the Institute for Strategy and Business Economics, University of Zurich (2007), <http://ideas.repec.org/p/iso/educat/0002.html> (accessed January 2011).

- commitment to the principles of the apprenticeship rather than regarding it as a form of subsidized labour
 - appropriate systems for the initial assessment of potential apprentices³⁴
 - close monitoring of apprentices' progression³⁵
 - management and supervisory workforce that is familiar with the apprenticeship system^{36,37}
- **Effective delivery of the apprenticeship by the training provider**
 - provision of adequate information by the training provider to both employer and apprentice about the demands of the apprenticeship before they sign up to participate³⁸
 - training provision is flexible to meet the needs of the employer and the apprentice³⁹
 - recognition by the provider of the special conditions that pertain to certain types of employers, such as small and medium-sized enterprises, which will affect how training can be delivered⁴⁰
 - establishment of a partnership approach between employers, apprentices and providers where each respects the needs of the other

Maximizing Completion Rates

To complement the econometric analysis carried out in the course of the research on completion rates (see Appendix B for details of econometric analysis), interviews were conducted with a range of key stakeholders (employers, training providers, and other stakeholders such as Sector Skills Council (SSC) representatives, LSC apprenticeship managers, etc.) to understand more fully the factors associated with successful completion of an apprenticeship. The responses help provide a more detailed assessment of such factors and shed light on factors that were not identified in the econometric

³⁴ M. Hughes and H. Monteiro, *Increasing Flexibility in the Delivery of Apprenticeships*, (London: Learning and Skills Development Agency, 2005).

³⁵ J. Maynard and V. Smith, *Practical Ways of Improving Success in Modern Apprenticeships* (London: Learning and Skills Development Agency, 2004).

³⁶ H. Steedman, *Benchmarking Apprentices: UK and Continental Europe Compared*, (London: Centre for Economic Performance, London School of Economics and Political Sciences, 2001).

³⁷ J. Maynard and V. Smith, *Practical Ways of Improving Success in Modern Apprenticeships* (London: Learning and Skills Development Agency, 2004).

³⁸ Quality Improvement Agency, *Assessing the Reasons For Improvements in Apprenticeship Completions* (Coventry: Quality Improvement Agency, 2007).

³⁹ Ibid.

⁴⁰ S. Johnson and D. Devins, "Training and Workforce Development in SMEs: Myth and Reality," *SSDA Catalyst* 7 (2008).

analysis due to data limitations, particularly with regard to employer characteristics. All of the key stakeholders interviewed were currently involved in the delivery of apprenticeships, either at a strategic level or in day-to-day delivery.

Using a semi-structured interview schedule, respondents were asked what factors they considered to lead to apprentices failing to complete, what factors encouraged apprentices to complete their training, and what changes, if any, to the current apprenticeship system could improve completion rates. As experienced participants in the apprenticeship system, they were well placed to provide expert testimonies and useful insights.

The information gathered through the interviews was analyzed using a framework that categorized the factors found to be influential for completion/non-completion of apprenticeship into two groups:

- **External factors:** over which employers and apprentices have little control (e.g. conditions in the external labour market, quality of training supply and sectoral specificities)
- **Internal factors:** within the scope of employer and apprentice influence (e.g. characteristics of the apprentices, quality of training providers, management of the apprenticeship)

The typology of factors affecting completion is outlined in Table 2. While the external labour and training markets play an important role as setting the context in which apprenticeship training takes place and decisions regarding participation are made, such factors are outside the control of apprentices and employers. Nevertheless, the role of these external factors should be considered. In a relatively weak labour market, all else equal, an employer is provided with a better opportunity to obtain a good match with an apprentice who will have the capacity to successfully complete an apprenticeship and contribute to the needs of the business. The apprentice's behaviour over the course of training is also potentially affected by local labour market conditions. The apprentice's wages, for example, relative to the wage for unskilled labour in the local area is likely to influence young people's decisions on whether to take up training through an apprenticeship or enter the labour market without upgrading their skills.

