

skills

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SKILLS FOR GROWTH

The national skills strategy:
analytical paper

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This is a shortened version of a longer analytical paper that will be published shortly in the BIS Economics Paper series

Part 1 – The importance of skills

The wide ranging benefits of skills are well established. For example, the OECD stresses that alongside physical capital, investment in human capital and knowledge is key to generating economic growth,¹ while the *Leitch Review of Skills* argues that “skills is the most important lever within our control to create wealth and reduce social deprivation”.²

Skills, when utilised effectively, contribute to economic growth both through increased productivity, and higher employment levels resulting from improvements in people’s employability.

The mechanisms through which skills feed through to productivity growth are complex and are often reliant upon interactions with other drivers of productivity. However, broadly speaking, skills enable workers to carry out more complex work, work more effectively, and produce higher value products (through for example, making the most of complementary investment in innovation and technology).

The UK has made progress in closing the productivity gap with its main competitors in recent years, reducing the gap in output per hour worked with France (from 22 to 18 percentage points between 1997 and 2007) and Germany (from 25 to 13 percentage points). But further progress is still to be made – not least with the US, where the gap continues to hover around 20 percentage points.³

Skills clearly have an important role to play in helping to close this productivity gap. One estimate suggests that labour quality accounts for 10 per cent and 29 per cent of the productivity gap with France and Germany respectively,⁴ while EU KLEMS data points to 20 per cent of the growth in UK productivity between 1996 and 2005 being attributable to labour composition.⁵ In OECD economies, a one per cent increase in the number of graduates is associated with a 1.1 percentage point rise in GDP growth rates.⁶ Skills can also boost employability by ensuring workers have the productive potential to make them attractive to firms.

In addition to economic impacts, there is also evidence of **wider benefits** to society from increased skills, such as improved health, reduced crime and increased civic participation.

1 OECD (2003) ‘The Sources of Economic Growth in OECD Countries’.

2 HM Treasury (2006) ‘Prosperity for all in the global economy – world class skills’.

3 BERR (2009) ‘The 2008 Productivity and Competitiveness Indicators’.

4 BERR (2008) ‘Cross-Country Productivity Performance at Sector Level: the UK Compared with the US, France and Germany’, BERR Occasional Paper No. 1.

5 BIS analysis of EUKLEMS.

6 Sianesi, B. and Van Reenen, J. (2003) ‘The Returns to Education: Macroeconomics’, Journal of Economic Surveys, Blackwell Publishing, vol. 17(2), pp. 157-200, 04.

These benefits also extend to **equity**, with investment in education and skills an important factor in helping to create a more upwardly mobile society.

Changing demand

The importance of the UK investing in world class skills is reinforced by the continuing process of **globalisation and technological change**. World trade in goods and services has increased more than sevenfold since the 1980s, within which emerging economies have played an increasingly important role. This has seen their share of world trade more than quadruple over the same period; creating both challenges and export opportunities for the UK.⁷

The integration of these emerging economies into global markets has underpinned a fourfold increase in the effective global supply of labour which, more importantly, has primarily been in the form of low skilled workers.⁸ This trend is expected to continue, with China and India alone expected to add over 300 million workers to the global labour pool by 2030.⁹ However, for the foreseeable future their comparative advantage will remain in low to medium skill activities, which will increase the competitive pressures on UK firms in these sectors.

At the same time, **technological change** (in particular developments in ICT and logistics) has made it possible to split out and separate particular production activities, with individual components of a final product now often designed and assembled in geographically disparate parts of the world.¹⁰

This has allowed firms to shift low skill production activities overseas, to take advantage of the growing supply of low cost labour, while keeping other activities onshore. However, while the impact of these changes has been most visible in the production and trade of goods, more recently **service activities have also become more tradable**.

Finally, we have also experienced a period whereby technological progress has favoured the accumulation of capital and the use of more highly skilled labour, a process known as **skill biased technological change**. Some commentators have also pointed to technology substituting for medium skilled jobs, but not for highly skilled work (for which technology is a complement) or manual low skilled activities (such as those for which face-to-face contact is important). This has allegedly resulted in the **hollowing-out** of medium skilled

⁷ WTO World Trade Database.

⁸ IMF (2007) 'The Globalization of Labour', World Economics Outlook, Chapter 5.

⁹ World Bank (2007) 'Global Economic Prospects'.

¹⁰ World trade in intermediate products grew five-fold between 1988 and 2006 – WTO (2008) 'World Trade Report'.

jobs in the UK.¹¹ But analysis of jobs within sectors shows a more even change of employment by skill level.¹²

These forces are changing the role the UK plays within the global economy and the structure of UK industry. In common with other OECD economies, there has been a broad shift in the shares of both output and employment towards services and away from manufacturing (although this trend is also partly the result of relatively high rates of productivity growth in manufacturing driving down relative prices).

Globalisation and technological change are also impacting on the skills employed in the UK and hence the relative returns to different levels and types of skills. While the UK has seen a rise in the share of skilled workers in the workforce, on a global level there has been an increase in the relative scarcity of skilled labour. As a result the UK, in common with many other advanced economies, has seen the relative gap between the wages of skilled and unskilled workers increase over time.¹³

Although some of these issues are not new, the impact of the recession and rapidly changing global context means that this is a crucial time for skills policy, with challenges in both the shorter and longer term.

In the short term the challenge is to respond now to the skills needs that will help us get out of the recession.

The UK, in common with other economies around the globe, has experienced a significant downturn over the past year. We need to build the skills that will help us in the recovery and allow the economy to come out of the recession stronger. Evidence shows that some firms have tried to retain skilled workers through innovative working practices, such as using Train to Gain to up-skill workers during downtime. But some young people have found it difficult to enter and remain in contact with the labour market.

