

DRIVING ECONOMIC GROWTH

Higher education – a core strategic asset to the UK

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Universities UK

HIGHER
EDUCATION
IN FOCUS:
**DRIVING ECONOMIC
GROWTH**

Foreword

Our universities are a core strategic asset to the UK. This publication showcases the critical role they will continue to play in reviving and sustaining economic growth across the country.

It is imperative that we maintain our position in what is an increasingly **competitive global environment**. The UK's capacity to punch above its weight in terms of research output and productivity remains vital to this, as does continued investment in high level skills. And it is through investment in our universities that these will be delivered. Despite recent increases in the proportion of individuals participating in higher education, our aspiration must be to increase this further. The UK remains behind many of its competitor countries in terms of the proportion of graduates in its population and the distribution of high level skills within the country is still uneven. Success in the knowledge economy is the route to maintaining our competitive advantage.

Innovation will play a critical role in producing growth in the UK economy. Some of the most innovative discoveries have their origins in research conducted at UK universities. Countries with high levels of innovation also tend to have, on average, higher proportions of graduates in their populations and a stronger track record of investment in higher education. The creative sector is one example of an innovative UK industry in which graduates dominate.

Universities make **connections** across the UK economy and society, through upskilling and reskilling the workforce, through providing research-informed training for teaching and healthcare professionals, and through the range of ways they interact with businesses. The connections are global, too, with UK universities bringing in substantial export earnings through their provision for international students both within and outside the country.



Eric Thomas, President, Universities UK

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The UK as a global leader in research and innovation

Despite having a smaller population and lower levels of funding compared to competitor countries, the UK punches above its weight in terms of research outputs and leads the world in productivity, with more citations per unit of spending on research than our main competitors. More than a quarter of UK research expenditure is directed towards universities – a much higher proportion than in the UK’s competitor countries.

Performance and productivity

Of the four competitor countries the United States, Germany, Japan and China, the UK demonstrates the highest levels of productivity in number of citations relative to Gross Expenditure on Research and Development (GERD), with more than three and a half times more productivity compared to the world average.

FIG 1.1
Expenditure on research and development, 2010

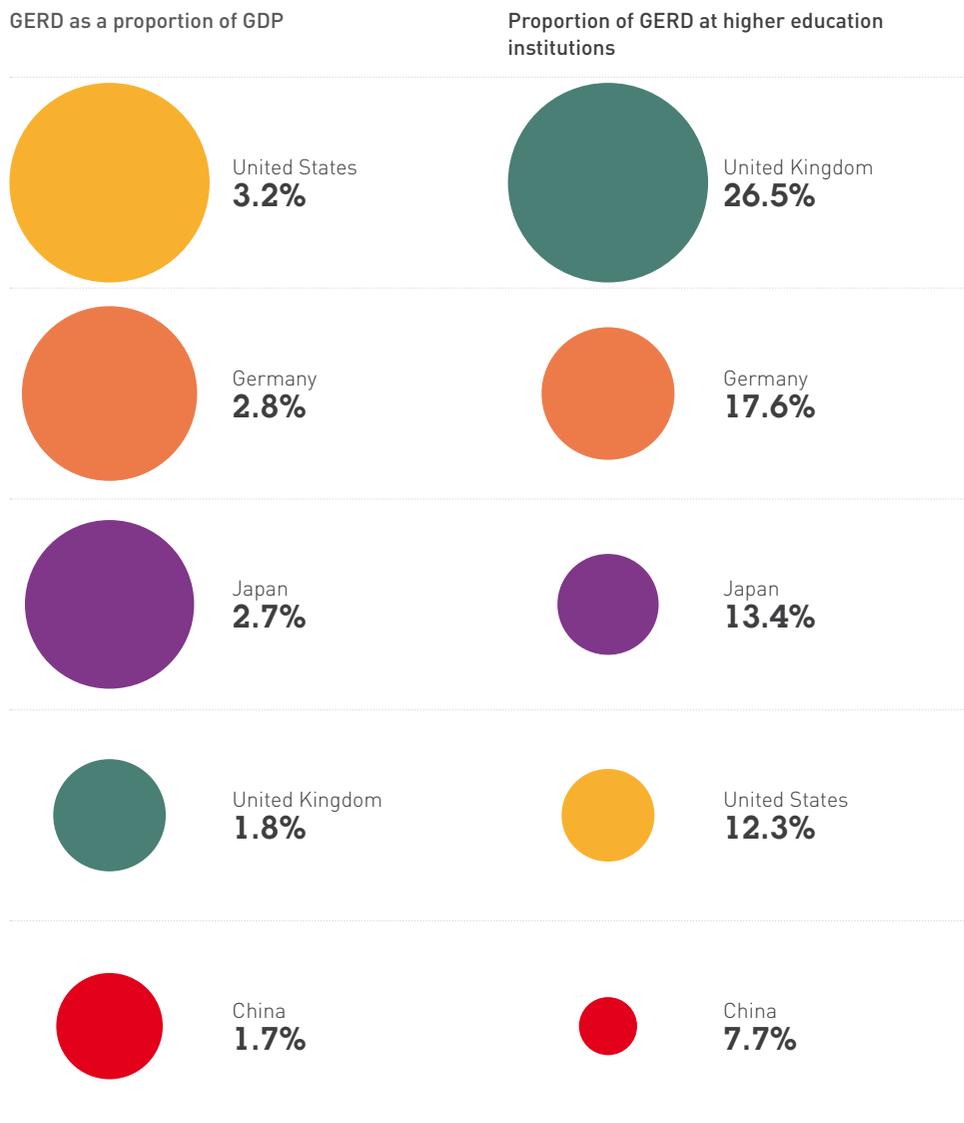


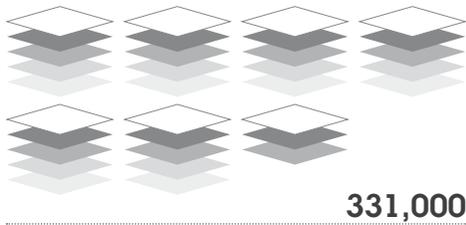
FIG 1.2
Population, 2010



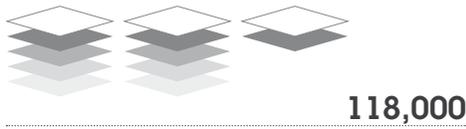
FIG 1.3

Articles published, 2010

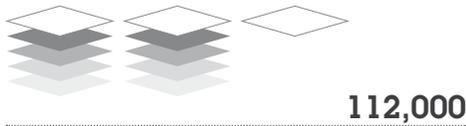
China



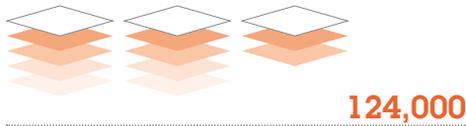
Germany



Japan



United Kingdom



United States

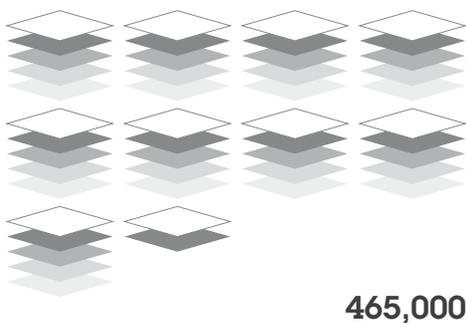


FIG 1.4

Performance and productivity, 2010

Share of world citations

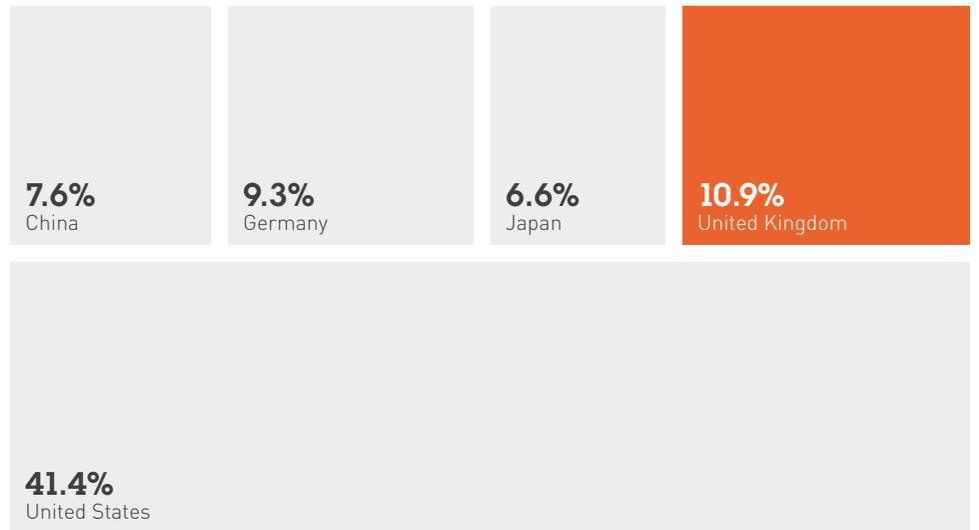
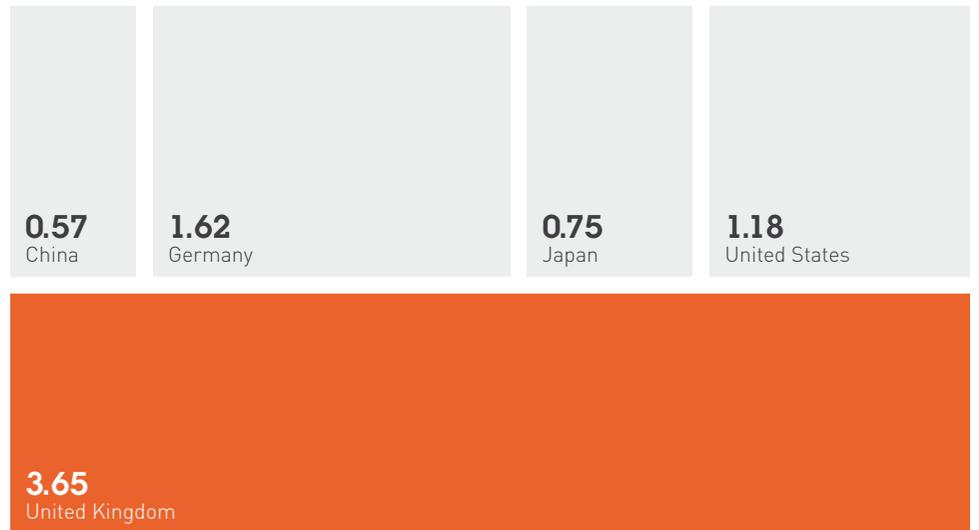


FIG 1.5

Performance and productivity, 2010

Relative index of share of world citations per unit spend on GERD



The global race for a high skilled economy

The last decade has seen significant increases in the proportion of individuals with a higher education qualification across many developed countries. Despite recent increases in the number of individuals participating in higher education, the UK remains behind many competitor countries in the percentage of high skilled individuals in its population.

Even with current rates of participation in the UK, this trend is likely to continue into the future with competitor countries increasing high level skills (the skills associated with higher education) amongst their younger populations. Competitor countries are also investing heavily in raising the skill levels of their general populations, with China projected to produce more graduates than the United States and Europe combined by 2020.

Potential for growth

Despite recent increases in adults with higher education qualifications from 23 per cent in 1997 to 37 per cent in 2009, the UK still lags behind competitor countries both in levels of skills in the general population (10th in OECD) and potential for growth as measured by the proportion of graduates amongst the young population (6th in OECD).