The local training market is also an important factor in determining completion rates. Generally, in established training markets with competition between providers, the infrastructure is already in place to provide apprentices with the training and learning support necessary to complete their apprenticeship. There is a danger that standards are not as high in areas with little training provision or with less competition between providers.

Table 2 Typology of Factors Affecting Apprenticeship Completion

EXTERNAL FACTORS		INTERNAL FACTORS		
Positive	Negative	Inputs	Processes	Outcomes
Labour demand		Apprentice capability (e.g. qualifications on entry; initial motivation and aptitude)	Management of the apprenticeship (e.g. being able to validate acquired prior learning (APL) exemptions)	Continued employment Is continued employment in workplace conditional on completing?
Excess labour demand increases competition for would-be apprentices	Weak labour demand: fewer alternatives to apprenticeships	Employer commitment (e.g. willingness to take on obligations of apprenticeship training)	Academic support (e.g. assisting the apprentice to meet the Key Skills requirement)	Licence to practice Is there a de facto licence to practise in sector or occupation linked to completing apprenticeship?
Training supply		Training provider capability (e.g. capacity to deliver well-designed courses)	Pastoral support (e.g. assisting with the transition from school to work)	Progression Is there a clear pathway from Level 2 to 3, and then onwards through either the company or education system?
Strong, competitive training market drives up quality and by implication completion rates	Limited or weak supply especially in new areas of activity may compromise quality standards and completion rates		Framework structure and delivery (e.g. flexibility, design, pathways)	
Sectoral specificities			Structure of funding (e.g. how much funding is held back for completion)	
Whether there is a tradition of apprenticeship training and accompanying support networks and infrastructure	Where no history of apprenticeship training, support mechanisms unlikely to be established			

Source: Hogarth et al., 2009

The sector in which a business operates and in which an apprenticeship is provided may also affect completion. This is particularly true where a sector is relatively new to apprenticeship training. Where there is little or no tradition of training or support mechanisms across a sector, the ability to improve completion rates is constrained. Other factors that are largely beyond control that may bring about non-completion of apprenticeships include apprentice ill health and redundancy.

The internal factors that affect completion rates arise from i) the inputs to the process, ii) the actual process through which the learning is delivered to the apprentice, and iii) the outcome of the process of apprenticeship training. The system inputs encompass the quality of the apprentice, employer and training provider and how their quality affects the likelihood of successful completion. The interview responses highlighted the need for rigorous selection and recruitment processes in taking on apprentices and ensuring a good match between the capabilities of the apprentice and the needs of the business. Some employers requested the parents of the would-be apprentice to be involved in the recruitment process since they would need to support their son or daughter over the duration of the apprenticeship.

A number of employers indicated that a key process to ensure completion was to provide full information to apprentices about their roles and responsibilities and the demands of the program before taking them on. In the engineering sector, for example, apprentices who completed the Young Apprentice (YA) scheme⁴¹ were aware of the demands to be made of them during their program, and accordingly, their completion rates were generally higher than for those who had not completed the scheme. There was also a consensus among stakeholders that a partnership between employer, apprentice and training provider was key to establishing explicit agreement on the required levels of commitment from all parties, even before the apprenticeship commences. A number of training providers also expressed that having a direct role in the employer's recruitment of apprentices could help to ensure that apprentices taken on have the capability to complete the program. The idea of partnership would ideally involve this role for training providers but in practice this was not found to be the norm.

The process issues that affect completion rates arise once an apprenticeship begins. These include i) the management of the apprenticeship, ii) the academic

⁴¹ YA allows 14- to 16-year-olds to study for vocational qualifications while continuing their mainstream education, by following a program of study with an employer, training provider or college (or any combination) using portfolio work and work experience. The YA scheme gives young people a "taste for real work," with support, and potentially lays the foundations for a post-16 apprenticeship.

