

The Richard Review of Apprenticeships

Background Evidence

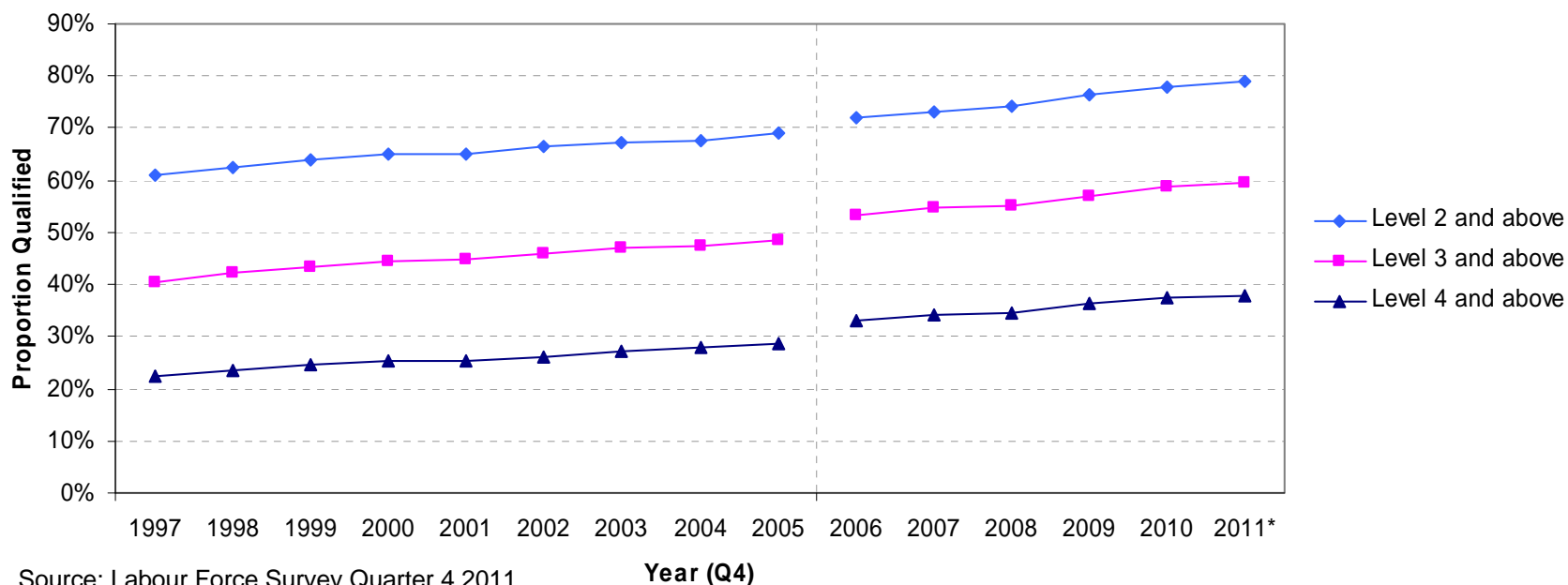
Objectives

- This slidepack set outs what we know about the current apprenticeship programme, based on a variety of evidence about its nature and impact. It considers:
 - Skill levels in the UK, and compared with international competitors (slides 3 – 5)
 - What is an apprenticeship? (slides 6 – 7)
 - What are the characteristics of the individuals and employers who engage with the programme, and what are their motivations for doing so? (slides 8 – 12)
 - What are the benefits of Apprenticeships for learners and employers? (slides 13 – 18)
 - How do these benefits vary by factors such as sector, age, level and prior employment status? (slides 19 – 26)
 - How does our apprenticeship system compare with international competitors? (slides 27 – 28)

The qualifications of the working age population have been improving at all levels over recent years

- Provisional information from the Labour Force Survey (LFS) in Quarter 4 2011 shows that the proportion of working age adults qualified to...
 - Level 2+ (the equivalent of five GCSEs at Grade A* to C) is 78.9%, compared to 71.9% in 2006 – an increase of 7.0 percentage points
 - Level 3+ (the equivalent of two or more A-Levels) is 59.5%, compared to 53.2% in 2006 – an increase of 6.3 percentage points
 - Level 4+ (the equivalent of a Higher National Certificate or Higher National Diploma) is 37.9%, compared to 33.1% in 2006 – an increase of 4.8 percentage points

Percentage of Working Age Adults Qualified

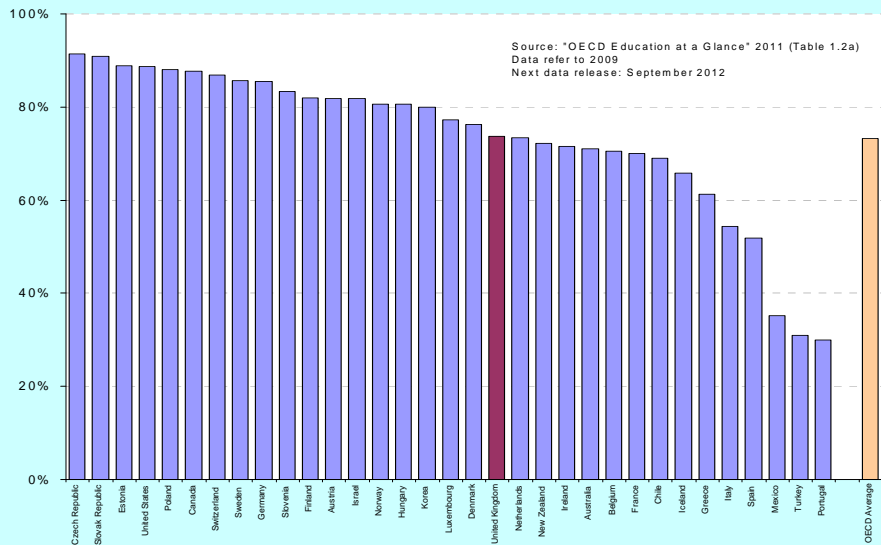


Source: Labour Force Survey Quarter 4 2011

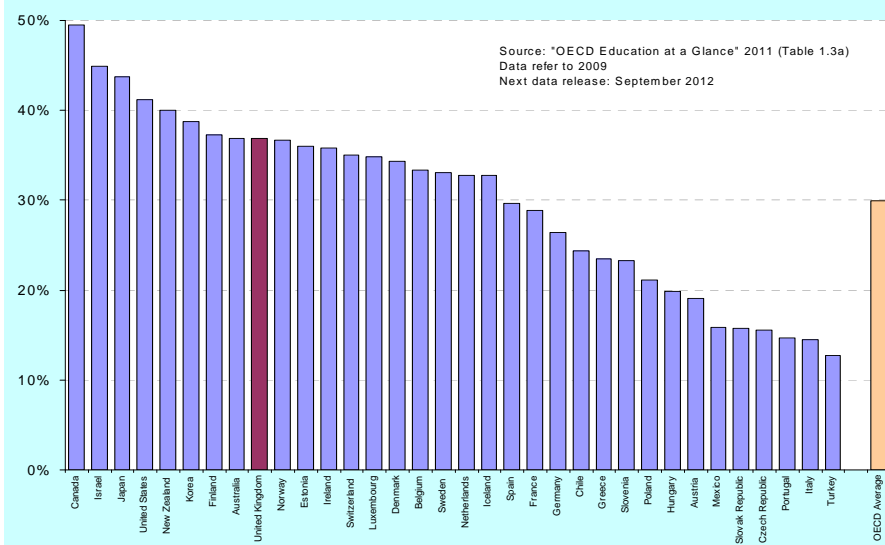
Please note that a change in methodology means that there is a break in the series – figures before 2006 are not comparable to those after

But the UK lags behind international competitors in the skills of the working age population – particularly at the upper secondary level

