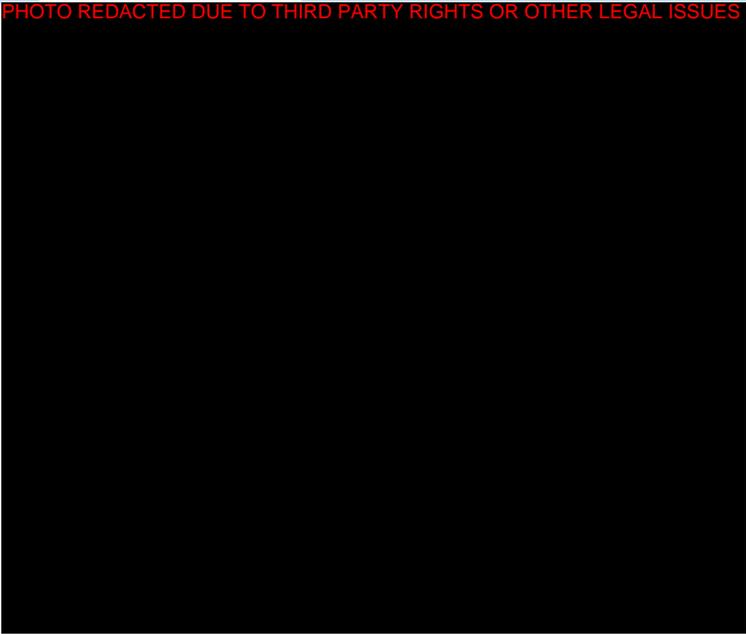
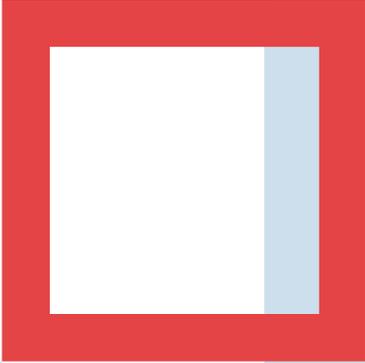


Education and Skills: The Economic Benefit



Education and Skills: The Economic Benefit

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Foreword by the Secretary of State



Education matters to people. It is more than just a public service and provides the very basis for a fulfilled life and a civilised society. Not only does education bring personal fulfilment, but in a rapidly expanding global economy the value of education and skills cannot be underestimated. The future prosperity of the country depends on our collective knowledge and skills base and our constant drive to push the boundaries of knowledge further.

The Department for Education and Skills has a big responsibility. It is therefore important that we should question what, why and how. The purpose of this booklet is to set out compelling evidence that underlies what we all think we know. It shows that the social and economic value of education and skills is huge. It shows where policies have been successful. Quite correctly, it also pulls no punches in setting out where there is still a long way to go to achieve an education system that really delivers what we all want from it.

Creating opportunity, releasing potential and achieving excellence is the mission statement of the Department. We can only fulfil this mission by creating policies which are built on the best possible evidence base. This booklet represents a small but important part of the Department's work to achieve that. I commend it as the best possible introduction to the importance of education and skills policy for the economy at large.

A handwritten signature in blue ink, which appears to read 'Charles Clarke'.

Charles Clarke,
Secretary of State,
Department for Education and Skills

Summary

Context

- **Education and skills policy has a big impact on both economic well-being and social inclusion.** High quality learning is strongly linked with higher earnings, lower chances of becoming unemployed, better health and reduced crime.
- **In financial terms, education and skills policy is hugely important, and increasingly so.** Spending is set to rise from £54bn in 2002-03 to £68bn by 2005-06. However, in terms of spending as a percentage of GDP, this will probably still leave the UK behind countries such as France, Austria and New Zealand, and Scandinavian countries.
- **It is crucial that education policies are viewed from an economic perspective.** The Department is committed to *evidence-based* policymaking. Policy must be made on the basis of what is known to be effective, thereby helping to ensure good value for money.

The value of education and skills

- **Education and skills policy is helping the Government to achieve both its economic and social objectives.** Education policy is playing a vital role in breaking the cycle of deprivation and addressing social inequalities. Education is also associated with important wider benefits such as better health and crime outcomes.
- **Highly educated people are more productive. This is why they earn more, and are more likely to be employed.** Qualifications are clearly linked with earnings and employment, for both men and women and across different age groups.
- **Education and skills policy is a key element of Government measures designed to close the productivity gap between the UK and its competitors.** In comparison to France and Germany, the UK has a particular shortage of intermediate-level qualifications. Adult literacy levels also lag behind those of other countries.
- **Alongside the benefits to the economy, the returns to education are high for the individual and for society too, even by international standards.** The social returns to education are generally found to be at a level which make education appear a worthwhile investment. The earnings gains associated with education in the UK are also high in comparison to its main competitors.

- **Because the returns are so high, good educational outcomes are a prerequisite for a fairer society, especially as the effects persist between generations.** Children with parents from unskilled manual backgrounds, and whose parents therefore also have fewer qualifications, have been shown to have a 80% probability of not achieving five or more good GCSEs, compared with only 31% for children with managerial or professional parents.
- **There are also significant wider benefits, for example with regard to health and crime.** Education is associated with lower chances of depression, obesity, respiratory problems, and lack of exercise. There is also a strong relationship between lack of qualifications and offending rates, and between truancy and offending rates.

Progress to date and areas for improvement

- **Pre-school attendance has positive effects, especially for those from disadvantaged backgrounds.** It has been shown that, by age 10, the child's socio-economic group has become a more powerful predictor of attainment than the child's attainment at age 22 months.
- **There has been good progress in primary schools, but progress has been slower at Key Stage 3.** The number of 11 year olds achieving the "expected" level in Key Stage 2 tests has increased significantly. Test results have also improved at age 14, but progress has been slower than in primary schools.
- **Performance has improved at ages 15-16, and the UK is doing well internationally too.** GCSE attainment has risen significantly in recent years. In the recent OECD PISA survey of 15 year olds in 32 countries, the UK ranked 7th (reading literacy), 4th (scientific literacy) and 8th (mathematical literacy). However, the study also showed that socio-economic background remained a relatively large barrier to educational achievement in the UK.
- **There are policies in place to improve skill development at age 16 and beyond, and it is important to establish a clear vocational route.** By age 18, Turkey and Mexico are the only OECD countries with fewer 18 year olds enrolled in education than the UK. The Education Maintenance Allowance increased participation among eligible young people by 5.9 percentage points.
- **In Higher Education, Government has a role in promoting equality and helping people to make the right degree choices.** The returns to holding a degree have remained high over time. Participation has risen, although it still varies enormously between social groups.

- **There is an economic and social need to improve basic and intermediate level skills within the workforce.** Better basic numeracy and literacy skills are associated with increased earnings. Whilst top earners in the UK and Germany earn similar amounts, low earners in the UK earn considerably less than in Germany.
- **There are strong economic and social arguments for embedding a true culture of lifelong learning. But Government needs to work in partnership with business to achieve this.** Around one in three employees has never been offered training by their current employer, and employers' training is typically focused on workers from higher socio-economic groups.

The future

- **It is essential that the labour market and the wider economy are considered when making education policy, and increasingly so.** By 2010, it is forecast that 80% of new jobs will be in higher-level occupations. These jobs are those most likely to be filled by people with higher-level qualifications.
- **So, in summary, economic principles play a key role in successful education policy.** Economic principles play a crucial role in ensuring maximum impact from the public resource devoted to education policy. Also, by helping the Department to understand the constraints it faces, economics can help to overcome them.

Context

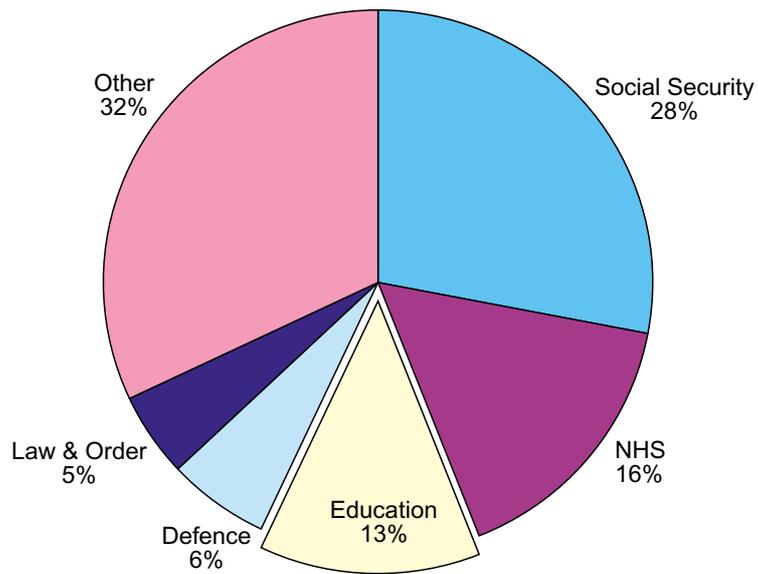
Education and skills policy has a big impact on both economic well-being and social inclusion.

- High quality learning is strongly linked with higher earnings, lower chances of becoming unemployed, better health and reduced crime. Furthermore, it enhances worker productivity and helps the economy remain internationally competitive.
- By developing the skills of the current and future workforce, the Department's policies are helping to create both a more prosperous society and a more equal one:
 - The National Childcare Strategy and Sure Start are helping to provide an improved start in life.
 - The Department is building on its success in schools, with a strong focus on the crucial years at the beginning of the secondary phase.
 - Measures to raise participation and attainment during the 14-19 phase, alongside those to increase and widen participation in Higher Education, are helping to provide the skilled workforce that the economy needs.
 - The Skills for Life strategy is helping to tackle the legacy of millions of adults lacking basic literacy and numeracy skills, and the Learning and Skills Council is working in partnership with business to ensure that adults can acquire skills throughout their working lifetimes.

In financial terms, education and skills policy is hugely important, and increasingly so.

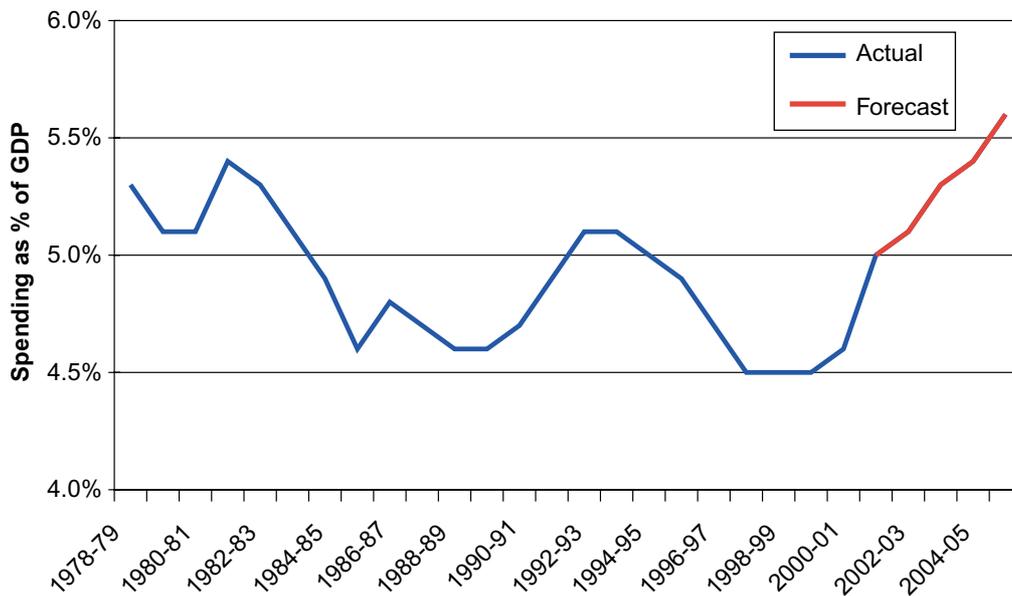
- Education and skills is one of the largest areas of UK Government expenditure. Spending is set to rise from £54bn in 2002-03 to £68bn by 2005-06.
- This follows a period of slower growth between the 1970s and late 1990s where spending, despite increasing by 30% in real terms, generally *declined* as a proportion of national wealth.
- Economists think of education and training as "superior" goods, for which the demand rises over time at a faster rate than income. We would not, therefore, have expected spending on these goods to have grown more slowly than the economy as a whole.