FIG 1.7

Change in the proportion of 25-64 year olds with a higher education qualification, 1997-2009

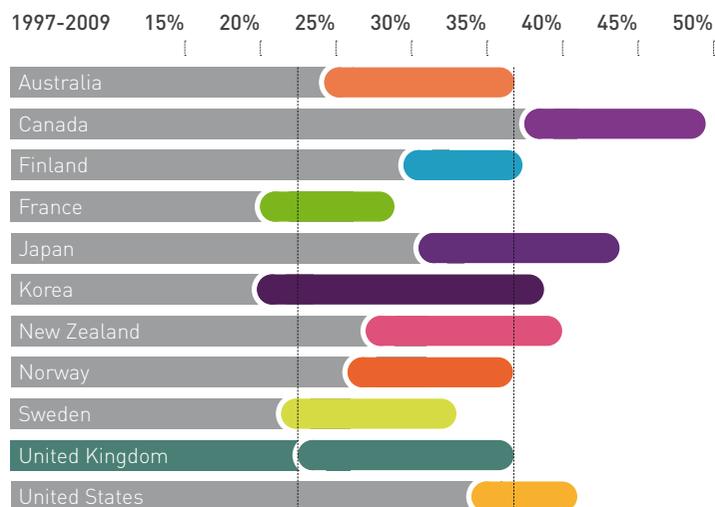


FIG 1.6

Proportion of 25-64 year olds with a higher education qualification, 2009

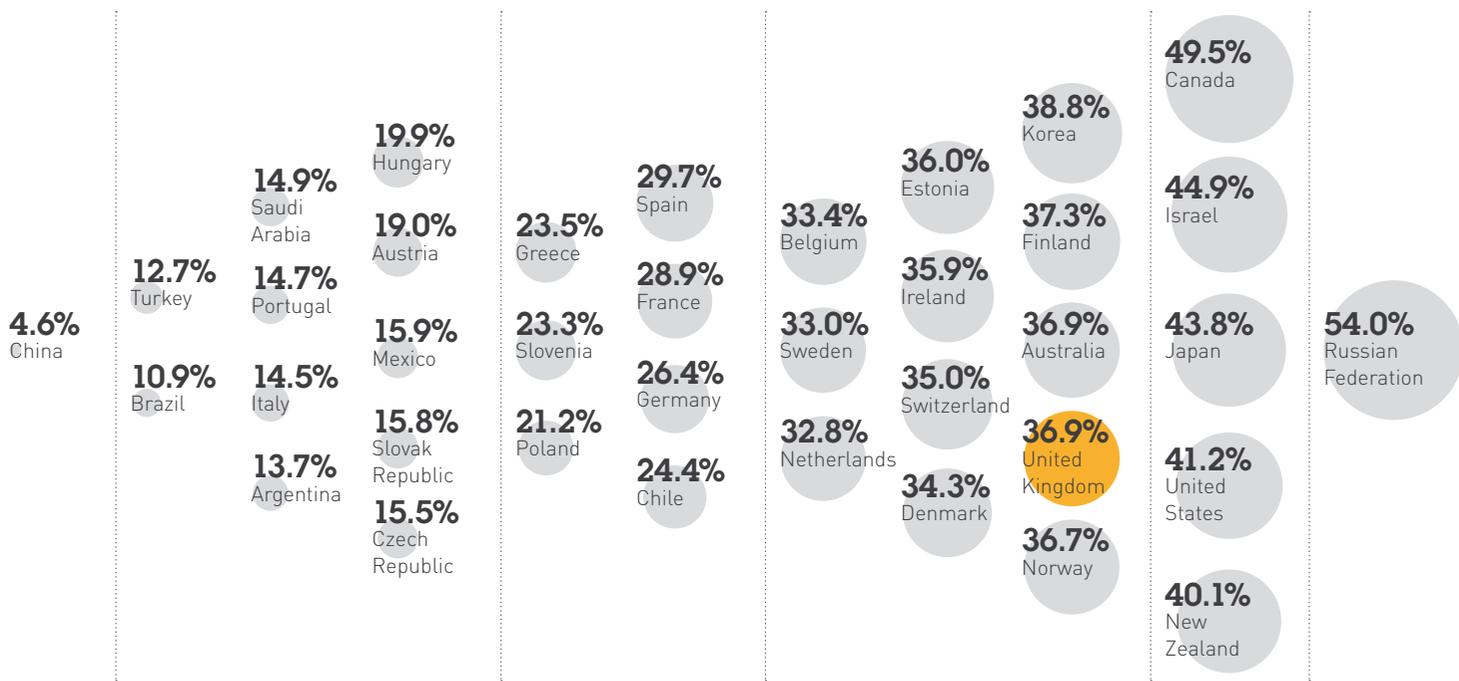


FIG 1.8

Potential for growth of high level skills in adult population, 2009

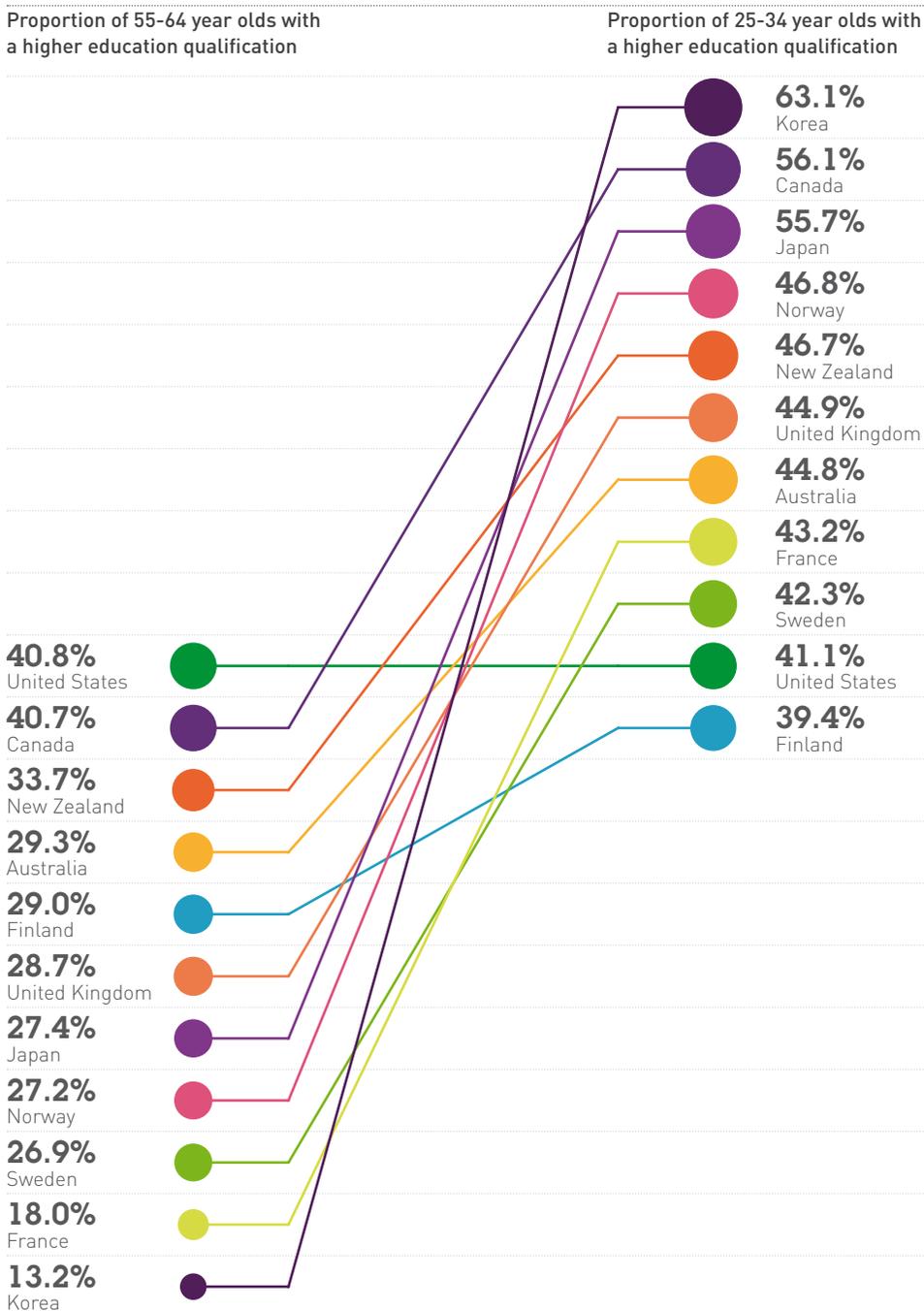
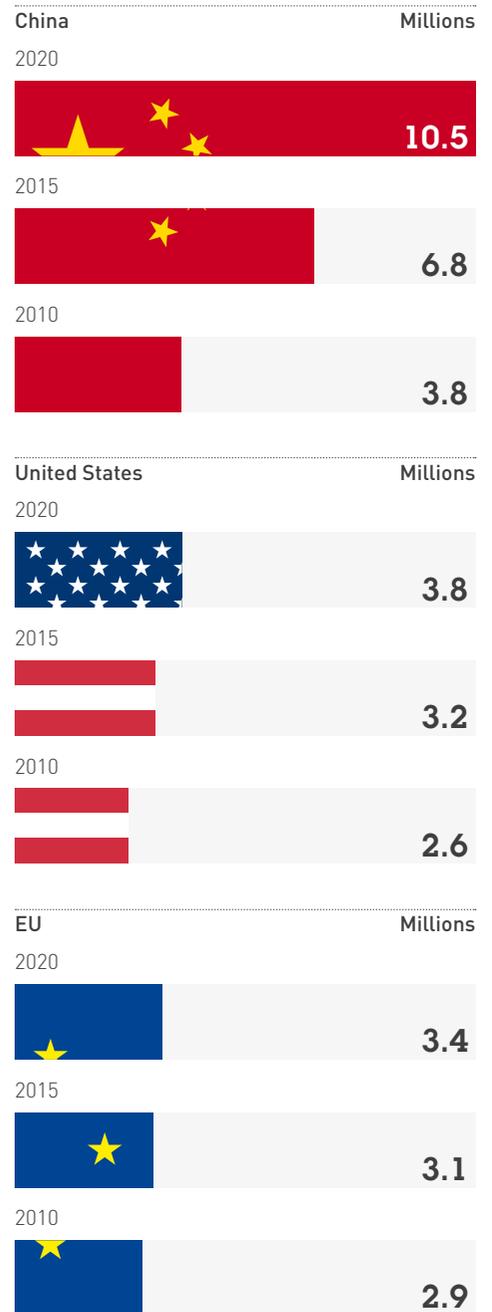


FIG 1.9

Projected number of graduates per year



High level skills in the UK economy

Although the UK has recently seen increases in participation in higher education, the distribution of high level skills within the country remains uneven.

This is significant as those occupations where high level skills are more prominent, such as those associated with knowledge-based industries, are projected to account for the

majority of jobs growth in the UK economy over the next decade, with new jobs in low skilled occupations expected to decrease over the same period. Occupations requiring high level skills were also more resilient in terms of job losses in the recent recession compared to low skilled occupations.

Future need for high level skills

The three occupational groups where graduates make up 50 per cent or more of workers are projected to account for nearly 80 per cent of new jobs to be created in the UK economy by 2017.

