



Qualified for the Future

Quantifying demand for
arts, humanities and
social science skills

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Summary

The future of employment, skills and growth is uncertain, with demand being driven not only by technology and automation, but also by how we live within our local and global environment, political uncertainty and demographic change. We need to plan an education and skills system which will build the society we want to live in, with individuals able to tackle the challenges we face and shape the future. The arts, humanities and social sciences will be vital in doing this, as they give us the tools to examine and explain human behaviour, understand how society functions, learn from the past and apply those lessons to the present, and analyse the drivers and implications of a changing world and how different countries, places and cultures interact.

In *The Right Skills* (2017), the British Academy articulated the skills that are gained from study of these subjects and demonstrated their intrinsic value to individuals in finding employment and to the economy and wider society. This report seeks to provide quantitative evidence for the tangible benefits of those skills to the UK workforce, economy and society, not only now but in the future.

Graduates who study arts, humanities and social science disciplines are highly employable across a range of sectors and roles. They have skills employers value – communication, collaboration, research and analysis, independence, creativity and adaptability – and are able to build flexible careers which may move across a number of areas of employment while remaining resilient to economic downturns. They are employed in sectors which underpin the UK economy and are among the fastest growing – financial, legal and professional services, information and communication, and the creative industries – as well as in socially valuable roles in public administration and education.

Young people chose to enter higher education for many reasons of which salary is only one, but it is a legitimate question to consider what the economic return is on the substantial investment which is a degree course, both in time and money. Overall, salary levels for arts, humanities and social science graduates are a little lower on average than for graduates in science, engineering, technology and medicine, but this top-level picture conceals complexity underneath. Consistently high salaries in medicine and dentistry drive much of the difference, while the other discipline areas which make up the two broad groups show far more variance in earnings within subjects. As individuals progress through the first ten years of their career, arts, humanities and social science graduates are able to make strong progress up the career ladder into roles attracting higher salaries.

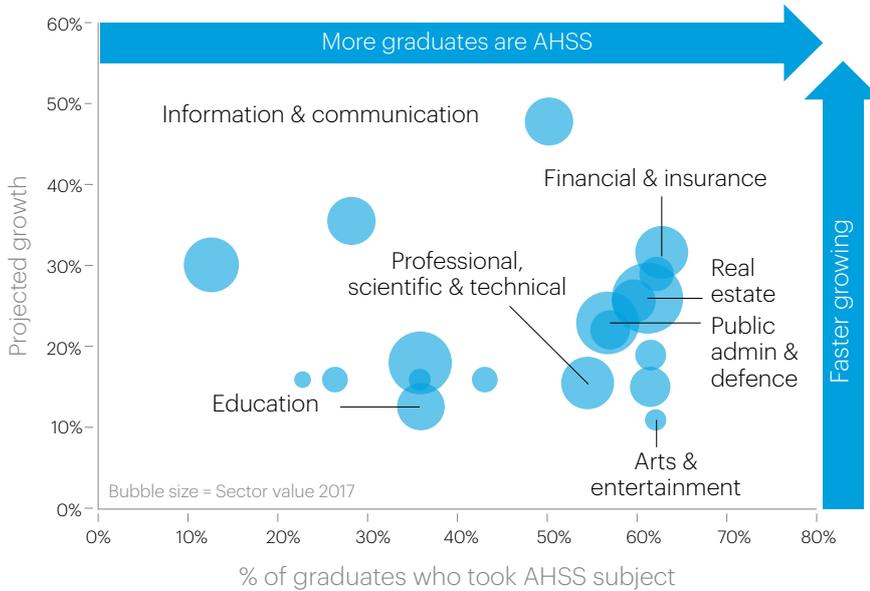
Whatever the future holds for the UK, it is our people, their skills, knowledge and attributes, that will ensure prosperity and wellbeing. We need to build an evidence-led, broad and balanced education and skills system to create the society we want to live in. The challenges the world is facing – climate change, global pandemics, the growth of populism – need the insights of the arts, humanities and social sciences as much as those from science, technology and engineering. The importance of a highly qualified and versatile labour force for productivity and economic growth cannot be underestimated. Our evidence shows that arts, humanities and social science graduates are central to this ongoing and long-term requirement. They are well equipped to profit from, and more importantly shape, the new opportunities of the future.

Key findings

1 Those who study AHSS subjects build careers which may move across many areas of employment. AHSS graduates are more likely to change sector and role voluntarily, without wage penalty, suggesting greater flexibility and choice than STEM graduates (section 2.2).¹

