



National Audit Office

Department for Business, Innovation and Skills
Skills Funding Agency
National Apprenticeship Service

Adult Apprenticeships

Appendices Two to Four

FEBRUARY 2012

Introduction

Adult Apprenticeships: Appendices

1 An apprentice performs paid work while receiving training towards a package of vocational qualifications. The Government has run an Apprenticeship Programme in England since 1994, providing public funding to training providers – mainly private training firms and further education colleges – to deliver off-the-job training. The Department for Business, Innovation and Skills (the Department) and the Department for Education share responsibility for the Programme, with the former leading on apprentices who are aged 19 and over (adult apprentices). The total Programme funding amounted to £1.2 billion in 2010-11, including £451 million (38 per cent) for adults. Our report, *Adult Apprenticeships*,¹ assesses the value for money of the Apprenticeship Programme, focusing primarily on adults (aged 19+).

2 This appendix volume provides supplementary information to accompany our report. Appendix Two² presents information on the apprenticeship systems in Germany and Australia, to provide key international comparisons with the system in England. Appendix Three summarises our assessment of the extent to which the Department, in running the Apprenticeship Programme, has learned lessons from the Train to Gain Programme, about which we published a critical report in 2009. Appendix Four provides a more detailed summary of our methods.

¹ Comptroller and Auditor General, *Adult Apprenticeships*, Session 2010-2012, HC 1787, National Audit Office, February 2012.

² Appendix One (a summary of study methods) is published in the main report.

Appendix Two

International comparisons

1 This section begins by providing a brief overview of the English system of apprenticeships in comparison with those in a range of other countries. It then provides more details on two of these comparator systems, those in Germany and Australia. These have been chosen because they both contrast with the system in England and with each other. The German system is representative of the established apprenticeship model used in Germany, Austria, and Switzerland; the Australian system has more in common in outline with that in England, but still differs in terms of specific features.

The English system in context

2 In brief, some of the key differences and similarities between the apprenticeship system in England and elsewhere³ are as follows:

- **Employer involvement:** A lower proportion of employers offer apprenticeships in England (5 per cent in 2010) than in Australia (30 per cent in 2009) and Germany (24 per cent in 2008). In 2009/10 there were 20 apprentices in England per 1,000 employed people, higher than in Ireland and France, but significantly below Australia, Austria, Germany, and Switzerland.
- **Level of apprenticeship training:** In 2010/11 33 per cent of new apprentices were training at advanced level in England. This is below France (60 per cent). It is difficult to make direct comparisons with other countries.
- **Age of apprentices:** In England in 2010/11, 29 per cent of new apprentices were aged 16 to 18, 31 per cent were 19 to 24, and 40 per cent were 25 and over. The Australian system is similar to this, with (in 2009) some 42 per cent of apprentices aged 25 and over. This contrasts with most other countries under review: in Switzerland, for example, almost all apprentices are aged between 15 and 19; while in France, the maximum age is 25, and the average, 20.

³ The countries included in this review are Australia, Austria, France, Germany, Ireland, and Switzerland. Unless specified, data on these countries are taken from Hilary Steedman, 'Challenges and Change: Apprenticeships in German-speaking Europe', 2011; Hilary Steedman, *State of Apprenticeship 2010*, LSE, 2010.

- Apprenticeship subjects:** Within the top ten most popular frameworks in England in 2010/11 (**Figure 1**), two are very traditional apprenticeship subjects – engineering and hairdressing. The rest are mainly service sector subjects, such as retail and customer service; although subjects such as business administration could be applied within a range of industries, including manufacturing. This is fairly similar to the list of most popular subjects in Australia, Austria, Germany, and Switzerland. The systems in France and Ireland, meanwhile, continue to be dominated by traditional manufacturing and construction sectors. One thing which separates the English and Australian systems from those in Austria, Germany, and Switzerland is the high concentration of apprenticeships within the top ten most popular subjects. In German-speaking countries, the top ten subjects make up a smaller percentage of the whole, suggesting greater diversity of apprenticeship subjects across the system.