FIG 1.10
High skill levels and local area, 2010



Ranking by proportion of population with a higher education qualification by area

FIG 1.11
Share of UK job losses in the recession by occupation, June 2008 to March 2010

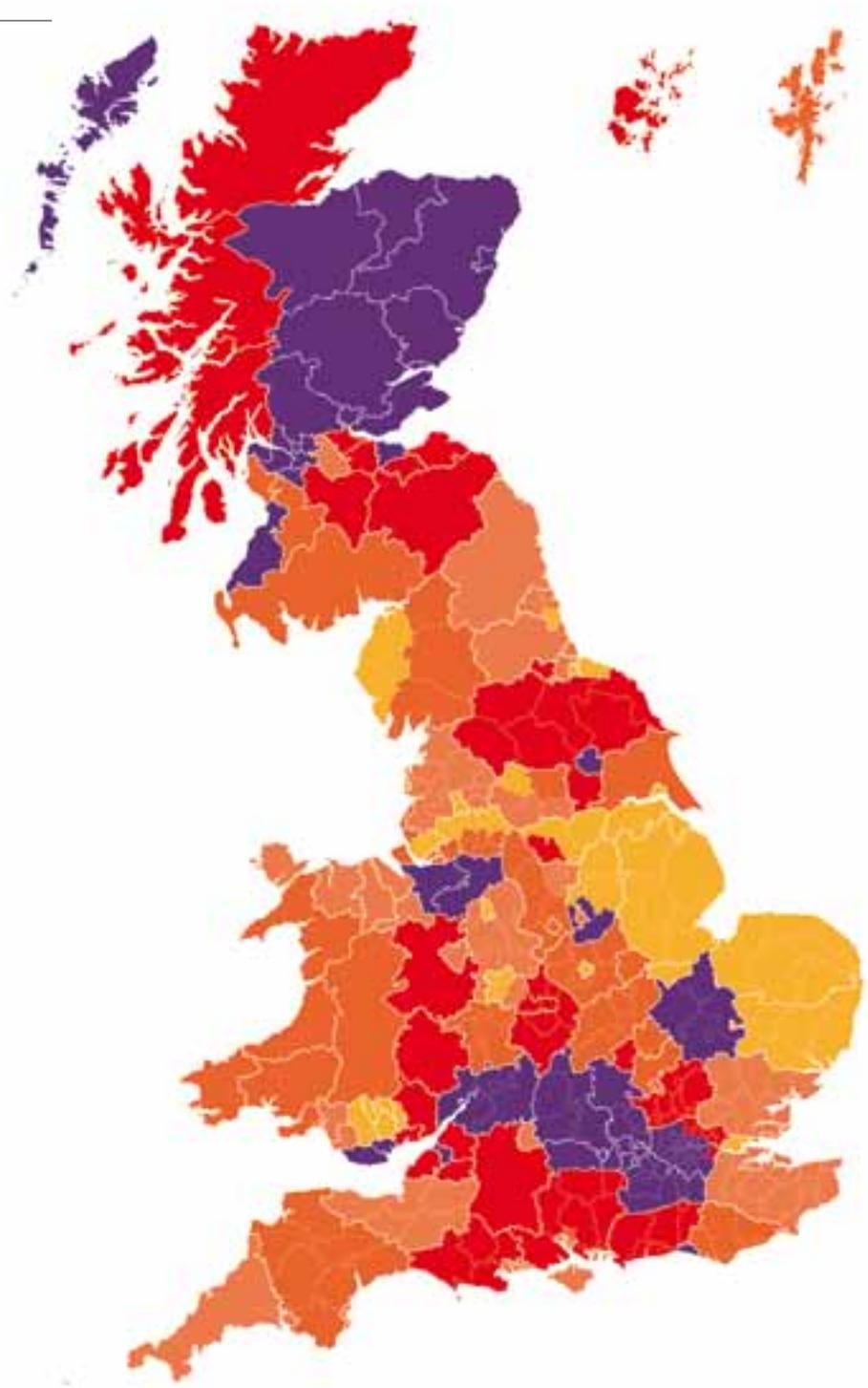
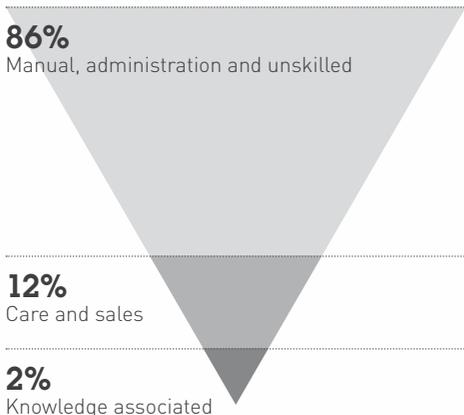
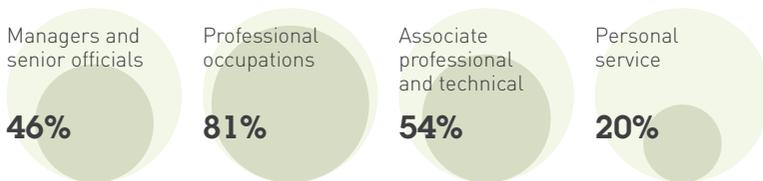


FIG 1.12

Percentage of graduates within occupations, 2010

Occupations with a growing share of the UK workforce



Occupations with a declining share of the UK workforce



FIG 1.13

Future demand for skills to 2017

Proportion of the UK workforce in 2007 (%) and projected change of proportion to 2017 (percentage points)

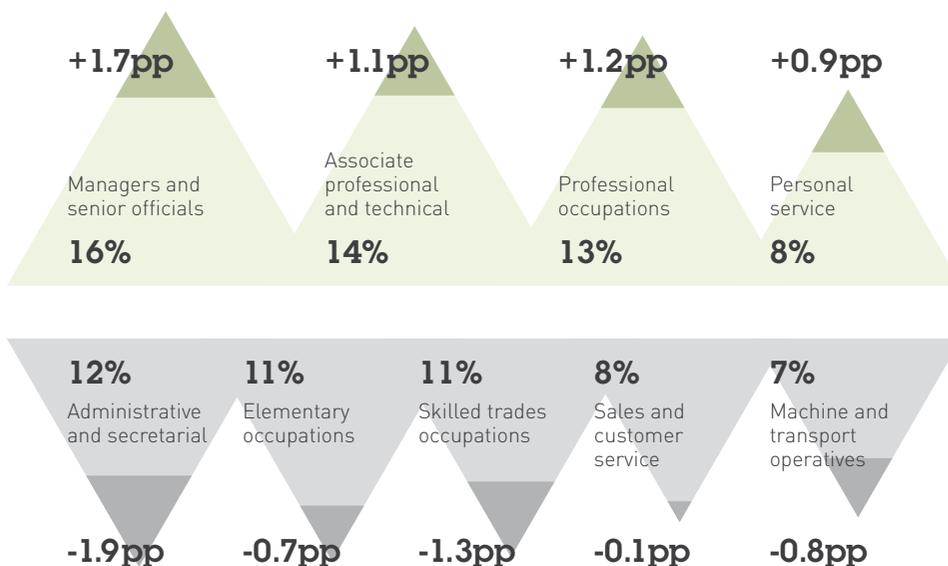


FIG 1.14

Projection of new jobs to be created in the UK between 2007 and 2017



The link between innovation and economic growth

Innovation plays a critical role in producing growth in the UK economy, demonstrated by the disproportionate level of job generation in innovative companies and the resilience of innovative, graduate-led organisations during the recession when compared to UK businesses as a whole.

Countries with high levels of innovation also tend to have, on average, higher proportions of graduates in their populations and a stronger track record of investment in higher education.

Innovation and skills

Although innovative companies accounted for only six per cent of UK businesses between 2000 and 2005, they produced 54 per cent of jobs growth over the period.

Innovative countries tend to have higher proportions of graduates, with graduates accounting for, on average, 37 per cent of the general population in high innovation countries, 31 per cent in medium innovation countries and 26 per cent in low innovation countries.

FIG 2.1
Performance of UK businesses and graduate start-ups during the recession (year on year change in number)

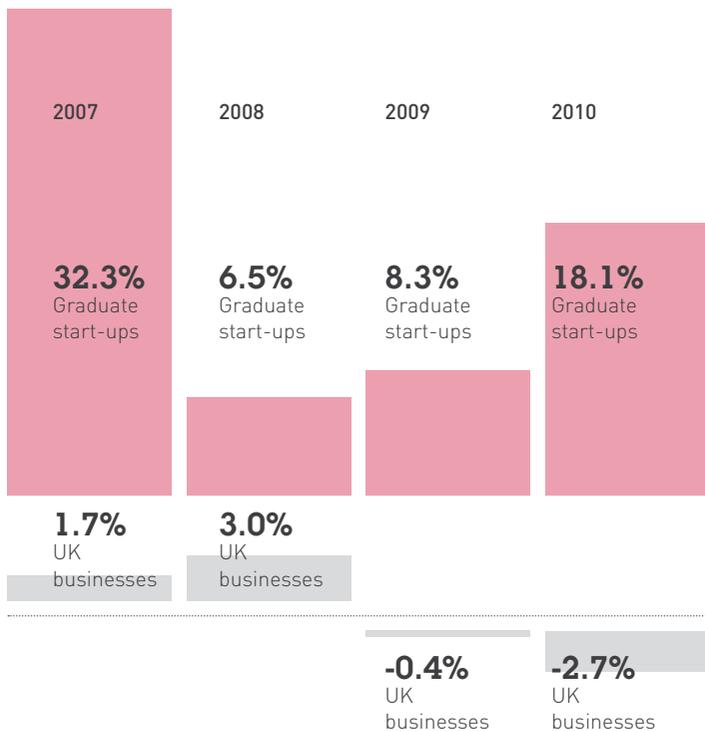


FIG 2.2
Restructuring of the UK economy towards knowledge-based activities (Gross value added [GVA], 1970-2007)