Education accounts for a significant proportion of Government spending...



Government expenditure by function, 2002-03 (HM Treasury Pre-Budget Report, 2002)

By recent historical standards, UK education spending is rising rapidly...



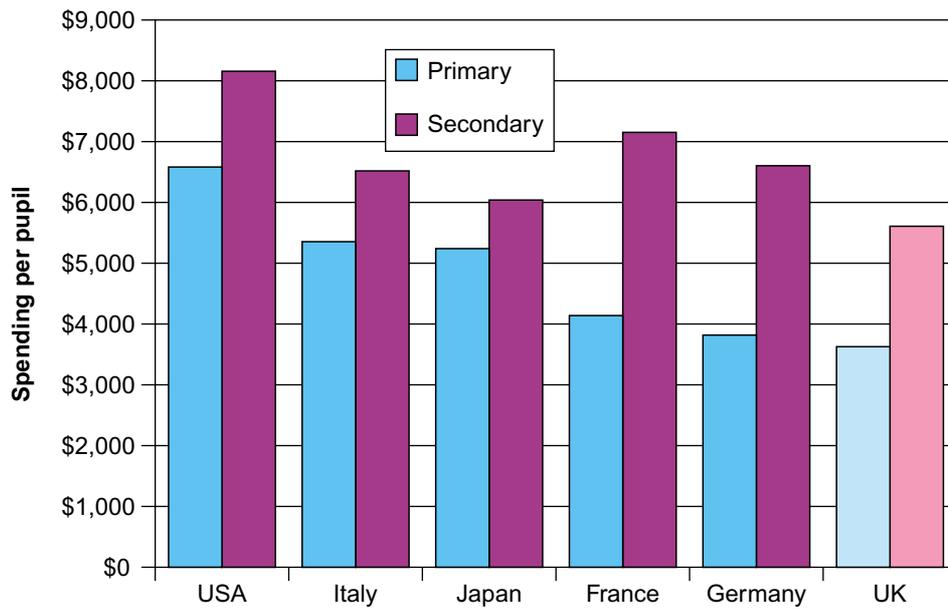
UK Government expenditure on education and skills as a proportion of GDP (Department for Education and Skills, 2002)

- It is difficult to predict precisely what will happen to education spending in other countries over coming years, but planned increases should see future UK spending reach the *current* EU average of 5.6% of GDP. This will, however, probably still leave the UK behind countries such as France, Austria and New Zealand, and Scandinavian countries.
- Indeed, spending per pupil in the UK in 1999 was below the OECD average, and the lowest of the G6 countries. Although there have been significant increases in recent years, there is still a lot of ground to make up.

This makes it crucial that education policies are viewed from an economic perspective.

- If the Department is to see its proposals work effectively, it needs to understand how its actions affect people in practice, and to measure its progress.
- This means setting clear targets against the most appropriate indicators. However, more than this, the Department is committed to *evidence-based* policymaking. Policy must be made on the basis of what is known to be effective, thereby helping to ensure good value for money.
- If it is collected correctly and rigorously, evidence from economic appraisals and evaluations can be a powerful tool in helping the Department to design appropriate education and skills policy.

In terms of spending per pupil in 1999, the UK had ground to make up on its main international competitors...



Annual expenditure in 1999 on education per student in equivalent US dollars, converted using Purchasing Power Parities, based on full-time equivalents (OECD Education at a Glance, 2002)

The value of education and skills

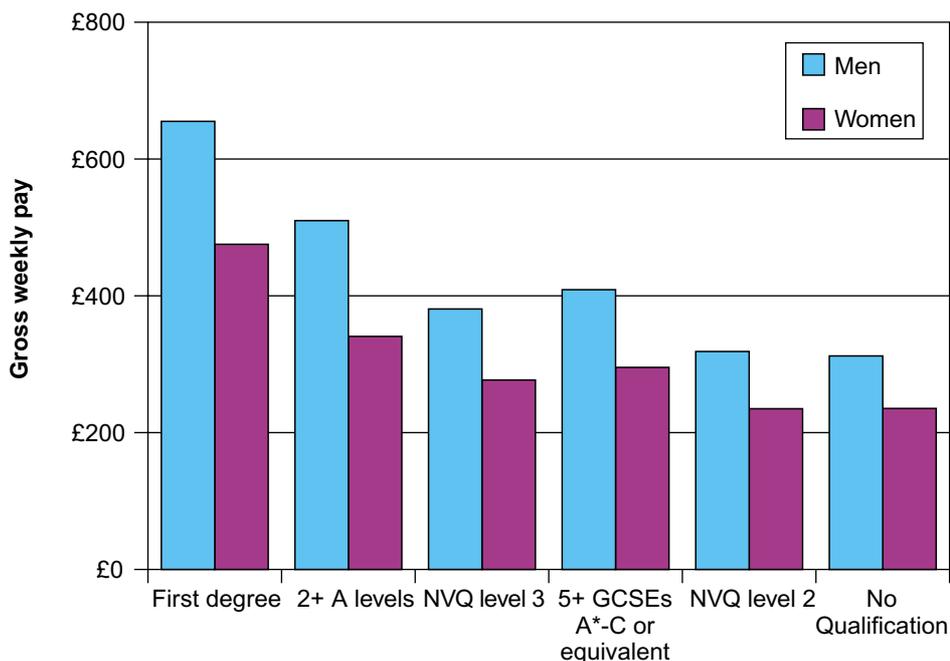
Education and skills policy is helping the Government to achieve both its economic and social objectives.

- There is clear evidence that receiving a high quality education is generally a good investment for an individual, as on average it leads to higher earnings and increased employability.
- Education is also a crucial factor in enhancing international competitiveness and creating the right climate for strong and sustained economic growth.
- These points do not in themselves constitute a complete case for *public* investment in education. But by ensuring that people have the general skills they need for working life, and by helping them make the right educational choices and overcome any barriers to them doing so, the Government is playing a vital role in breaking the cycle of deprivation and addressing social inequalities.
- In addition, education is associated with important wider benefits such as better health and crime outcomes.

Highly educated people are more productive. This is why they earn more, and are more likely to be employed.

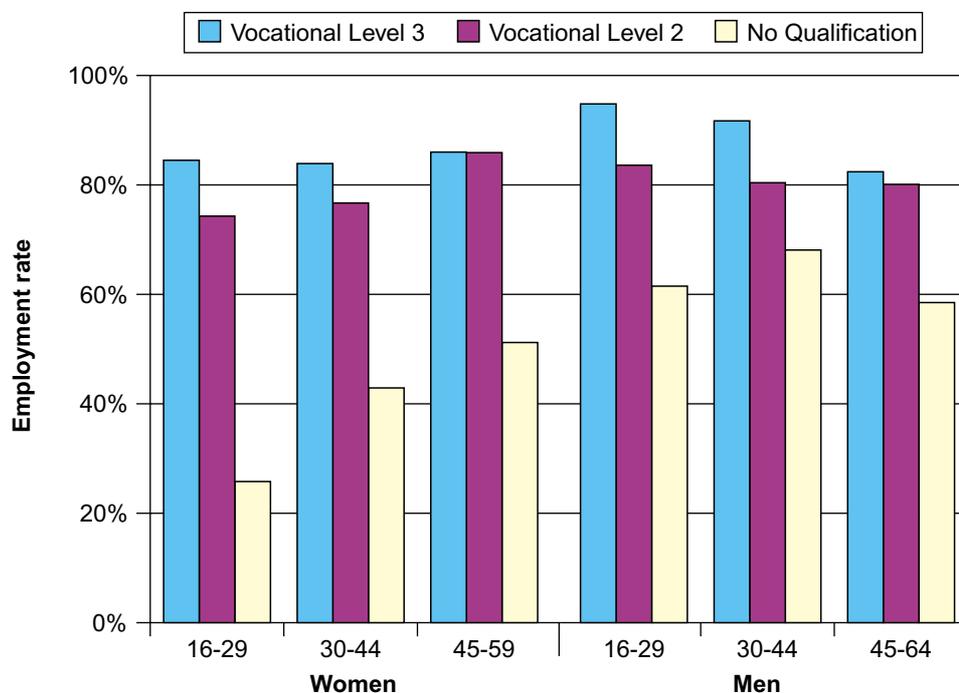
- There is a clear link between qualifications and earnings, for both men and women and across different age groups.
- Nonetheless, raw data alone do not fully illustrate the link between education and productivity. A full understanding of the earnings gains associated with obtaining particular qualifications requires analysis of the personal characteristics of the individual and his or her precise position in the labour market. For instance, the impact of qualifications on earnings includes the effect of personal attributes. The attributes which can lead to good qualifications can also lead directly to more highly-paid jobs.
- However, people with qualifications are more likely to be employed. Research also shows that a large proportion of the higher earnings of the well-qualified can be attributed to their education and qualifications rather than natural ability.
- This is why there is a very close link between earnings and productivity. In the simplest terms, a rational employer would not pay an employee more than the value of their productive output. Equally, an employee would not accept less, because he or she should be able to secure a higher wage with a different employer.

Education is a good investment for the individual as it generally leads to higher earnings...



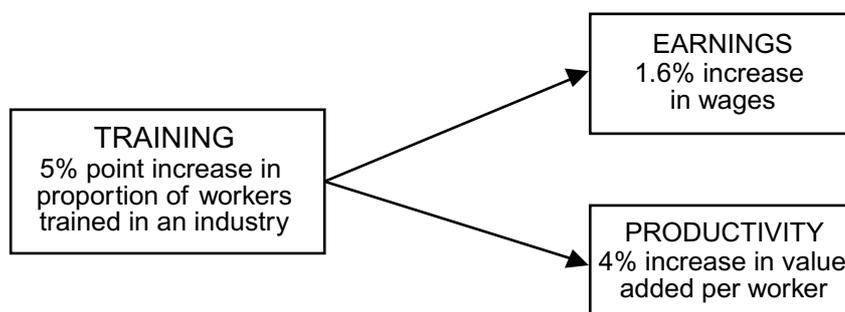
Gross weekly pay of full-time workers by highest qualification, England & Wales, 2001 (Labour Force Survey, Winter 2001)

People with vocational qualifications are much more likely to be employed throughout their working age lifetimes...