Apprenticeships in Germany

3 In 2007, 1.6 million young people were in apprenticeship in Germany, with 40 apprentices for every 1,000 employed people. Two-thirds of German 25 year olds have completed an apprenticeship qualification. Germany operates under a 'dual system' where those choosing to continue their formal education as an apprentice do so in vocational classes as well as in employment. Apprenticeships are the main form of post-compulsory education and training for the 70 per cent of school leavers who do not enrol in higher education. The average age of an apprentice is 19.5 years. In England, only 6 per cent of 16-18 year olds were in apprenticeships in 2010.

Figure 1

Top ten apprenticeship frameworks, England, 2010/11

Apprentice occupation	Percentage
Customer Service	12.0
Health and Social Care	11.5
Retail	9.4
Business Administration	8.6
Hospitality and Catering	6.6
Management	6.4
Children's Care Learning and Development	6.0
Engineering	4.0
Active Leisure and Learning	3.9
Hairdressing	3.6
Top ten frameworks as a percentage of all apprenticeships	72.0

Source: National Audit Office analysis of Statistical First Release, October 2011

4 Apprenticeships are tailored to meet all abilities in Germany: this includes post-A level students and students with no qualifications. It is impossible to directly compare the proportion of German apprentices at intermediate or advanced level with England, as German apprentices are not categorised in this way. However, it has been reported that apprenticeships in Germany aim for an equivalent to advanced level in general, and last on average three years.⁴

5 Under legislation dating from 1969 the Government defines what constitutes an apprenticeship, specifies the length of apprenticeship training, regulates wages, and outlines what each apprenticeship occupation should contain.

6 Apprenticeships are offered in 348 occupations in Germany. The majority (60 per cent) in 2007 were in service sector occupations and the remainder in industrial production. This represents a decline in the proportion of apprenticeships in industrial sectors from 50 per cent in 1980. Within the top ten apprentice occupations in Germany (**Figure 2**), two are specifically industrial occupations (although others, for instance office administration, could be used within industrial firms). The range of occupations is similar to the top ten in England (Figure 1), but one key difference is that the top ten in England make up a much larger proportion of all apprenticeships: 72 per cent, in contrast to 33 per cent in Germany. This suggests training providers in England concentrate on delivering a smaller selection of apprenticeship frameworks.

Figure 2
Top ten apprentice occupations, Germany, 2006

Apprentice occupation	Percentage
HGV Mechanic	4.8
Retail Sales	4.8
Office Administration	3.8
Business Administration	3.3
Mechanical Engineering	3.3
Cook	2.7
Medical Administration	2.6
Hairdressing	2.5
Wholesale and Export Sales	2.5
Sales	2.5
Top ten frameworks as a percentage of all apprenticeships	32.8

Source: Hilary Steedman, *State of Apprenticeship 2010*, LSE, 2010

4 Select Committee on Economic Affairs, *Apprenticeships: A key route to skill*, Fifth Report of Session 2006-07, HL 138-I, para 95

7 Of those who take the final apprentice examinations (written examinations set by the vocational school, oral examination, and a practical test), 86 per cent pass. If this is adjusted to put this on a basis comparable to that used in England, the completion rate is between 75 and 80 per cent. This is slightly higher than the rate in England, which in 2009/10 stood at 75 per cent (for adults).

Funding

8 German firms that recruit apprentices do not receive direct subsidy from public funds. The cost of the one day-a-week training provided in vocational schools is met by the regional education authority. The apprentice has the dual status of student at school and contracted trainee in the workplace. Costs of external assessment and examinations are met by local Chambers of Commerce (or similar organisations) which are funded through a compulsory membership subscription paid by all businesses, whether they are apprentice employers or not.