OECD Upper Secondary



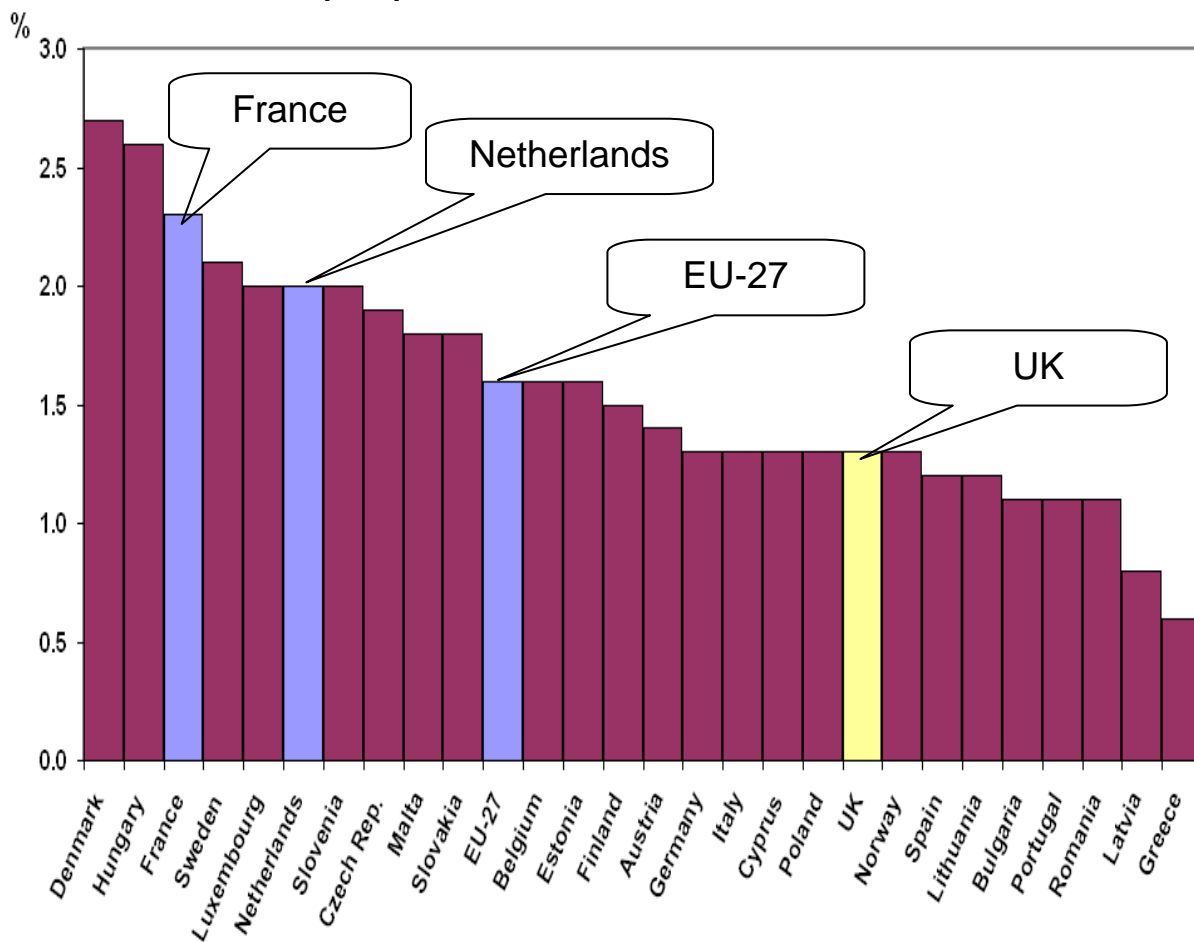
OECD Tertiary



- The UK is currently 9th of 34 in the OECD for the proportion of 25-64 year-olds qualified to at least Level 4 (tertiary). At 37% in the UK, this is above the OECD average of 30%, and the EU-19 average of 27%, but still behind world leaders.
- The UK is currently 19th of 33 in the OECD for the proportion of 25-64 year-olds qualified to at least Level 2 (upper secondary). At 74% in UK, this is just above the OECD average of 73%, and below the EU-19 average of 75%.

And compared with EU counterparts, UK employers' investment in training is relatively low

Cost of continual vocational training courses as a proportion of total labour costs



Compared with our EU counterparts, employer investment in training as a proportion of labour costs is relatively low. This reflects average participation in training, but its relatively low cost and duration

An Apprenticeship is a job with training. This distinguishes it from other types of learning

- The aim of the apprenticeship programme is to improve the skills base of the workforce by supporting young people's entry into work and supporting the existing workforce to upskill and reskill.
- An apprenticeship is a job with training, consisting of a number of different elements:
 - The competency element – such as the apprentice achieving an NVQ
 - The knowledge element – such as a technical certificate
 - Transferable skills – sometimes known as key skills or functional skills – covering such areas as ICT, communication and application of numbers. This also includes personal learning and thinking skills
 - Employer rights and responsibilities – where apprentices demonstrate that they know and understand areas such as employer & employee statutory rights and responsibilities under employment law, health & safety, and equality & diversity for their organisation.

Apprenticeships represent a three-way investment between individuals, employers and the state... reflecting the distribution of the benefits

- To the extent that individuals and their employers benefit from apprenticeships e.g. in the form of **higher earnings** or **increased profits**, then they should contribute to the costs.
- To the extent that there are **wider benefits to the economy as a whole**, then this provides a rationale for government investment.
 - Government intervention is further justified by the presence of other **market failures** such as individuals' difficulties in accessing **finance**, imperfect **information** about the benefits of training and of the different options available, and learners' **aversion to risk**.
- Investment therefore comes from three sources, reflecting the three different parties who benefit...

The **individual** works, often for a reduced wage – a minimum of £2.60 per hour for apprentices aged 16-18 and all of those in the first year of their apprenticeship

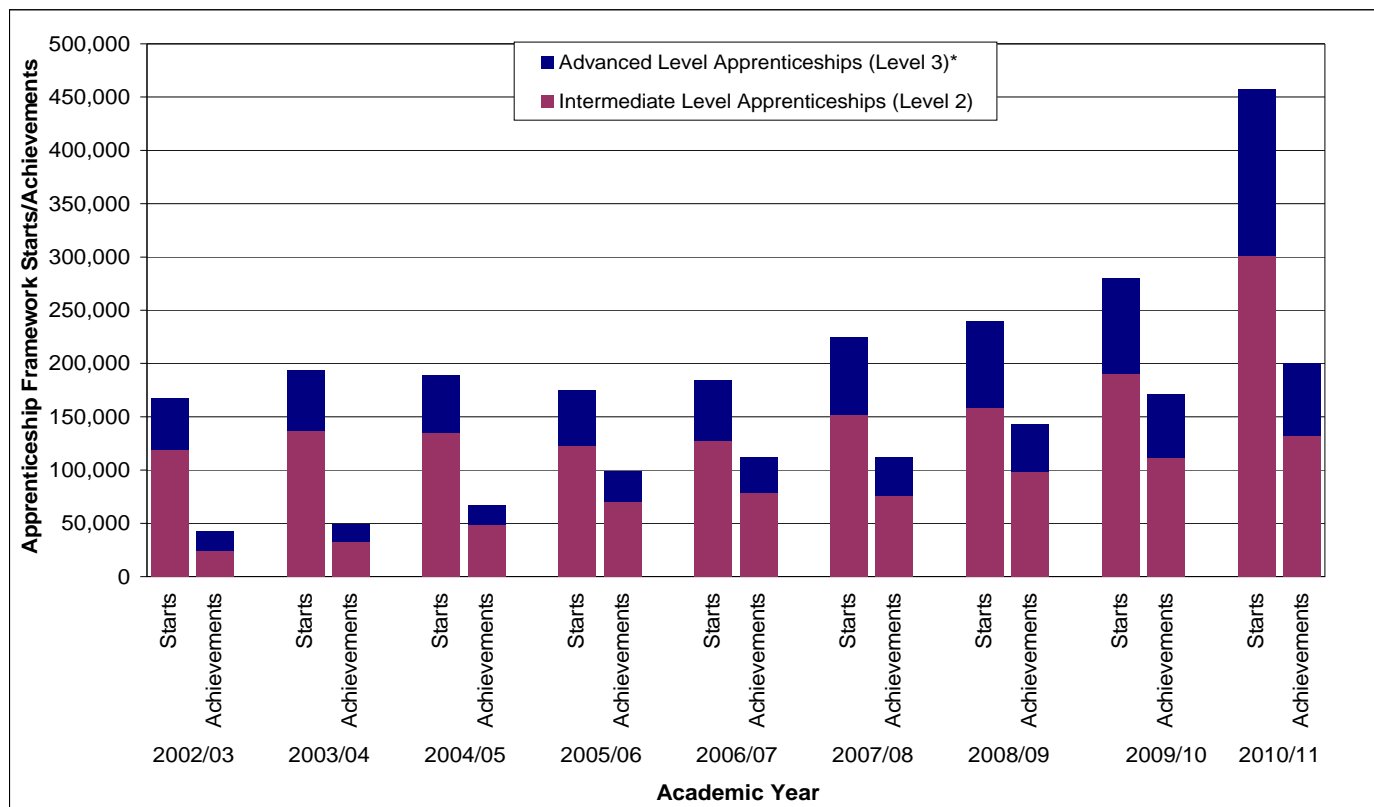
The **employer** offers a paid job, plus training and support for the employee

The **government** funds off-the-job training and promotes & supports delivery; the National Apprenticeship Service leads delivery for BIS and Department for Education (DfE)

- Apprenticeships are fully-funded by government for individuals aged 16-18.
- For apprentices aged 19+, they are co-funded – the government pays half, with an expectation that their employer will pay the remainder.
- But the funding rate is lower for those aged 25+, those in large employers and those with prior attainment
- From 2013/14, loans will be introduced at Level 3 and above, for individuals aged 24+ - to provide learners with the access to finance to cover half of the cost of the apprenticeship. Employers will still be expected to pay the other half.