In the longer term the challenge is to ensure we have the right skills to build a strong economy, and achieve our goal of becoming a world leader in skills. This will require a broad range of horizontal policies as well as more targeted interventions. The latter would aim to ensure that Britain continues to retain and develop strengths in industries which are likely to enjoy strong global growth, match the UK's areas of comparative advantage and hence present an **opportunity** for UK growth. This is likely

11 For studies on the UK and Europe; Goos, M. and Manning, A. (2003) 'Lousy and Lovely Jobs: the Rising Polarization of Work in Britain' CEP Discussion Paper dp0604; Bell, D. and Blanchflower, D. (2009) 'What should be done about rising unemployment in the UK?', Stirling Economics Discussion Papers, No. 2009-06; Goos, M., Manning, A. and Salomons, A. (2009) 'Recent changes in the European employment structure', American Economic Review Papers and Proceedings, Vol. 99, No. 2, May 2009, pp. 58-63.

12 DCSF, analysis of ASHE dataset, 1997-2005.

13 See for example WTO/ILO (2007) 'Trade and Employment: Challenges for Policy Research'.

to be in a broad range of sectors where success will be driven by science and technology, high levels of skills and creativity.¹⁴

But as we consider below, Government intervention must be focused on where it can make a real **impact**. This means that the value for money of targeted intervention must be identified in advance, for example in terms of increased productivity, faster growth, sustainable high-value job creation or spillovers. Part 3 considers in detail how Government intervention can best support the market in relation to skills.

14 BIS (2009) 'New Industry, New Jobs'.

Part 2 – Ambition and progress

As mentioned in Part 1, the *Leitch Review* emphasised the economic case for investing in skills at all levels and developing a world class skills base. This is defined as aiming to be amongst the top quartile of OECD countries.

In response, in 2007 the Government set challenging 2020 ambitions for UK skill levels: 'exceeding 90 per cent' of the working age population to have a level 2 qualification or higher; 68 per cent to have level 3 or higher; 'over 40 per cent' to have level 4 or higher; 95 per cent of people to have at least literacy at level 1; and 95 per cent to have at least numeracy at entry level 3 by 2020.

The 2020 ambitions, together with the interim targets set for 2011, and the current level of skills attainment are summarised in Table 1.

Table 1: Current levels, targets and ambitions for skills attainment (percentage of adult working age population)

	Current level (2008)	2011 Target	2020 Ambition
Qualified to at least L2	71%	79%	At least 90%
Qualified to at least L3	51%	56%	68%
Qualified to at least L4+	31%	34%	At least 40%
Literacy and numeracy skills	(a)	(a)	95%

- (a) The last survey on literacy and numeracy was carried out in 2003 and showed 84 per cent of adults possessed functional literacy and 79 per cent possessed functional numeracy. A new survey will take place in 2010/11. As an indicator of progress towards the 2020 ambition, the 2011 literacy and numeracy skills targets are: between 2008 and 2011, 597,000 people of working age to have achieved a first level 1 or above literacy qualification; and 390,000 to have achieved a first entry level 3 or above numeracy qualification.

Of course there are limitations to the use of qualifications to measure skills. An individual's skills go beyond the qualifications and knowledge they have acquired through formal education to include competencies and expertise acquired through training and experience whilst in work, and innate ability.¹⁵

Moreover, it is important to remember that the content of qualifications may differ between countries limiting the accuracy of international comparisons.

15 UKCES (2009) 'Ambition 2020: World Class Skills and Jobs for the UK'.

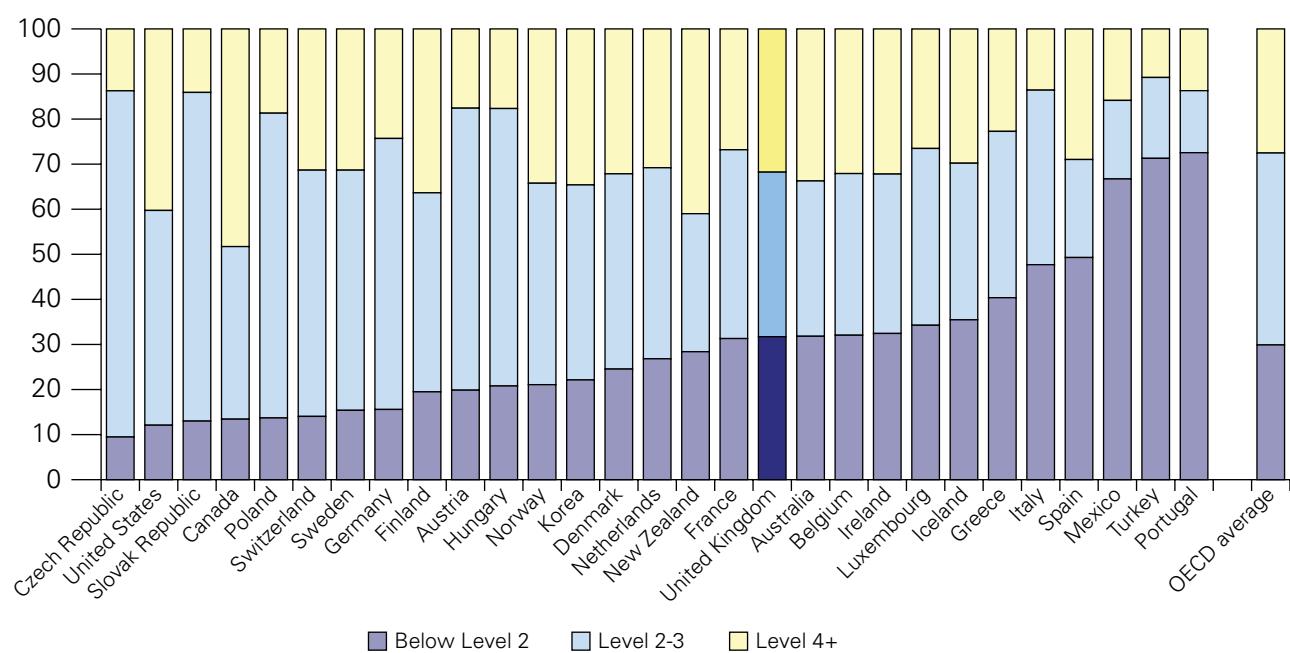
Despite these limitations, qualifications are the best available proxy for skills, and international comparisons of skills performance are often based on comparisons of attainment of qualifications.