9 In addition, there are several different types of funding offered in certain circumstances:

- **Financial support** – Apprentices working away from home can receive funding to cover essentials such as accommodation, travel and clothing. This payment is dependent on the apprentice's pay and his/her parental income. Disabled students living with their parents are also eligible for this allowance.
- **Training bonus** – Employers can receive a bonus for taking on young people whose previous employer has gone into liquidation. This payment is made in two installments: 50 per cent on completion of the probation period, and 50 per cent upon registration for final exams. Until 2010 this bonus was also payable to employers which employed young people who had been unsuccessful with their apprenticeship applications in the previous year.
- **External training** – Training providers receive contributions towards providing apprentice pay to disabled and socially disadvantaged apprentices who cannot be given an apprentice position in a firm even with personal support.
- **Introductory qualification benefit** – Firms may offer young people without apprenticeships 6-12 month internships instead. Firms can receive funding towards the wages and social security contributions for these interns.
- **Disability training benefit** – If firms are required to provide additional on-the-job training in order to offer apprenticeships to disabled and severely disabled people, they may be eligible for a contributory payment of typically 60-80 per cent of the apprentice's salary.
- **Non-financial** – There is other non-financial support, such as administrative support to employers taking on apprentices with disabilities. Disabled apprentices can also be supported by a personal mentor.

Apprenticeships in Australia

10 Australian apprenticeships include both traditional apprenticeships in well-established trades and traineeships in other, often more service-oriented, occupations. Traditional apprenticeships generally last three to four years; traineeships (introduced in 1998) for one or two years. Here both traditional apprenticeships and traineeships are referred to as apprenticeships, in accordance with official practice in Australia.

11 The most popular apprenticeships in Australia are service-oriented occupations: business services (19 per cent of new apprentices), retail services (14 per cent) and tourism, hospitality and events (11 per cent). **Figure 3** shows the ten most popular apprenticeships in Australia in 2009. This is similar to England, in terms of concentration of apprenticeships within the ten most popular occupations.

Figure 3

Top ten apprentice occupations, Australia, 2009

Apprentice occupation	Percentage
Business Services	18.9
Retail Service	14.0
Tourism, Hospitality and Events	10.6
Transport and Logistics	8.3
Community Services	6.9
Construction, Plumbing and Services	4.8
Manufacturing	4.1
Automotive Retail, Service and Repair	3.3
Australian Meat Industry	2.8
Asset Maintenance	2.2
Top ten occupations as a percentage of all apprenticeships	75.8

Source: Hilary Steedman, State of Apprenticeship 2010, LSE, 2010

12 Similar to England, a significant number of Australian apprentices are over 25 (42 per cent in 2010). Completion rates for apprenticeships in Australia are lower than in England, running at 48 per cent in 2010.

13 Between 2002 and 2008, the total number of apprentices in Australia increased by 16 per cent. In 2008 Australia had 39 apprentices per 1,000 employed people, compared to 11 in England. While the proportion of apprentices in England has subsequently risen, in 2009/10 it still lagged well behind the Australian figure, at 20 apprentices per 1,000 employed people. Almost a third of Australian employers (30 per cent) employed apprentices in 2009, compared to just 5 per cent of English employers in 2010. Administrative organisation of apprenticeships is generally carried out by private training organisations, with most of the off the job training carried out by publicly-funded further education colleges. Around 14 per cent of apprenticeships are managed by Group Training Companies, organisations which directly employ apprentices and hire them out to small companies for work experience. In England, the National Apprenticeship Service has drawn on this model, and there are a number of pilot Apprenticeship Training Agencies which perform a similar role.

Funding

14 The State and Territories are responsible for managing vocational education. This includes regulating training providers and allocating funds to public and private training providers. They also audit training providers which must meet nationally agreed standards. An Incentives Programme is designed to encourage employers to take trainees; a small proportion of this fund goes directly to apprentices, for instance a 'living away from home' allowance. The Incentives Programme is demand-driven: there is no target or limit for funding through this programme, and all those eligible will receive this funding. Between 1999-00 and 2007-08, expenditure on the Incentives Programme increased by 63 per cent. Over the same period, completions of apprenticeships increased by 64 per cent. The standard incentive payment to employers is \$1250 (approximately £800) to take on an apprentice at intermediate level or below, and \$1500 (approximately £950) for an apprentice at advanced level and above.