and pastoral⁴² support provided to the apprentice, and iii) the structure and flexibility of delivery of the framework. A concern regarding the verification of acquired prior learning (APL) was reported to be the most significant management issue affecting completion. APL is the system that identifies whether the prior educational attainment of apprentices will exempt them from certain elements of training, such as the Key Skills test that assesses their literacy and numeracy, because apprentices have already achieved that level of competence as evidenced by the qualifications they already hold. The verification of APL was a cause of non-completion where the training provider sought verification of the apprentice's qualifications well into the apprenticeship. Where apprentices could not provide the supporting evidence, they were then required to write a Key Skills test. Some apprentices were resistant to this and dropped out rather than engage in the training required before the Key Skills test could be taken. Such resistance is thought to stem from apprentices viewing this training as akin to the type of learning they had undertaken in secondary school, from which they thought they had escaped through an apprenticeship.

Academic and pastoral support for apprentices was widely agreed to be an important factor in ensuring completion, particularly for those apprentices aged 16 to 17 who had just left school. Employers and training providers reported that the transition from school to work was littered with temptations, especially since apprentices had their wages to spend. Accordingly, there was a need to help keep them from going off the rails. As well as providing support with respect to learning and work issues, the employer's pastoral role was also an important source of support to apprentices with problems in their personal lives.

Academic support was reported to be most effective where partnerships between training providers and employers resulted in a regular flow of information between the two regarding the apprentice's academic progression toward completion. Often, it was reported, communication could break down between the training provider and the employer such that problems were not exposed until it was too late to remedy them.

Stakeholders pointed to the need for training providers to be flexible in their provision of training to employers and to recognize the constraints some employers operated under. This was commonly expressed with respect to small and medium-sized enterprises and their reluctance to allow apprentices to attend training off site. Nevertheless, stakeholders clearly recognized the potential

⁴² Pastoral support considers issues beyond academic concerns, providing support in relation to learners' personal and social well-being. Such support is considered by many employers to be fundamental in ensuring a successful transition of young people from school to work.

tension that existed between maintaining standards, as specified in the relevant frameworks, and the flexible provision of training to employers.

Finally, the structure of funding apprenticeships was reported to have at least some influence on completion rates. Part of the funding training providers receive is output-related—that is, a certain element of funding is withheld until such time that the apprentice has completed the apprenticeship. Funding may become an issue for apprentices whose completion is considered to be running between agreed upon schedule. Training providers are required to visit apprentices periodically—typically once every 12 weeks—to review their progress. Depending upon how far behind schedule the apprentice is running, the situation may arise where the costs to the training provider of visiting the apprentice are greater than the income the training provider will receive upon completion.

The interviews with key stakeholders also highlighted the importance of outcomes. A clearly established link between the job and the relevance of the training is considered to be a major motivating factor for apprentices. Completion rates tended to be higher in sectors such as the gas industry, for instance, where completion of the apprenticeship is a requirement to work in the industry in a given occupation, that is, where completion is close to being a de facto licence to practise. Progression beyond the apprenticeship is also considered to be an incentive to complete. In some instances, interviewees were of the opinion that the lack of obvious educational pathways after apprenticeship completion had a negative influence on some apprentices' motivation to complete. Apprentices will drop out and instead take a learning pathway that provides a further range of learning options once the initial learning or training has been completed. Some employers tried to counter this by clearly indicating to apprentices at the recruitment stage and throughout the apprenticeship the range of options available to them once they complete the apprenticeship. This included, in sectors such as engineering, the option to take further courses that would lead to a higher education qualification and access to a managerial job with the company.

The study took place at a time when the UK economy had begun to slow quite rapidly, before eventually entering recession. Accordingly, many stakeholders were aware that apprenticeships were not being completed because apprentices were being made redundant or their employer was going out of business. Such external shocks as a consequence of an economic downturn are beyond the control of employers and learning providers, but their effects on apprenticeships are significant.

Conclusions

Significant increases in the completion rates of Apprenticeship and Advanced Apprenticeship have been witnessed in recent years, but the overall completion rates in England remain lower than those found in other European countries with substantial apprenticeship systems. While the analysis reported here highlights a number of issues affecting completion rates that are not readily influenced by policy or by the actions of key stakeholders, such as the effects of the severe downturn in the UK economy, there are still a significant number of factors that are open to influence by policy in order to achieve greater rates of completion.