Publicly-funded starts and completions have been increasing over recent years, with the last two years seeing a particularly rapid expansion

Apprenticeship starts and completions – all ages: 2002/03 to 2009/10



Success rates^{*}** have also been increasing – from 38% in 2004/05 to 76% in 2010/11.

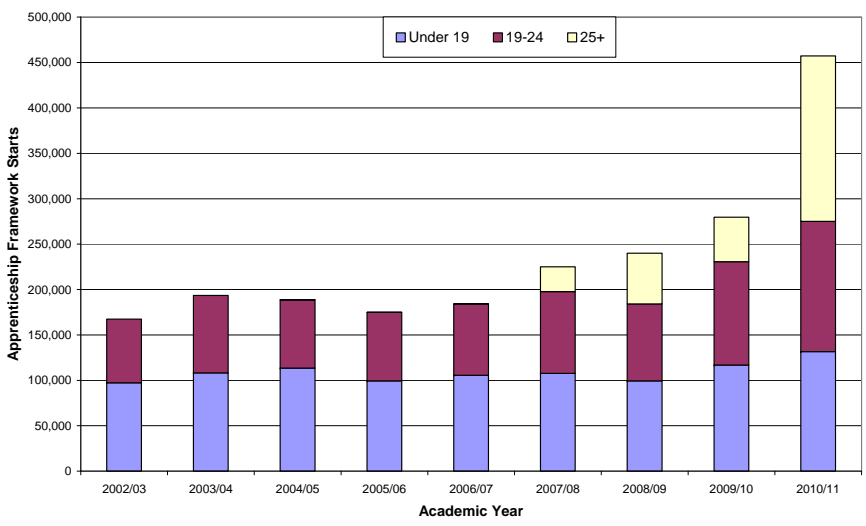
Source: Individualised Learner Record / BIS Statistical First Release

* Advanced Apprenticeship figures include a small number of Higher Level Apprenticeships

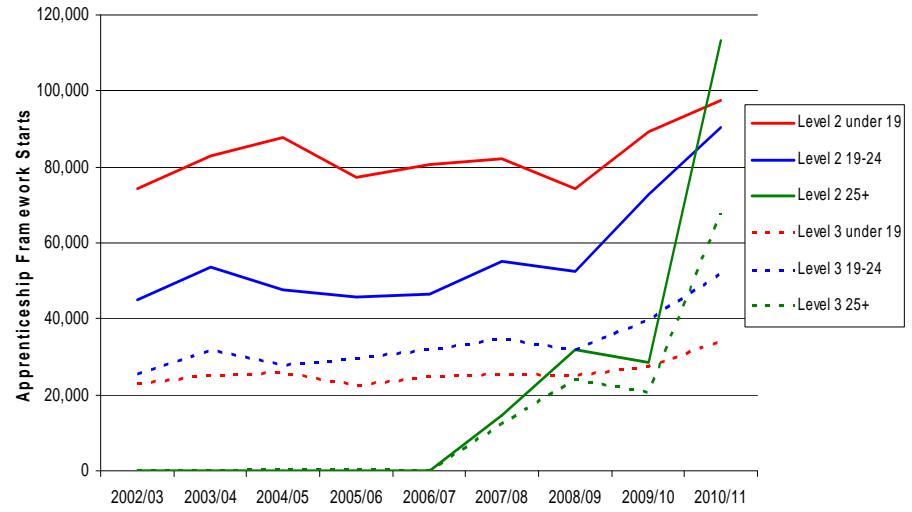
** Apprenticeship success rates are based on the number of learners who meet all of the requirements of their apprenticeship framework, divided by the number of learners who have left training or successfully completed their training in the academic year.

Growth has occurred at all ages and at all levels, but the shape of the programme has changed in recent years

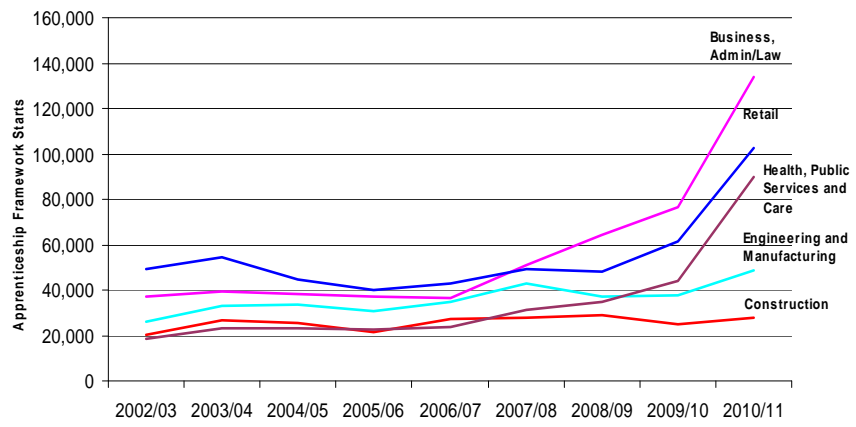
i) Apprenticeship starts by age



ii) Apprenticeship starts by level and age



iii) Apprenticeship starts by subject / sector



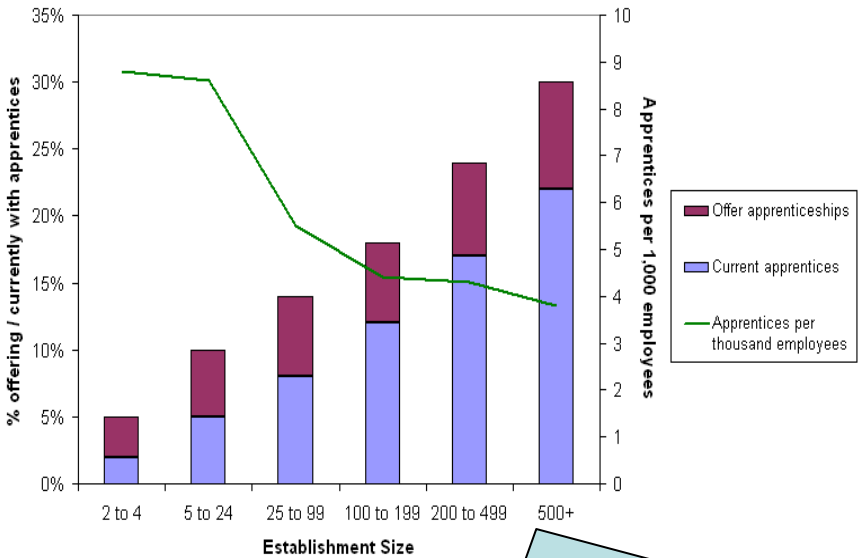
Final data for the full 2010/11 academic year shows:

- i) Starts by those aged under 19 are up by 13% on 2009/10; starts by 19–24 are up by 26%. Government funding for apprentices aged 25+ was introduced in 2007/08, and starts amongst this group were more than three times the number in 2010/11 compared to 2009/10.
- ii) Level 2 starts up by 58% on 2009/10; Level 3 starts up by 76%
- iii) Recent growth has been much stronger in service sectors such as Business Administration and Retail, compared to Manufacturing and Construction

Employer engagement with the apprenticeship programme varies by firm size and sector

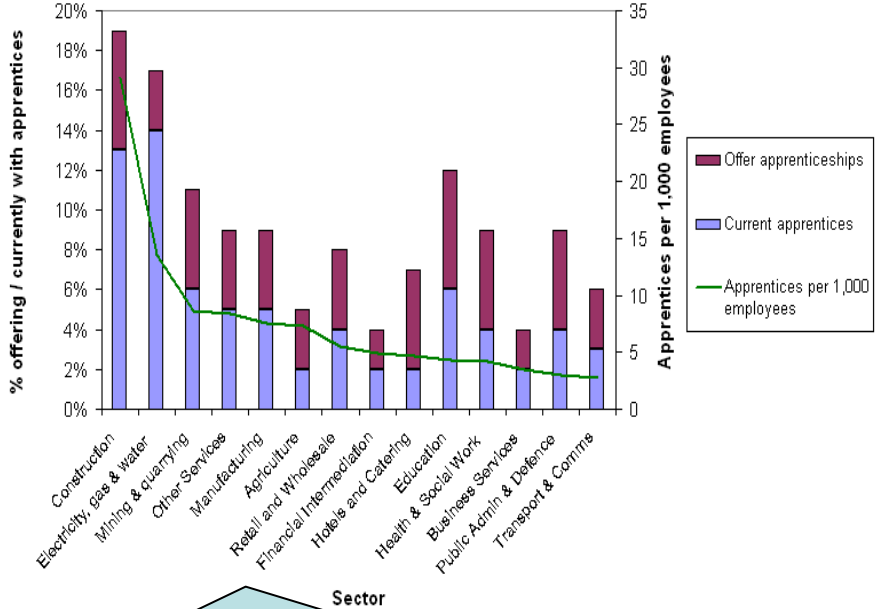
- According to the National Employer Skills Survey (2009), 8% of establishments offered apprenticeships, with 4% employing them at the time of the survey. This survey predates the particularly rapid growth of the programme in the last couple of years.
- Employment of apprentices varies by both firm size and sector...