The rest of this section looks at how the UK is performing in comparison to our international competitors, recent trends in qualifications and other indicators and the progress made against the 2020 ambitions.

International comparisons

Chart 1 shows international comparisons of workforce qualifications using the latest OECD data. The UK currently lies 18th out of 30 OECD countries in terms of the proportion of adults who have achieved at least level 2 (i.e. upper secondary education equivalent to 5 or more 'good' GCSEs). We are behind among others the Netherlands, Germany, Japan, Canada and the US. At level 4 and above (equivalent to a degree), the UK is better placed, at 11th out of 30 OECD countries, but still behind Canada, Netherlands and the US, and growing at a slower rate between 1998 and 2006 than most other OECD countries.

Chart 1: International Comparison of Workforce Qualifications, 2007: Percentage of population aged 25-64 that has attained the equivalent of Below Level 2, Level 2-3 and Level 4 respectively



Source: OECD Education at a Glance 2009, Tables A1.2a and A1.3a

Recent trends

Since 2002/03, we have secured big increases in attainment of level 2 qualifications, with a more than fourfold increase in the numbers achieving a first full level 2 qualification since 2002/3.¹⁶

Level 2 qualifications are usually necessary for people to progress to full level 3 qualifications. For example, research shows that only 22 per cent of those taking full level 3 courses in Further Education (FE) colleges and 12 per cent of those taking full level 3 qualifications as apprenticeships had not already got a full level 2 qualification.¹⁷

The number of adults achieving a first full level 3 qualification has also increased over the last few years, with provision more than doubling. Level 4 attainment in the population continues to increase.¹⁸

Substantial progress has also been made in improving the basic literacy and numeracy skills of the adult population in England, as demonstrated by the large increases in the number of people achieving Skills for Life qualifications.¹⁹

It is important to remember that, as well as focusing on the quantity of qualifications, it is also necessary to focus on the quality of training, the utilisation of skills and the economic value of the skills generated in the economy of the future.

Progress towards 2020 ambitions

Evidence shows that significant progress is being made toward achieving a world class skills base by 2020. Improvements in the FE and skills system will help England's world ranking rise if current trends can be sustained.

Using projections based on delivery to date, and assuming a constant level of provision from 2010/11, on current trends we could expect to reach:

- 90 per cent at level 2 or higher (ambition was at least 90 per cent);
- 40 per cent at level 4 or higher (ambition was at least 40 per cent).

However, on current trends we may undershoot the 2020 ambition on level 3. We currently have 51 per cent with level 3 or above and are on track to reach only 63 per cent by 2020, rather than the objective of 68 per cent.

16 The Data Service (2009) 'June 2009 Statistical First Release on Post-16 Education & Skills: Learner participation, outcomes and Level of Highest Qualification held'.

17 LSC (2006) 'Prior Qualifications of Adult Learners in Further Education and Work Based Learning'

18 HESA Student Record data

19 The Data Service (2009) 'June 2009 Statistical First Release on Post-16 Education & Skills: Learner participation, outcomes and Level of Highest Qualification held'.

For literacy skills, we are on course to meet the 2020 ambition. Numeracy, however, is more challenging and will require a step change in the number of adults taking courses to improve their numeracy skills if we are to realise the ambition.

Other measures

Other evidence can be used in addition to attainment of qualifications to give further insight into the amount of training that the UK workforce is receiving and the impact this has on skill levels.

In terms of training, over two-thirds of employers (67 per cent) provide training for at least some of their staff, continuing a steady increase since this was first measured in 2003 at 59 per cent. And the proportion of the workforce receiving training has also increased from 61 per cent in 2004 to 63 per cent in 2007.²⁰

One measure of the impact of training and the attainment of qualifications in meeting the demands of employers is provided by measures of the skills gap. The proportion of employers reporting skills gaps has fallen slightly since 2005, continuing a downward trend seen since a high of 23 per cent in 2001.²¹

Challenges ahead

Globalisation and technical change will continue to drive change in the UK economy, placing ever greater importance on the skills of the workforce. As well as this general challenge, specific challenges remain in terms of the targets set in 2007.

For level 3, it may be necessary to make further increases in provision in order to create the capacity to reach the 2020 ambition and achieve the aim to be world class in this area.

The 2020 ambition for level 2 is achievable and we are on course to meet the level 4 ambition on current trends but to reach the upper quartile of OECD countries we may need to exceed these. This may require some increase in investment, but we will also need to be innovative in the delivery mechanisms that we use to obtain such skills.

Increased qualification levels and improvements in skills more generally will only help deliver productivity and economic growth if they remain economically valuable. In response to this the Government is revising the indicators that inform its Public Service Agreement (PSA) target on skills.

20 LSC (2008) 'National Employers Skills Survey 2007'.

21 Employers are described as having a skills gap in cases where they have staff whom they believe to be not fully proficient at their job, see the National Employers Skills Survey 2007 for further discussion of the skills gap.

Part 3 – The roles of individuals, employers, providers and Government in the skills system

This part reviews the decision to invest in skills from the perspective of the major actors in the skills system: individuals, employers, specialist skills providers and Government. By exploring the incentives faced by these market actors we can identify the appropriate ways in which Government can intervene to improve the efficiency of the skills market.

The decision to invest in human capital for both the individual and the firm is similar in some respects to that of other forms of investment and is based on an assessment of the perceived costs and benefits, which may be both monetary and non-monetary.

In the case of **individuals**, the costs cover direct costs such as tuition fees, travel, books or childcare and also indirect costs associated with loss of income from work or the sacrifice of leisure time. The benefits most easily observed are increased employability and higher future wages, although the individual may also be motivated by non-economic benefits, for example, the enjoyment of learning.

