

UCU 2013
Spending
Review
Submission

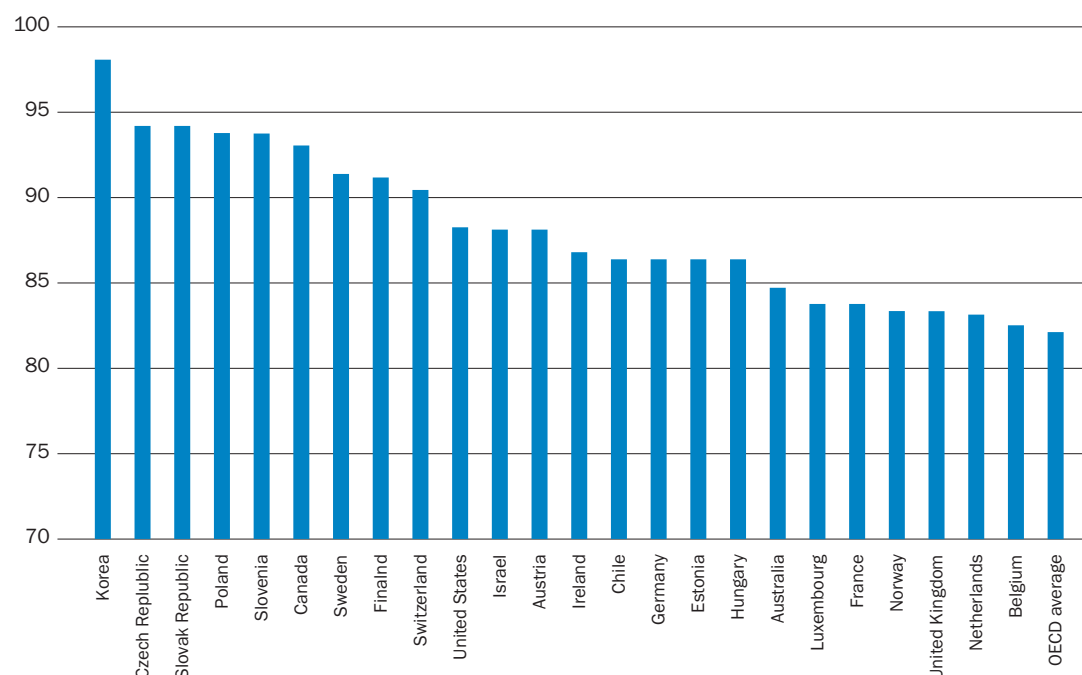
The Knowledge economy

Knowledge is vital to our social and economic well-being and development. But spending on education in the UK is below the average for the Organisation for Economic Co-operation and Development member states, and our attainment at upper secondary education level lags behind many competitors.

While we put 6.0% of GDP into education, the average for OECD countries was 6.3% - a UK shortfall of £4.2 billion at 2009 prices.¹ Investment in education—particularly higher education—and in research and development is lower in the UK than major competitors. UCU believes this investment shortfall has a profound impact on the country's prospects for future prosperity and argues that the UK must bridge the gap.

The UK underperforms in international measures of attainment at upper secondary level (comparable data for the post-secondary non-tertiary level, which covers part of further education, were not available). OECD data for relatively young members of the working age population in 2010, aged 25-34, indicated that, while the UK's attainment level of 82.9%, in 22nd position, was just above the OECD average of 81.9%, the UK was outperformed by the majority of OECD member states, including major competitors such as the United States, Germany and France.

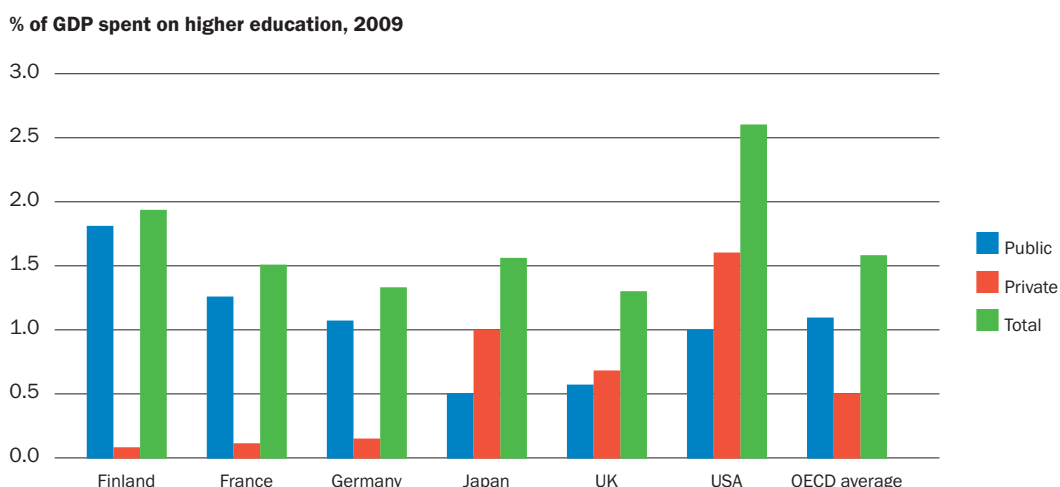
% of population age 25-34 attaining at least upper secondary education, 2010



OECD (2012) *Education at a Glance*. Table A1.2a. Population aged 25-34 that has attained at least upper secondary education (2010), for OECD member states with attainment proportions above the OECD average.