Employment rates of people with vocational qualifications, England & Wales, 2001 (Labour Force Survey, Winter 2001)

- Research confirms that the link between earnings and productivity is a strong one. Indeed, as illustrated below, the impact of training on company productivity may be considerably larger than the effect on earnings.

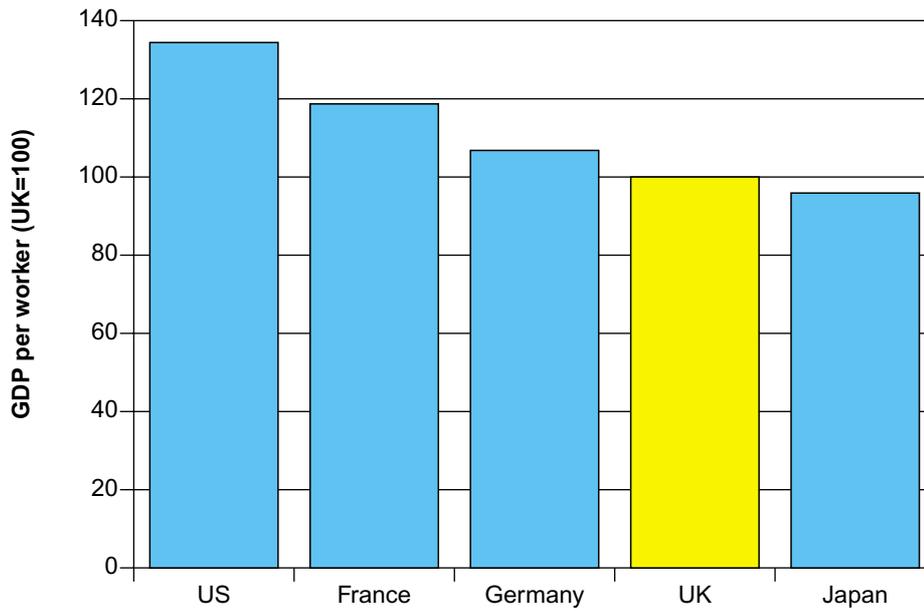


Estimated effect of training on earnings and productivity, British firms, 1983-1996 (Derived from Dearden, Reed and Van-Reenan, 2000)

Education and skills policy is a key element of Government measures designed to close the productivity gap between the UK and its competitors.

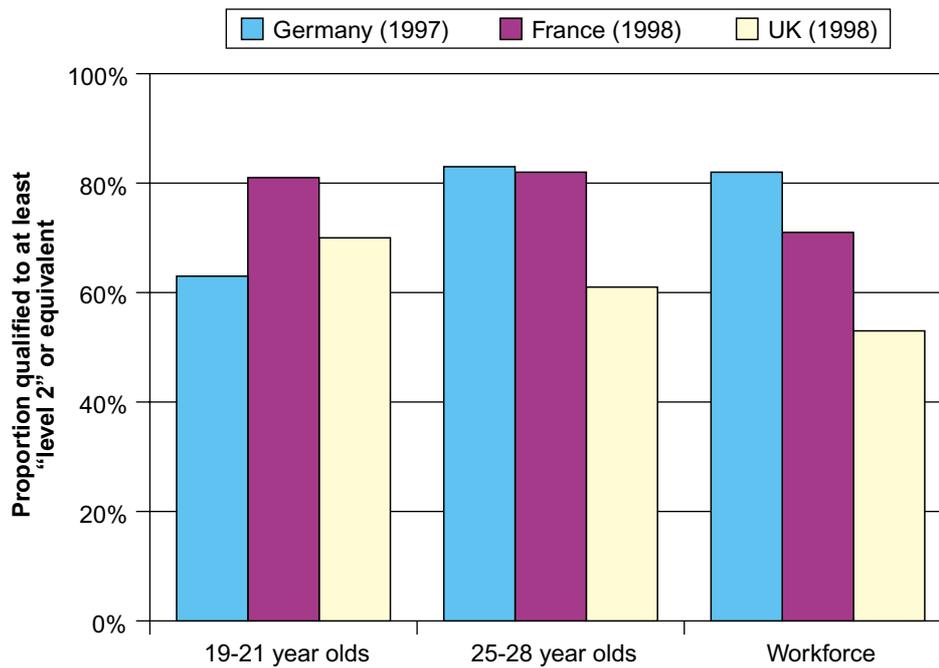
- UK output per worker is below the level of most of its major competitors, as well as the G7 average. A recent survey of the international academic literature suggested that education can have a significant and measurable impact on the rate of economic growth.
- Conversely, unless there is an adequate supply of skilled workers, there is a danger that the economy may fall increasingly into a low-skills equilibrium, thus constraining its potential for growth and wealth creation. In such a situation, organisations downgrade their business objectives and cease to demand the higher skills that are needed to be internationally competitive in higher value-added sectors. Consequently, workers have less incentive to obtain these skills and a vicious circle can be created.
- Economic performance has also been held back by a shortage of intermediate-level qualifications. A much lower proportion of the UK workforce holds level 2 qualifications than in France and Germany. Additionally, around twice as many of the German workforce are qualified to level 3 or above as in the UK and France.
- We have, in comparison to other countries, a particular shortage of level 2 qualifications in the workforce above age 21, which illustrates the need to raise skill levels at all ages.

Labour productivity in the UK is lower than for many of its major competitors...



GDP per worker, 2001 (ONS International Comparisons of Productivity, 2003)

A far lower proportion of the UK workforce holds level 2 qualifications than in France and Germany...



Proportion qualified to at least "level 2" or equivalent by age group (Steedman, Updating the Skills Audit Data 1998, 2000)

- Past under-investment has also left a legacy of millions of adults who lack the basic skills that a successful economy needs. For instance, adult literacy levels in the UK lag behind those of other countries.
- Of course, education and skills policy is only one element of the wider strategy to improve long-term economic performance. The creation of a climate which encourages low and stable inflation, labour market flexibility and sustainable economic growth has provided an important platform. Measures to promote investment, infusion of new technology, innovation and entrepreneurship are also key elements of the Government's strategy.

Alongside the benefits to the economy, the returns to education are high for the individual and for society too, even by international standards.

- The higher earnings that result from education persist over the entire working lifetime, for both men and women. With such clear economic benefits, it is therefore unsurprising that the rates of return to educational qualifications are high.

Rates of return

In simple terms, a rate of return is calculated by comparing the cost of an investment against the resulting flow of benefits, the latter typically occurring over a longer period.

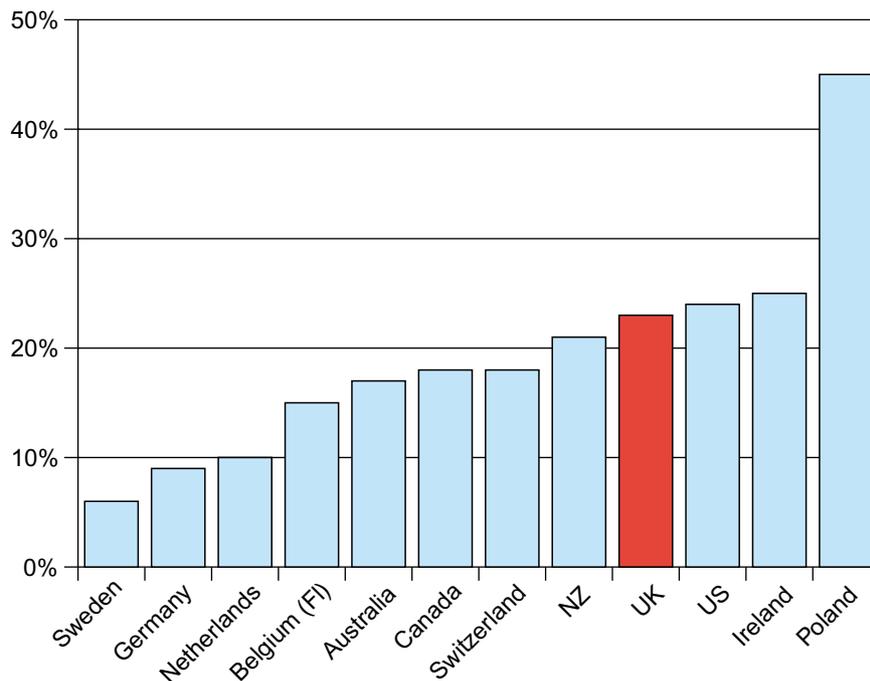
Unlike the "private" rate of return, the "social" rate of return includes the costs and benefits that accrue to society as a whole, in addition to the individual.

For this reason, a high social rate of return generally provides stronger justification for public investment in education than an equally high private return.

- Rates of return vary across qualifications, but the social returns are generally found to be at a level which makes education appear worthwhile in comparison to what might be regarded as more traditional investments.

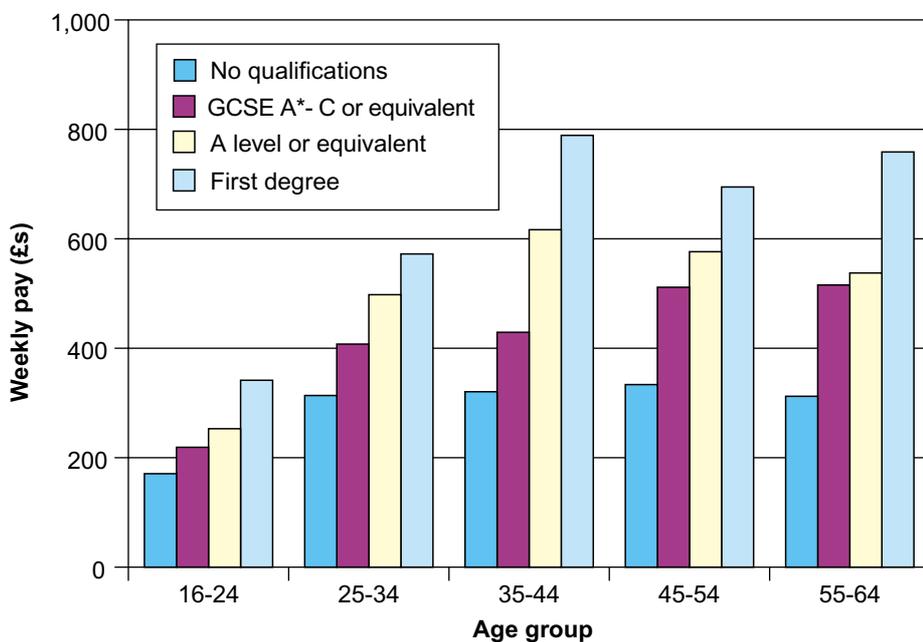
Social rates of return to qualifications		
	Males	Females
First Degree	6%-8%	9%-11%
2+ A Levels	15%-21%	14%-21%
Source: Department for Education and Skills estimates		

Levels of basic adult literacy in the UK lag well behind many other countries...



Proportion of the 16-65 population at lowest literacy level, 1994-95 (OECD Education at a Glance, 2000)

High rates of return to education are largely explained by the fact that the benefits persist over the entire working lifetime...