Table 3 summarizes, respectively, the factors that tend to result in apprentices not completing and those that tend to result in them successfully completing. To some extent, the factors associated with completion may seem rather obvious, and while this may be a fair comment, it is apparent that what might be considered good practice is not always adhered to by the range of actors involved in the delivery of apprenticeships. Rigorous recruitment processes are seen as essential to achieving high completion rates—would-be apprentices need to have an interest in the occupation they are about to enter and be aware of the level of commitment they will have to make if they are to gain apprenticeship accreditation.

Table 3 Factors Associated with Dropout and Completion of Apprenticeships		
	Factors Related to Non-Completion	Factors Related to Completion
Individual characteristics	<ul style="list-style-type: none"> • Ill health • Pregnancy • Dismissal • Mismatch between capabilities of apprentice and the apprenticeship • Redundancy 	<ul style="list-style-type: none"> • Good aptitude for chosen framework • Good educational qualifications
Employer features	<ul style="list-style-type: none"> • Mismatch between needs of employer and apprenticeship requirements • Limited experience with apprenticeships • Limited commitment • Not providing sufficient time for training and learning 	<ul style="list-style-type: none"> • Rigorous recruitment processes • Involvement of parents in recruitment • Partnership between apprentice, employer and training provider • Clear linking of training to current and future job within company

		<ul style="list-style-type: none"> • Requirement to complete apprenticeship for future employment • Linking apprentice wage increases to apprenticeship milestones
Provider characteristics	<ul style="list-style-type: none"> • Insufficient monitoring of apprentice's progress • Insufficient liaison with employer • Poor management of program • Poorly designed courses 	<ul style="list-style-type: none"> • Partnership with employer • Flexible provision to meet needs of employer and apprentice • Good course design • Continuity of staff (develops relationship with employer) • Timely monitoring of progress
System features		<ul style="list-style-type: none"> • Linking funding to completion • Inspection by Ofsted and introduction of MLP

Source: Hogarth et al., 2009

Once the apprenticeship has begun, the apprentice's progress needs to be monitored by the employer and the training provider to ensure that the apprentice is meeting the standards required both in the workplace and in the training. As noted above, sometimes there is insufficient communication between the employer and the training provider such that the employer is not aware that the apprentice is struggling to meet the required academic standards, and the trainer is unaware that the apprentice is struggling to carry out the job in the workplace. There is also an important pastoral role for both employers and training providers to ensure that the problems the apprentice may be facing outside of the apprenticeship do not affect his or her progression.

While the features of the system described above constitute good practice that many employers already adhere to, it needs to be borne in mind that there has been a commitment in countries such as England to increase participation rates in apprenticeships. This is part of a process to provide an attractive, high quality vocational alternative to the academic pathway for those leaving the compulsory education system. There is a need therefore to put in place safeguards within the system to ensure that what might be loosely termed non-traditional apprentices or apprenticeship employers are suitably supported. "Non-traditional" refers to a group of learners or employers who have historically not engaged in

apprenticeship. These will form an important part of any growth in the number of apprenticeships. If they are to achieve completion rates similar to those of their more traditional counterparts, there needs to be a set of policies or practices ensuring that they do so. There are system features such as providing financial incentives to bring about successful completion, and introducing effective monitoring so that problems are spotted early enough that they do not result in apprentices failing to complete. There is also a need to ensure that existing good practice is either codified into the regulations governing the apprenticeship system or that they are effectively communicated to all key actors.

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APPENDIX A: Apprenticeship ISCED and equivalents

Table A1 Education Level Equivalents for Apprenticeships in England				
Apprenticeship Program in England	National Vocational Qualification (NVQ)	International Standard Classification of Education (ISCED)	ISCED description	Canadian Equivalent (approximate)
Apprenticeship	NVQ Level 2	3C	(Upper) Secondary education: giving access to labour market, level 4 (postsecondary non-tertiary education) programs or other level 3 programs	Grade 11–13
Advanced Apprenticeship	NVQ Level 3	3B	(Upper) Secondary Education: giving access to level 5A/5B (first stage of tertiary education) programs	Some post-secondary education (non-graduate)

APPENDIX B

Econometric analysis of the Individualised Learner Record (ILR)

Along with the interviews with stakeholders and review of the literature examined in the main body of this article, the authors carried out a multivariate analysis of the Individualised Learner Record in order to further investigate the association between apprenticeship completion and a number of factors.