In terms of employment outcomes, evidence shows that inactivity rates in the UK decline and employment rates rise with greater levels of educational attainment, with the largest incremental changes observed between individuals with 'no qualifications' and 'level 2'.²²

Evidence also shows significant wage returns to those acquiring skills. This evidence comes from studies which compare wage outcomes of individuals holding particular qualifications against those who do not hold those qualifications, whilst controlling for a range of personal and job characteristics. As we might expect, wage returns appear stronger at higher levels; returns to level 2 and 3 academic qualifications have been estimated to be around 15-20 per cent and for level 4 qualifications a further 20-25 per cent.²³ These returns have remained relatively unchanged in recent years, suggesting that the supply of qualifications has been keeping pace with demand.²⁴

Looking at vocational qualifications, the wage returns evidence is strongest for higher level qualifications and apprenticeships. Those with level 3 apprenticeships were found to earn 18 per cent more in 2004/05 while holders of level 2 apprenticeships received a 16 per wage enhancement.²⁵

22 BERR (2009) 'The 2008 Productivity and Competitiveness Indicators'.

23 Dickerson, A. (2005) 'A study on rates of return to level 3 and higher qualifications', DTI.

24 McIntosh, S. (2004) 'Further analysis of the returns to academic and vocational qualifications', CEE Discussion Paper; Dickerson (2005).

25 McIntosh, S. (2007) 'A cost-benefit analysis of apprenticeships and other vocational qualifications', DfES Research Report.

Evidence also finds strong positive returns to other vocational qualifications at levels 2 and 3, such as BTEC, RSA and City & Guilds. In the past, the exception has been that a number of studies have found the average returns to NVQ2s to be negligible at best, although there were good returns to NVQ2s delivered through the workplace and in certain sectors and occupations.²⁶ These NVQ results may reflect both the time taken to build the reputation of the qualification in the eyes of employers, and selection bias problems that can be better controlled for using longitudinal data.²⁷ When considering returns to lower level qualifications, we also need to remember that such qualifications may act as a stepping stone to the acquisition of higher level qualifications with stronger returns.

The above overview of the factors affecting the individual's decision to invest in skills assumes that the individual has access to both information regarding the expected costs and benefits of learning and finance to fund their studies. Surveys suggest, however, both may be important barriers, creating, as we discuss below, an important role for Government, including a role in fostering a learning culture.²⁸

Employers play a major part in the skills system, with surveys estimating that employers in England spend around £38bn annually on training, covering 63 per cent of the workforce.²⁹ By international standards, the UK has a relatively high incidence of employers offering some form of continuing vocational training. However, the training provided is of relatively short duration, with relatively low levels of investment per trainee.³⁰ Surveys also show that access to a qualified workforce is an important location determinant for many international companies.³¹

The benefits to employers of training their workforce should come through increased productivity and competitiveness, with market structures determining the split in productivity benefits between employers (profit), workers (wages) and consumers (better value products). One study found that a one percentage point increase in the proportion

26 Jenkins, A., Greenwood, C. and Vignoles, A. (2007) 'The returns to qualifications in England: updating the evidence base on level 2 and level 3 vocational qualifications', CEE Discussion Paper.

27 Recent analysis based on longitudinal data finds strong positive returns on average; see De Coulon, A. and Vignoles, A. (2008) 'An analysis of the benefit of NVQ2 qualifications acquired at age 26-34', CEE discussion paper 106. A good discussion of possible selection bias effects is also contained in McIntosh, S. (2009) 'The Economic Value of Intermediate Education and Qualifications', UKCES Evidence Report, forthcoming.

28 Snape, D., Tanner, E., Sinclair, R., Michaelson, J. and Finch, S. (2006) 'National Adult Learning Survey (NALS) 2005', DfES Research Report No 815 and LSC (2008) 'National learner satisfaction survey 2007'.

29 LSC (2007) 'National Employers Skills Survey 2007: Main Report'. Half of the £38bn is attributable to wage costs.

30 Continuing vocational training survey 3, Eurostat.

31 Booz Allen Hamilton and INSEAD (2006) 'Innovation: is global the way forward?' and OECD (2008) 'The internationalisation of business R&D'.

of individuals receiving training in an industry increased value added per hour worked by 0.6 per cent, but wages by only 0.3 per cent, leaving a possible margin for employers.³²

Evidence suggests that lack of information, issues around competitors poaching trained workers from firms in the same sector, access to funding and difficulties around replacing workers away on training courses may be important barriers to firms' investment in skills.³³ We discuss these potential barriers below within the context of identifying the role of Government within the skills system.

Government policies such as the national minimum wage (NMW) and migration can also impact on the employer's decision to invest. The evidence of the impact of the NMW on training outcomes is mixed,³⁴ and the supply of migrant labour in the short term may affect the incentives for employers to invest in up-skilling in the medium to long term. Although representing a small share (8 per cent)³⁵ of the UK labour market, migrant workers have contributed to economic and employment growth particularly since the mid-1990s as employers have benefited from the flexible supply of labour across the skills range.

There is a growing evidence base suggesting that there may be additional bottom-line benefits available to employers from making more effective use of the skills and talents of their employees. The *MacLeod Review*³⁶ outlined the potential benefits of greater employee engagement and there is a growing literature on the relationship between business performance and the adoption of high performance working practices and skills utilisation.³⁷ Management and leadership skills are often identified as an area of relative weakness for the UK and may make a contribution to the UK productivity gap.³⁸ These skills are important for linking human resource strategies to product market strategies.

Although the evidence suggests that skills can be beneficial to employers, firms may continue to operate within a cycle of producing low value added goods and services that only require low levels of skills. This may, however, be a profitable and sustainable

32 Dearden, L., Reed, H. and Van Reenen, J. (2006) 'The impact of training on productivity and wages: evidence from British panel data', Oxford Bulletin of Economics and Statistics, vol. 68, p397-421.

33 LSC (2008) 'National Employers Skills Survey 2007'. The evidence on poaching is mixed with some studies (e.g. Brunello, G. and De Paola, M. (2004) 'Market failures and the under-provision of training', CESIFO Working Paper) finding evidence for the existence of poaching externalities while others (e.g. Dearden, L., Machin, S., Reed, H. and Wilkinson, D.(1997) 'Labour turnover and work related training', IFS Discussion Paper) finding that investment in skills reduces staff turnover through increased loyalty.