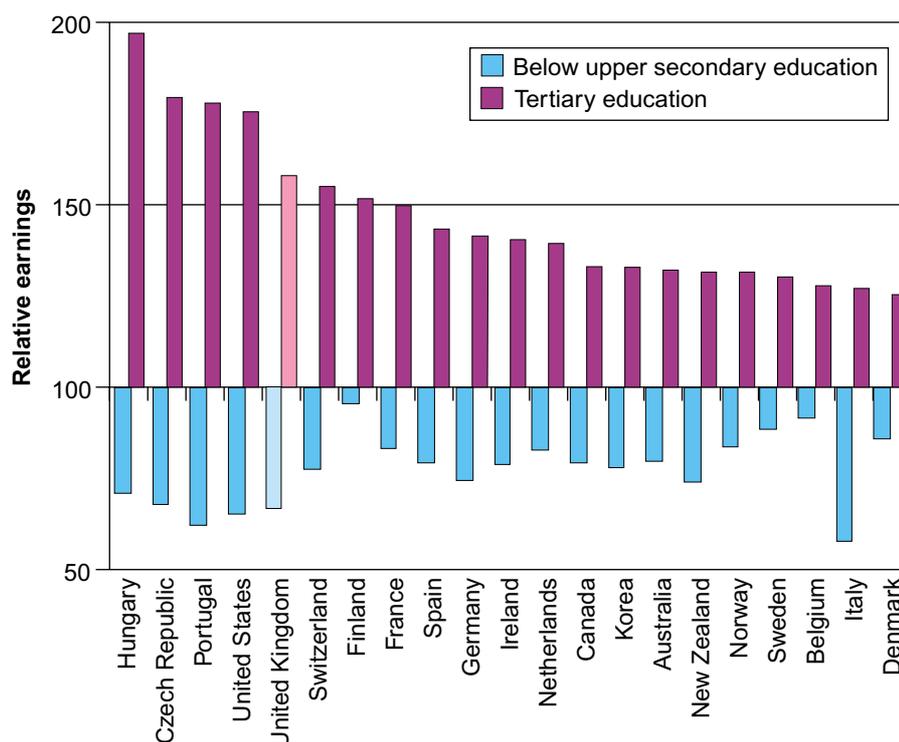
Gross weekly earnings of males in full-time work by highest qualification, England & Wales, 2001 (Labour Force Survey, Winter 2001)

- The link between education and productivity applies internationally too. On average, across OECD countries, a person aged 25-64 without an upper secondary education could expect to earn 23% less than someone with such an education. Furthermore, OECD figures show that an individual with a higher (tertiary) education qualification could expect to earn 47% more than a person qualified to upper secondary level.
- However, the earnings differentials observed in the UK are more pronounced than the OECD average. Other studies have also shown that the earnings gains associated with education in the UK (and, according to recent OECD calculations, the rates of return too) are high in comparison to its main competitors.

Because the returns are so high, good educational outcomes are a prerequisite for a fairer society, especially as the effects persist between generations.

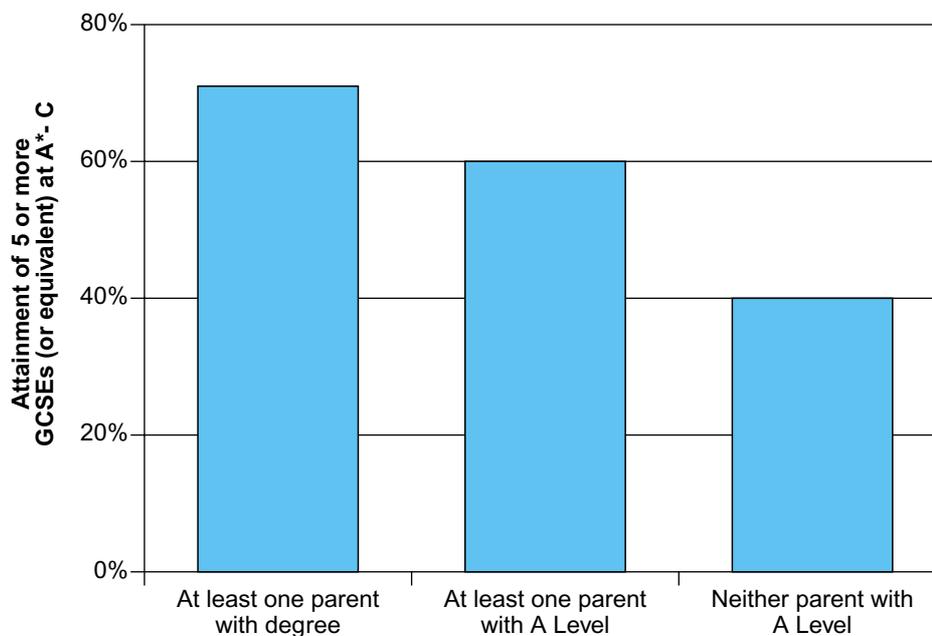
- During the 1980s and early 1990s, the income distribution widened in the UK, fuelled by the gap between the earnings of the well educated and less well educated.
- Nonetheless, achieving qualifications, gaining employment and earning an income can improve social equality without increased dependence on state benefits.
- Good education can also help to break the inter-generational cycle of under-achievement and deprivation. There is a clear link, for instance, between parents' qualifications and the GCSE attainment of their children.
- Research has also shown this link to be a causal one. The probability of a woman undertaking a degree increases by 1.1 percentage points for every extra year of education undertaken by her mother.
- Children with parents from unskilled manual backgrounds, and whose parents therefore tend to have fewer qualifications, have been shown to have a 80% probability of not achieving five or more GCSEs at grade A*-C, compared with only 31% for children with managerial or professional parents.
- However, it is not social background in itself which determines outcomes. For example, parents with different backgrounds and educational experiences tend to interact differently with their children. This illustrates one way in which education can help to break the cycle of deprivation.

The link between education and earnings is especially strong in the UK...



Relative earnings by level of education for 25 to 64-year-olds (OECD Education at a Glance, 2002); Upper secondary = 100 and is defined as a level 2 vocational qualification or any GCSE passes.

There is an inter-generational cycle of under-achievement and deprivation which education can help to break...



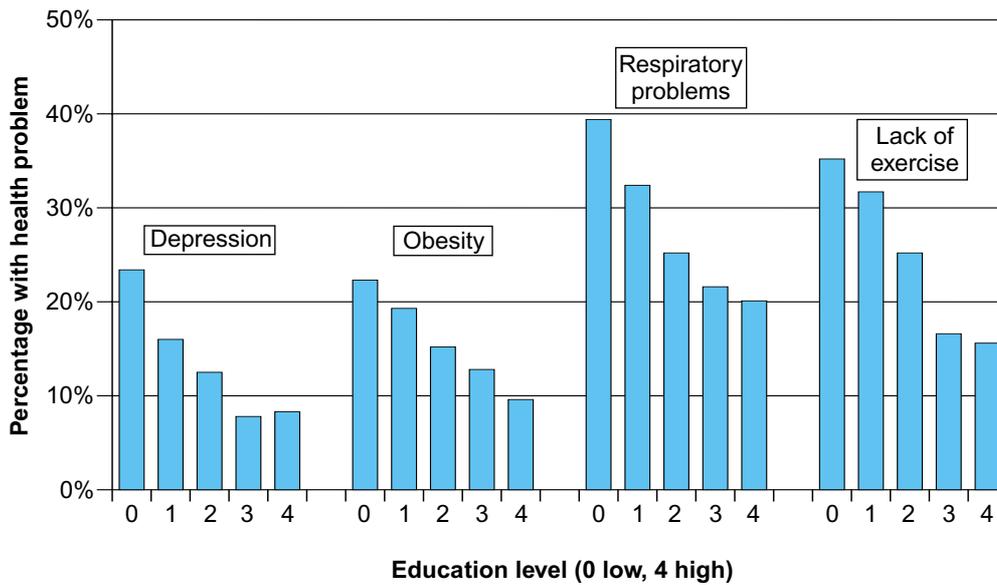
Attainment of 5 or more GCSEs (or equivalent) at A*-C by parents' qualification level, England & Wales (Youth Cohort Study, 2002)

- For instance, a study which follows children over time has shown that home learning environment can have more of an impact on children's attainment than social background, and that pre-schools that involve parents more have the greatest effect on child progress.

There are also significant wider benefits, for example with regard to health and crime.

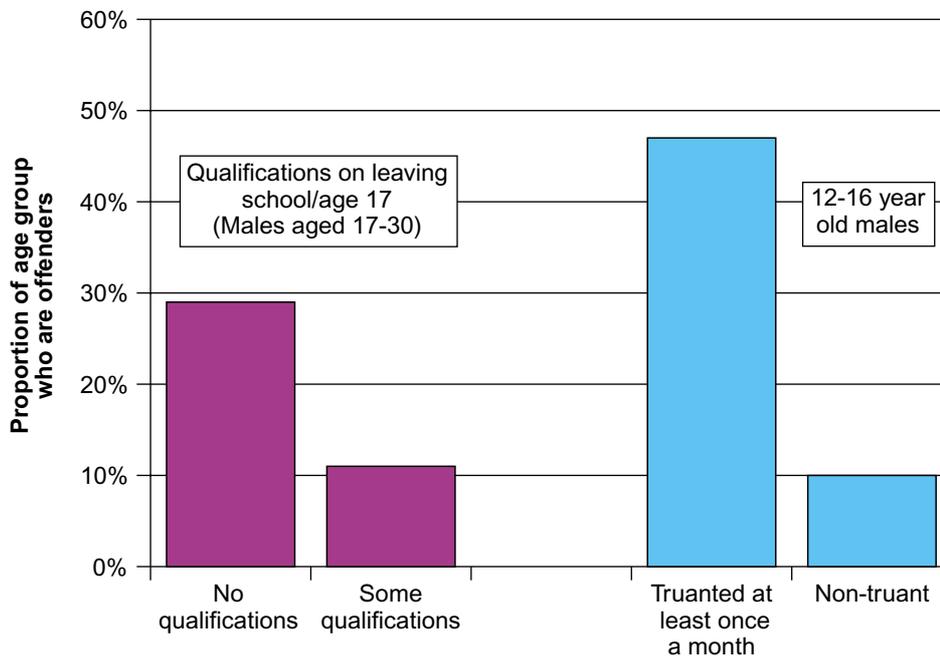
- There is a wealth of evidence linking education with outcomes such as better health, longer life expectancy, lower infant mortality and reduced crime. One study found that the proportion of people reporting good health rises from 17% of those with no qualifications to 35% for those with degree level qualifications or higher. Education is also associated with lower chances of depression, obesity, respiratory problems, and lack of exercise.
- Mortality rates amongst the adult population are closely related to occupational group and hence to educational level. Furthermore, not only are mortality rates much higher for those in lower skill groups, but the rate of decline in mortality rates has also been much slower for the less well educated. In the highest skill group, mortality rates fell by 44% between 1971 and 1992, compared to a 10% fall within the lowest skill group.
- In isolation, such findings do not prove beyond doubt that better education leads to better health, as healthier people may be more likely to become better educated too. However, research has suggested that having better numeracy skills reduces the probability of having a long-term health problem even after allowing for other possible causes.
- A lack of qualifications, poor behaviour at school, truancy and exclusion are all associated with delinquency and a high risk of offending. One self-reporting study found a strong relationship between qualifications and offender rates (proportion who have offended), and between truancy and offender rates.
- Once again, it is sometimes possible to isolate the causal nature of the relationship between education and crime. A US study concluded that the rate of high school graduation significantly reduces criminal activity. The nature of the link between education and crime is an area of continuing research, but initial findings nonetheless demonstrate the kind of impact education may have.

There is a strong relationship between education and the prevalence of health problems...