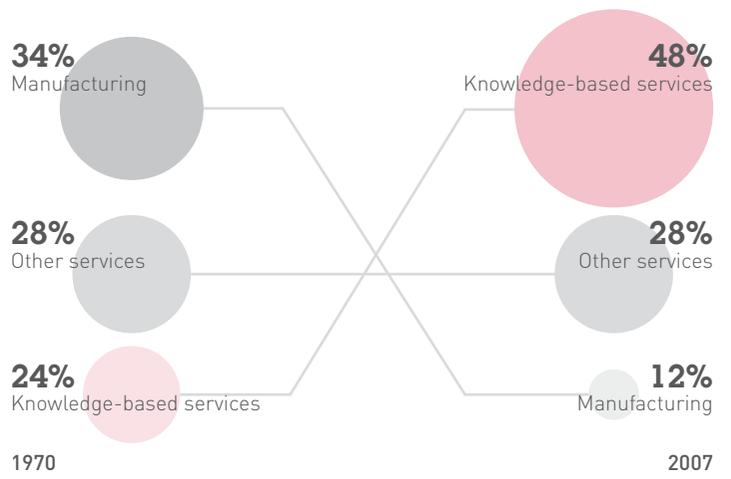


FIG 2.3
Innovative enterprises driving job creation in the UK economy, 2002-2005

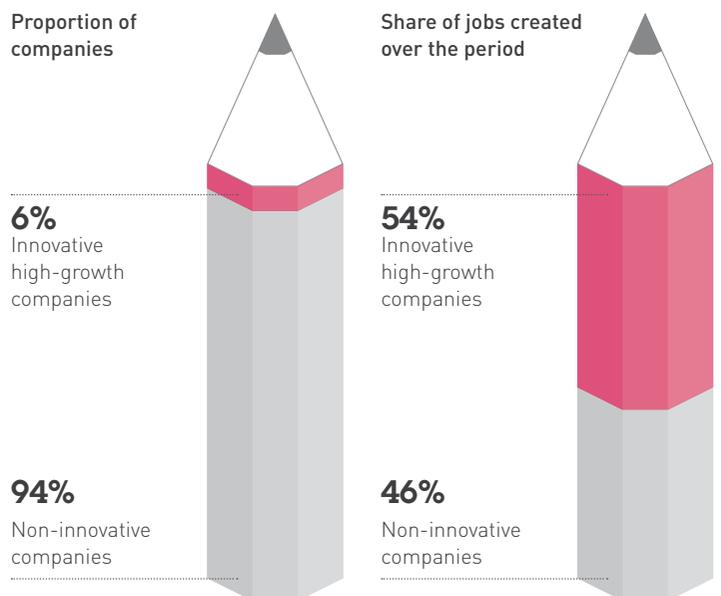
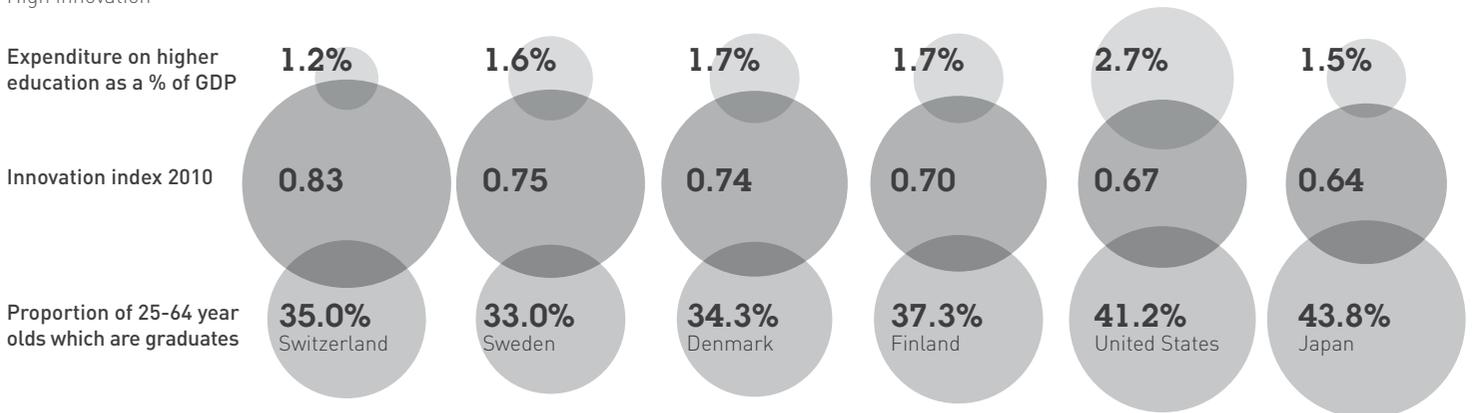


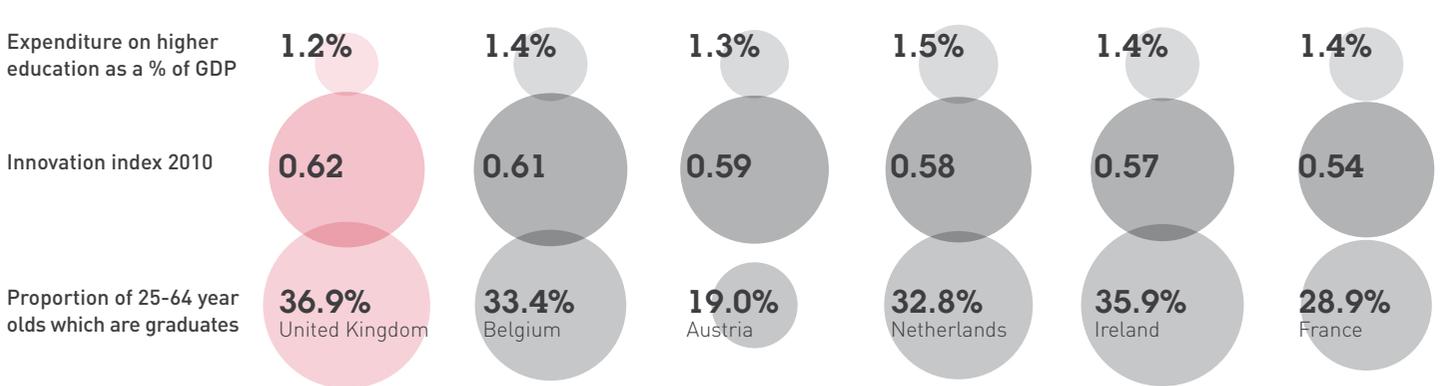
FIG 2.4

Innovation and higher education, 2010

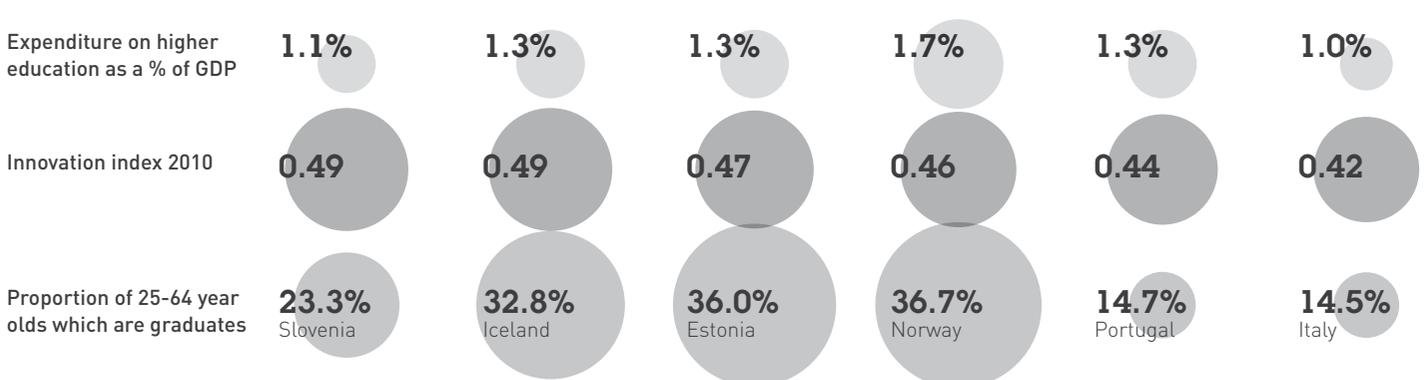
High innovation



Medium innovation



Low innovation



Where will growth come from?

The majority of future growth, and the rebalancing of the UK economy, will rely on knowledge-based industries, which are dependent on high level skills.

The creative industries are fast growing, innovative and knowledge based. They form an important part of the Government's plan for growth and attract inward investment and export earnings for the UK economy.

High level skills play an important role in the creative sector, with graduates accounting for a majority of the workforce in most creative industries.

Skills in the creative sector

The creative sector is dependent on graduate skills, with the proportion of graduates within creative industries often twice as high as that seen in the UK labour market as a whole.

FIG 2.5
High level skills in the UK creative sector, 2010

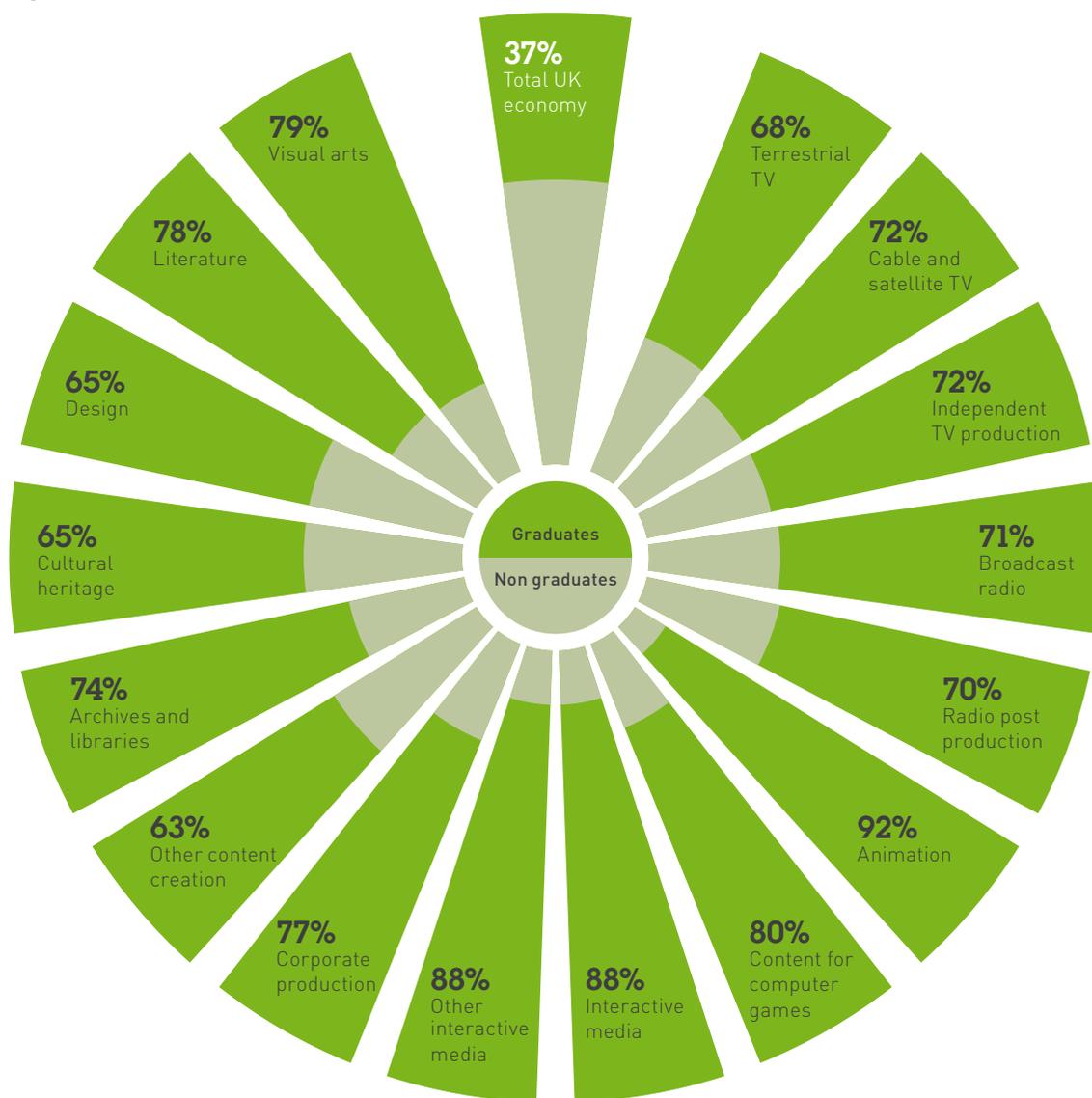


FIG 2.6

Contribution of creative industries to the UK economy (average annual growth in GVA, 1997-2007)