2 Graduates who study AHSS subjects are highly employable (section 2.1).¹

Employment rate of graduates in the UK workforce 2017

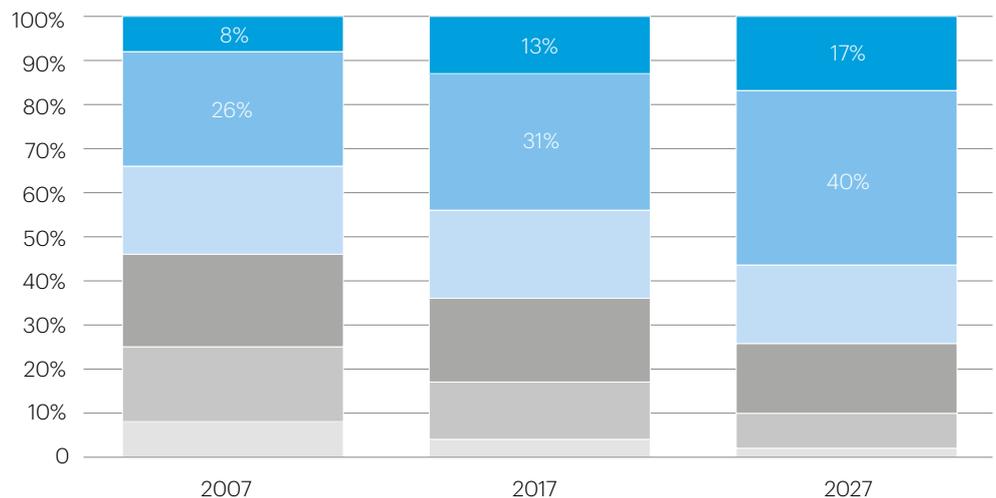


3 AHSS graduates underpin key sectors of the UK economy. Of the ten fastest growing sectors, eight employ more graduates from AHSS than other disciplines (section 3.3).³

4 The UK is projected to need more higher-level skills. By 2027, it is projected that 57% of the UK workforce will be employed with RQF levels 4 and above (section 3.2).⁵

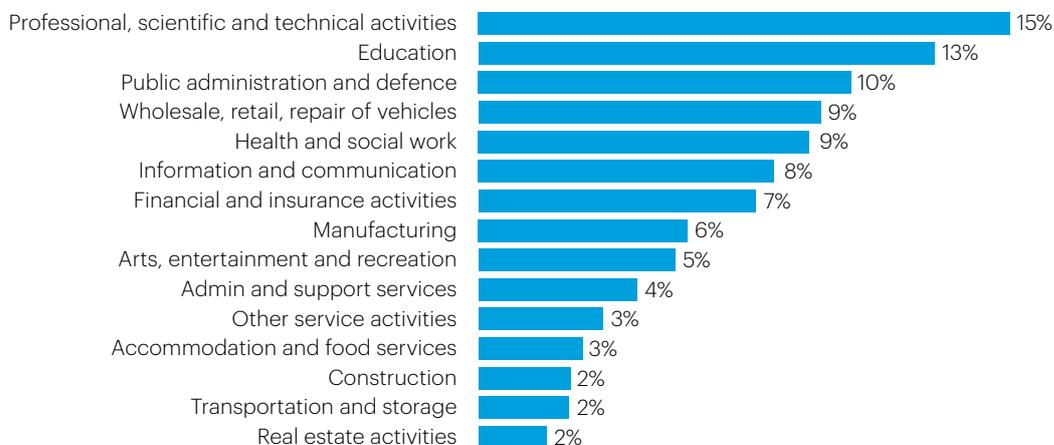
- RQF 7 & 8 Master's and Doctorate
- RQF 4,5 & 6 Below degree level to first degree
- RQF 3 A level & equivalent
- RQF 2 GCSE (A-C) & equivalent
- RQF1 GCSE (below grade C) & equivalent
- RQF0 No qualification

UK employment by qualification level, 2007 to 2027



5 AHSS graduates choose to work in a wide range of sectors across the economy, including financial services, education, social work, the media and creative industries (section 2.2).²

Main sectors of employment for AHSS graduates, 2017 (% of all AHSS graduates)



Top skills to thrive in 21st century work

- Initiative and entrepreneurialism
- Accessing and analysing information
- Critical thinking and problem-solving
- Agility and adaptability
- Curiosity and imagination
- Collaboration and leadership
- Effective oral and written communication

Top 5 skills developed in university by AHSS students

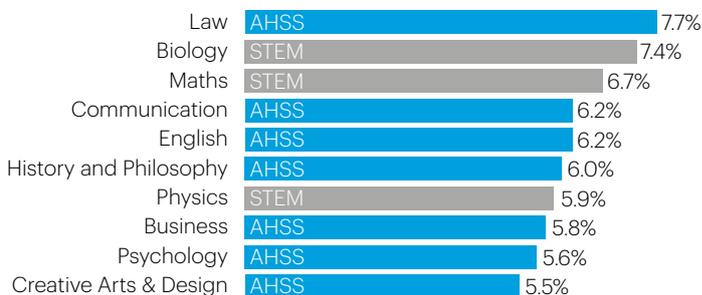
- Becoming an independent learner
- Thinking critically and analytically
- Being innovative and creative
- Working effectively with others
- Writing clearly and effectively

6 AHSS graduates have the skills that employers value now, and skills for the future workplace (section 3.5).²

7 Addressing future global challenges requires the knowledge and skills of both AHSS and STEM (section 3.6).

8 While starting salaries are lower, over the longer term, AHSS graduates make strong progress up the career ladder into roles attracting higher salaries (section 2.5).⁴

Top 10 subjects, average annual wage growth rate



1 London Economics (2019), *Understanding the career paths of AHSS graduates in the UK and their contribution to the economy*
 2 K4D (2019), *21st Century Skills: evidence of issues in definition, demand and delivery for development contexts* and Advance HE (2018) *UK Engagement Survey*
 3 UK Commission for Employment and Skills (2016), *Working Futures 2014-2024*, Higher Education Statistics Agency (2018), *Destination of Leavers of Higher Education survey 2016/17* and Office for National Statistics (2018), *Regional economic activity by gross value added (balanced), UK: 1998 to 2017*
 4 Department for Education (2018), *Graduate outcomes (LEO): Employment and earnings outcomes of higher education graduates by subject studied and graduate characteristics (SFR 15/2018)*
 5 Department for Education (2020), *Working Futures 2017-2027*

1. Introduction

1.1 About the British Academy Skills Programme

The British Academy Skills Programme is working to identify the skills inherent to the study of AHSS, and demonstrate their value to individuals, society and the economy.