Relationship between education and health outcomes (Feinstein, 2001 – Based on unpublished analysis of National Child Development Study 1958 birth cohort)

Academic underperformance and truancy are both associated with delinquency and a high risk of offending...



Relationship between school performance and offending (Home Office Research Study 209 – Findings from the 1998/99 Youth Lifestyles Survey)

Progress to date and areas for improvement

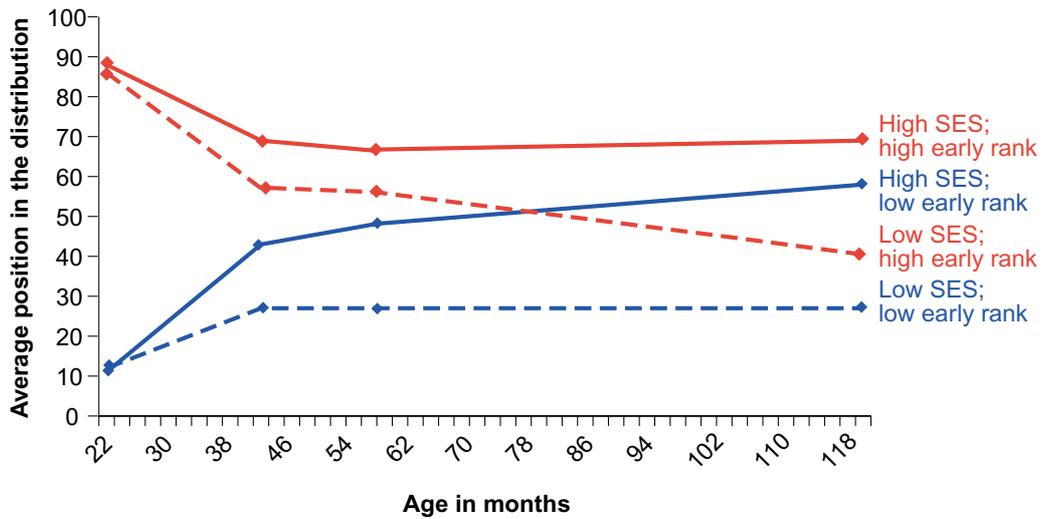
Pre-school attendance has positive effects, especially for those from disadvantaged backgrounds.

- An important US study has shown that the benefits to high quality pre-school education include less criminal damage, less need for remedial help, more success at school, and higher earnings.
- The evaluation of Early Excellence Centres has identified significant potential cost savings from high-quality early-years provision, in terms of money saved on alternative services that might otherwise have been provided to children or their families.
- Early years policies such as Sure Start (which provides services for parents-to-be and families with children under four who live in disadvantaged areas) and Early Excellence Centres have an important focus on parents and the community as well as the individual child.
- By tracking children over time, it has been shown that, by age 10, the child's socio-economic group has become a more powerful predictor of attainment than attainment at age 22 months. Specifically:
 - High achievers at 22 months with parents of high socio-economic status subsequently perform better than high achievers with parents of low socio-economic status (see the two red lines).
 - Similarly, low achievers from lower social backgrounds subsequently perform worse than low achievers from higher social backgrounds (see the blue lines).
 - Strikingly, low achievers at age 22 months from higher social backgrounds actually overtake high achievers from low social backgrounds (see the solid blue and dashed red lines) before age 10.

There has been good progress in primary schools, but progress has been slower at Key Stage 3.

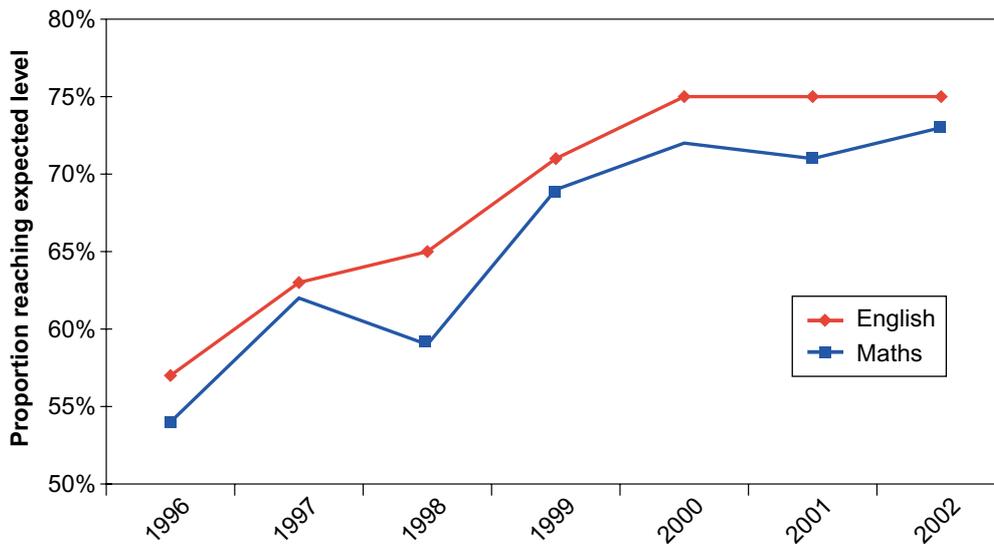
- The National Numeracy and Literacy Strategies have corresponded with an increase in the number of 11 year olds achieving the "expected" level in Key Stage 2 tests.
- Test results have also improved at age 14, but progress has been slower than in primary schools. The improvements at Primary now need to be built upon and consolidated at Key Stage 3.

Social background is a more powerful predictor of educational outcomes by age 10 than attainment at 22 months...



Average rank of test scores by Socio-Economic Status (SES) of parents and early rank position (Feinstein, 2003)

There have been significant improvements in the performance of 11 year olds at Key Stage 2...



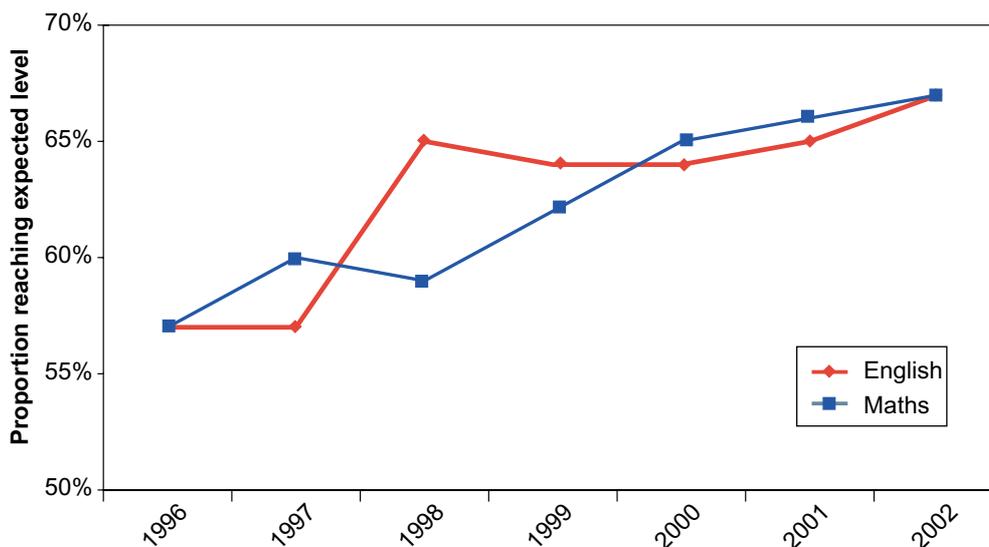
Proportion reaching expected level in Key Stage 2 tests, England (Department for Education and Skills, 2002); 2002 data are provisional.

- Progress between ages 11 and 14 has been slower than expected in recent years because the higher standards achieved at KS2 have not fed through to KS3. For instance, in 1998, 50% of pupils moved from the expected level at KS2 to the higher of two expected levels in KS3 English. However, in 2002, this figure fell to only 31%.
- Of course, it is the overall impact on the child that should be the primary focus, rather than test results. So it is important that evidence from research, evaluations, and school inspections is also considered.
- Ofsted's 2000/2001 report on Standards and Quality in Education indicated, in line with the previous year, that standards had generally risen. However, as in previous reports, concern was expressed regarding the slowdown in progress some pupils were making following the transition to secondary school.
- Other research evidence is unanimous that engagement, motivation and progression dip between ages 11-14. One study found that 40% of pupils failed to make expected progress during the year after transfer from primary, with losses greater in English language and for boys.
- The Government's Key Stage 3 agenda provides an excellent example of evidence-based policymaking in practice, as research has played a key role in ensuring that improved performance in the early years of secondary school is a key priority of current education policy.

Performance has improved at ages 15-16, and the UK is doing well internationally too.

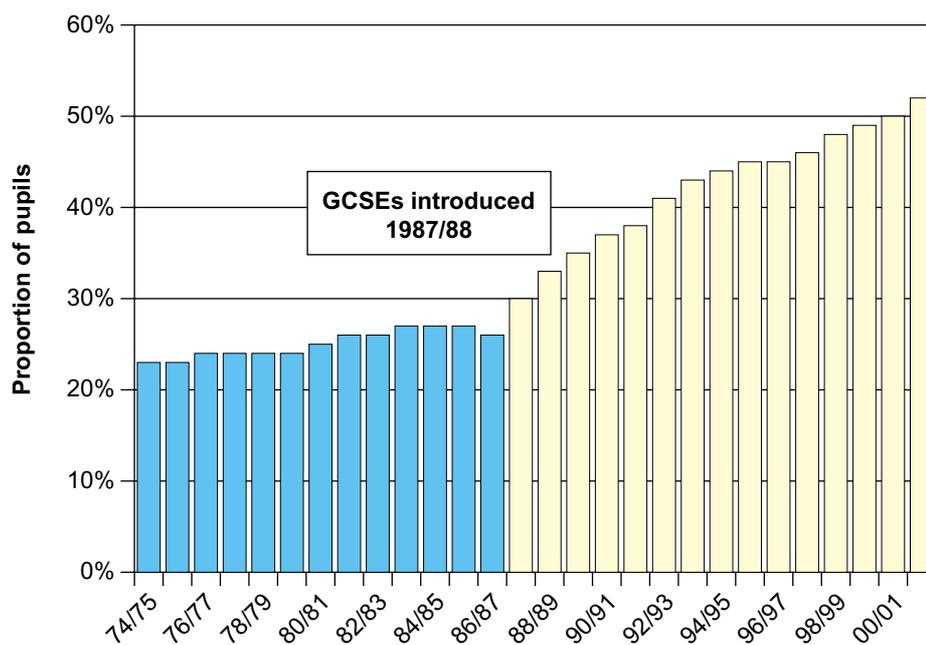
- Real progress has also been made in improving GCSE results, and the Government's target for 50% of students to achieve five good GCSEs was met in 2001.
- In addition, the recent OECD PISA survey assessed the ability of 265,000 15 year olds in 32 countries to apply their knowledge and skills to real life problems. Despite the fact that expenditure per student was below average, the UK ranked 7th in terms of reading literacy performance. In addition:
 - The UK came 4th on the PISA scientific literacy scale and was only significantly outperformed by Korea.
 - The UK came 8th on the mathematical literacy scale and was only significantly outperformed by Japan and Korea.

There has also been progress at Key Stage 3, although this has been less rapid than at Key Stage 2...