Appendix Three

Lessons learned from Train to Gain

1 The Apprenticeship Programme shares similarities with the Train to Gain programme. Established in 2006, Train to Gain's purpose was to improve business performance by providing financial support for employers to train their staff. At its peak, in 2008-09, it cost £887 million. It differed from apprenticeships in that the courses it funded were shorter and less complex. However, the two programmes shared the same basic objectives and delivery model – government funding is given to training providers, who arrange with employers to deliver training to selected employees.

2 In 2009 we issued a largely critical report on Train to Gain.⁵ This found that, in order to increase take-up, eligibility criteria were relaxed, leading to a rapid increase which contributed to the programme's going over budget. This was exacerbated by the Learning and Skills Council lacking centralised and reliable information on providers, especially subcontractors. The skills brokers, employed by the programme to help connect employers and providers, were expensive, costing nearly as much as the training itself. Following our study, and a critical report by the Public Accounts Committee, it was announced at the 2010 Spending Review the programme would be discontinued.

3 **Figure 4** provides a summary of relevant conclusions on Train to Gain made by the Public Accounts Committee, alongside our commentary on how well the Department has applied lessons in the management of the Apprenticeship Programme.

⁵ Comptroller and Auditor General, *Train to Gain: Developing the skills of the workforce*, Session 2008-09, HC 879, National Audit Office, July 2009.

Figure 4

Lessons learned from Train to Gain

Relevant conclusions on Train to Gain from the Report by the Public Accounts Committee

Setting targets for expansion

2 The Department set unrealistically high targets for the first two years. [...] Before it implements future programmes, the Department should require evidence that targets are based on a proper analysis of pilot work.

Avoiding overspends

3 Having encouraged providers to expand rapidly, it was too late to avoid overspending in 2008-09, and the LSC was forced to slam on the brakes for the current year. [...] The Department should require the [...] Skills Funding Agency to develop effective systems and practices for managing demand, and to avoid entering into open-ended commitments with providers.

Managing subcontractors

4 Sub-contracted providers have had the least attention from the LSC, though there is greater risk of fraud. The LSC should strengthen its oversight of subcontracting by improving its information on sub-contractors.

Removing providers with low completion rates

5 Too many providers have been achieving low success rates for their learners. [...] The LSC should begin removing providers with low success rates from the programme.

Focusing the programme on areas with highest benefits

6 The LSC has [...] valuable information on success rates and the employer and learner-evaluated benefits of specific courses and qualifications. It should use this information to focus Train to Gain on training that adds the most value.

National Audit Office commentary on how well the Department has applied lessons in the Apprenticeship Programme

The aspiration to increase adult apprenticeships by 50,000 in the 2010-11 financial year was not unrealistic, given that some 102,800 additional adult starts were delivered in this year.

However, the Department overestimated the resources required to deliver the additional places it required. The additional places were much cheaper than had been anticipated by the Department, partly reflecting the extent to which they were taken up by over-25s, who attract less funding.

In 2010/11, providers were able to spend up to the full value of their adult skills budget, but were not allowed to spend more unless authorised.

The Agency now maintains a register of subcontractors. However, the Agency and the Service consider there remains a significant risk to quality from the use of subcontractors, and are working together to manage it.

The Agency says that providers whose completion rates fall below 50 per cent may be barred from offering apprenticeships. In 2010/11 four providers were barred entirely for a year, while another 29 were barred from offering certain subjects.

Overall completion rates have risen from 47 per cent in 2005/06 to 75 per cent in 2009/10.

The Department's policy is that employers should determine the focus of the training system. The Department aims to facilitate this by giving employers information about the benefits of apprenticeships and quality of different providers.

We found there was variability in the benefits arising from different types of apprenticeship. The Department has not so far attempted to prioritise its spending on apprenticeships likely to yield higher returns, but has now announced its intention to do so.