Employment of apprentices, by establishment size



Although larger employers are more likely to employ apprentices, smaller employers account for a larger share of apprentices than they do of total employment (thus employing more apprentices per 1,000 employees)

Employment of apprentices, by sector



Apprenticeships appear to be more prevalent in sectors such as construction and electricity, gas & water, but this predates the recent expansion and sectoral shifts.

Source: NESS (2009) - Please note that this data is at an establishment, not an enterprise, level (see report for further details)

Individuals and employers engage in the apprenticeship programme for a range of different reasons

Learners

Apprentices were asked which of three key factors was the most important motivation for them in undertaking an Apprenticeship:

- 48% said it was to enter into or progress in their chosen career
- 35% cited the achievement of a qualification
- 13% cited the opportunity to be paid whilst training.

Of those apprentices who already worked for their employer prior to their apprenticeship:

- For 10%, the employer made it a requirement of their job role
- For 20%, their employer strongly recommended it
- For 66%, the decision was largely the apprentice's own

Source: IFF Research (2012a)

Employers

Employers were asked their main reason for starting to offer apprenticeships:

- 27% said they were approached by a training provider
- 12% referred to the need for qualified staff
- 11% said they were approached by another part of the organisation e.g. Head Office
- 10% said an employee enquired about it
- 7% said they had routinely taken on apprentices for a number of years

Motivations also differ according to the age of apprentices:

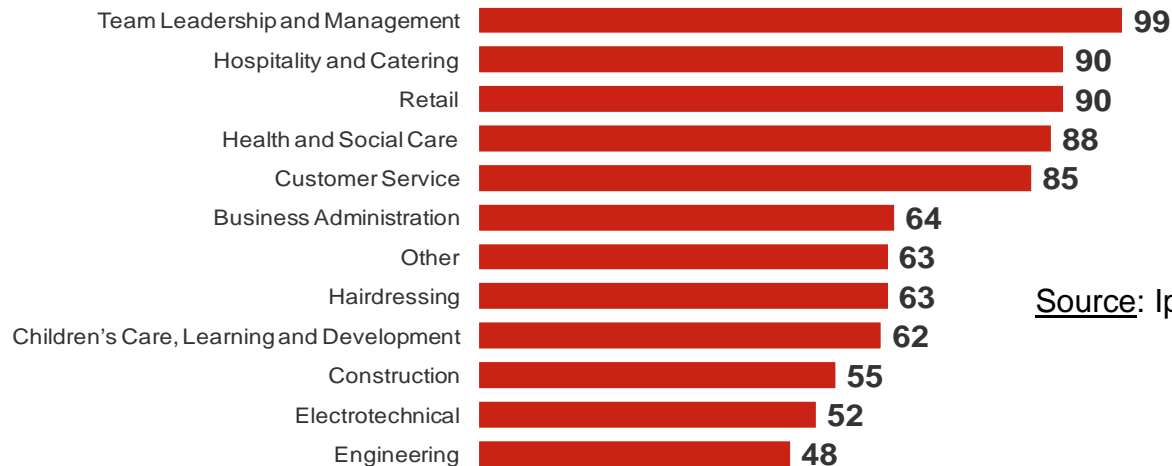
- The most common reasons cited for preferring apprentices aged under 24, are that it is easier to train younger people into their organisation's ways of working (19%) and younger employees being better motivated (11%)
- The main reason for preferring those aged 25+, are employers wanting people with prior experience (29%), older people being more reliable (22%) and employers having a workforce with no young employees (17%).

Source: IFF Research (2012b) and NESS (2009)

In line with the government's commitment to upskill the existing workforce, as well as training new recruits, many apprentices already worked for their employer before starting their apprenticeship

- The government is committed to using the apprenticeship programme both to train new recruits and upskill the existing workforce
- 70% of apprentices worked for their employer prior to starting their apprenticeship; the remainder were new recruits. This appears to have increased from 48% in 2007, and there is also significant variation by sector:

Proportion of apprentices who worked for their employer prior to the start of their apprenticeship



Source: Ipsos MORI (2012)

Base: All English Apprentices (6,140), 1 June to 31st July 2011

IER (2012) suggested that sectors offering initial vocational training to new recruits tend to be those:

- With a long tradition of training in this way e.g. construction, engineering
- With relatively high professional or statutory standards e.g. finance
- Doing so because of corporate social responsibility e.g. business administration

Sectors offering continuous vocational training to existing employees tend to be those:

- Where there is a wish to develop further the skills of employees, sometimes linked to obtaining professional qualifications e.g. financial services, retailing

Apprenticeships deliver substantial wage and employment benefits over the learner's lifetime, comparing favourably with other vocational qualifications

Level	Qualification Type	Wage returns*	Employment returns*
Level 3	Advanced Apprenticeship	22%	14%
	BTEC	20%	8%
	City and Guilds	15%	14%
	RSA	16%	6%
	NVQ/SVQ	10%	15%
Level 2	Intermediate Apprenticeship	12%	10%
	BTEC	12%	9%
	City and Guilds	7%	12%
	RSA	14%	9%
	NVQ/SVQ	1%	13%

* Compared to similar individuals with lower-level qualifications

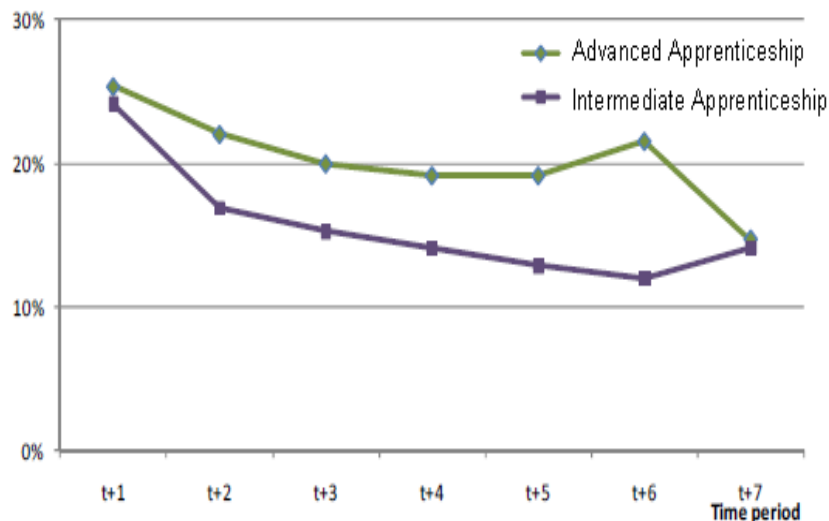
Source: London Economics (2011b)

- This suggests that individuals with an advanced apprenticeship earn, on average, 22% more in employment than similar individuals with Level 2 qualifications. They are also 14% more likely to be employed.
- The higher returns compared to other qualifications are likely to reflect the **package** of components, which are delivered in the **workplace**.

- On average, individuals with an advanced apprenticeship earn between £77,000 and £117,000 more over their lifetime than similar individuals with Level 2 qualifications; those with an intermediate apprenticeship earn £48,000 to £74,000 more than similar individuals with Level 1 or (other) 2 qualifications
- There is some evidence to suggest that returns to intermediate apprenticeships have declined over time, and the difference with advanced apprenticeships has widened e.g. McIntosh (2007) suggested wage returns of 18% and 16% for advanced and intermediate apprenticeships respectively.