Proportion reaching expected level in Key Stage 3 tests, England (Department for Education and Skills, 2003).

Half of all students are now achieving five good GCSEs...



Proportion achieving 5 or more GCSEs or equivalent at grades A*- C at age 15, England (Department for Education and Skills, 2003); 2002 data are provisional.

- Even lower achieving pupils were doing relatively well by international standards. For example, in England, 13% of students reached only level 1 proficiency or below on the reading scale compared to an OECD average of 18%.
- However, socio-economic background remained an important barrier to educational success in the UK. In terms of reading score, only five countries had a wider gap between the performance of students from rich and poor backgrounds.

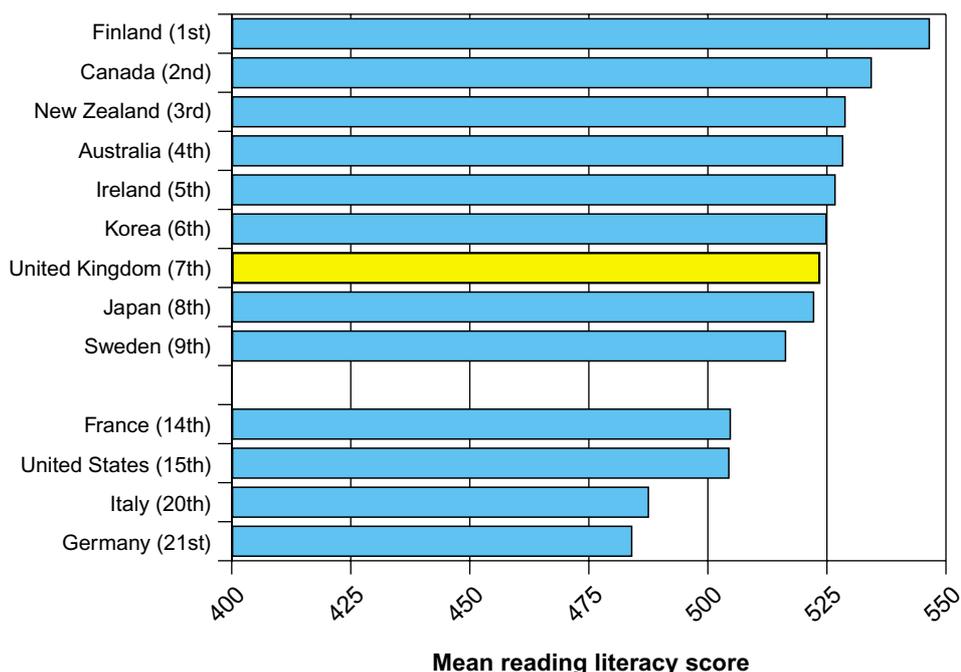
There are policies in place to improve skill development at age 16 and beyond, and it is important to establish a clear vocational route.

- Given the generally high returns to doing so, individuals must not be constrained from developing their skills beyond age 16 by barriers to information and finance. Again, the potential for such problems is most pronounced among those from lower socio-economic groups.
- By age 18, Turkey and Mexico are the only OECD countries with fewer 18 year olds enrolled in education than the UK.

Participation rates in full or part-time education at age 18, 1999	
Germany	85%
France	80%
Netherlands	80%
Italy	70%
United States	62%
Canada	54%
UK	53%
Source: OECD Education at a Glance, 2001	

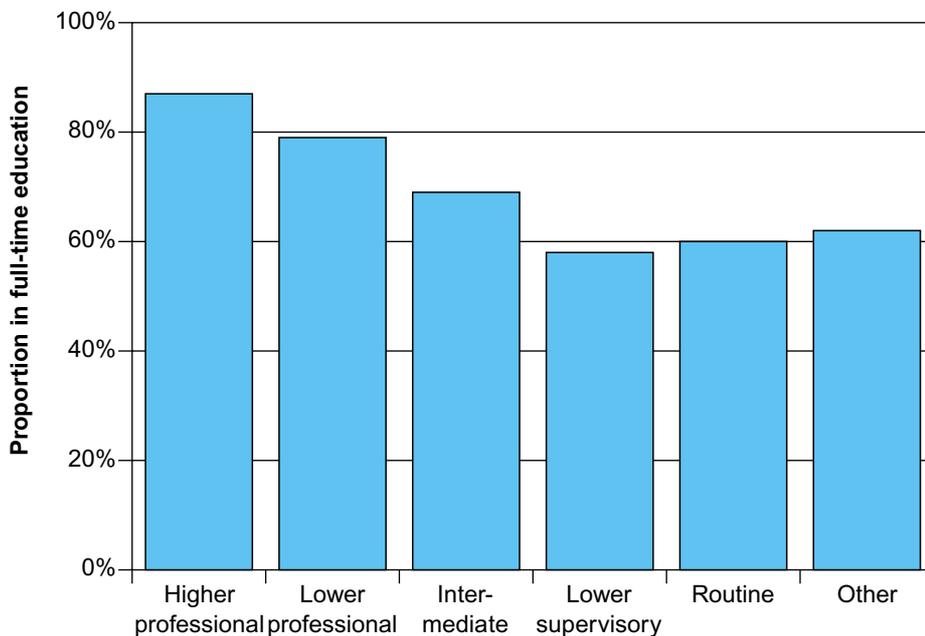
- These issues are being addressed through policies such as Connexions, Education Maintenance Allowances (EMAs) and Modern Apprenticeships.
- Early results from the EMA evaluation have shown that it increased participation among eligible young people by 5.9 percentage points. Just under half of those would otherwise have been not in education, employment or training (NEET). The effect has been particularly pronounced among young men and those eligible for the full award. There also appears to be a positive effect on retention from year 12 to year 13.
- Of course, EMAs need to raise attainment as well as participation, and the evaluation is ongoing. Nevertheless, early findings are highly encouraging.

UK students are performing well at age 15 in comparison to other countries...



Ranking of selected OECD countries by mean reading literacy scores at age 15, 2001 (OECD Programme for International Student Assessment, 2000)

Staying-on-rates at age 16 are lowest among lower socio-economic groups...



Proportion of 16 year-olds in full-time education by parental occupation, England & Wales (Youth Cohort Study, 2002)

- EMAs provide another good example of evidence-based-policy, and findings from the evaluation played a crucial role in the decision to roll the pilots out nationally in the 2002 Spending Review. Had the policy not been piloted, allowing comparisons to be made between EMA and non-EMA areas, its true impact would probably never have been known.
- Prior attainment, rather than socio-economic background, seems to be the single most important factor explaining subsequent participation in education and training at age 16. But, because socio-economic background affects attainment before age 16, it has a significant effect on the likelihood of participation in post-compulsory education.
- Participation rates beyond age 16 should benefit from clearer pathways for those not following the traditional formal education route. Although the majority of those who achieved 5 or more good GCSEs go on to sit A/AS levels, there has been a less clear route for those who achieved less than 5 good GCSEs.

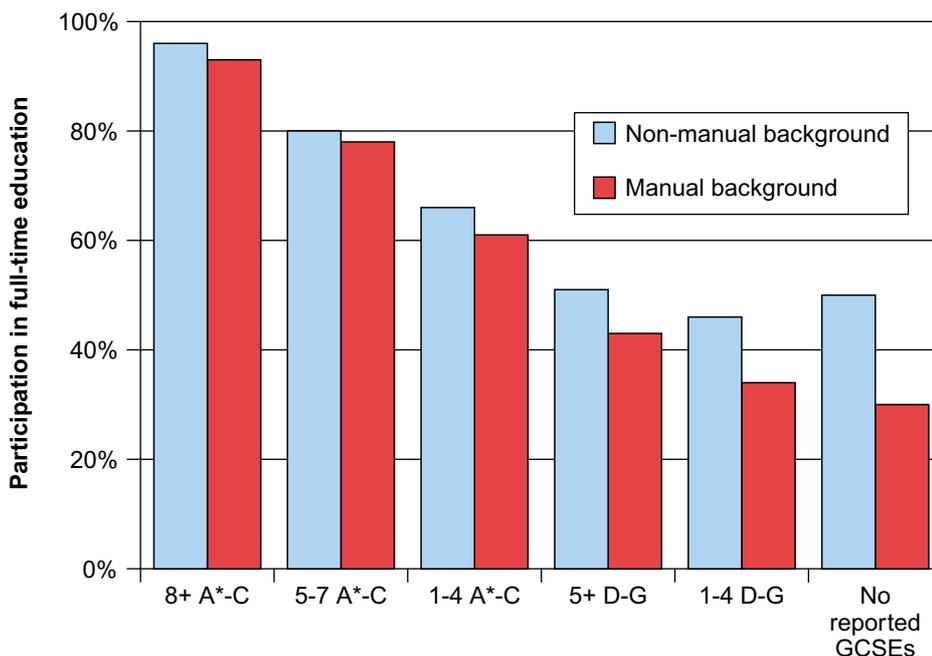
In Higher Education, Government has a role in promoting equality and helping people to make the right degree choices.

- The participation rate in Higher Education, as measured by the age-participation index (the proportion of young people who enter for the first time by age 21) currently exceeds 30%. This follows rapid growth during the 1990s.
- However, the participation rate varies enormously between social groups, and the size of the gap has remained fairly stable over recent years.

The Age-Participation Index by socio-economic background, Great Britain		
	1992	2000
Professional	71	76
Intermediate	39	48
Skilled non-manual	27	33
Skilled manual	15	19
Semi-skilled	14	19
Unskilled	9	14
Source: Department for Education and Skills calculations based on various data sources		

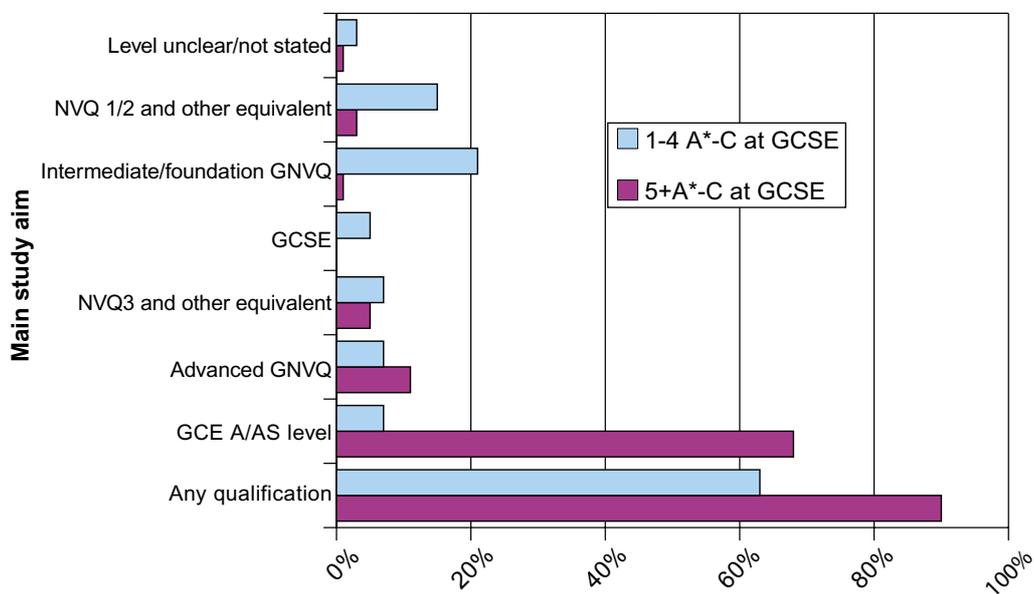
- The Excellence Challenge programme is helping to tackle the socio-economic participation gap by encouraging and supporting young people from disadvantaged backgrounds who have the potential to enter Higher Education.