Figure 4 *continued*

Lessons learned from Train to Gain

Relevant conclusions on Train to Gain from the report by the Public Accounts Committee**Achieving high additionality**

7 The Department and the LSC should identify how they will maximise the extent to which the programme creates additional training.

Improving efficiency of skills brokers

8 Skills brokers [...] are not recruiting enough learners to justify their cost of £112 million by March 2009. [The ...] Department should reduce the size and scope of the brokerage service or refocus its activities.

National Audit Office commentary on how well the Department has applied lessons in the Apprenticeship Programme

The Department does not have an explicit strategy for maximising the additionality of its Apprenticeship funding. It has commissioned research on this issue, to be completed in early 2012.

Partly through targeting its sales operations on larger employers the Service has significantly increased the volume of starts it has generated, despite reducing its administration costs.

In the Train to Gain programme, skills brokers had unit costs of around £810 per employee. It is likely that the unit cost per apprentice of the Service's sales team is somewhat lower, but the Service does not set a unit cost target or measure its actual unit costs.

Source: Public Accounts Committee, *Train to Gain: Developing the skills of the workforce*, Sixth Report of Session 2009-10, HC 248

Appendix Four

Methodology

Analysis of the economic returns on investment

1 We conducted detailed economic and econometric analysis to estimate the economic returns to apprenticeships. First, we estimated wage and employment premiums associated with completion of an apprenticeship. This analysis was conducted using data from the successive Labour Force Surveys from 2004 to 2010. Conducted by the Office for National Statistics, the Labour Force Survey (LFS) involves around 0.2 per cent of the UK population. It contains extensive information about people's involvement in the labour market.

2 We used econometric modelling to examine whether the completion of an apprenticeship tended to result in employees earning higher wages, compared to others with similar characteristics who did not complete an apprenticeship. In particular, we employed an Ordinary Least Squares linear regression model, where the dependent variable was the natural logarithm of gross weekly earnings, and the independent variables included a range of personal, regional and job-related characteristics that were expected to influence the earnings of an individual.

3 We also estimated the employment premium from apprenticeships. Probit regression analysis was employed to examine whether the completion of a Modern Apprenticeship tended to result in a higher probability of being employed compared to others, with similar characteristics, who did not complete an apprenticeship. We estimated a number of employment equations, where the dependent variable was the conditional probability of being employed equal to 1 if an individual has a full-time job, and equal to 0 if unemployed. The independent variables included a range of personal and regional characteristics that were expected to influence the likelihood of being in employment.

4 We then conducted a cost-benefit analysis to evaluate the value for money of the Apprenticeship Programme. To derive estimates of the Net Present Value (NPV) to the economy for adult apprenticeships, we used the cost-benefit model developed for the Department by Cambridge Econometrics and the Warwick Institute for Employment Research.⁶ We updated this model with our new estimates for wage and employment premiums. We also altered the model's assumptions about the spillover effects of apprenticeships (i.e. the extent to which apprentices increase the productivity of other staff in the same workplace). Finally, we incorporated more recent data about:

- the number of apprenticeship starts;
- the gender split of apprentices;
- current and expected retirement ages of apprentices; and
- current wage levels.

5 Using the model, we calculated the NPV by estimating the benefits to the economy from completing apprenticeships over the expected working life of the learner, and subtracting the costs to the economy associated with undertaking these apprenticeships. All future benefits and costs were discounted to calculate their value in present-day terms. This economy-wide NPV figure was then divided by the government costs of apprenticeships to derive the return to apprenticeships per pound of government funding.

6 More detail on this work is contained within a separately published research paper, available on our website: www.nao.org.uk/apprenticeships-2012.

Semi-structured interviews

7 Between June and September 2011, we held 23 interviews with officials from the Department, the Service, the Agency, and the Department for Education. In these interviews we sought systematically to gain information on the following issues:

- The Department's and Service's objectives and long-term strategies for the Programme;
- How the performance of the Programme, and specifically of the Service, is monitored;
- How the Programme is funded, and its financial performance monitored;
- How the Agency manages and audits training providers;

6 <http://www.bis.gov.uk/assets/biscore/further-education-skills/docs/m/11-816-measuring-economic-impact-further-education.pdf>

- How the Department assesses and manages the Programme's value for money;
- How the Service engages with employers;
- How apprenticeship frameworks are designed;
- The value for money of the Service's online Apprenticeship Vacancy Service.