Other evidence also suggests that apprenticeships deliver strong earnings and employment returns in the seven years post-completion

Earnings returns for apprenticeship completers, relative to non-completers



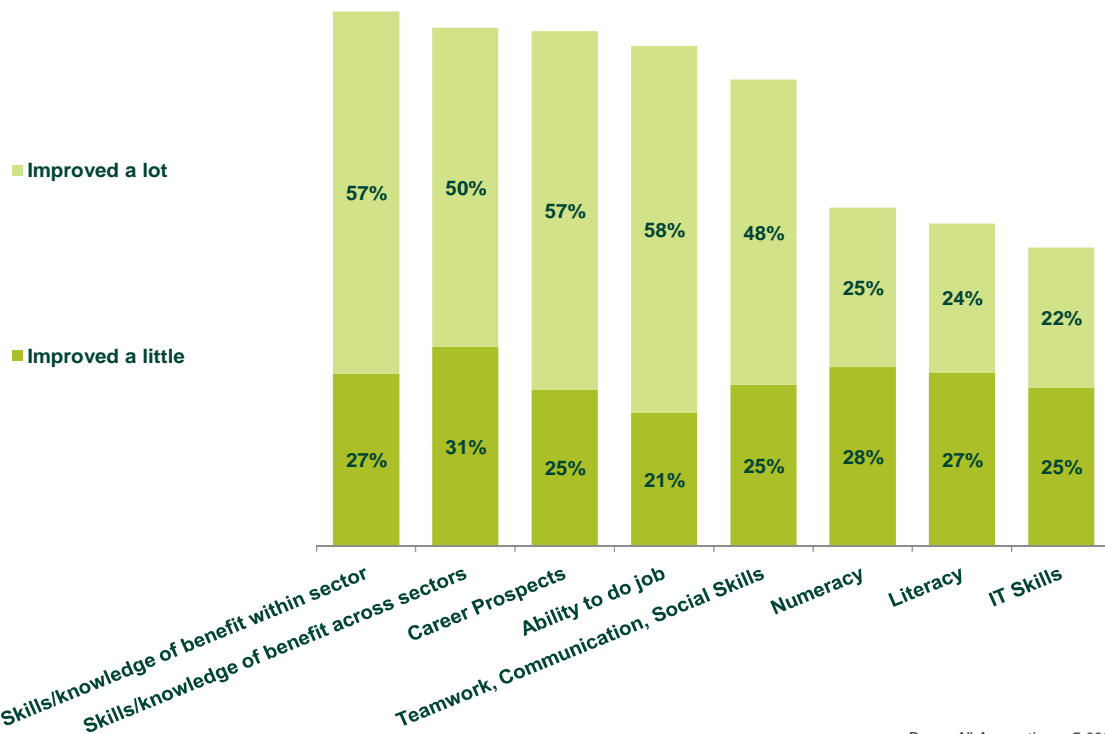
Source: London Economics (2011a)

Those who achieve an apprenticeship earn over 20% more in the first year after completion, relative to those who start an apprenticeship but do not complete. These returns appear to decline over time, but are still in excess of 10% at the end of the seven-year measurement period.

- This analysis also suggests that apprenticeships increased the employment rate – for completers compared to non-completers – by between 4 and 6% for both advanced and intermediate apprenticeships. This benefit is approximately constant over the seven-year measurement period.
- According to IFF Research (2012a), of recently-completed (i.e. within the past year) apprentices, 64% were with the same employer, and in total 85% were employed at the time of the survey. Only 8% were unemployed.

Learners report a range of benefits from apprenticeships – in terms of improvements to their skills and abilities, as well as to their career prospects

Impact of apprenticeships on skills and abilities



Base: All Apprentices - 5,000

Source: IFF Research (2012a)

- Apprentices feel their training has improved their employment skills and abilities – both within the sector in which they work, and across sectors.

- Four-fifths (82%) believed that undertaking the apprenticeship had improved their overall career prospects.

As well as progressing in work, apprentices further develop their skills in a variety of ways

- As well as progression in work, there is also evidence of progression **from intermediate to advanced apprenticeships** and to **higher-level skills**...
- According to IFF Research (2012a), 24% of intermediate apprenticeship completers had already progressed to an advanced apprenticeship around one year after completion, and a further 30% were considering doing so in the future. Amongst those who had completed an advanced Apprenticeship, 5% had already started a higher Apprenticeship, with a further 33% considering doing so in the future.
- Looking at the 2005-06 cohort of advanced apprenticeship completers, although only 5.3% progressed to Higher Education in the year after completion, this increased to 13.1% over a period of four years. Furthermore, progression rates seem to be increasing over time.

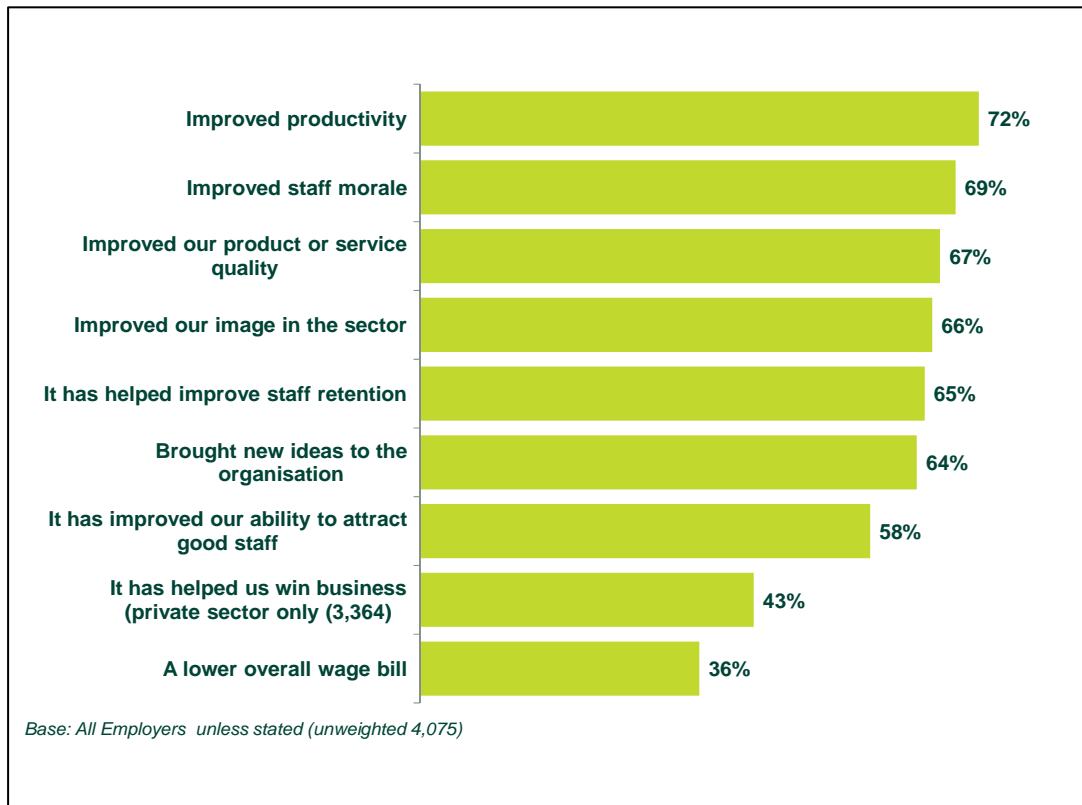
Progression to Higher Education Over Time

	Year tracked to...				
Completion Year	2006-07	2007-08	2008-09	2009-10	All
2005-06	5.3%	2.5%	2.5%	2.4%	13.1%
2006-07		5.4%	3.2%	3.0%	11.6%
2007-08			6.3%	4.5%	10.8%
2008-09				6.8%	6.8%

Source: Smith and Joslin (2011)

Employers report a range of benefits from investing in apprenticeships – including increased productivity and improved product quality

Employer benefits experienced as a result of training through Apprenticeships



- IER (2012) suggested that it takes, on average, around **one to two years** for employers to recoup their initial investment in an apprenticeship.