The term ‘skills’ is widely used in everyday life, political discourse and in educational contexts, often interchangeably with words such as ‘competence’ and ‘attribute’. For this programme, we have adopted a broad understanding of ‘skills’ which goes beyond ‘abilities’ to include attitudes and behaviours.

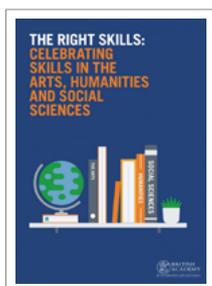
The first report from the Programme, *The Right Skills: Celebrating skills in the arts, humanities and social sciences* was published in November 2017. That report identified a core set of skills gained from the study of arts, humanities and social sciences, which are shared across these disciplines.

The report also explored the contribution AHSS graduates make in the workforce and to wider society and recommended a series of actions needed to ensure that the pursuit of AHSS disciplines continues to play an essential role in future prosperity.

1.2 About this report

This report builds on *The Right Skills* report and draws on a broad range of evidence, including the main findings of new research commissioned by the British Academy analysing the Labour Force Survey: *Understanding the career paths of AHSS graduates in the UK and their contribution to the economy*,⁶ conducted by London Economics. The full reports by London Economics are available on our website. Other data sources can be found through references and links in this report.

The first section of this report illustrates the current demand for individuals with the skills gained from AHSS in the workforce, showing how they are employed in a wide range of industries, including many of the fastest growing sectors of the economy, and their ability to move between roles as a result of the flexibility and transferable nature of the skills they have. The second section explores future need for these skills, growth industries, in-demand attributes, the skillsets required to overcome global challenges, and the role that AHSS skills will need to play.



The Right Skills: Celebrating skills in the arts, humanities and social sciences



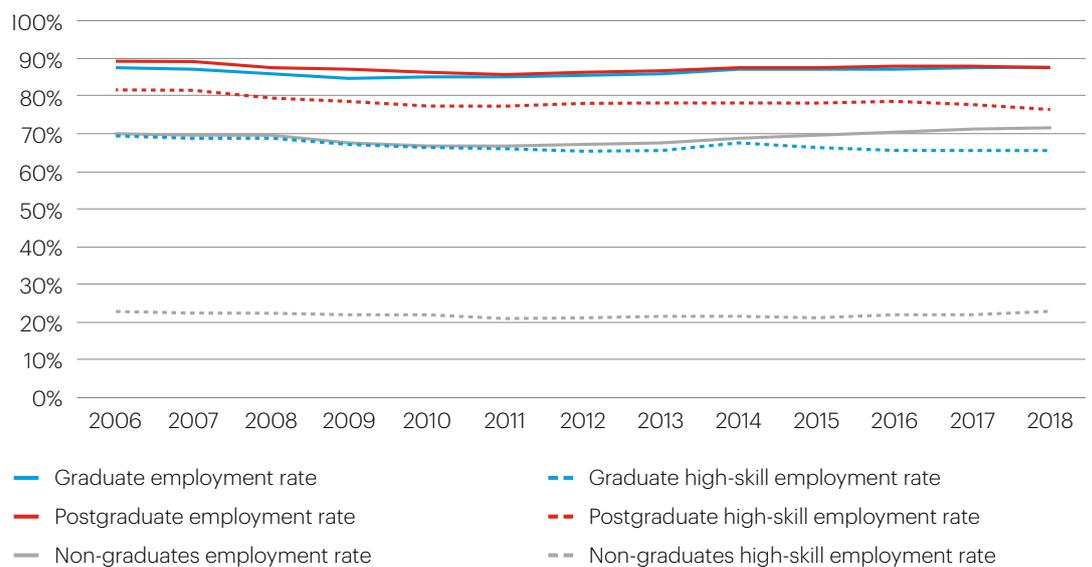
Understanding the career paths of AHSS graduates in the UK and their contribution to the economy

2. Current demand for skills: AHSS graduates in the UK workforce and economy, past and present

2.1 AHSS graduates are highly employable and resilient to economic upheaval

It is widely recognised that university graduates have a better chance of overall employment and have significantly higher employment rates in high-skilled jobs than non-graduates.⁷ The overall employment rate of graduates and postgraduates is just under 90%, around 15% higher than that of non-graduates (Figure 1). Graduates are around three times more likely to be in high-skilled jobs, and postgraduates almost four times more likely.