While the UK's level of attainment at the higher, or tertiary, level was an improvement on secondary education, in recent years public spending by the UK on higher education as a proportion of GDP has fallen by one-third. Overall our spending is below that of competitors such as Finland, France, Germany and Japan – and is far outstripped by the USA. It is worth investing in higher education.

Meanwhile, spending on research and development in the UK as a proportion of GDP is 20.6% lower than the OECD average. In 2009, while 1.85% of UK GDP was spent on research and development, the average for OECD countries was 2.33%.²



OECD (2012) *Education at a Glance*. Table A1.2a. Population aged 25-34 that has attained at least upper secondary education (2010), for OECD member states with attainment proportions above the OECD average.

Knowledge delivers growth

Further education

It is worth investing in further education. A report published in 2011 by the government's Department for Business Innovation and Skills showed that vocational qualifications delivered in the workplace and apprenticeships delivered a return of around £35-£40 per pound of funding. The report also said that the Net Present Value³ of further education qualifications started in 2008-09 was estimated to be £75bn over the years in which successful learners remain in the workplace.⁴

In 2005-6 for every £1 million of FE college output, a further £1.42 million was generated in other UK industries, of which the majority (£1.35 million) tended to be in industries located in England.

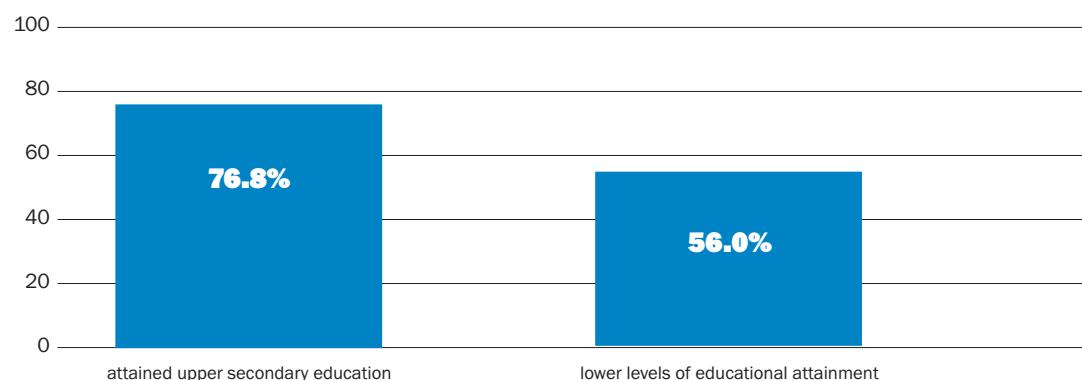
Through 'knock-on' effects the colleges generated an additional £9.1 billion in other industries throughout the UK, with the majority (£8.7 billion) accruing to industries in England.⁵

'The UK needs to put an end to the waste of human resources that comes through poor education and the inability of a significant proportion of society to participate effectively in the economy' **LSE Growth Commission: Investing for Prosperity⁶**

Those who have attained upper secondary education are more likely to be in employment than those with lower educational attainment, while the cost of educational underachievement has been estimated as £22 billion for a generation.⁷ The Audit Commission estimates that a young person not in employment, education or training

(NEET) in 2008 will cost an average of £56,000 in public finance costs before retirement age (for example, welfare payments, costs to health and criminal justice services, and loss of tax and national insurance revenue). There will also be £104,000 in opportunity costs (loss to the economy, welfare loss to individuals and their families, and the impact of these costs to the rest of society). The entire 2008 group of young people NEET could cost over £13 billion to the public purse and £22 billion in opportunity costs before they reach retirement age.⁸

% of 25-64 year olds in employment, 2010



Source: OECD (2012), *Education at a Glance*, table A7.3a.