- This ranges from around three years in engineering to under a year for business, administration, hospitality and transport. But this should be considered in light of the differences in costs between sectors (see slide 20)

Source: IFF Research (2012b)

As well as benefits to apprentices and their employers, there are also benefits to the wider economy

- There is evidence of **productivity ‘spillovers’** to those not directly engaged in the learning. These may occur through:
 - **Knowledge transfer** from one individual to another
 - **Research and Development** or the adoption of new technology
 - Creating a **pool of skilled labour** from which other firms can recruit.
- Although there is a lack of empirical evidence specific to apprenticeships, there is substantial evidence on ‘spillovers’ from training generally:
 - Firms operating in **high skill areas** tend to have **higher productivity** than firms with a similar skill profile, but operating in a low skill area (Galindo-Rueda & Haskel, 2005)
 - Workers’ own wages are positively affected by the **average level of education** in their industry or organisation (Kirby and Riley, 2007)
 - An increase in training investment (an extra one percentage point of the workforce being trained in a sector) leads to an increase in wages in the sector of 0.3% and an increase in value added of about double, i.e. 0.6%. As a sector-based analysis, it suggests that **benefits accrue to firms outside of those providing training** (Dearden et al, 2005)
 - Wage gains from employer-provided training are large, and remain almost as large even with **subsequent employers** (Blundell et al, 1999)

The nature of training varies considerably across the programme (e.g. by sector), but there is evidence that a minority of apprentices may not be receiving enough training, or training of insufficient quality

- There are a variety of different delivery models – the nature of training varies considerably across the programme e.g. by sector, given the need for flexibility, and includes a range of methods of teaching and delivery to suit different employers' and learners' needs.
- But two surveys carried out last year suggest some apprentices may not be receiving a sufficient amount or quality of training

Apprenticeship Pay Survey 2011 (Ipsos MORI, 2012)

- 46% of apprentices say they receive **off-the-job training** – defined as training away from everyday work, including courses, workshops, training sessions, distance learning, Workbooks, CD-ROMs.
 - This has declined – from 57% in 2007
 - This varied from 58% in 'Children's Care, Learning and Development' and 'Electrotechnical' to only 24% in 'Retail'
 - Those who did some off-the-job training, spent an average of 6 hours per week doing so
- 69% of apprentices reported doing **on-the-job training**, defined as where someone provides advice, shows you how to do something or coaches you whilst you are doing your everyday work:
 - This has declined – from 83% in 2007
 - This varied from 83% in 'Construction' and 'Electrotechnical' to only 52% in 'Retail'.
 - Those who did some on-the-job training, spent an average of 12½ hours per week doing so
- But some of those who report receiving no training may actually do so – they may just not perceive it as such. BIS has commissioned follow-up research to explore this further.

Apprenticeship Learner Evaluation Survey 2011 (IFF Research, 2012a)

- 76% of apprentices report receiving **formal training** – defined as going to a college or an external training provider to receive training, or formal training sessions at the workplace from either their employer or training provider, separate to any training on-the-job
- 15% report receiving **informal on-the-job training** (but no formal training)
- 5% report **filling in a portfolio**, but receiving no training
- 3% **study in their own time** (but reported none of the above)
- 1% report **none of these**

➢ But due to the timing of fieldwork, neither survey will capture the impact of **SASE**, which sets minimum guided learning hours for apprenticeships (see slide 21)

Differences in training across and within sectors are also reflected in varying levels of employer investment

- The net cost figures below are calculated by summing all of the **employers' costs** – including the wages of apprentices, the costs of training materials and courses, costs of supervision whilst learning on-the-job and the costs of organising training.
- From this, it subtracts the **benefits** the employer derives **during the training period** – i.e. the productive contribution of the apprentice whilst training.

Employers' Net Training Costs

	Intermediate	Advanced	Combined
Engineering			£39,600
Construction			£26,000
Retail	£3,000		
Hospitality	£5,050		
Transport & Logistics	£4,550		
Financial Services	£7,250	£11,400	
Business Admin.	£4,550		
Social Care	£3,800		

Source: Warwick Institute for Employment Research (2012)

• Sectors such as engineering and construction, which typically provide **structured, formal training** delivered over a three to four year period, record the highest net costs.

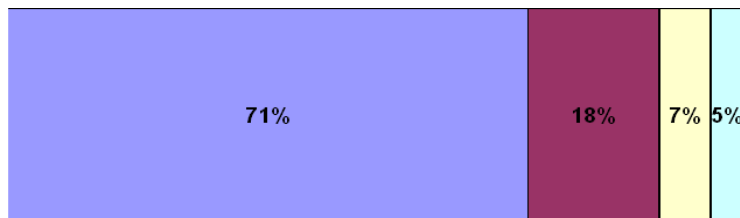
• In contrast, employers in sectors such as retail and hospitality record much lower costs – given that training is typically delivered at Level 2, has a higher **on-the-job** training element, and is of **shorter duration** (usually around one year)

• There is also considerable variation **within sectors** e.g. a 'typical' cost of £12,000 for a new recruit in finance, compared to £1,300 for an existing employee.

But learner and employer satisfaction with apprenticeship training is high. Furthermore, the government has already introduced a number of measures to ensure good quality training as part of every apprenticeship

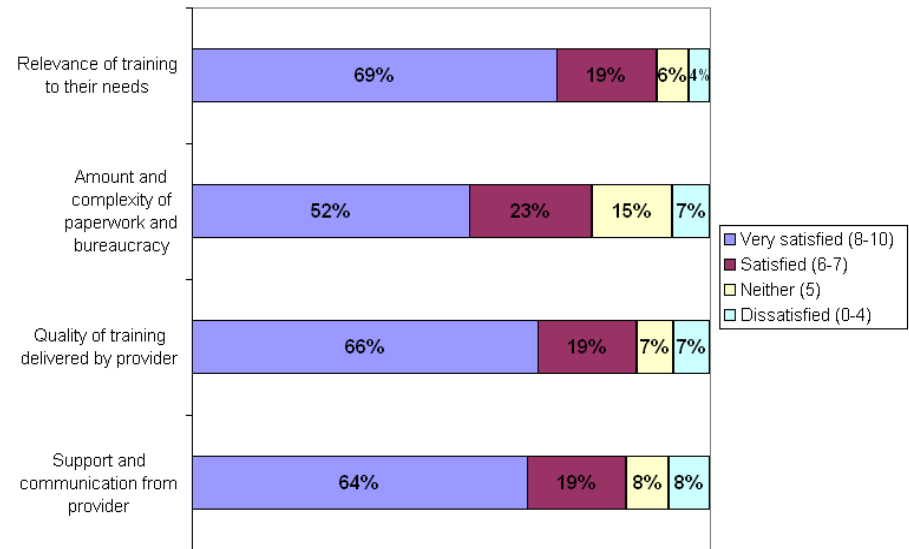
A majority of learners and employers were 'very satisfied' with the training and apprenticeship experience:

Learners' overall satisfaction with their apprenticeship



Source: IFF Research (2012a)

Employers' satisfaction with different aspects of apprenticeships



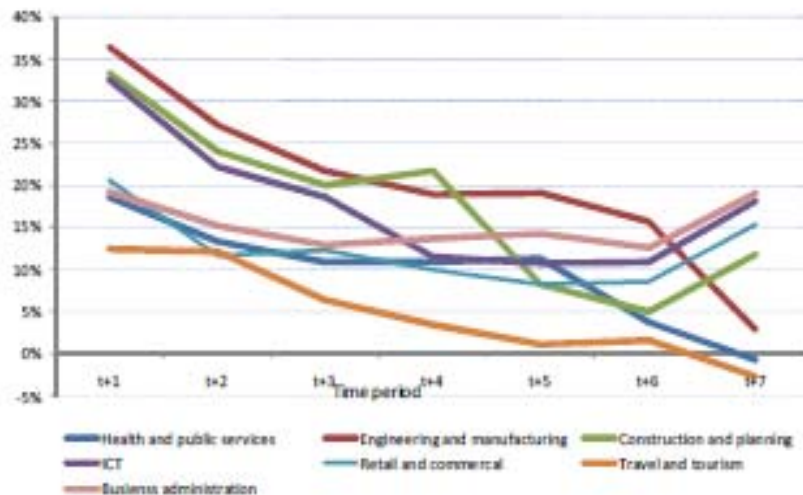
Source: IFF Research (2012b)

- The government has also introduced a number of measures to ensure good-quality training as part of every apprenticeship – many of which these surveys will not capture, due to the timing of fieldwork.
 - For example, the **Specification of Apprenticeship Standards in England (SASE)** sets statutory minimum standards for all apprenticeships (slide 6) – including a minimum of 280 guided learning hours, at least 100 of which must be off-the-job; all apprentices must now be employed in real jobs; from August 2012, all apprenticeships will be subject to minimum durations; and tighter contracting and subcontracting processes have been introduced to root out poor provision.