Figure 1: Graduates, postgraduates and non-graduates, employment rate 2006-2018

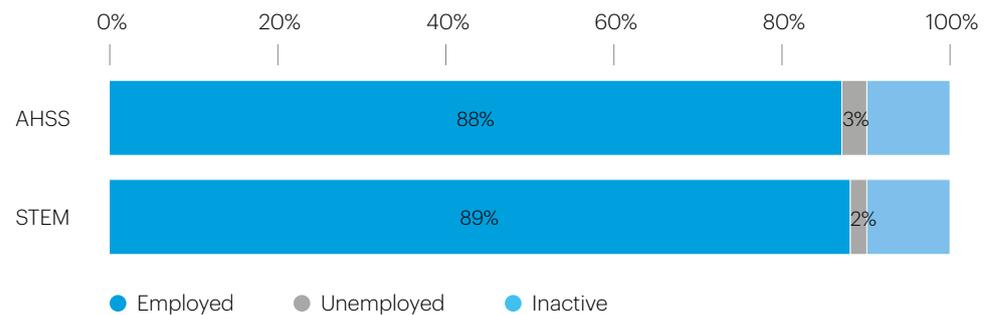


Source: Department for Education Graduate Labour Market Statistics 2018

There is a common misconception that Science, Technology, Engineering or Maths (STEM) students are more likely to get a job than those choosing other subjects at university, but closer inspection of multiple datasets as depicted below shows that employment rates differ little by subject.

Analysis of the Labour Force Survey, based on the whole UK population, shows that the difference in employment rates between graduates of different subject groups is negligible (Figure 2). The analysis by London Economics shows that this picture has been the same for the last 20 years of labour market data and there are no signs of any change to this trend.⁸

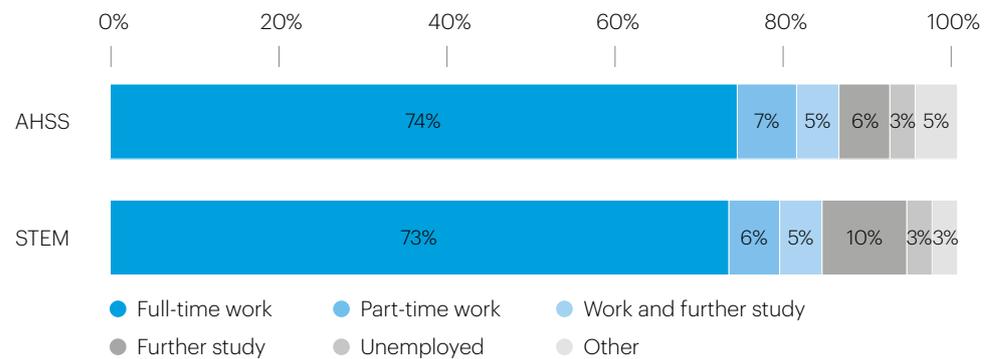
Figure 2: Employment rate of graduates in the UK workforce by subject group, 2017



Source: London Economics 2019, based on Labour Force Survey 2017

Looking at the activity of recent graduates, employment data from the Longitudinal Destination of Leavers from Higher Education (LDLHE) survey gives a more detailed picture. Like the Labour Force Survey, the LDLHE shows that unemployment rates are the same for recent AHSS and STEM first-degree graduates (Figure 3). The main difference in the activity profile is that STEM graduates are more likely to be in further study, rather than full-time or part-time work.

Figure 3: Activity of first-degree graduates, 3.5 years after completion by gender and subject group, 2016-17



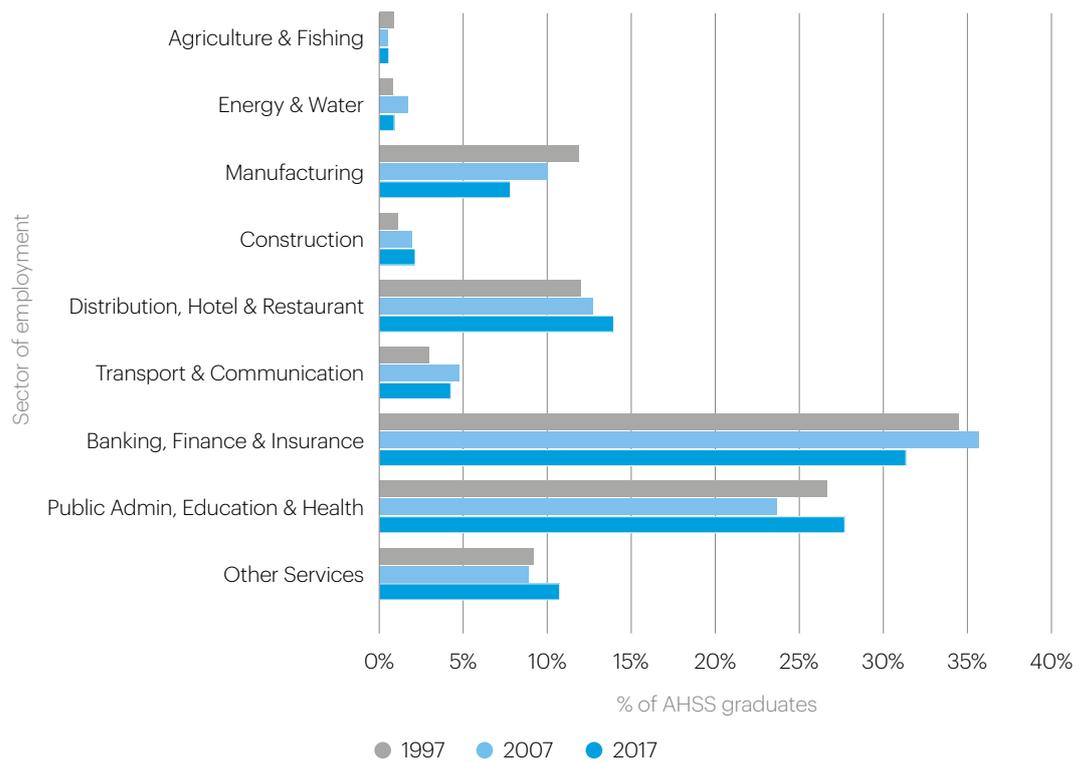
Source: HESA LDLHE 2018

The Labour Force Survey also shows that graduates of all disciplines are relatively resilient to economic shocks.⁹ AHSS graduates at both the undergraduate and postgraduate level did not have significantly different outcomes to STEM graduates as the economy expanded or contracted. There is little difference in the probability of being made redundant by subject area, but AHSS graduates are less likely to have taken up employment within the three months after having been made redundant.