Prior attainment is the key driver of participation at age 16, but social background is also important, especially for the less qualified...



Participation in full-time education at age 16 by parental background, England & Wales (Youth Cohort Study, 2000)

There are a variety of choices for 16 year olds without five good GCSEs...



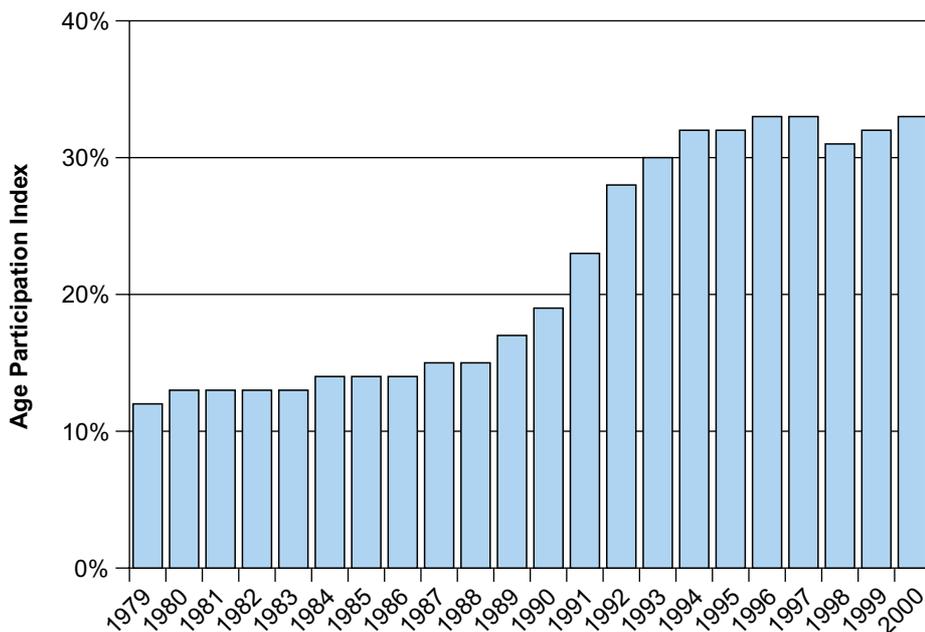
Main study aim at age 16 by prior GCSE attainment, England & Wales (Youth Cohort Study, 2002)

- However, it is important to note that there is no clear relationship between social class and Higher Education participation, once A level results are taken into account. Prior attainment is the main driving factor by this stage. This is why it is imperative that inequality of access, provision and opportunity are continually addressed at all stages of the educational process.
- Overall, and despite the expansion of post-compulsory education in recent years, the returns to holding a degree have generally remained high over time. For example, one study showed that, in terms of the wage premium enjoyed by graduates over non-graduates, the benefits of obtaining a degree were broadly maintained over the period 1974-1995. There is also reason to believe that the returns to Higher Education have not fallen in subsequent years.
- In terms of enhanced earnings, women benefit more from a degree than men. This is largely because the gender pay-gap at degree level is smaller than the pay-gap below degree level.
- Finally, it is also important to note that whilst studying for most subjects generally leads to significantly higher earnings, the earnings premium associated with gaining a degree varies hugely between different subjects.

There is an economic and social need to improve basic and intermediate level skills within the workforce.

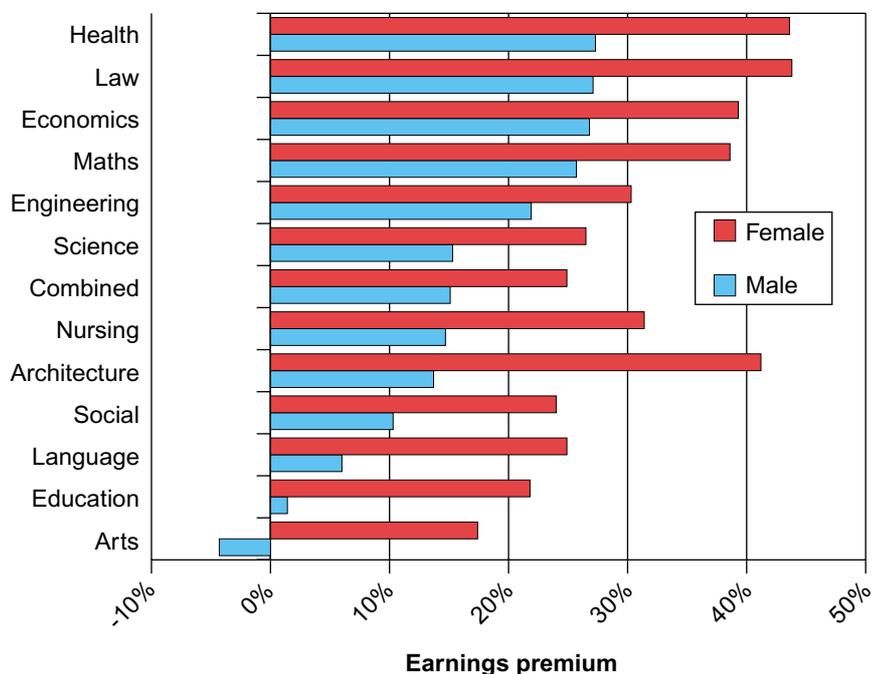
- It is estimated that better basic numeracy and literacy skills are associated with increased earnings of between 6-10% and up to 6% respectively.
- The “Skills for Life” strategy aims to raise the standards of adult literacy and numeracy, so that there are 1.5 million adults with better basic skills by 2007. In the longer term, this should help the UK to attain the skills levels of its best international competitors.
- The earnings, and therefore productivity, gap between the UK and other countries is concentrated towards the lower end of the earnings distribution. So, whilst top earners in the UK and Germany earn similar amounts, low earners in the UK earn considerably less.

The participation rate in Higher Education has grown rapidly in recent years...



The Higher Education Age Participation Index, Great Britain (Department for Education and Skills calculations based on various data sources)

Although graduates generally earn significantly more than non-graduates, the situation varies across subjects...



Earnings premia associated with various degree subjects, England & Wales, 1993-1999 (Walker and Zhu, 2001)

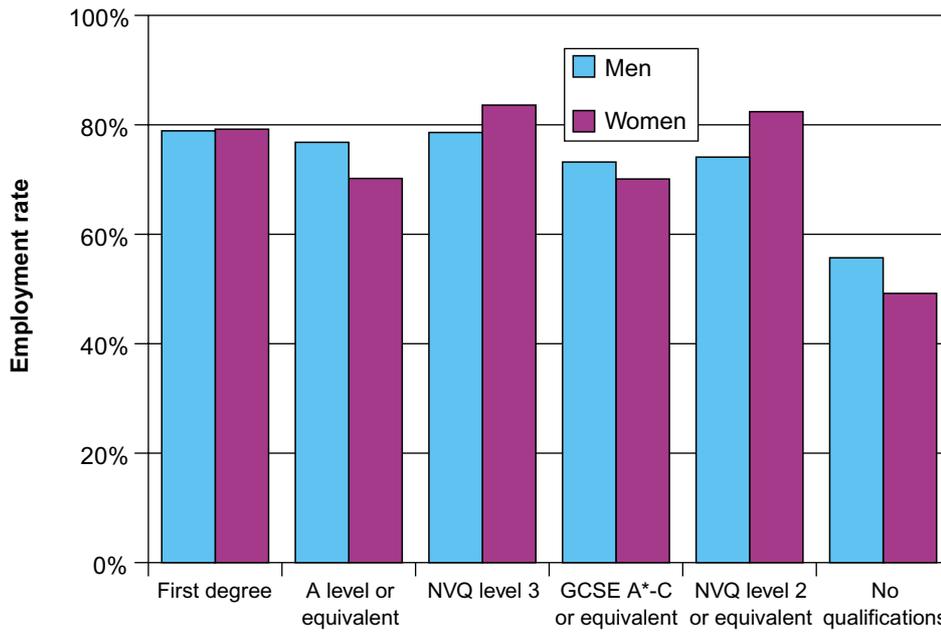
Average hourly wages, 1996		
	UK	Germany
Top 40% of earners	£12.35	£12.86
Next 20% of earners	£6.00	£8.25
Bottom 40% of earners	£3.68	£5.64
Source: Layard, McIntosh and Vignoles, 2002		

- In 1999, someone in the highest income quintile of the UK population received 5.2 times as much income as someone in the lowest income quintile. This ratio was above the EU average (4.6) and above equivalent ratios for France (4.4) and Germany (3.6).
- Skill shortages mean that those who do obtain the right qualifications become well positioned in the labour market. This partially explains why the earnings premia associated with good qualifications in the UK are high by international standards.

There are strong economic and social arguments for embedding a true culture of lifelong learning. But Government needs to work in partnership with business to achieve this.

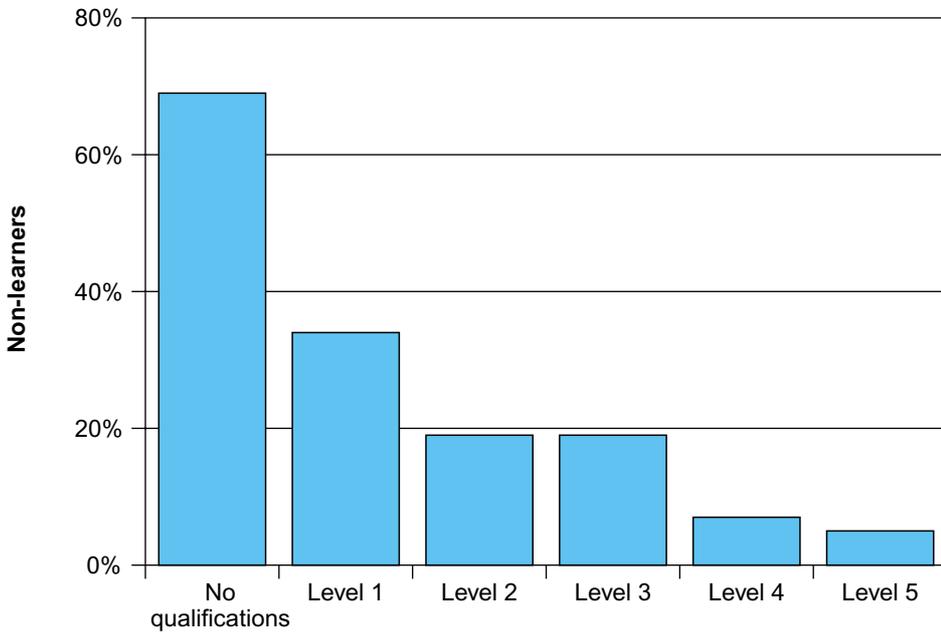
- The benefits of education and training persist over the entire working lifetime. Older people without qualifications are much less likely to be employed than their contemporaries.
- Furthermore, despite a pressing need to raise the productivity levels of the least skilled, the least well qualified are also the least likely to participate in lifelong learning.
- Overall, around one in three employees has never been offered training by their current employer, and employers' training is typically focused on workers from higher socio-economic groups. Learndirect, which is helping to overcome barriers to access to adult learning, is an example of policy helping to combat this problem.
- Through both compulsory and adult education, Government plays a key role in ensuring that people have the general skills that will be useful to them in any industry or occupation. On the other hand, training in more company-specific skills might reasonably be expected to be the responsibility of the employer.