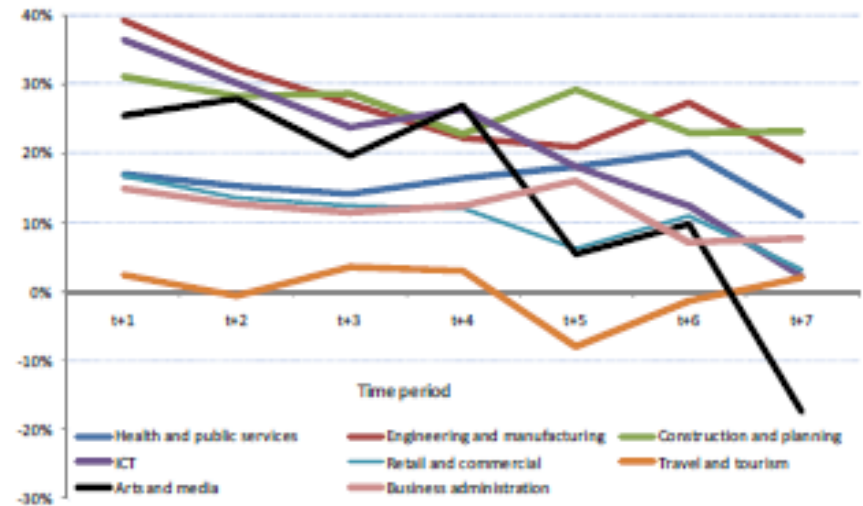
Differences in the nature of training may help to explain some of the observed differences in returns by sector

- McIntosh (2007) suggests that the net lifetime earnings benefits are **greatest in construction and engineering** and **lowest in business administration and retail**
- But government funding costs differ across sectors - the relatively high cost of engineering apprenticeships puts them slightly below hospitality and business administration when we consider the **returns per pound of government investment**
- Forthcoming analysis of returns also suggests greater benefits in engineering & manufacturing and construction & planning over the seven years post-completion – both at the intermediate and advanced level...

Earnings returns to Intermediate (L2) apprenticeships, for completers compared to non-completers, by sector



Earnings returns to advanced (L3) apprenticeships, for completers compared to non-completers, by sector



Wage returns appear to be greater when qualifications are achieved at a younger age, but this should be considered in light of funding differences

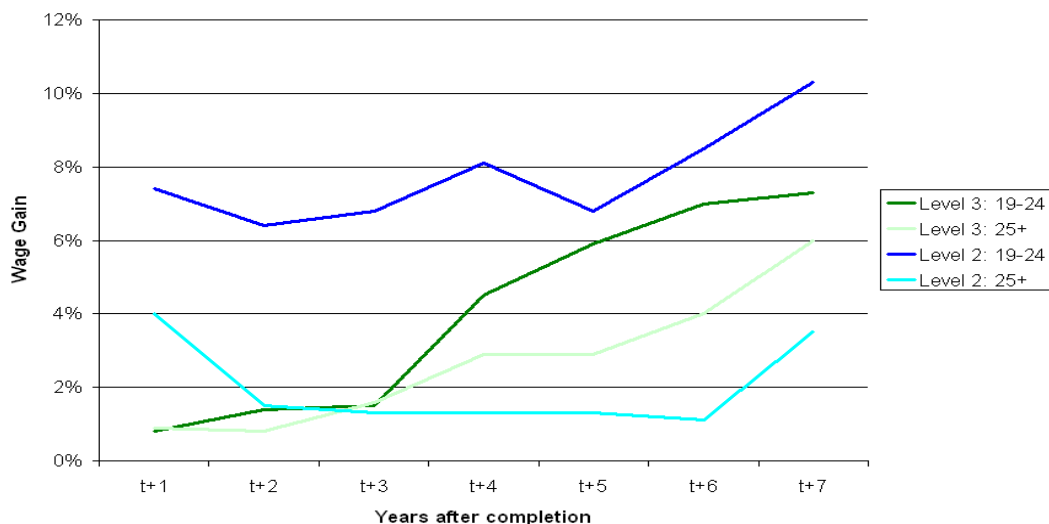
- Although there is a lack of evidence specific to apprenticeships, vocational qualifications more generally deliver better returns when achieved at younger ages...

Wage returns to NVQs by age, compared to people with lower-level qualifications

	NVQ L2	NVQ L3
15-16	1%	1%
17-18	4%	9%
19-20	4%	11%
21-25	7%	11%
26-30	0%	6%
>30	-6%	-1%

Source: London Economics (2011b) – (This is a disaggregation of figures on slide 13)

Wage returns of NVQ completers by age, compared to non-completers, up to seven years after completion

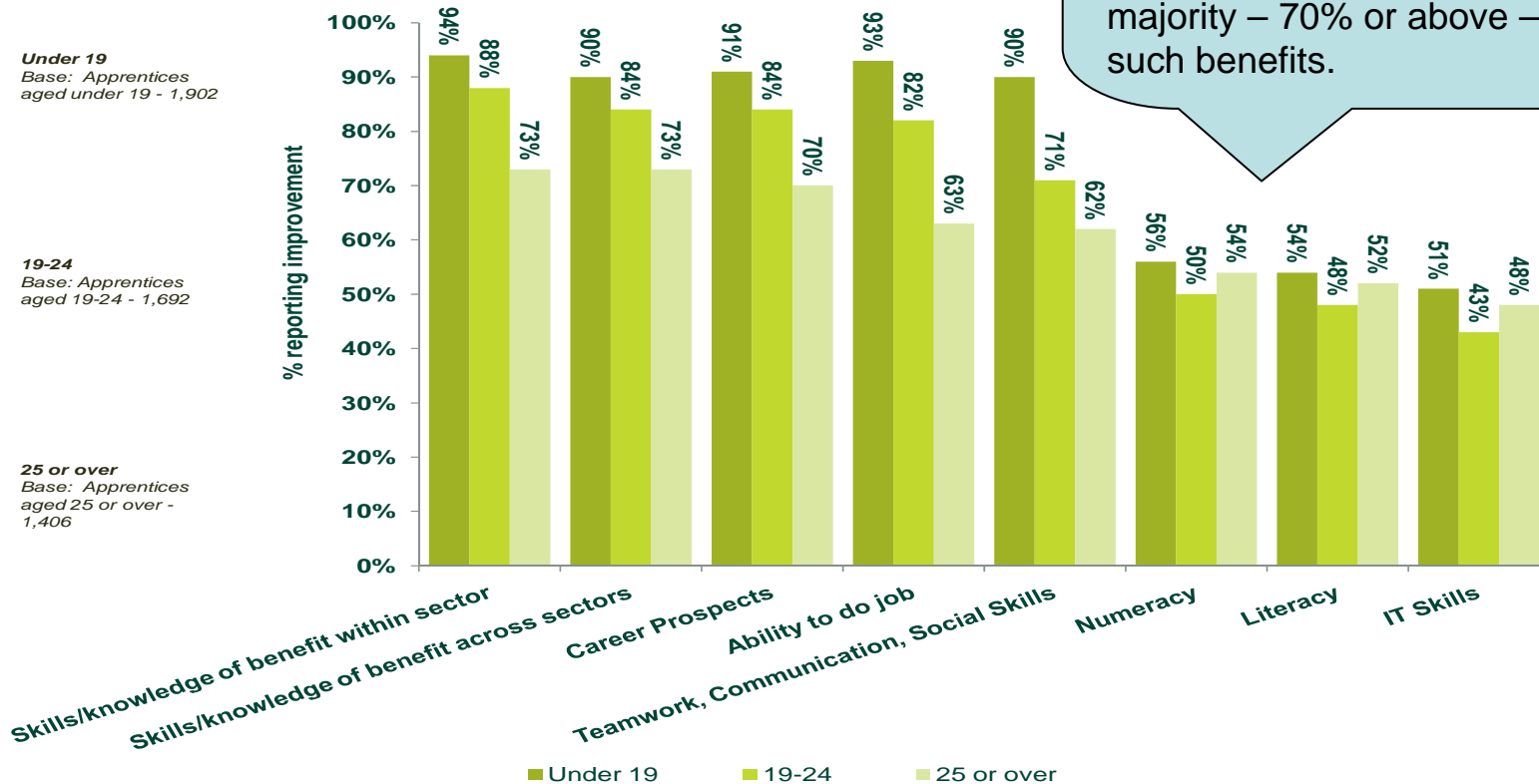


Source: London Economics (2012, forthcoming)

- But government investment is higher for younger age groups – 16-18 year-old apprentices are *fully-funded*, 19-24 year-old apprentices are *co-funded* and *more limited funding* is available for those aged 25+ (see slide 7)
- We also need to bear in mind that this evidence is not specific to apprenticeships, the extra benefits of which seem to be in the **package of components** which are delivered in the **workplace**.

And younger apprentices are more likely to report positive impacts on their skills – although a majority report such benefits in all age groups

Impact of apprenticeship on skills and abilities, by age



Over 90% of 16-18 apprentices report improvements to their skills / knowledge and career prospects. This proportion is lower amongst those aged 25+, but a considerable majority – 70% or above – still report such benefits.