2.2 AHSS graduates have skills that can be applied in a variety of industries

AHSS graduates are employed in a wide range of sectors across the workforce, ranging from financial services to education, social work, the media and creative industries. While there is evidence that pupils and students believe STEM degrees keep more career options open,¹⁰ in practice UK workforce data shows that AHSS students have skills that open up a wide range of options across the private, public and third sectors.

Figure 4: Employment by sector of AHSS first degree graduates in the total UK workforce 1997-2017



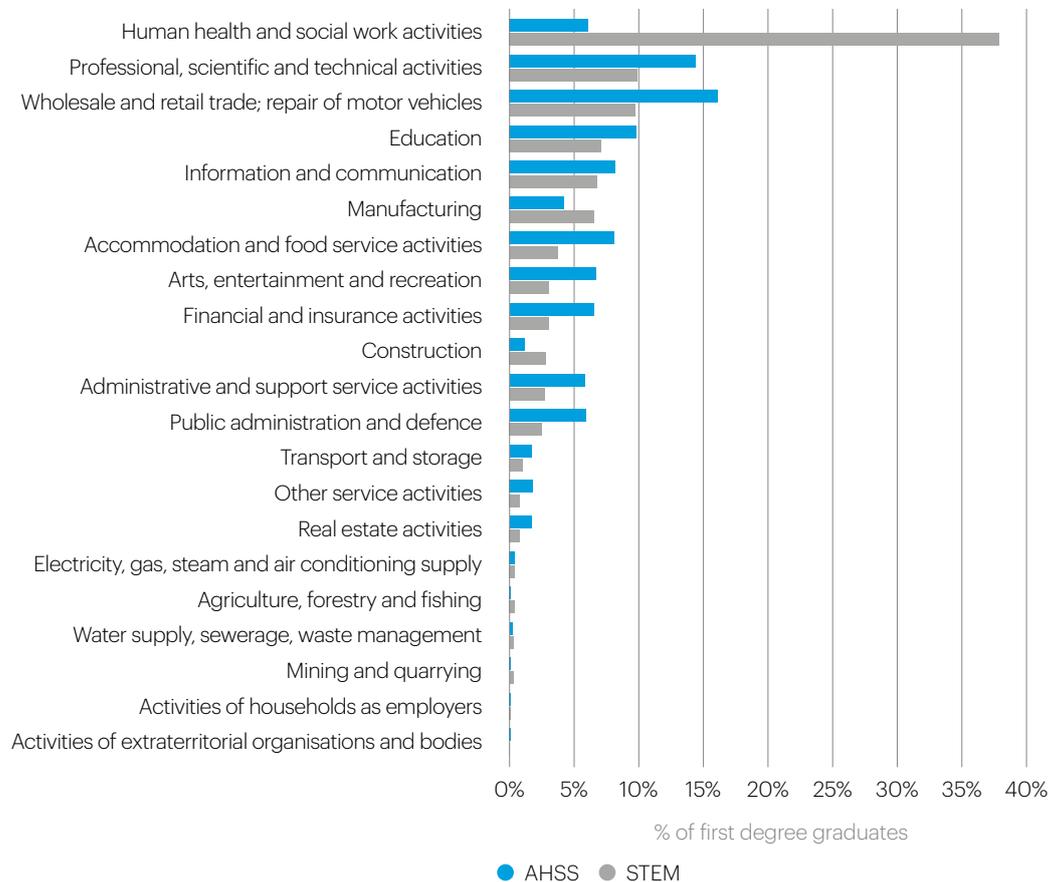
Source: London Economics 2019, based on Labour Force Survey 2017

9 London Economics (2019), *Understanding the career paths of AHSS graduates in the UK and their contribution to the economy*
 10 Department of Business, Innovation and Skills (2011), *STEM graduates in non-STEM jobs*

There has been a shift over time in the sectors of employment, in part reflecting wider UK and global employment trends.¹¹ The proportion of AHSS undergraduates employed in Manufacturing, Banking, Finance & Insurance has declined, while there has been an increase in employment in Public Administration, Education & Health and Distribution, Hotel & Restaurant sectors. These trends are the same for postgraduates too.

Analysis of recent graduates offers further detail and comparison with destinations of STEM graduates (Figure 5). While the health sector is the dominant destination for recent STEM graduates, AHSS graduates are spread over a wider selection of sectors including Retail (16%), Professional, Scientific and Technical (14%), Education (10%), Information and Communication (8%), and Accommodation and Food Services (8%).