34 See for example Dickerson, A. (2007) 'Longer-term implications of the NMW: a re-examination of employer-provided training', LPC; Arulampalam, W., Booth, A. L. and Bryan, M. L. (2004) 'Training and the new minimum wage', Economic Journal, 114, pp.C87-94.

35 Non-UK nationals working in the UK as a percentage of total UK employment, BIS analysis of Labour Force Survey Q2 2009.

36 MacLeod, D. and Clarke, N. (2009) 'Engaging for success: enhancing performance through employee engagement'.

37 UKCES (2009) 'High Performance Working: A synthesis of Key Literature', UKCES Evidence Report 4.

38 CEP/McKinsey&Company (2007) 'Management practice & productivity: why they matter'.

strategy for some firms, for example, those in non-tradable sectors of the economy and facilitated by low levels of employment protection and active labour market policies in the UK. The evidence on the relationship between skills and product market strategies is mixed and tends to be of a more qualitative nature.³⁹

Training providers are also important actors in the skill system. Providers will respond to the economic incentives they face to provide different courses. Achieving a demand-led system has been aided by Government initiatives to build a market place with a plurality of providers beyond just FE colleges. This has increased competition and choice for learners while recognising the additional role of FE colleges as community assets. However, there is clearly a careful balance to be made in such a market. The system must ensure that providers respond quickly to changing learners' needs, but also create the certainty to enable providers to invest over a number of years in developing a training course.

Market failures and the role of Government

As highlighted earlier, while both individuals and firms will seek to make investments in skills on the basis of economic returns, acquiring, verifying and effectively using such **information** may be difficult, particularly in the case of skills where the training purchase is both long term and unlikely to be repeated. In theory, private institutions could provide such information. However, given the public good nature of this information, combined with the fact that information provided independently by Government may give confidence to the user about quality and impartiality, there is a strong role for Government involvement. For various cultural and social reasons, the root causes of information failure may vary for different groups of people, with some groups affected more than others. Government advice and guidance may need to be tailored accordingly.

Even if consumers do have full information, there may be cases where Government may wish to intervene to ensure certain **standards** are met. For example, the setting of standards in the market for qualifications ensures comparability between courses and makes it easier for employers and individuals to understand and compare different qualifications. In addition, health and safety concerns in the social care sector and gas inspections have led to licence to practice arrangements to ensure certain minimum occupational standards are met.

Individuals and firms make investment decisions based on the expected returns to **after-tax** wages and profitability. The Government benefits from increased wages and profitability through income and corporation tax as well as reduced welfare payments.

39 Hall, P. and Soskice, D. (2001) 'Varieties of Capitalism, the institutional foundations of comparative advantage', Oxford University Press; Mason, G. (2004) 'Enterprise product strategies and employer demand for skills in Britain', SKOPE Research Paper; Booth, A. and Snower, D. (1996) 'Acquiring skills: market failures, their symptoms and policy responses', CEPR, 1996; Sung, J., Ashton, D. and Raddon, A. (2009) 'Product Market Strategies and Workforce Skills', Futureskills Scotland.

A Government subsidy for courses, particularly where we have strong evidence that these will lead to higher wages, can ensure that underinvestment does not take place.

When skills deployed by an individual firm **spillover** to other firms and the investing firm is not able to capture the financial benefit from this spillover there may also be a case for Government subsidy.⁴⁰ Similarly, as noted above, when an employer faces the risk of a worker it has trained leaving the firm (e.g. to a rival), investment in skills may be suboptimal, unless the individuals themselves are able to appropriate the benefits and fund the training.

As discussed above, there are **wider benefits** to society from learning. These include better outcomes in terms of less crime, greater civic engagement, better social capital and improved health outcomes,⁴¹ creating a positive externality which, in the absence of Government subsidy, would lead to an underinvestment in education by the market.

A number of factors are likely to constrain the take-up of **credit**, including both a lack of collateral against which to secure a loan, as well as possible difficulties for individuals convincing banks of their commitment to completing courses. Individuals themselves are likely to experience uncertainty around their ability to successfully complete the course and gain improved employment outcomes at the end of it. Such market failures can be overcome by an element of Government involvement in the loan market.

There are also **equity** considerations for investing in skills. Socio-economic inequality in skills emerges at an early age and continues throughout schooling and in-work training. Individuals from lower socio-economic backgrounds are more likely to choose vocational routes, which receive less state support than academic routes.⁴² Those without qualifications are also less likely to receive job-related training.⁴³ The *New Opportunities White Paper* set out the Government's vision for social mobility in the UK to enable successive generations to gain better jobs and ensure that people from all backgrounds have a fair chance of securing these jobs.⁴⁴

Sector differences in the size of market failures

The extent of the market failures outlined above will clearly vary between sectors which, in part, may be a consequence of the overall skill, age and income profile of workers in the sector.

- 40 There is limited evidence available on the potential spillover effects. For an example see Haskel, J. and Galindo-Rueda, F. (2004) 'Do social returns exceed private returns to education? Preliminary evidence on productivity spillovers in British Firms', CeRiBA.
- 41 Feinstein, L., Budge, D., Vorhaus, J. and Duckworth, K. (2008), 'The social and personal benefits of learning: A summary of key research findings', Centre for Research on the Wider Benefits of Learning.
- 42 Strategy Unit (2008) 'Getting on, getting ahead: a discussion paper analysing the trends and drivers of social mobility'.
- 43 Dearden, L., Machin, S., Reed, H. and Wilkinson, D. (1997) 'Labour turnover and work related training', IFS Discussion Paper.
- 44 HMG (2009) 'New Opportunities: fair chances for the future'.