'New recruits' are more likely to report improvements to their skills and knowledge, but a majority of 'existing employees' also report such benefits

		Impact on Skills and Abilities: % reporting an improvement								
	Base		Ability to do job	Skills/knowledge of benefit within sector	Career Prospects	Skills / knowledge of benefit across sectors	Team work, Communication, Social Skills	Numeracy	Literacy	IT Skills
All apprentices	(5,000)	%	79	84	81	82	74	53	51	47
Already employed	(2,800)	%	71*	79*	75*	77*	66*	53	51	44*
Recruited specifically	(1,804)	%	93*	94*	92*	89*	87*	54	52	51*

• 79% of all apprentices said there had been a resultant change in their **ability to do their job** – varying from 71% amongst those already employed prior to their apprenticeship, to 93% of those who were recruited specifically.

• This figure was 55% for apprentices who had been with their employer for more than five years before starting their course.

* Indicates that the difference between cell figure and all apprentice figure is statistically significant at the 95% confidence level.

Source: IFF Research (2012a)

In summary, the evidence suggests significant variations in benefits across different parts of the programme – and current funding arrangements reflect this

- The evidence suggests that benefits are greater for:
 - Sectors such as **engineering** and **construction**, as opposed to retail and business administration
 - **Younger** apprentices
 - **Advanced** (Level 3) apprenticeships
 - **New recruits**, as opposed to existing employees
- But current **differences in funding** reflect this pattern of returns to a large extent e.g. government funding per apprentice is lower in sectors such as retail and business administration, for apprentices aged 25+ and for intermediate apprenticeships.
- Furthermore, the Government recently announced that it would be giving the most focus in expanding future opportunities where **returns and benefits are greatest** – including younger people (16-24), new recruits, Advanced and Higher Apprenticeships, and at sector level.

Different countries have different apprenticeship models, but they can be broadly grouped into three categories

State led

(Australia, France, Italy, China)

- Government targets, funding and policy control
- Education based, provider or learner centric
- High costs to state and/or employers (normally via levies, not fees)
- All age and young person programmes
- Prevalence of Programme-Led Apprenticeships or year 1 'training' / year 2 employment models or 'sandwich courses'.

Dual system

(Germany, Austria, Sweden, Switzerland)

Effectively 2 parallel learning streams:

1. The functional and academic elements via 'Further Education' – 100% funded by state
2. The competence element delivered and funded 100% by employers

- Based on inputs e.g. 3,000 hours practice and 900 hours learning, regardless of experience / competence
- Sector / sub sector / guild-based schemes organised and funded through employer representatives e.g. chamber of commerce
- Well-established / stable, based on historical arrangements
- Low government control and day-to-day management, but a tight legal framework
- High employer investment and control – and recognised employer benefits – normally low apprentice wages and lesser social security payments
- Usually high-volume schemes aimed at first job / young people, specific status of Apprentices – not employees who undertake apprenticeship training

Market led

(USA, Japan, India)

- No overt government policy – individual employer schemes e.g. Honda training schools in Japan or Community Colleges in the US
- Low participation – apprenticeship not the norm in these countries
- No government targets
- Low cost to state, no government incentives to participate or host
- Employer, union or trade-run schemes, not regulated or classed as FE.

But any direct comparisons of apprenticeships between countries should be treated with caution given differences in **education systems** and **work organisation structures**

England has a unique programme, but with relatively low levels of penetration compared to overseas competitors

Apprentices per thousand employed persons – 2008, 2009 (Steedman, 2010)

Australia	Austria	England	France	Germany	Ireland	Switzerland
39	33	11	17	40	11	43

These figures pre-date the most recent expansion of apprenticeships in England. Latest internal analysis suggests around 15 apprentices per 1,000 employees in 2011.

English model:

- All age with growing adult component
- Variable state contribution by age
- No statutory duty
- Flexibility for employers and training providers to 'customise' content
- Flexibility to deliver training in the workplace, in college, or in a training facility
- Established system, strong internal brand, but perceived as complex and prone to change by some employers

German model:

- Focuses on 16-21 year olds
- Funded through business levy
- Backed by a statutory duty on larger employers to train apprentices
- Highly standardised programme content
- Vocational colleges deliver the technical and general educational content
- Established, stable system with excellent internal and international reputation, and strong buy-in from all social partners

Australia, England and France all offer apprenticeships at **more than one level** of skill.

- In Australia, most apprenticeships are at Certificate 3 level
- In France just under half of apprenticeships are at Level 2
- In England, over 60% of apprenticeship starts in 2010/11 were at Level 2
- In Austria, Germany and Switzerland, as well as Ireland, almost all apprenticeships are at Level 3.

References

- BIS Statistical First Release http://www.thedataservice.org.uk/statistics/statisticalfirstrelease/sfr_current/
- Blundell, Dearden, Meghir, & Sianesi, (1999), 'Human Capital Investment: The Returns from Education and Training to the Individual, the Firm and the Economy' <http://www.ifs.org.uk/fs/articles/0017a.pdf>
- Cambridge Econometrics (2011), 'Measuring the Economic Impact of Further Education', BIS research paper 38. <http://www.bis.gov.uk/assets/biscore/further-education-skills/docs/m/11-816-measuring-economic-impact-further-education>
- BMG Research (2010), 'Continuing Vocational Training Survey 2005 (CVTS3)' http://www.bis.gov.uk/assets/biscore/corporate/migratedD/publications/D/DIUS_RR_08_17
- Dearden, Reed & Van Reenen (2005), 'The impact of training on productivity and wages : evidence from British panel data.' <http://eprints.lse.ac.uk/779/>
- 'Education at a Glance 2011: OECD Indicators' http://www.oecd.org/document/2/0,3746,en_2649_39263238_48634114_1_1_1_1,00.html
- Galindo-Rueda & Haskel (2005) 'Skills, workforce characteristics and firm-level productivity: Evidence from the matched ABI/Employer Skills Survey' <http://ftp.iza.org/dp1542.pdf>
- IFF Research (2010), 'National Employer Skills Survey (NESS 2009)' <http://www.ukces.org.uk/publications/er23-ness>
- IFF Research and Warwick Institute for Employment Research (2012a), 'Apprenticeship Learner Evaluation Survey' BIS Research Paper No. 76 <http://www.bis.gov.uk/assets/biscore/further-education-skills/docs/e/12-812-evaluation-of-apprenticeships-learners.pdf>
- IFF Research and Warwick Institute for Employment Research (2012b), 'Apprenticeship Employer Evaluation Survey' BIS Research Paper No. 77 <http://www.bis.gov.uk/assets/biscore/further-education-skills/docs/e/12-813-evaluation-of-apprenticeships-employers.pdf>
- Ipsos MORI (2012), 'Apprenticeship Pay Survey 2011' BIS Research Paper No. 64' <http://www.bis.gov.uk/assets/biscore/further-education-skills/docs/a/12-p137-apprenticeship-pay-survey-2011>

References (continued)

- Kirby & Riley (2007), 'The External Returns to Education: UK Evidence Using Repeated Cross-Sections' <http://www.sciencedirect.com/science/article/pii/S0927537108000377>
- London Economics (2011a) 'The Long terms Effects of Vocational Qualification on Labour Market Outcomes'. <http://www.bis.gov.uk/assets/biscore/further-education-skills/docs/l/11-1035-long-term-effect-of-vocational-qualifications.pdf>
- London Economics (2011b) 'Returns to Intermediate and low level vocational qualifications' <http://www.bis.gov.uk/assets/biscore/further-education-skills/docs/r/11-1282-returns-intermediate-and-low-level-vocational-qualifications>
- London Economics (2012, forthcoming) 'A disaggregated analysis of the long run impact of vocational qualifications'
- McIntosh (2007), 'A Cost-Benefit Analysis of Apprenticeships and Other Vocational Qualifications' Department for Education and Skills Research Report RR834. <https://www.education.gov.uk/publications/eOrderingDownload/RR834.pdf>
- Smith and Joslin (2011) 'Longitudinal Tracking of Advanced Apprentice Cohorts into Higher Education 2005/6 to 2009/10 University of Greenwich' http://www.gre.ac.uk/data/assets/pdf_file/0003/590565/Progression_Tracking_Project_2011_d5648_web.pdf
- Steedman (2010), 'The State of Apprenticeship in 2010'. Apprenticeship Ambassadors Network <http://cep.lse.ac.uk/pubs/download/special/cepsp22.pdf>
- Warwick Institute for Employment Research (2012), 'Employer investment in apprenticeships and workplace learning. The Fifth Net Benefits of Training to Employers Study BIS Research Paper No. 67' <http://www.bis.gov.uk/assets/biscore/further-education-skills/docs/e/12-814-employer-investment-in-apprenticeships-fifth-net-benefits-study.pdf>