In 2008, people with no qualifications were more than five times as likely as those with higher education to engage in the following lifestyle risk factors: smoking, excessive alcohol use, poor diet, and low levels of physical activity compared with only three times as likely in 2003.⁹ And offenders who take prison education are three times less likely to reoffend than those who don't.¹⁰

People who have obtained education to upper secondary or post-secondary non-tertiary level will have considerably higher lifetime earnings (the equivalent of \$139,877 in net value for males and \$33,414 for females) than those who have not been educated to this level. They will make greater contributions to the state through higher tax and national insurance payments, and require less in the way of transfer of funding through social security benefits. The OECD has estimated that the public net value including income tax and social security payments for males in the UK who have obtained upper secondary or postsecondary non-tertiary education over their lifetime is \$74,468, and \$62,140 for females, when compared with those who have not attained that level of education. This compares favourably with the direct cost to the state for their education of \$17,187.¹¹

In terms of personal growth, adults aged 16 or over with higher levels of qualification, at NVQ level 3 or above, were more likely to report medium or high satisfaction with life overall, and medium or high feeling that life is worthwhile, than those with lower level qualifications; those with no qualifications reported the lowest levels of subjective well-being.¹² It is worth investing in further education.

Higher education

In 2000-10, more than half the annual GDP growth in the UK on average was related to labour income growth among those with higher education. In the UK, labour income

growth among higher education graduates contributed 1.08% in annual GDP growth of 1.66% on average in 2000-10.¹³

Recent research by Universities UK has indicated that, from an income of £23.4 billion, the higher education sector generates about £59 billion of output through direct and secondary effects, generates about 2.6% of UK jobs, and earns about £5.3 billion in exports.¹⁴ In recent years, developments such as fibre optics, MRI scans and genetic fingerprinting have all come from UK higher education.

People who have obtained higher education will have considerably higher lifetime earnings than those who have been educated to the level of upper secondary or postsecondary non-tertiary education; they will make greater contributions to the state through higher tax and national insurance payments, and require less in the way of transfer of funding through social security benefits. The OECD has estimated that the public net value including income tax and social security payments for males in the UK who have obtained tertiary education, compared with those who have attained an upper secondary education, over their lifetime is \$86,550, and \$91,365 for females. This compares favourably with the direct cost to the state for their education of \$15,151.¹⁵

A 2012 study by the Institute for Public Policy Research showed that state investment in putting an individual through A-Levels and University generated an average net gain to the economy of £227,000.¹⁶

Knowledge is always in demand

Professor Cathy Davidson says 65% of children now entering school will end up working in careers which have not even been invented yet, such is the pace of technological change.¹⁷

Students aged 19+ in further education generate an additional £75 billion for the economy over their lifetimes.¹⁸

Those who have attained higher education are more likely to be in employment than those with lower educational attainment. In 2010 85.1% (OECD average 83.1%) of 25-64 year olds in the UK who had attained higher education were in employment, compared with 76.8% (OECD average 73.7%) of those who had attained upper secondary education and 56.0% (OECD average 55.5%) of those who had attained below upper secondary education.¹⁹

Managerial, professional, associate professional and technical occupations accounted for three quarters of employment growth between 2000 and 2010, and by 2020 an additional two million such jobs will have been created according to a 2012 Universities Alliance study.²⁰

The most recent Skills and Employment Survey report showed that for the first time, more jobs in Britain needed a degree (rising from 20% in 2006 to 26% in 2012) than needed no qualification at all (falling from 28% to 23%).²¹

The Recruitment and Employment Confederation has identified significant skills shortages in technical and engineering, professional and managerial and computing and information technology sectors and says 'government needs to build the talent pipeline for the future'.²²

In its 2012 forecast for future skills supply and demand in Europe for the period to 2020, the European Centre for the Development of Vocational Training, Cedefop, said: 'Overall in Europe, numbers of people with medium and high-level qualifications will continue to rise as, generally, young people with higher qualifications will replace older workers who retire and who had less opportunity to acquire formal qualifications.' Those with higher qualifications are forecast to increase as a proportion of the labour force from 29.8% in 2010 to 37.0% in 2020; those with medium qualifications are forecast to maintain their share of the European labour force of around 47%; while those with low qualifications are set to decline from 23.4% to 16.4% of the labour force. As the report notes: 'A highly-qualified and well-trained labour force is one of, if not the most important factors for European competitiveness.'²³

Knowledge can help win the global race' yet...

- Spending on education in the UK as a proportion of GDP is 5% lower than the OECD average, an estimated funding gap of £4.2bn.²⁴
- Spending on research and development in the UK as a proportion of GDP is 20.6% lower than the OECD average.²⁵
- Spending on higher education in the UK as a proportion of GDP is 18% lower than the OECD average.²⁶

Knowledge, innovation and growth

Innovation is a key driver of productivity growth, and therefore economic growth. The OECD's Technology and Industry Outlook (2010), which looked at the contribution of science, technology and innovation to economic growth around the world, highlighted the importance of research and development investment—including contributions from tertiary education—to a country's growth prospects.