Figure 5: Employment sector of UK first degree graduates 6 months after completion, 2016/17

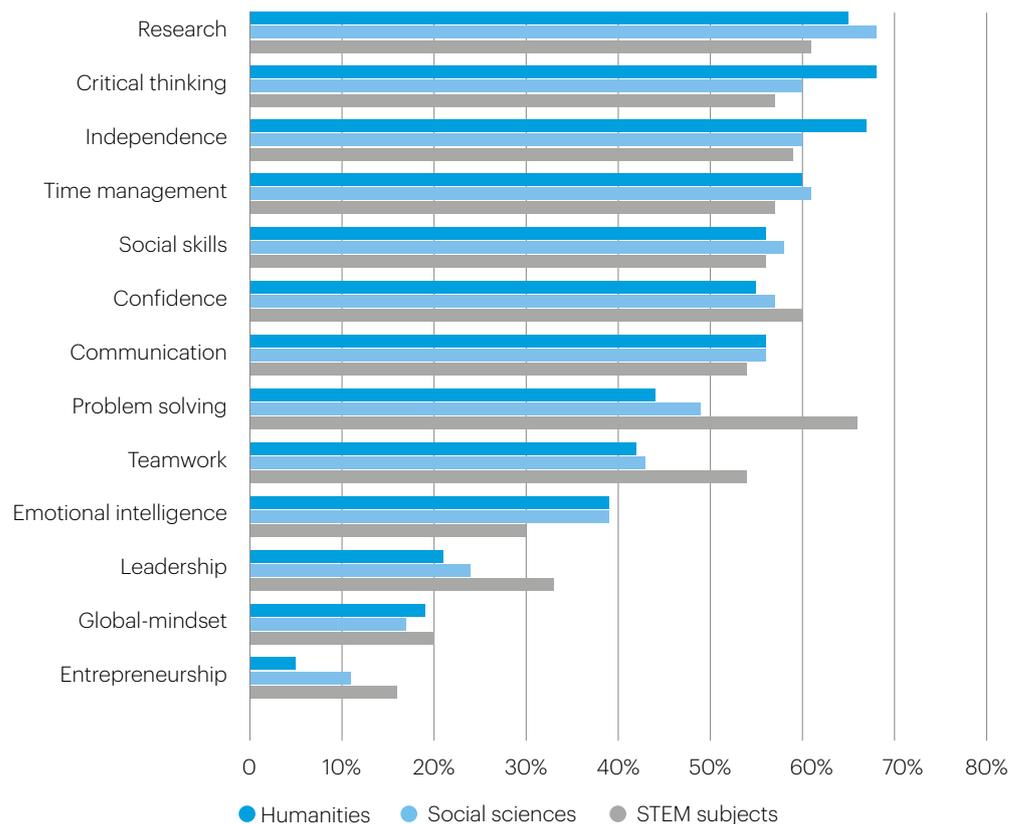


Source: HESA DLHE 2018

One reason for this spread of employment between sectors is simply that most jobs in the UK that require a degree do not need that degree to be in a specific discipline. Evidence from the Institute of Student Employers suggests only 14% of employers state that specific degree subjects are a selection criterion.¹²

Moreover, most AHSS education and training is not designed to prepare students for one particular career direction, although there are exceptions such as law and psychology, and smaller discipline-specific employment routes within other subjects. Rather, students develop skills such as communication, collaboration, analysis and decision making, which open up a wide range of options, across the private, public and third sectors.¹³ As a recent survey of graduates confirms,¹⁴ individuals who have studied AHSS disciplines are more likely to feel they have developed broader competence including research skills, independence, and critical thinking (Figure 6 below). These skills are highly valued by employers and open up a wide range of options across the private, public and third sectors.¹⁵

Figure 6: Skills that students felt they developed at university by subject group



Source: ComRes & Universities UK Students and Recent Graduates Research 2019

¹² Institute of Student Employers (2019), *Inside student recruitment 2019: Findings of the ISE recruitment survey*

¹³ British Academy (2017), *The Right Skills: Celebrating skills in the arts, humanities and social sciences*

¹⁴ ComRes & Universities UK (2019), *Value of university: Students and recent graduates research*

¹⁵ CBI (2018), *Educating for the modern world: CBI/Pearson education and skills annual report*

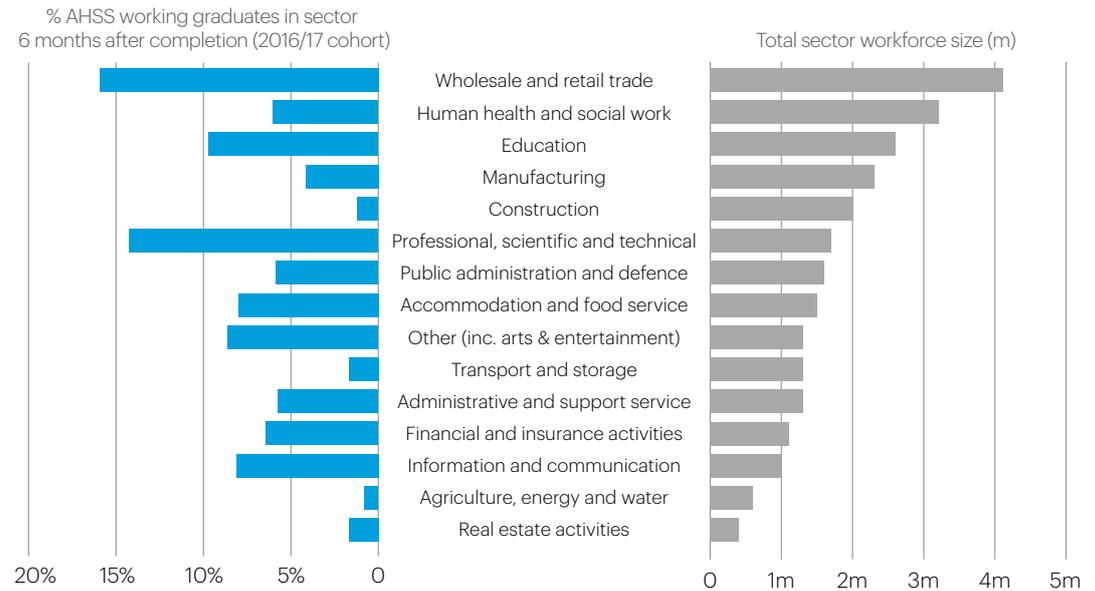
2.3 AHSS graduates underpin major parts of the economy and occupy socially valuable roles