The econometric analysis used data from the ILR from 2005–2006 to 2007–2008. The ILR contains data on every learner in the further education system in England. It includes comprehensive information on apprentices' personal characteristics and the learning programs in which they have been engaged. There is relatively little information in the ILR, however, related to apprentices' employers and training quality.

A logit model was used to estimate the influence of various factors relating to the individual apprentice, the employer, and the training on the probability of an individual completing an apprenticeship. Explanatory variables were included based on the findings in the literature and underlying theory. Information on the surrounding labour market context of the apprenticeship was not included in the specification as it is absent from the ILR.⁴³ Separate models were estimated for

⁴³ One possible way of controlling for the local (or at least regional) labour market conditions was

Apprenticeship and for Advanced Apprenticeship. The analysis was carried out for each year individually as well as for all years pooled.

Completion of apprenticeship is modelled as a dichotomous variable, C_i , which takes the value of unity (1) if an individual has completed the apprenticeship and zero (0) if the individual has not completed. The completion status is dependent on a number of factors so that

$$C_i = \beta_k X_{ki} + \beta_m E_{mi} + \beta_n T_{ni} + \beta_p L_{pi} + \varepsilon_i$$

where X represents the characteristics (1 to k) of individual apprentice i ; E represents a set of 1 to m employer/job characteristics; T represents 1 to n characteristics of the training, and L represents a set of 1 to p labour market characteristics relevant to apprentice i . ε_i is a randomly distributed error term.

The logit model is used to estimate the influence of the variables contained in X , E , T and L on the probability of C_i being equal to 1, i.e. the probability of apprentice i completing the apprenticeship. The resulting probabilities of completion are presented in Table B1. For presentation purposes, only statistically significant results for all years pooled⁴⁴ for Apprenticeships and Advanced Apprenticeships are shown. The figures shown indicate the likelihood of an individual completing an apprenticeship relative to the likelihood of completion if he or she had the characteristics of the reference group. The reference characteristics are as follows: male, age 16 to 18 years, Caucasian, does not have a learning difficulty, disability or health problem, works in a public sector organization, has attained prior educational attainment at Level 1,⁴⁵ enrolled in a Business Administration framework, funded through the National LSC office, and in the 2004–2005 sample. The estimated probabilities of

to use the relative wages of skilled and unskilled workers in a region. This might influence the probability of completion as such wages would partially represent the alternative outcomes for a learner following completion or non-completion of their apprenticeship. To test for this effect, average hourly wage rates for skilled and unskilled workers by region were obtained from Annual Survey of Hours and Earnings for 2008. When entered into the models of the probability of completion of Apprenticeships, the results associated with these average wage rates vary. While it is likely that regional/local labour market conditions are important in determining completion rates, a simple average of wages is unlikely to fully capture those factors that influence learners undertaking Apprenticeship programs. More complete information regarding the alternatives in particular industries and occupations is required but is not readily available and so is a point of interest for further investigation.

⁴⁴ Dummy variables for the individual years were included in the pooled analysis. The estimates for these have been omitted from Table A1 to facilitate clear presentation.

⁴⁵ As classified by the 1997 International Standard Classification of Education (ISCED). For a description of ISCED, see

http://www.unesco.org/education/information/nfsunesco/doc/isced_1997.htm (accessed January 2011).

completion are based on an individual having only one particular characteristic different to the reference categories. To illustrate, an individual with characteristics falling only into the reference categories (see above) has an 86.2 percent chance of completing an Apprenticeship. If the person is 25 years of age or older (rather than aged 16 to 18 years) with all other characteristics the same as in the reference case, he or she will have a greater chance of completing—90.2 percent. Similarly, a person with the reference characteristics has a 66.7 percent probability of completing an Advanced Apprenticeship while an individual with the same characteristics other than undertaking a program in Engineering (rather than Business Administration) has only a 64 percent chance of completion.