New Industry, New Jobs outlined a number of sectors which are likely to see strong global growth in future years, creating **opportunities** for UK-based businesses. Market failure considerations may be a particular concern in many of these industries for the following reasons:

- While the industries are expected to show strong global growth, the nascent nature of some of the industries creates strong **uncertainty**, particularly **for individuals considering skill investments**;
- The advanced technological nature of many of the industries raises the possibility of unusually strong **scientific/R&D spillovers from skilled** workers in the industries, particularly if the industries exhibit strong **clustering**;
- There may be **positive environmental externalities** associated with improvement in the supply of low carbon goods and services.

Nevertheless, while certain sectors may exhibit strong skills based market failures, it is important to consider any sectoral intervention on a case by case basis, identifying appropriate market failure and spillover arguments to ensure action by Government has a real and beneficial impact.

Part 4 – Performance of current policies

The previous section highlighted the incentives facing individuals, employers and providers in the skills market. It identified a number of causes of market failure in the investment in skills. The analysis pointed to four broad areas where Government intervention may be appropriate:

- **Government subsidy of the training system**, to take account of positive externalities (tax, spillovers, wider social benefits) and equity issues not considered by learners and employers;
- **Information** to both individuals and employers thinking of investing in skills, regarding returns to different qualifications and the performance of different providers;
- **An appropriate regulatory environment** to remedy market failures where leaving individuals and employers to make decisions on the basis of market information alone may not offer sufficient protection;
- **Capital market support/guarantees** to remedy problems of uncertainty and asymmetric information between those seeking to invest in skills and those providing financing.

This section examines some of the existing Government schemes in these areas, and draws out lessons about what works most effectively, and how this could help future policy development.

Government subsidy of the training system

The funding of the Learning and Skills Council (LSC) is the most visible form of Government involvement in the skills system with a budget for learner participation of over £3 billion in 2008/09.⁴⁵ The largest components of this spending are approximately £1.5 billion of funding for learners, largely in FE colleges,⁴⁶ and approximately £1.2 billion for employer programmes such as apprenticeships and Train to Gain. Over three million adults have participated in such training over each of the last three years.⁴⁷ Below we summarise the performance of these three areas.

45 DIUS (2009) Departmental Annual Report 2009, Estimated outturn for 2008/9, Table 12.

46 Further education is learning for people over compulsory school age (currently 16 in England), primarily through a sixth-form college, a further education college, a specialist college or a higher education institution.

47 The Data Service (2009) 'October 2009 Statistical First Release on Post-16 Education & Skills: Learner participation, outcomes and Level of Highest Qualification held'.

The Government also subsidises a large amount of learning and training through public funding of the Higher Education (HE) system. The performance of the HE sector is outlined within the recently published framework document for the future success of HE and hence is not covered in this document.⁴⁸

Funding through FE colleges

The 2006 strategy document⁴⁹ renewed policy aims to build vocational excellence in FE and raise the skills of the working age population in order to improve business success and individual prosperity. In order to achieve this, the skills and qualifications provided should lead to improved outcomes, the quality of the training and performance of colleges should improve, and there should be an increase in the use of demand-led funding supported by better information to help choice.

Recently, public funding has been increasingly focused on those seeking to up-skill, with a higher level of public subsidy for those who are unskilled or have low level qualifications. This means providing Skills for Life courses for those without basic skills, and first full level 2 and 3 qualifications for those without them. The number of learners participating in full level 2 courses increased by 40 per cent between 2006/07 and 2007/08.⁵⁰

Colleges have responded to the increased focus on up-skilling, by contributing to the improved skill levels outlined in Part 2. Improvements in success rates (to 81 per cent in 2007/08),⁵¹ Ofsted assessments and customer satisfaction (as shown through learner and employer satisfaction rates of around 90 per cent and 85 per cent respectively)⁵² all indicate progress. Most importantly, 62 per cent of FE learners who were out of work before starting their course reported that it was either vital or helpful in getting a new job after college.⁵³

Nevertheless, there is room for further improvement. There is evidence of variable provider quality with 18 per cent of colleges and providers being graded as outstanding in terms of the qualification success rates they achieve, and 20 per cent being graded as inadequate.⁵⁴ Also, some learners are not up-skilling (i.e. they are taking a qualification at the same level or below the level they already hold).⁵⁵ There is now an increasing focus on the outcome of learning, which will be measured through the Framework for Excellence.

48 BIS (2009) 'Higher Ambitions – The future of universities in a knowledge economy'.

49 DIUS (2006) 'Further Education Reform White Paper – Raising skills improving life chances'.

50 The Data Service (2009) 'October 2009 Statistical First Release on Post-16 Education & Skills: Learner participation, outcomes and Level of Highest Qualification held'.

51 The Data Service (2009) 'June 2009 Statistical First Release on Post-16 Education & Skills: Learner participation, outcomes and Level of Highest Qualification held'.

52 LSC (2008) 'National Learner Satisfaction Survey 2007'; LSC (2006) 'National Employers Skills Survey 2005'.

53 LSC (2009) 'A longitudinal study of out of work Further Education learners'.

54 LSC (2009) 'Framework for Excellence: Headline Outcomes in 2009'.

55 The supplementary tables for the June 2009 Statistical First Release show that 46 per cent of level 2 learners are aiming for their first achievement at that level.

Train to Gain

The aim of Train to Gain is to raise the skill levels of the workforce and improve business performance. Train to Gain represents a major improvement in how training is delivered to employers and learners in employment, encouraging training that would not otherwise be provided, and making workplace training more responsive to the needs of employers. Train to Gain is the main route through which employers can access funding for skills training to complement their own contribution. It recognises that certain qualifications yield increased economic benefits if undertaken with an employer in the workplace.⁵⁶

Since Train to Gain was launched in April 2006, almost 1.3 million learners have started training, involving around 143,000 employers and leading to 648,000 qualifications.⁵⁷

Evaluation evidence shows substantial benefits for individuals and employers. These benefits include improved skills, increased pay and responsibility and improved business competitiveness. Evidence also points to a high degree of additionality: 69 per cent of employers are training more staff than they would otherwise have, while 70 per cent of employees who received training using Train to Gain had previously not received training.⁵⁸

There is some evidence of a sustained impact: 33 per cent of employers that had taken up training a few months after initial contact with a Skills Broker went on to arrange additional training in the next 12 months.⁵⁹ About 20 per cent of provision is broker-led.