AHSS graduates are at the heart of some of the most exciting, productive, largest and fastest-growing sectors of the UK economy such as information and communication, financial, legal and professional services, and the creative industries.

The majority of AHSS graduates work in service industries (Figure 7), which accounted for 81% of total UK economic output in 2018 and 83% of workforce jobs in June 2019.¹⁶ The UK is second only to the US in service exports, which totalled £245bn in 2016. The Blackett Review of the Service Sector (2019) articulated the diverse nature of these industries and their positive economic and societal roles in:

- connecting people through telecommunications and social media
- transporting people and cargo
- creating, generating, manipulating and organising information
- safeguarding people and possessions
- maintaining and preserving the places and things we value
- entertaining, informing and educating.¹⁷

Figure 7: Workforce size and distribution of recent AHSS graduates by industrial sector



Sources: ONS All in Employment by Industry 2018; HESA DLHE 2018

As well as underpinning the largest sectors of the UK economy, AHSS graduates are also vital to many of the fastest growing industries of the last ten years (Figure 8). These sectors include professional, scientific and technical, information and communication, and health and social work.

¹⁶ Office for National Statistics (2019), *Services sector, UK: 2008 to 2018*; House of Commons Library (2019) *Trade in services and Brexit*
¹⁷ Government Office for Science (2018), *Services transformed: Growth opportunities for the UK service economy*

Beyond economic growth and financial prosperity, AHSS graduates are also more likely to be employed in particular industries that are valuable, even vital to society. The first example is Education. According to the LDLHE (2017) 16% of AHSS graduates are employed in the education sector 3.5 years after graduation, compared to 11.8% for STEM graduates.²⁰ Education supports and enriches an individual over the course of their entire lifespan; from pre-primary education, through secondary school, university, employment and even in retirement. By developing the UK's human capital, not only is this sector responsible for a large part of the UK's economic competitive advantage, but it is the main tool to address social exclusion, inequality and social mobility.²¹

Another example of an essential sector is Public Administration and Defence. According to the Labour Force Survey, AHSS graduates are more likely to be employed in the civil service than STEM graduates. There are currently 430,00 civil servants and they play a crucial role in modern British life,²² supporting the wellbeing, security and prosperity of the country.²³

2.4 Specialist professions drive the earnings gap between AHSS and STEM graduates

It is important to state up front that salary outcomes are not the main reason individuals choose to go to university. A recent survey²⁴ has found that the strongest reasons for individuals choosing to go to university are interest in the subject (56% of all respondents), taking the first step in building a career (50%) and enjoying learning (48%). Achieving a higher salary was ranked in fifth place, at 34%.

The Labour Force Survey shows that gross hourly pay rose for both STEM and AHSS graduates between 1999 and 2008, but declined after the 2008 financial crisis and has been fairly stagnant since.²⁵ While both the average and median hourly pay of STEM graduates has been consistently above that of AHSS graduates, the scale of the difference between the two have decreased slightly over time (Figure 9). In 2017, average gross hourly pay for AHSS graduates was £17 compared with £18.40 for STEM graduates.

For postgraduate, over the last 20 years there have been negligible difference between the average or median hourly pay between AHSS and STEM. In the last 2 years, AHSS postgraduates have slightly overtaken STEM postgraduates, earning an average gross hourly pay of £22.09 in 2017 compared with £21.28 for STEM.

20 Lyonette, C., Hunt, W. & Baldauf, B. (2017), *Occupations and skills of arts, humanities and social sciences graduates*

21 UK Commission for Employment and Skills (2012), *Sector Skills Insights: Education*

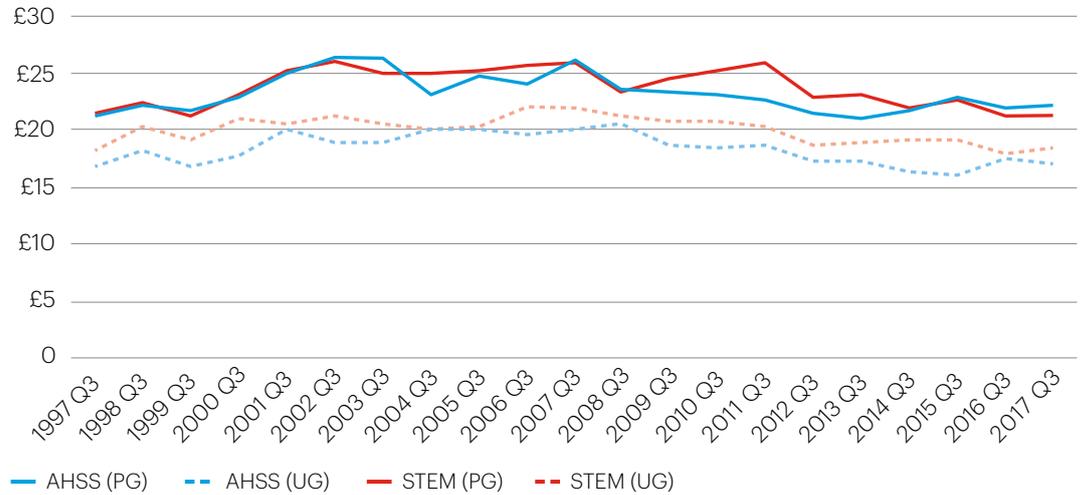
22 Office for National Statistics (2018), *Civil Service statistics, UK: 2018*