Table B1 Probability of Completion of Apprenticeship and Advanced Apprenticeship Based on Logit Estimates		
	Apprenticeship	Advanced Apprenticeship
Probability of completion for reference case (i.e. Caucasian; male, 16-18 years old, no learning difficulties or disabilities, Business Administration apprenticeship in public sector, funding through national LSC, prior educational attainment at Level 1, 2004-2005 cohort).	86.2%	66.7%
SEX (Reference: male)		
Female	87.9%	67.8%
AGE (Reference: 16-18)		
19-24	--	63.3%
25+	90.2%	57.4%
APPRENTICESHIP FRAMEWORK (Reference: Business Administration)		
Children's Care, Learning and Development	85.2%	49.2%
Electrotechnical	--	57.5%
Engineering	85.2%	64.0%
Retail	81.2%	--
Construction	--	58.6%
Plumbing	85.0%	--
Accountancy	84.5%	--
Hairstyling	--	51.3%
Hospitality and Catering	78.0%	35.0%
Active Leisure	78.6%	--
Automotive Industry	--	63.2%
Health and Social Care	77.0%	42.6%
Management	78.9%	--
Customer Service	83.7%	52.5%
IT user	--	--
Vehicle Maintenance and Repair	79.6%	--
Other	84.1%	54.4%
EMPLOYER TYPE (Reference: public sector organization)		
Small/medium-sized enterprise	80.8%	62.7%
Large organization	82.1%	69.8%
Microenterprise	83.3%	--
Small enterprise	84.0%	69.9%
Medium-sized enterprise	--	--
No employer	83.9%	71.9%
PRIOR EDUCATIONAL ATTAINMENT (Reference: ISCED Level 1)		
Level 2 (Primary education or first stage of basic education)	91.5%	73.6%
Level 3 ((Upper) Secondary education)	92.7%	82.3%
Level 4 (Postsecondary non-tertiary education)	--	--
Level 5+ (Tertiary education)	98.3%	--
Other qualifications	--	75.3%
Entry Level	84.9%	74.1%
Other	87.6%	74.8%
No qualifications	87.0%	75.5%

Notes: The probabilities given for each variable (e.g. female) are based on an individual having characteristics falling into the reference categories for all other variables. Results for yearly dummy variables are not included.

The findings of the analysis suggest some differences and similarities between Apprenticeships and Advanced Apprenticeships. Gender is found to have an impact on the probability of completion of an Apprenticeship, but has less of an influence on Advanced Apprenticeship. Women are more likely to complete their program at both levels than are men. Prior educational attainment is important too in affecting the chances of completion of both types of apprenticeship. Other things being equal, apprenticeships are somewhat more likely to be completed if based in a public sector organization than a private sector one (regardless of size), whereas large private sector employers and medium-sized enterprises have a slight edge in the case of Advanced Apprenticeships. Some visible minorities are found to be somewhat less likely to complete. Having a learning difficulty, disability or health problem carries a greater risk of non-completion of both Apprenticeship and Advanced Apprenticeship.

If the goal is to improve overall completion rates for both Apprenticeship and Advanced Apprenticeship, this could be readily achieved by targeting specific frameworks (such as those found in Engineering, Business Administration, Plumbing, Vehicle Maintenance or Hairstyling) that are associated with relatively higher completion rates (although the gains from this will diminish over time). Similarly, successful promotion of apprenticeships to people over 25 years of age or to employers in the public sector would also raise overall completion rates, while greater selection by employers to restrict apprenticeships to people with levels of prior educational attainment at level 2 or above would have a similar effect. Such an approach would, however, run counter to the notion that it is the demand side (i.e. the employer) that drives participation levels in apprenticeships of different types, rather than current capacity on the supply side.