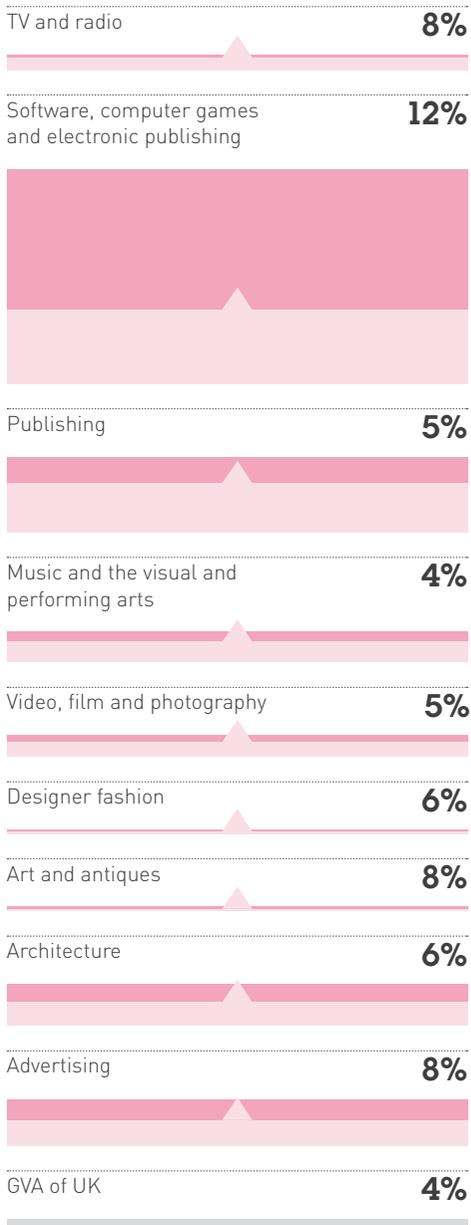
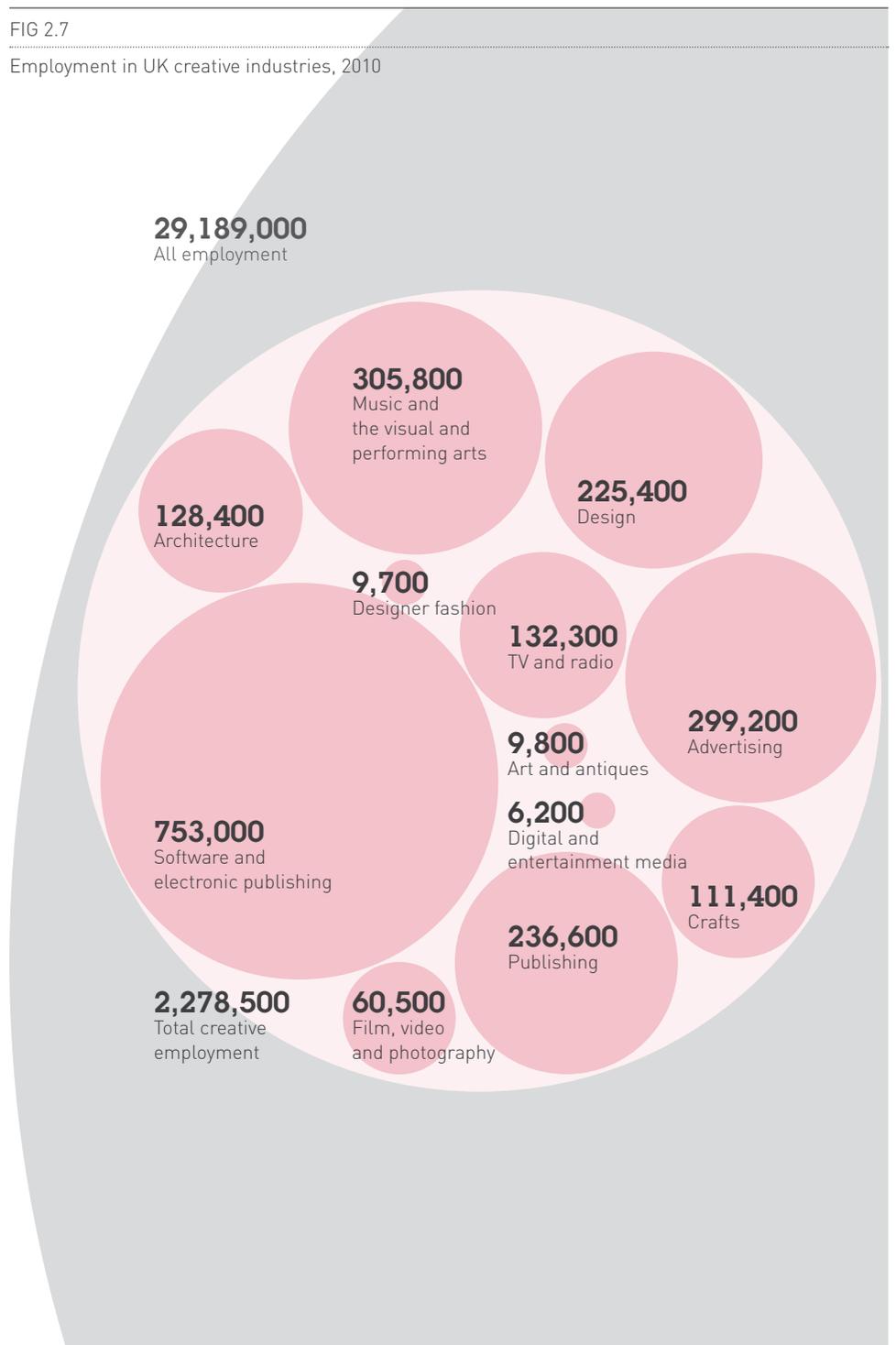


FIG 2.7

Employment in UK creative industries, 2010



From research to innovation

Research conducted at UK universities has had an impact on all of our lives, as demonstrated by the wide range of innovations resulting from research conducted over the last 60 years.

These and future innovations, based on research being undertaken at UK universities, will play an important part in contributing to economic recovery and improving the health and wellbeing of the UK population.

Universities and innovation

Over the last 60 years UK university research has contributed towards many breakthroughs and innovations, from the discovery of DNA and the creation of the UK road signage system to the world's first cloned animal and the development of genetic fingerprinting.

FIG 2.8

Innovation from UK university research, 1953-2006

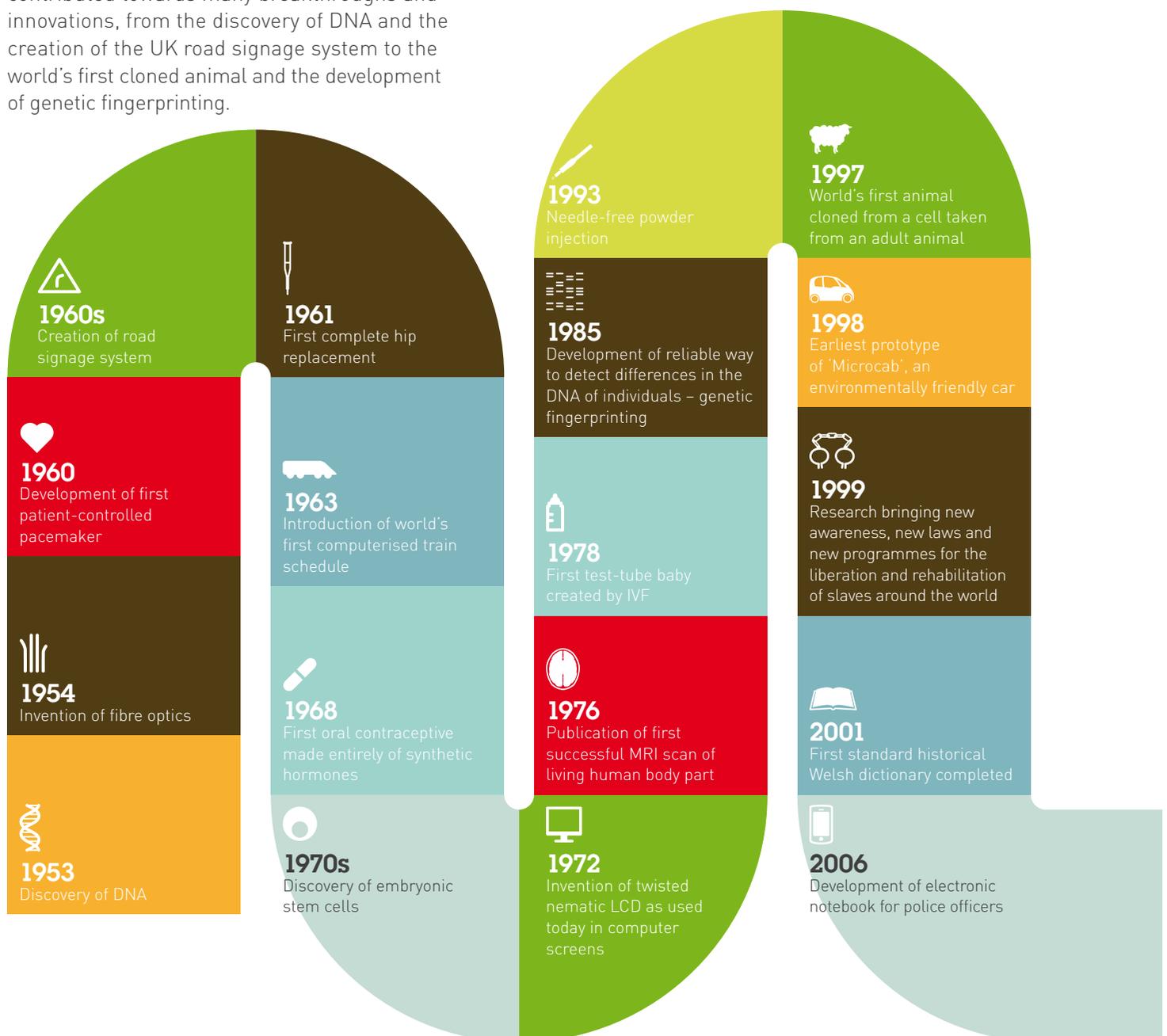
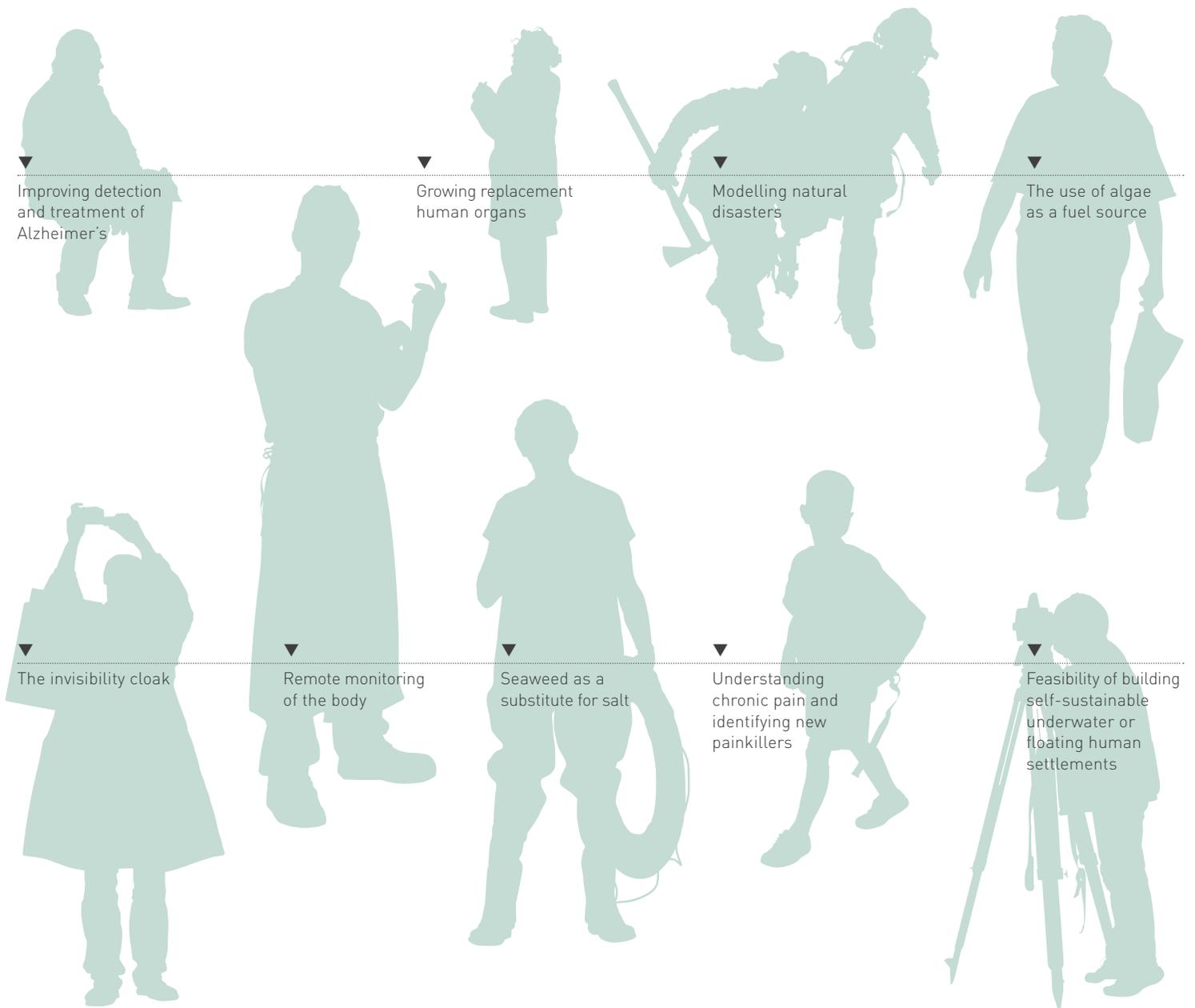


FIG 2.9

Innovation for the future based on UK university research



Lifelong learning for all

In addition to producing graduates and undertaking research, universities also play an important role in upskilling and reskilling the workforce through providing training and education to those already in work. In fact mature students, at 64 per cent, account for the majority of all home students at UK universities. They also account for the vast majority of students studying part time, where 94 per cent are mature.