A high proportion of skills gained through Train to Gain are utilised. A significant number of learners who acquired new skills reported using these skills in their current job (89 per cent).⁶⁰

The National Audit Office examined the Train to Gain programme and made a number of key points. They suggested that the overall impact of the programme could be improved by prioritising delivery to sectors where benefit was greatest, reducing the wide variation in success rates of the largest providers by spreading best practice, and encouraging a greater level of employer investment.⁶¹

Apprenticeships

The aim of apprenticeships is to help meet the immediate and future skills needs of sectors, and the local and national economy at technician, supervisory and craft levels. An apprenticeship is a form of vocational training based on a mixture of work-based and

56 McIntosh, S. (2009) 'The Economic Value of Intermediate Education and Qualifications', UKCES Evidence Report, forthcoming.

57 The Data Service (2009) 'October 2009 Statistical First Release on Post-16 Education & Skills: Learner participation, outcomes and Level of Highest Qualification held'.

58 LSC (2009) 'Train to Gain Employer Evaluation: Sweep 4 Research Report'.

59 Ibid.

60 LSC (2009) 'Train to Gain Learner Evaluation: Report from Wave 4 Research'.

61 NAO (2009) 'Train to Gain: Developing the skills of the workforce'.

theoretical learning. There are four core participants in any Government-funded apprenticeship:

- The employer (the primary provider of learning in the workplace) offers a place, pays the apprentice a wage, and supports their learning time requirements;
- The apprentice is expected to contribute to the productivity of the employer and to undertake the requisite learning;
- The training provider (which might be an FE college, group training association or other work-based-learning provider) provides off-the-job tuition;
- The Government, via the LSC, provides funds to cover the training costs of the apprenticeship.

Apprenticeships are available to young people and adults, including those aged over 25, and are available at level 2 or level 3 (advanced apprenticeships). Higher apprenticeships (at level 4) are being piloted.

Apprenticeships have a long history, but the modern model only started in 1995. There has recently been a major expansion. Since 1996/7, over 2 million people have started an apprenticeship including nearly 250,000 in 2007/8. Approximately one third of apprenticeships are at level 3.⁶²

Evidence suggests that there are significant benefits to the economy from apprenticeships at level 2 and level 3. On average, individuals benefit strongly through better pay and employment prospects across their lifetime. Cost benefit analyses have estimated that for each pound of state funding, level 3 apprenticeships generate a net present value of £17.⁶³ Learners are positive about the benefits of apprenticeships, with 91 per cent of apprentices reporting positive career benefits.⁶⁴

Information to both individuals and employers

Learner and employer choice is at the core of the model of demand-led funding introduced in 2008/9. Help for individuals is available through the LSC-funded Information, Advice and Guidance service, and delivered through three core channels: telephone, online and face-to-face.

While these services help ensure that learners make informed choices, 8 per cent of learners continue to drop out, primarily due to the wrong choice of course.⁶⁵

62 The Data Service (2009) 'October 2009 Statistical First Release on Post-16 Education & Skills: Learner participation, outcomes and Level of Highest Qualification held'.

63 McIntosh, S. (2007) 'A cost-benefit analysis of apprenticeships and other vocational qualifications', DfES Research Report.

64 LSC (2009) 'The Benefits of Completing an Apprenticeship'.

65 LSC (2008) 'National Learner Satisfaction Survey 2007'.

While school and university league tables provide detailed comparative information about performance outcomes, no such information is provided currently in relation to FE institutions. This lack of comparable data on quality and impact makes it difficult to judge the right course, and impedes learner and employer choice.

In the future, Framework for Excellence data will aim to provide independent and high quality information on the responsiveness and effectiveness of all post-16 providers (and, it is hoped, for individual courses), taking into account the views of learners and employers. The information to be provided will be based on common categories with simple to understand comparators.

Skills brokers and providers provide information for businesses, advising on training solutions and referring employers to appropriate training providers. Approximately 61 per cent of employers who have had contact with a skills broker commit to some training as a result.⁶⁶

An appropriate regulatory environment and standard setting

As noted in Part 3, decisions made on the basis of market information may not always offer consumers sufficient protection. In some cases, Government may need to put in place regulation, or provide signals through standard setting while, in other cases, self-regulation by industry may be effective.

Self-regulation is appropriate in cases where the market can design solutions to an identified requirement. For example, the Qualifications and Credits Framework (QCF) is a regulated framework for recognising and accrediting qualifications in England, Wales, and Northern Ireland.

The 25 Sector Skills Councils (SSCs) cover 85 per cent of the workforce. The relicensing process includes a performance assessment carried out by the National Audit Office, focusing on: how well run the organisation is, its ability to deliver core products and services, its ability to deliver sector specific solutions to employer demand and its ability to progress results and impacts. To date, 12 SSCs have been relicensed.

By contrast, National Skills Academies (NSAs) are led and co-funded by employers who work with Government and training providers to shape the training and qualifications that will help them compete in global markets. Skills Academies take different shapes and forms, ranging from purpose-built training centres to online services. Employers using training supported by NSAs generally reported that the quality of training was better.⁶⁷ Most felt that the qualifications and training offered by accredited providers were more relevant and tailored to their needs.

66 LSC (2009) 'Train to Gain Employer Evaluation: Sweep 4 Research Report'.

67 Institute of Employment Studies (2009) 'Evaluation of National Skills Academies – Year One Synthesis Report'.

Sectors also have the option to adopt collective measures to enhance training standards in their industry. The evidence suggests that voluntary collective measures are more effective in encouraging employer investment in skills, while statutory levers are generally only effective where there is common support for their introduction (such as with occupational licensing and levies).⁶⁸ The Construction Industry Training Board provides such a scheme for the construction industry. Safety provides an example of an area where Government regulation is often necessary. In a number of occupations (e.g. construction, Gas Safe Register scheme (formerly CORGI) and the care sector), the Government requires a licence to practice which ensures minimum standards of qualification and sets the standard for the sector.