Countries with high levels of innovation tended to have, on average, higher proportions of graduates among the general population and a stronger track record of investment in higher education. Reduced investment in higher education risks the UK's ability to compete globally.

Recent research suggests that GDP-related productivity is correlated with higher education attainment, rather than purely rates of higher education enrolment. Analysis of OECD data

suggests a strongly significant positive correlation between higher education attainment among 25-64 year olds and GDP per head of population in 33 member states.²⁷

The expansion of higher education in rapidly-developing G20 nations has reduced the share of tertiary graduates from Europe, Japan and the United States in the global talent pool. The OECD estimates that if current trends continue, China and India will account for 40% of all young people with a tertiary education in G20 and OECD countries by 2020, while the United States and European Union countries will account for just over a quarter.

The OECD argues that the strong demand for employees in 'knowledge economy' fields suggests that the global labour market can continue to absorb the increased supply of highly-educated individuals. It is considered that these projections may underestimate the future growth of the global talent pool, because a number of countries are pursuing initiatives to increase tertiary attainment rates even further.

The OECD references the continued growth of employment in human resources in science and technology (HRST) occupations beyond the rate of total employment in all OECD and G20 countries as a signal that the demand for employees in the knowledge economy sector has not reached its ceiling.

Applying this to the overall labour market, the OECD argues that these findings suggest that individuals from increasingly better-educated populations will continue to have good employment outcomes, as long as economies continue to become more knowledge-based. These findings suggest that countries would be 'well-advised' to pursue efforts to build their knowledge economies.²⁸

What we want from you

Improved funding for further and higher education, and for research and development, is essential if the UK is to prosper as an economy and society. The 2013 Spending Review needs to address the UK's public funding shortfall, particularly in higher education and in R&D, and help us keep step with the OECD.

Further education Public spending on further education was planned at 0.6% of UK GDP in 2010-11.²⁹ UK public spending on post-secondary non-tertiary education should be maintained in the short-term at 0.6% of GDP, rising to 1.0% in the medium term.

We call on the government in England to use this additional funding in part to replace the new system of tuition fee loans for students in FE at level 3 or above, although, as the BIS impact assessment for Level 3+ loans noted, the government is still likely to have to foot the bulk of the bill, as only 40% of the loans are likely to be repaid because of the lower average income of FE learners.³⁰ We are concerned that many of the negative consequences listed below of introducing tuition fees to £9,000 a year for full-time undergraduates will be true also for those liable to pay tuition fees in further education.

As the government's own analysis notes:

'The evidence suggests that market failures are more acute for **lower skilled** individuals:

- i. The **barriers to learning** are greater at lower qualification levels, for example 33% of those with no qualifications have no interest in learning, compared to 10% of those who have reached L2 and 5% of those who have reached higher education.
- ii. **Financial constraints:** the financial barriers faced by learners, which result from the inability to borrow against future increased productivity, are more difficult for the low skilled who are typically poorer and have less flexibility in financing.
- iii. **Information:** information barriers affect the low skilled more, because they have less ability to access information sources, and their personal networks are likely to be similarly affected.'³¹

Higher education

Public spending on higher education as a proportion of UK GDP has slipped dramatically in recent years. While this reflects the considerable differences in financial support for higher education now seen in the different countries of the UK, with Scotland not charging tuition fees for Scottish-domiciled students, we call on the governments of the UK to play their part in raising the proportion of GDP spent on higher education to the OECD average in the medium term. Likewise we call on the governments of the UK to ensure that spending on R&D catches up with the average for OECD countries.

We call on the administrations of England, Wales and Northern Ireland to use additional public income to replace tuition fees with recurrent funding for teaching in higher education, because the imposition of tuition fees paid for by government loans to students is:

- causing hardship for graduates
- discouraging young potential students from entering higher education: according to UCAS: '...around one in twenty English 18 year olds who would have been expected to apply to higher education in 2012 (if the application rate had increased by one percentage point from 2011) did not do so'³²
- resulting in greater upfront government spending on HE because of the cost of loans compared with the cost of funding teaching³³
- potentially very expensive to the government because it is estimated that only 70% or even less of higher education loans will ever be repaid because of default, low graduate earnings and difficulty in getting graduates from other EU countries to make loan repayments³⁴
- causing additional unforeseen cost to the government because the rise in tuition fees has increased the rate of inflation, in turn increasing index-linked costs³⁵
- threatening future economic downturn caused by dampened demand from graduates burdened with debt, as now seen in the USA: 'Car purchases, home buying and credit card balances for those under 35 years of age have all decreased as overall student debt has surged to \$1.1tn, according to new data from the Pew Research Center and CFPB [Consumer Financial Protection Bureau].'³⁶

NOTES

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