Throughout their working life and beyond, individuals can access education and training through a variety of means, both full-time

and part-time, from a range of continuing professional development programmes while at work to more formal postgraduate training in a wide variety of subjects.

Through the training of teachers, doctors and nurses, universities also play a significant role in supporting the public service infrastructure of the UK.

Mature students in higher education

In 2009/10 there were 1.3 million UK-domiciled mature students studying at UK higher education institutions. These students undertook a wide range of courses covering many subjects and levels of training.

FIG 3.1
Mature students (UK-domiciled only) at UK higher education institutions, 2009/10

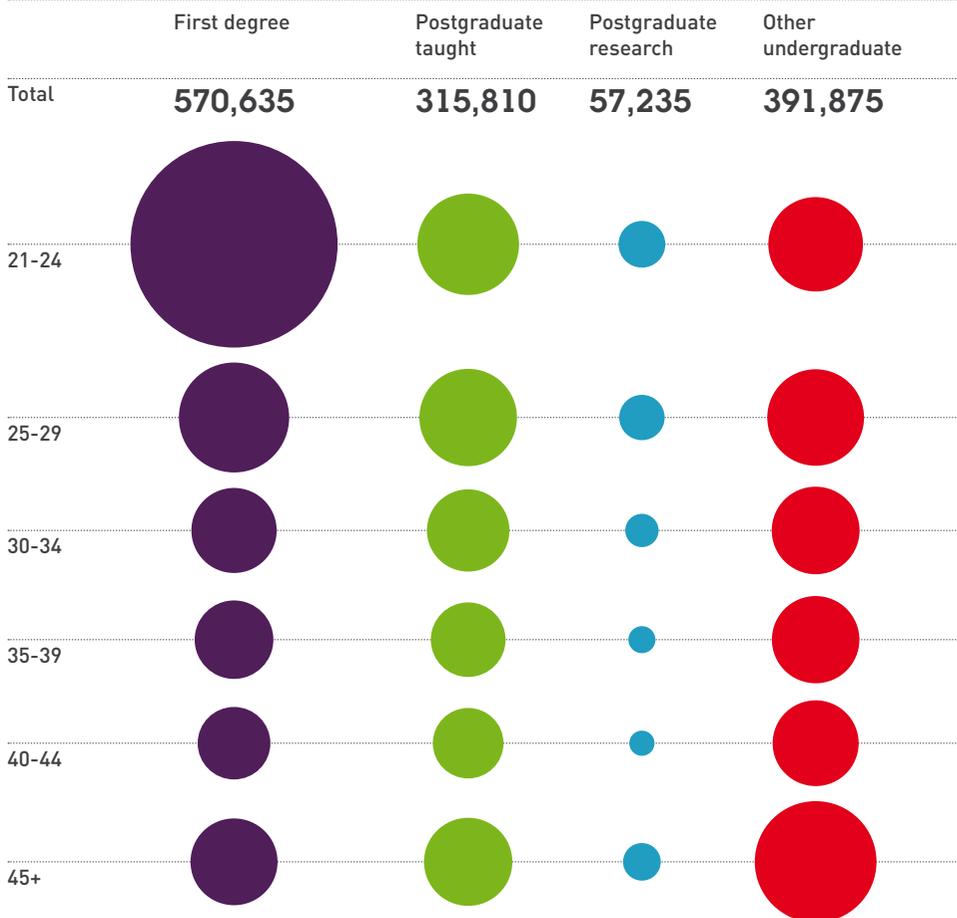


FIG 3.2
Age group as proportion of all full-time and part-time enrolments in UK higher education institutions, 2009/10

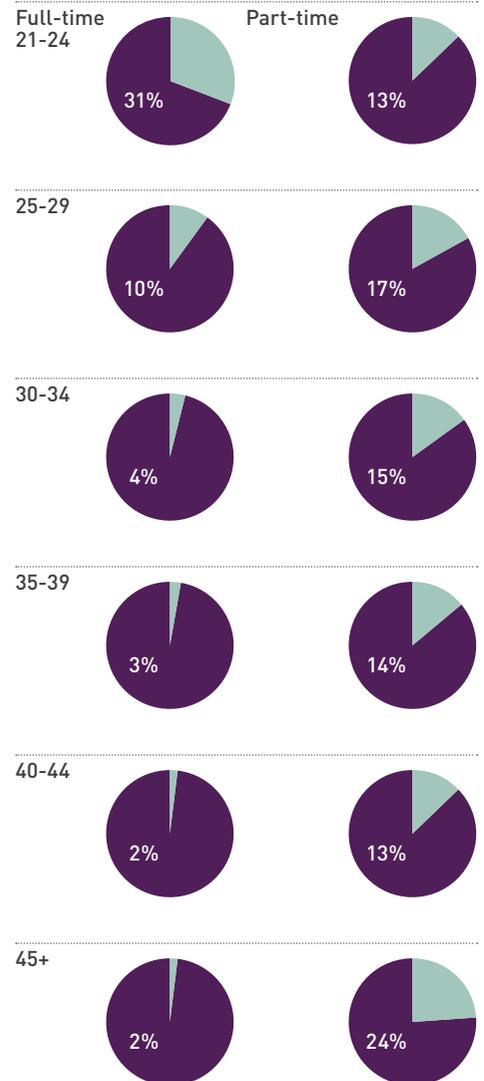


FIG 3.3

Postgraduate taught students (UK-domiciled only) at UK higher education institutions, 2009/10

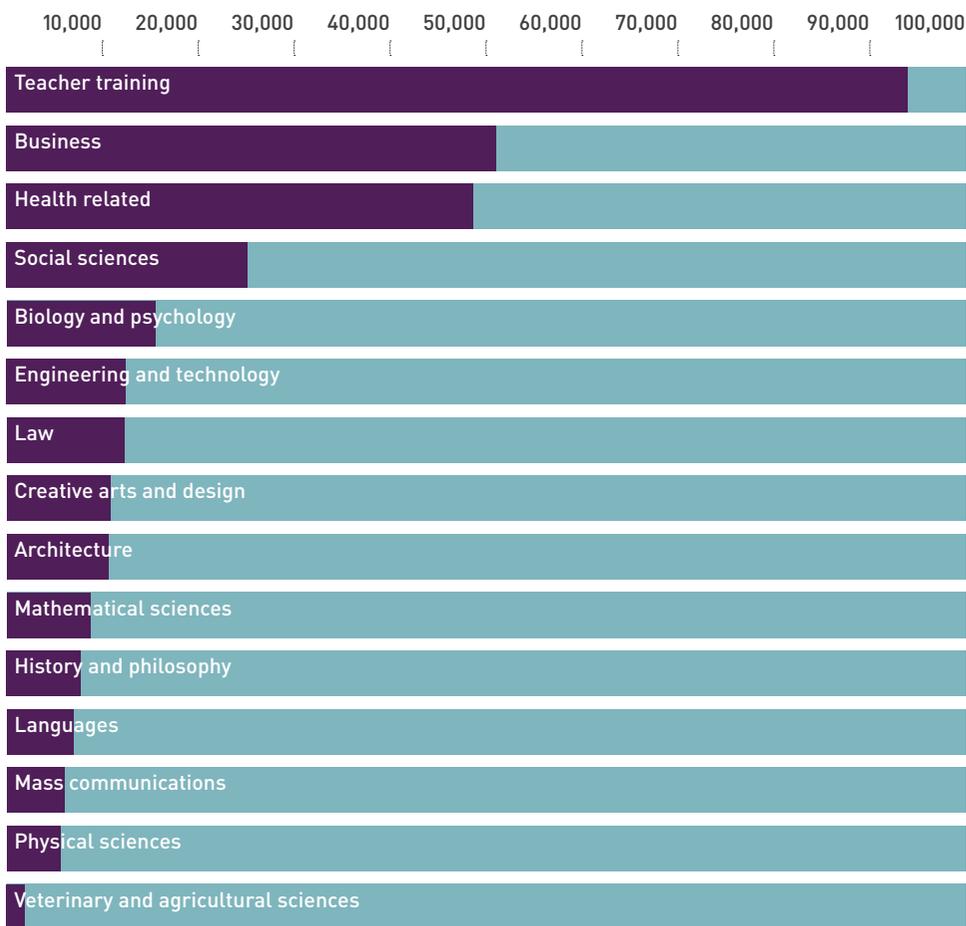


FIG 3.4

Number of UK higher education institutions offering work-based courses, 2009/10

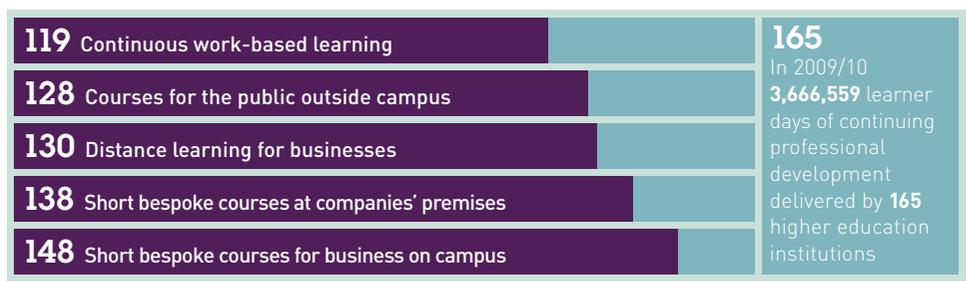
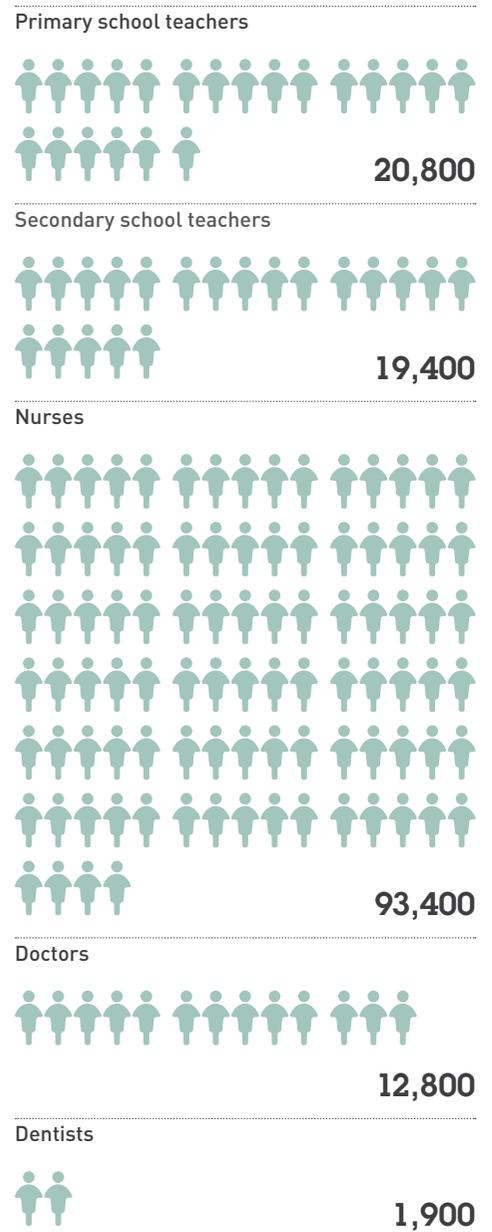


FIG 3.5

Students (UK-domiciled only) starting professional training at UK higher education institutions, 2009/10



Universities and business in partnership

Universities also play an important role in providing support to businesses through research and training. This is demonstrated by the breadth and range of industries with links to universities and the variety of activities with which they are involved, including extensive support for small and medium enterprises (SMEs). This activity is widespread across the UK.