This information helped us both to provide factual descriptions of the Programme and to form the audit opinions in our report.

8 Prior to this we held nine separate meetings with staff from the same bodies to aid our understanding of the Programme and help us scope the terms of our inquiry.

Data analysis

9 We performed a number of analyses of anonymised data on apprentices (chiefly data available from the Statistical First Releases published by the Agency, but also internal management information obtained from the Service). We used these data, for example, to:

- Calculate the rate at which the Programme has been expanding, and analyse rates of growth within different age groups, apprenticeship frameworks, and geographical regions.
- Analyse the share of growth taken up by different frameworks.
- Examine the duration of apprenticeships, and how this has varied over time and between frameworks.
- Analyse the proportion of advanced and intermediate apprenticeships, and how this varies by framework.
- Calculate how many frameworks are offered by how many providers.

Document and literature reviews

10 We reviewed a range of internal government documents, including:

- Minutes from a number of boards and committees providing oversight of the Programme, notably the Apprenticeship Programme Board.
- Management information, including monthly performance reports (for example, on numbers of apprenticeship starters and completers) compiled by the Service.

- Reviews of the National Apprenticeship Service and Apprenticeship Vacancy Service, by cross-government Gateway Review teams, internal audit of the Department and the Agency, and consultants commissioned by the Service.
- Annual report on the findings of the Agency's audits of training providers.

Analysis of this information fed into the questions in our interviews and informed the facts and opinions in our report.

11 We also reviewed a wide range of publicly-available research on the Apprenticeship Programme, which again informed our interview questions and eventual report. In addition to the material we reviewed for our economic analysis (paragraphs 1–6), the key areas of research we examined concerned:

- Overall critiques of the apprenticeship system in England by parliamentary committees, academics, and think tanks.
- Skills needs of the UK economy.
- Perceptions of apprenticeships by learners and employers.
- Payment of contributions towards training costs by employers.
- Additionality of public investment in the Train Gain programme (a similar programme to Apprenticeships).

Site visits

12 We carried out visits to two employers: MINI Plant Oxford (part of the BMW Group), and Damovo UK Limited, an IT services company in Horsham, Sussex. We also visited four training providers: Chichester College, JHP Training, North Warwickshire & Hinckley College, and PETA Ltd. In these visits we also spoke to apprentices in training. In addition we spoke to a number of individuals from training providers at conferences. We used these interviews to aid our understanding of the apprenticeships system in practice, in particular of the relationships between employers, providers, and the Service and Agency.

Stakeholder and expert interviews

13 We spoke to representatives from a number of organisations which have an interest in the Apprenticeship Programme:

- Association of Colleges.
- Association of Employment and Learning Providers.
- CBI.
- Federation of Small Businesses.
- TUC.

14 In addition we spoke to the following academic experts on the subject of apprenticeships: Hilary Steedman, Susan James and Ewart Keep.

International comparison

15 We examined the key features of the apprenticeship systems in other countries, in order to reflect on the contrasts with the Programme in England. Our main source was the report *The State of Apprenticeships in 2010* by Hilary Steedman, which provides an overview of the apprenticeship systems in eight countries.⁷ We supplemented this with information we gathered from inquiries to the German audit office (Bundesrechnungshof) and Australian National Audit Office; as well as with a chapter by Hilary Steedman on apprenticeships in German-speaking countries.⁸

⁷ Hilary Steedman, *The State of Apprenticeship in 2010*, LSE, 2010.

⁸ Hilary Steedman, 'Challenges and Change: Apprenticeships in German-speaking Europe', pp. 93-105, in Tony Dolphin and Tess Lanning (eds), *Rethinking Apprenticeships*, IPPR, November 2011.