Capital market support

Professional and Career Development Loans (CDLs) are deferred repayment commercial bank loans which run in partnership with two banks. Individuals are able to borrow up to £10,000 to pay for vocational courses lasting up to three years.⁶⁹ The LSC pays the interest on the loan for the duration of the course with the learner paying off the loan after the completion of the course.

Since 1988, over a quarter of a million people have drawn on a CDL to help fund vocational learning. For every pound of Government money invested in CDLs there was a return of over £6 to the economy.⁷⁰

Survey evidence shows satisfaction with CDL from users, particularly around CDL advice and support (82 per cent).⁷¹ Most importantly, 80 per cent of learners agreed that the CDL has helped them develop new skills.

In summary, the Government has put in place a number of initiatives aimed at improving skills outcomes, which in general appear to be working well and delivering value for money. But there is also scope to consider how performance can be improved by:

- Considering the right balance of Government subsidy between different types of vocational training and different subjects;
- Improving the provision of information to both learners and businesses on the returns to different courses and different institutions, encouraging competition between providers around quality and impact of training and helping deliver the most economically valuable skills;
- Ensuring that appropriate use is made of regulation, including the role of voluntary agreements in delivering skills outcomes.

68 UKCES (2009) 'Review of Employer Collective Measures', UKCES Evidence Report 10.

69 This includes up to one year's practical work experience where it forms part of the course.

70 LSC (2008) 'Evaluation of the Career Development Loan Scheme'.

71 Ibid.

Part 5 – Developing skills policies

This paper has identified the value of skills to individuals, employers and consumers and the importance of further investment in skills to drive UK competitiveness, productivity and prosperity in the global economy. It has also examined the role of Government in the market for skills provision, based on correcting market failures, and the lessons that can be drawn from existing interventions to aid further policy development.

Globalisation and technological change continue to exert an influence on the composition of labour in the UK. There has been a large increase in the global supply of unskilled labour from the emerging economies and it has become easier for firms to shift low skill production activities to these countries. This is placing a greater premium on skilled labour and presents the UK with an opportunity to move towards more high skilled jobs. These trends have been reinforced by the impact of the downturn, which has created new challenges in terms of responding to the skills needs that will help the UK come out of the recession stronger.

The importance of skills in the global economy was recognised in the *Leitch Review*. While in some areas, such as higher level skills, the UK performs relatively well compared to other OECD nations, Leitch noted the poor performance in terms of the proportion of people holding lower and intermediate level qualifications which is projected to continue. As a result, Government set a number of qualification targets to enable the UK to develop a world class skills base by 2020.

In England, significant progress is being made toward achieving a world class skills base by 2020. However, on current trends, it is projected that the 2020 ambition for level 3 or above will not be met. Currently, 51 per cent of the working age population are qualified to level 3 or above. This is expected to rise to only 63 per cent by 2020, rather than the objective of 68 per cent.

The Government continues to monitor progress against the Leitch vision of being in the upper quartile of OECD countries by 2020. Reflecting the importance of intermediate and higher level skills, Government is setting a new ambition that three quarters of people should participate in higher education or complete an advanced apprenticeship or equivalent technician level course by the age of 30.

By looking at the decision to invest in skills from the perspectives of the main actors in the skills system – individuals, employers, providers and Government – a number of sources of market failure can be identified which could lead to underinvestment in skills. Four broad roles for Government have been identified which could lead to greater investment in skills:

- **subsidy** of the training system;
- **information** on the benefits of different courses;
- **capital market support/guarantees** for potential learners;
- **appropriate regulatory environment**, particularly for providers and employers.

In considering Government subsidy of training, research suggests that the returns to qualifications vary substantially. Significant positive returns are found for academic and many vocational qualifications including apprenticeships where we observe particularly strong returns that have been increasing over time. The presence of market failure, combined with these returns, suggests there is scope for increasing the amount of funding available for advanced and higher level apprenticeships whilst maintaining the existing focus on lower level skills.

Funding could also be made available for sectors offering the strongest potential for future growth and where externalities and long term uncertainty point to a role for Government in supporting training. It is very difficult to predict accurately where future employment opportunities will be, but more analysis is being done with UKCES to help identify these future areas of global opportunity building on existing sources of comparative advantage.

Information about the courses available, the quality of provision and the subsequent labour market outcomes is a potential barrier to training for both learners and employers. It is important that there is clear information to learners to help them make informed choices. Skills Accounts and the new adult advancement and careers service are examples of ways to provide learners with a wide range of information. This could include the different courses offered by colleges, the costs of pursuing different courses, the quality of different courses, the funding options and entitlements available and the potential wage gains.

Employers also report informational problems relating to the provision available and often hold a perception that the system is too complex. Simplifying the skills landscape and the number of bodies involved may improve the ability of employers to navigate the system.

There is evidence to support the view that, in addition to investing in workforce skills, there are also potential benefits to employers from making effective use of people and skills in the workplace. The Government continues to promote the findings of the *MacLeod Review* which illustrated the potential benefits from greater levels of employee engagement.

An appropriate regulatory environment may also have a role to play in helping to promote greater investment in skills and ensure that provision is high quality and responsive to the changing requirements of learners and employers. One area for regulation is with providers where Government needs to strike a balance between ensuring high quality provision, creating the right financial incentives for providers that enable them to be flexible but also be able to make long term investments, and maintaining access to learning for members of the local community.

Finally, it will not be sufficient merely to deliver increased qualification levels, as these will only feed through into productivity and economic growth if the training provided is economically valuable. It is important to ensure that skills provide individuals with the best possible chance of gaining sustainable employment, progressing in work, and increasing their productivity and earnings.

With this in mind, the Government has been working to devise new indicators that will inform its PSA target on skills. These new indicators will measure the success of the skills system at delivering the skills the economy needs and will include indicators for skills gaps and shortages, employer satisfaction with training providers, and improved labour market outcomes for individuals.