Businesses and universities

Around three quarters of SMEs in the UK engage with universities in some way. Universities interact with a wide range of industries, from manufacturing and creative industries to transport and education.

FIG 3.6

Types of industries with which UK higher education institutions engage, 2009/10

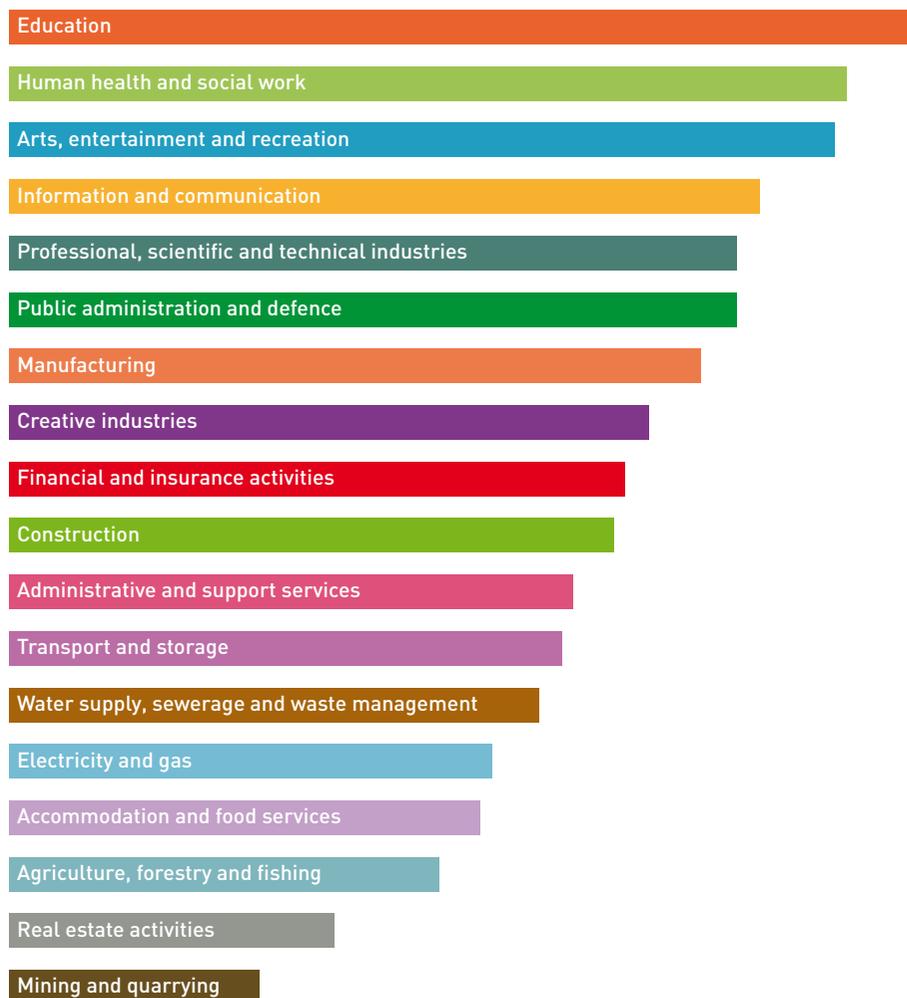


FIG 3.7

Ways in which UK higher education institutions contribute to regional economic development (number of institutions), 2009/10

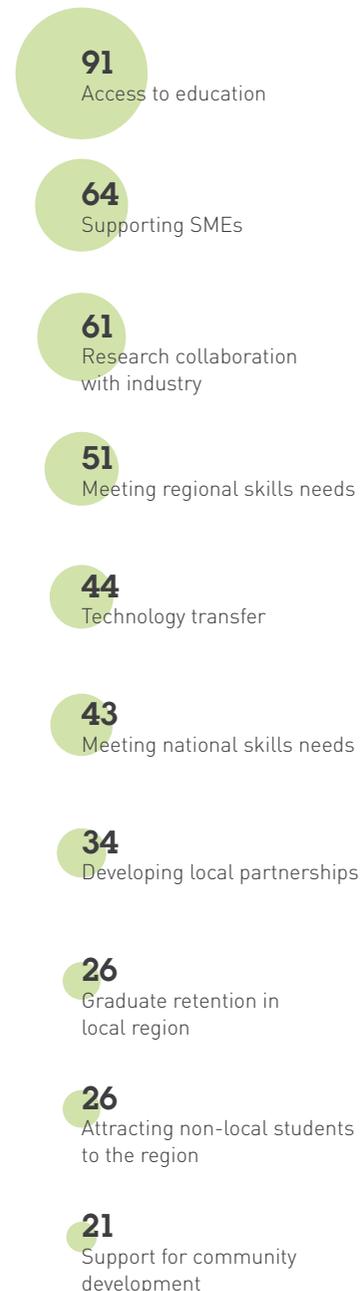


FIG 3.8

Proportion of SMEs engaging with higher education institutions by region, 2009/10

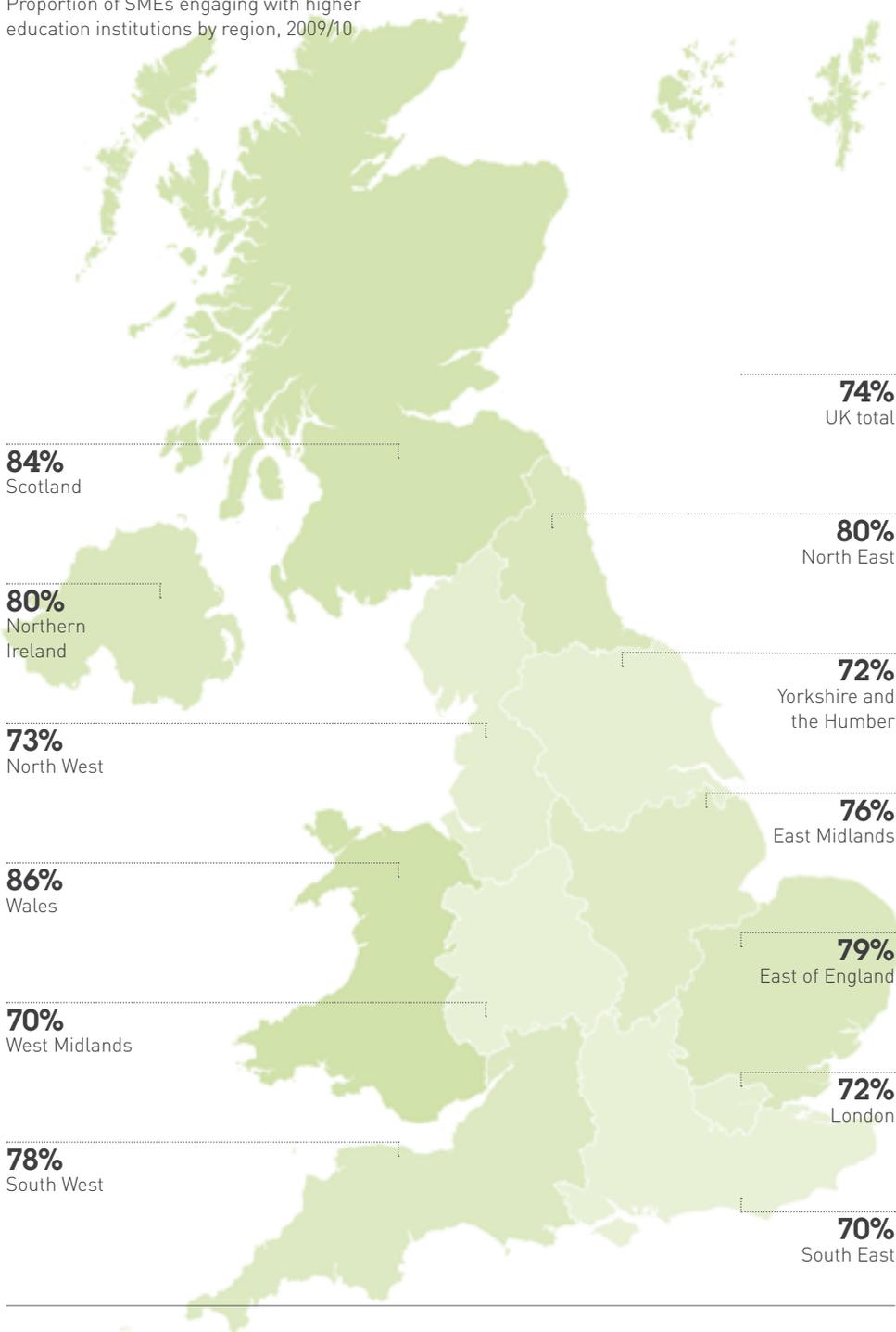


FIG 3.9

Number of graduate start-up companies, 2009/10

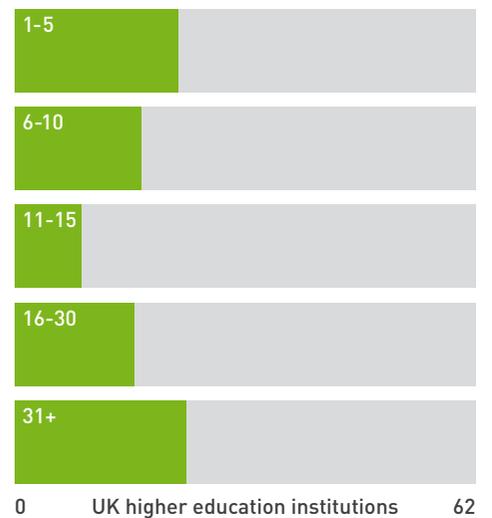
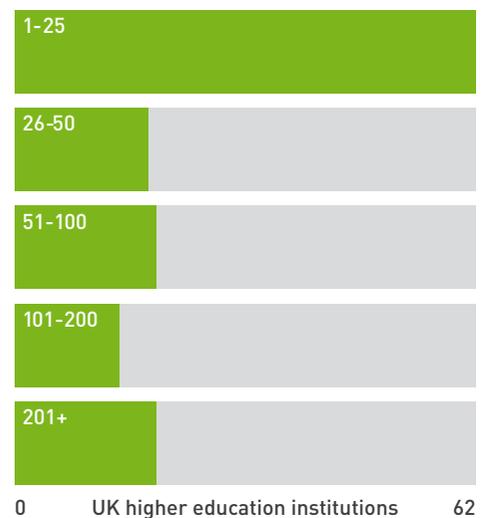


FIG 3.10

Number of consultancy contracts with SMEs, 2009/10



UK higher education in a global market

The UK is a world leader in the recruitment of international students from a wide range of countries, and the number of internationally mobile students is expected to grow significantly in the future. The UK's market position is in danger, however, as other countries focus more heavily on international recruitment.

Global competition for international students

Despite retaining its position as the second most popular destination for international students after the United States, the UK saw its market share reduce from 10.8 per cent in 2000 to 9.9 per cent in 2009, as many competitor countries such as Australia, Canada, New Zealand and Korea were actively increasing theirs.