Older people without qualifications are much less likely to be employed than their contemporaries...



Employment rate of people aged between 50 and retirement age by highest qualification, England & Wales, 2001 (Labour Force Survey, Winter 2001)

The least well qualified are also the least likely to participate in adult learning...



Non-learners by highest current qualification, adults aged 16-69, England & Wales (National Adult Learning Survey, 2001)

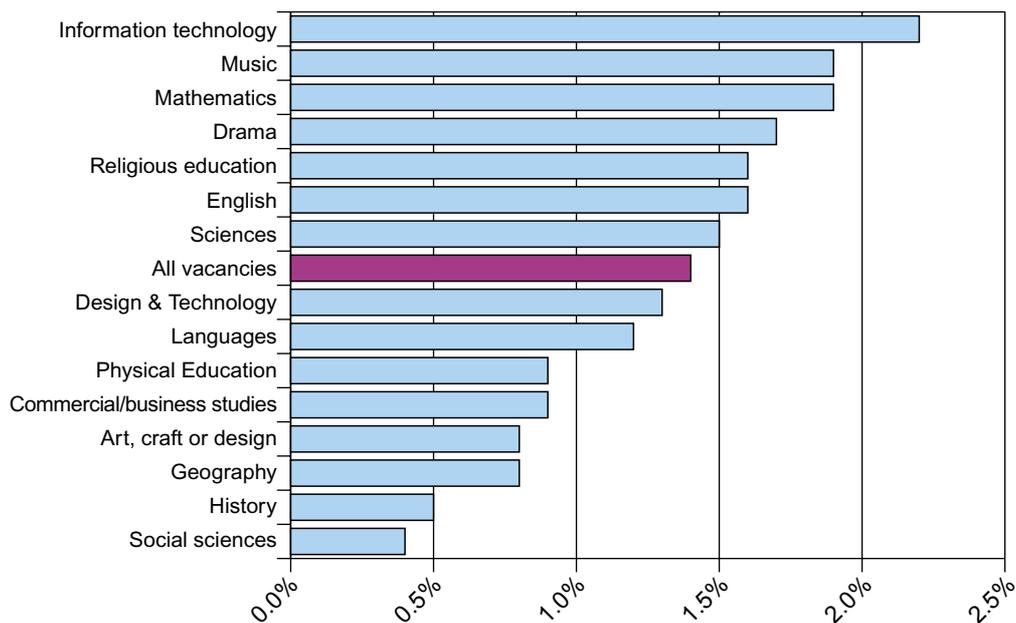
- Between those two extremes is a range of skills where Government needs to work with employers and individuals to ensure that people have the skills they need. Business and Government can co-operate in boosting both the demand for, and supply of, high quality and appropriate training. For example:
 - Government has a responsibility to ensure that the education and training system reflects employers' needs.
 - Assistance may take the form of training provision, such as through accredited qualifications or financial support for learners.
 - Workers need to be given the opportunity and encouragement to train.
 - There is also a need for basic information provision. Many people will not even be aware of the magnitude of earnings gains associated with gaining different qualifications.

The future

It is essential that the labour market and the wider economy are considered when making education policy, and increasingly so.

- To secure the necessary continuing improvements in the wider workforce, teaching quality must continue to rise. The Government is already consulting on reforms of school staffing to support high quality provision, and aid the recruitment and retention of highly-qualified, committed and motivated teaching professionals. Labour market circumstances are a potential constraint, although the problem is not constant across the teaching profession.
- For example, there are significant differences between subjects. The secondary school teacher vacancy rate in Information Technology is about five times that in Social Science subjects.
- In addition, although teacher vacancies exist right across the country, there are important variations between regions. The level of vacancies is a particular problem in the East of England, the South East, and (especially) London.
- The Government's proposed reforms address these issues, including through a proposed remodelling of the school workforce to free more current teachers to teach, and bring in additional adults with different skills who can undertake work which qualified teachers do not need to do. These reforms are in addition to a series of measures targeting recruitment and retention difficulties in particular subjects, including science and mathematics.
- More generally, Government also needs to anticipate future labour market demand for skilled workers. The UK increasingly faces international competition from developing countries that can produce basic products at lower cost. This, together with the need, as discussed earlier, to avoid falling into a low-skills equilibrium, requires the economy to compete on high-quality skills if it is to retain a competitive edge.
- In addition, technological advance is driving changes in the industrial and occupational structure. By 2010, it is forecast that 80% of new jobs will be in higher-level occupations. These jobs are those most likely to be filled by people with higher-level qualifications. In addition, the nature of existing occupations is likely to evolve to require more highly qualified people too.

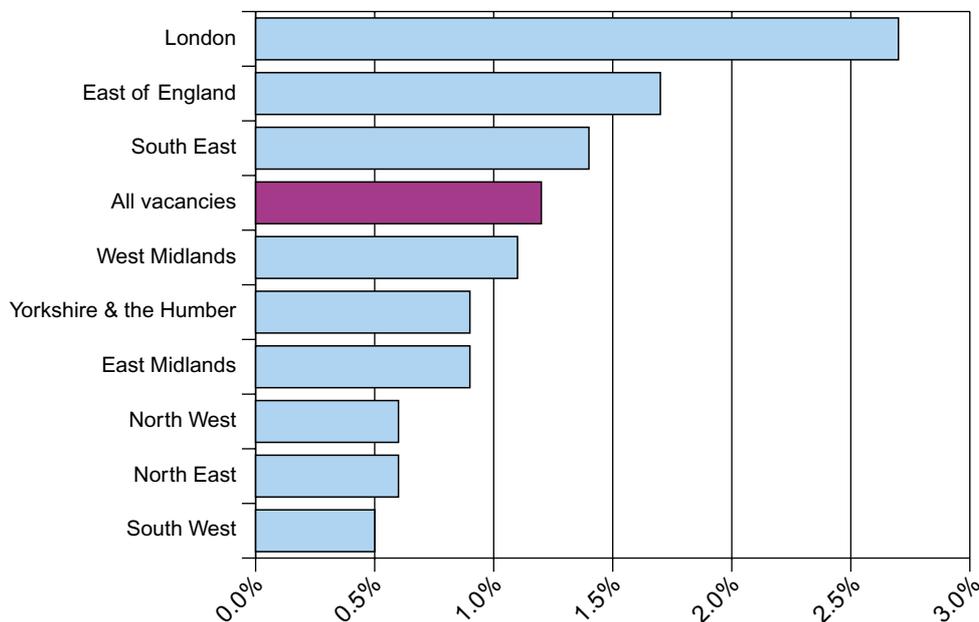
There are difficulties in recruiting teachers, but the size of the problem varies across the profession...



Vacancies as a proportion of teachers in post

Classroom teacher vacancy rates in maintained secondary schools (Department for Education and Skills, 2002)

There is a particular teacher recruitment problem in London, the East of England, and the South East...



Vacancies as a proportion of teachers in post

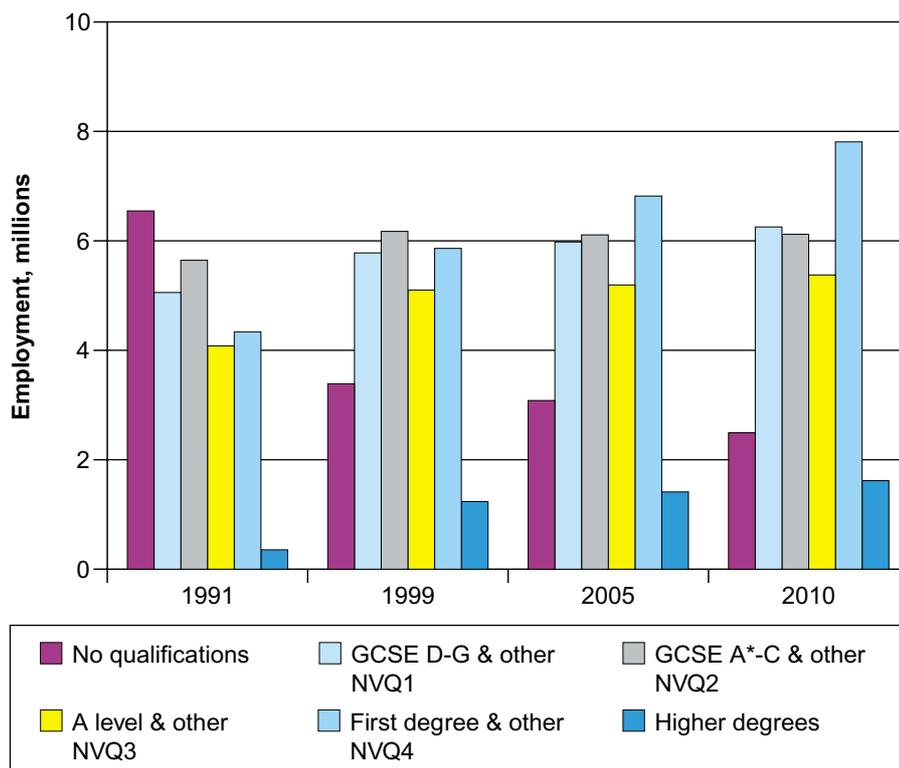
Vacancy rates in maintained nursery, primary, secondary and special schools (Department for Education and Skills, 2002)

- Largely for these reasons, the Institute for Employment Research forecast that the demand for qualified workers will rise considerably between 1999 and 2010, with the fastest increases at graduate level.

So, in summary, economic principles play a key role in successful education policy.

- Some examples of key Departmental targets that are relevant to the issues discussed in this booklet are as follows:
 - By 2004, 75% of 14 year olds achieve at least the expected level in English, maths and ICT (70% in science) nationally, and by 2007, 85% (80% in science).
 - By 2010, increase participation in Higher Education towards 50% of those aged 18 to 30. Also, to make significant progress year on year towards fair access, and to bear down on rates of non-completion.
 - Improve the basic skill levels of 1.5 million adults between the launch of Skills for Life in 2001 and 2007, with a milestone of 750,000 by 2004.
 - Reduce by at least 40% the number of adults in the UK workforce who lack NVQ 2 or equivalent qualifications by 2010.
- Economic principles play a crucial role in identifying the correct resource for publicly-funded education and ensuring maximum impact from that resource. Also, by helping the Department to understand the constraints it faces, economics can help to overcome them.
- For instance, a large pool of inadequately-skilled labour represents an under-utilised economic resource. In addition, it contributes to inequality because poorly-skilled labour earns lower wages. Thus embedding economic principles into education and skills policy does not conflict with the aim of creating a fair and equal society, but can actually help to achieve it.
- Because, as explained towards the beginning of this booklet, economists consider education to be a “superior” good, expenditure on education as a proportion of income would be expected to increase over time. In this sense, education can be considered the flower of today’s achievement, as well as the seed for further success in the future.

The demand for higher-level qualifications, especially at degree level, is set to increase further in the future...



Employment by highest qualification, United Kingdom (Institute for Employment Research Projections of Occupations and Qualifications 2000/2001)

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