FIG 3.11

Market share of internationally mobile students (%), 2009

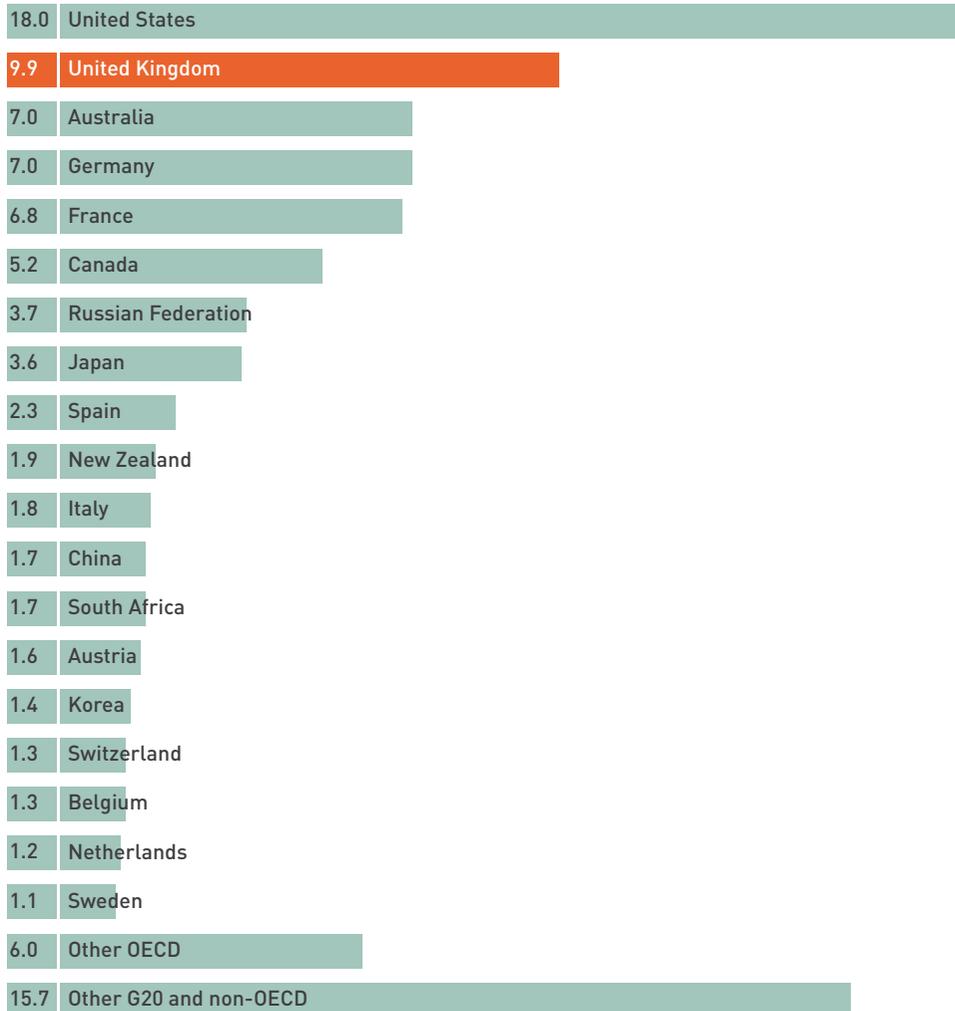


FIG 3.12

Growth in the number of internationally mobile students

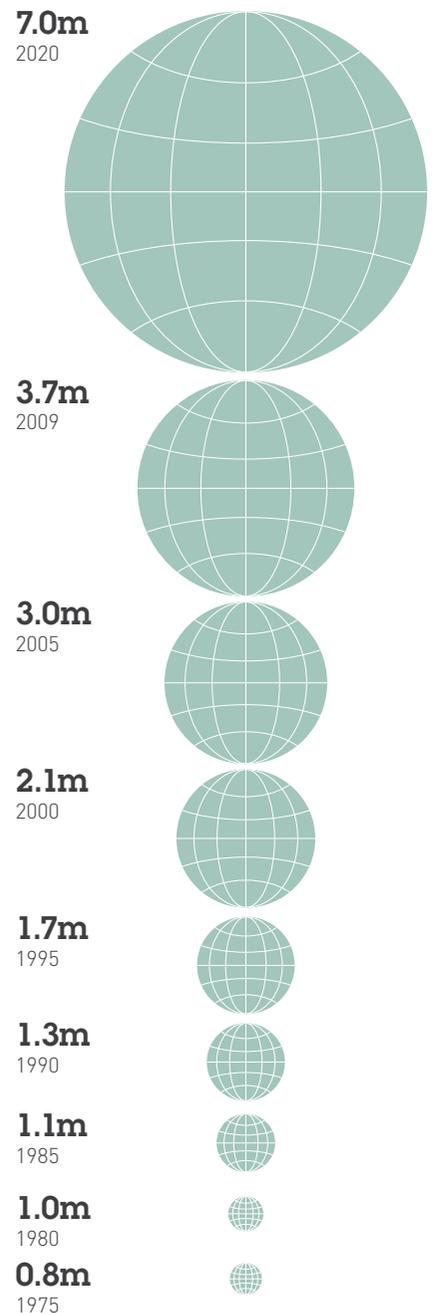


FIG 3.13

International students as a proportion of all students (%) and number of countries represented in higher education sector, 2009

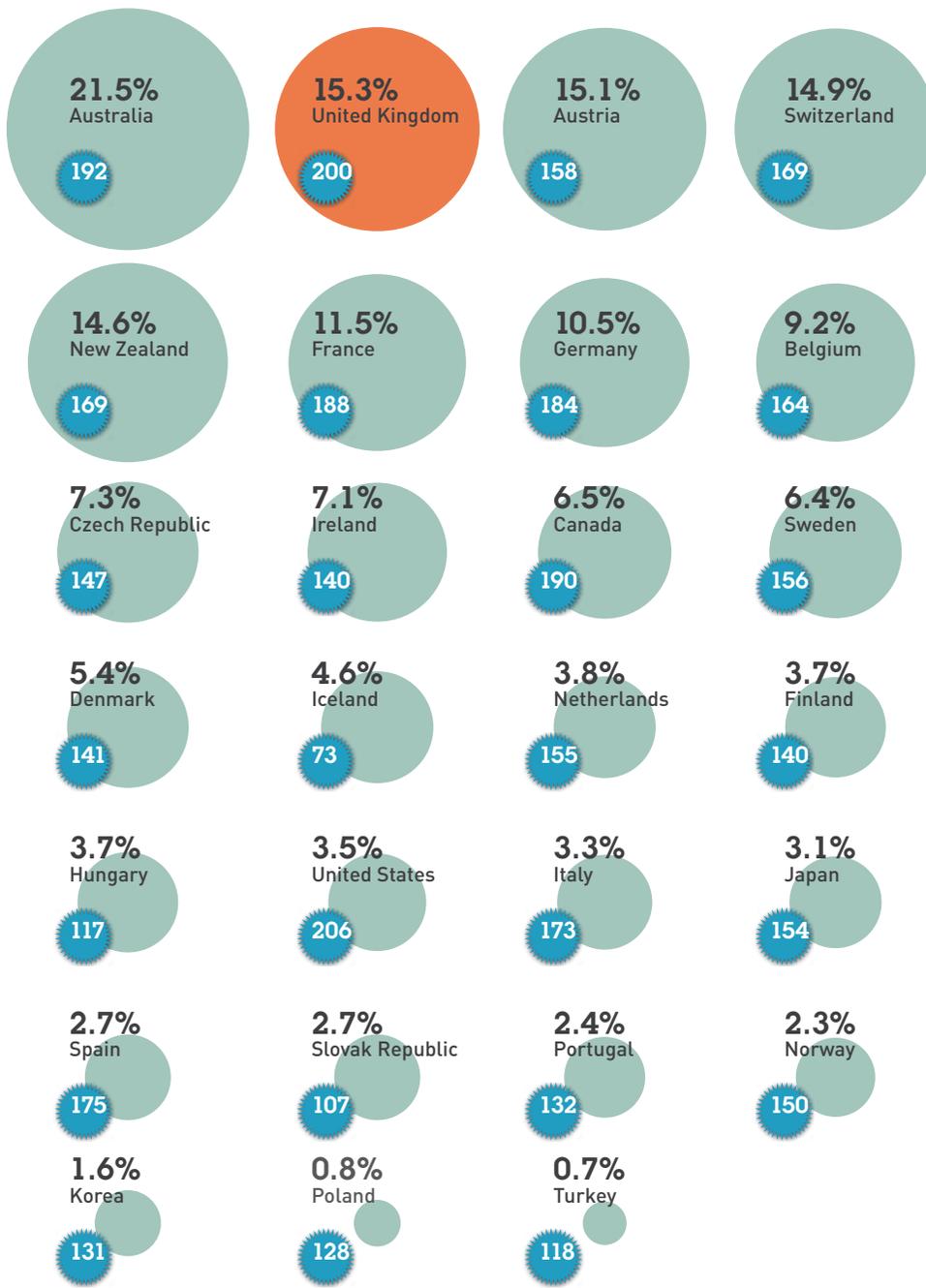
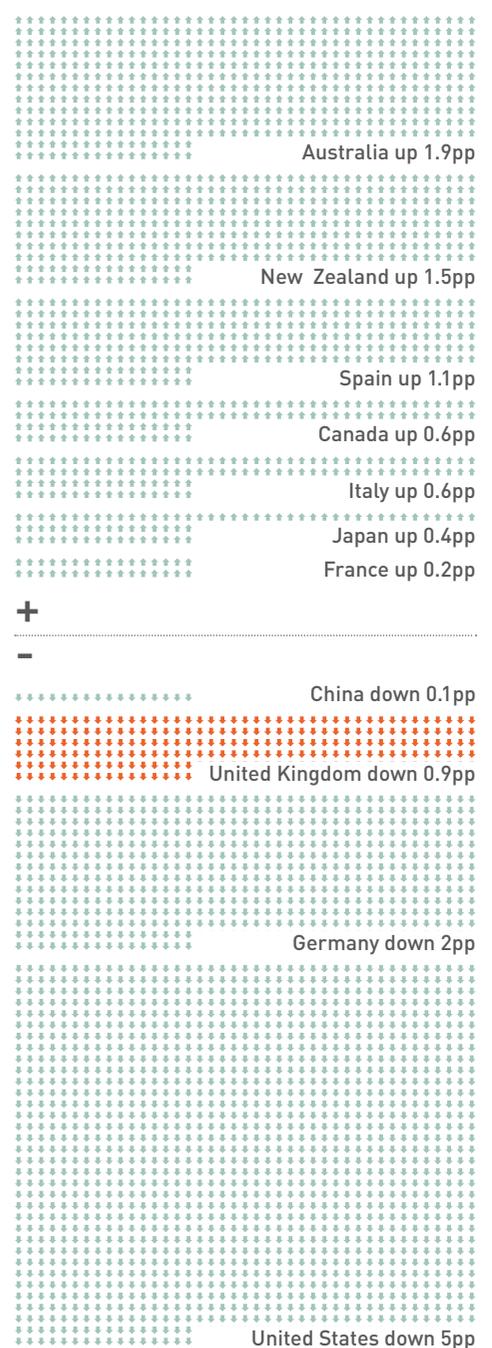


FIG 3.14

Change in market share of internationally mobile students, 2000-2009



UK higher education as an export industry

The UK is a global leader in the export of higher education and particularly in the growing and competitive market of internationally mobile students. The global activities of UK universities in teaching and research will continue to bring economic and social benefits to the UK.

This is an area where the UK is looking to build on its success, with an increasing focus on trans-national education.

Contributing to an export-led recovery

Higher education is also important to the UK as an export industry, contributing £7.9 billion in 2009 and projected to contribute £16.9 billion by 2025.

FIG 3.15

Export earnings for the UK economy, 2008/09 prices



Further information on the Higher education in focus series, together with the detailed data and a full list of sources used in this publication, can be found at:

<http://www.universitiesuk.ac.uk/PolicyAndResearch/PolicyAreas/Data-Analysis/Pages/HE-in-Focus.aspx>

Higher education in focus

Outputs in Universities UK's Higher education in focus series provide an overview of the shape and impact of the UK's higher education sector, using simple and innovative visualisations of data.



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