23 HM Government (2012), *The Civil Service Reform Plan*

24 ComRes & Universities UK (2019), *Value of university: Students and recent graduates research*

25 London Economics (2019), *Understanding the career paths of AHSS graduates in the UK and their contribution to the economy*

Figure 9: Average gross hourly pay, AHSS and STEM graduates and postgraduates, 1999-2017



Source: London Economics 2019, based on Labour Force Survey 2017

Closer analysis of the Labour Force Survey shows that the higher earnings of STEM undergraduates are largely driven by a few highly paid specialist professions in Health and Social Work, particularly medicine and dentistry. In Public Administration and Education roles, both male and female AHSS graduates earn more than their STEM counterparts.²⁶

Moreover, analysis based on the Longitudinal Education Outcomes (LEO) dataset has shown that much of the variance in graduate earnings is due to underlying characteristics such as socio-economic background, prior attainment, and institution attended rather than subject of study.²⁷ This is supported by a separate study of the Labour Force Survey which found that between 1994 and 2011 salaries became more varied within a subject rather than between them.²⁸ This indicated that differences in outcome were not due to subject choice but rather that the expansion of student numbers has led to greater variance in the underlying cognitive skills of students entering higher education. This affects the jobs individuals take up, and has also led to students who study the same subject going into a wider variety of roles.

2.5 AHSS graduates show strong wage growth

While the LEO dataset has limitations,²⁹ for example it does not account for region of employment, it does allow for a limited comparison of earnings one, three, five and ten years after graduation, showing trends in wage growth.

Ten years after graduation, the gap in earnings between broad subject groups has considerably narrowed (Figure 10). While AHSS graduates salaries remain lower overall according to this dataset, this evidence indicates that they are able make strong progress up the career ladder into roles attracting higher salaries in their early years in employment.

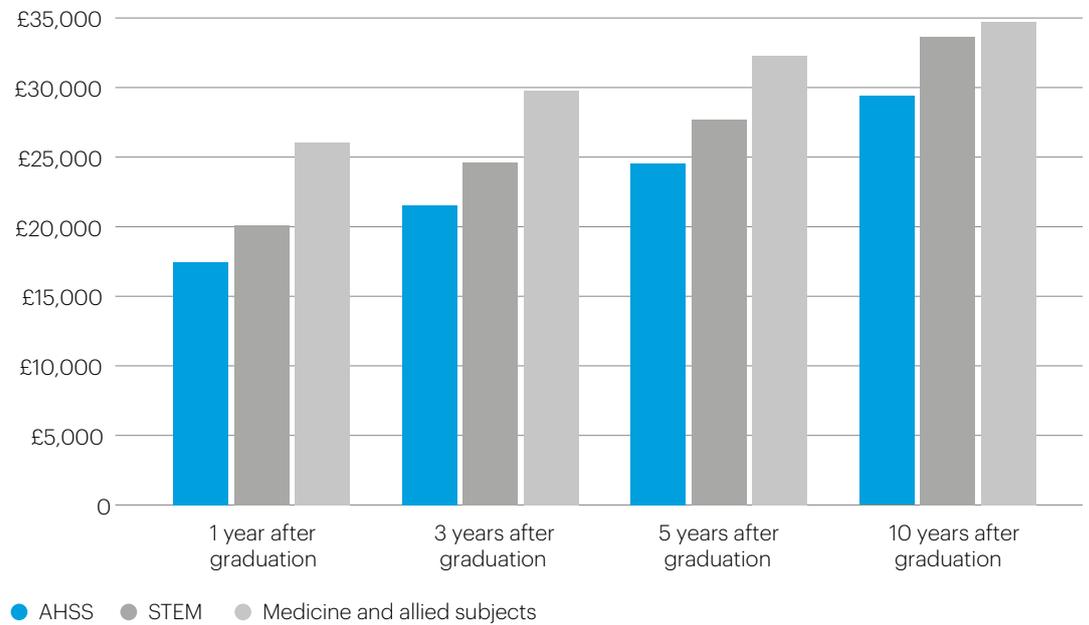
26 London Economics (2020), *Understanding the career paths of AHSS graduates and their contribution to the UK economy – further analysis*

27 Department for Education & Institute for Fiscal Studies (2018), *The impact of undergraduate degrees on early-career earnings*

28 Lindley, J. & McIntosh, S. (2015), *Growth in within graduate wage inequality: The role of subjects, cognitive skill dispersion and occupational concentration*. *Labour Economics*, 37: 101-111

29 Guild HE (2018), *Understanding the limitations of graduate outcome measures in higher education*

Figure 10: Average median earnings for graduating cohorts 2004/05, 2009/10, 2011/12, and 2013/14, by subject grouping

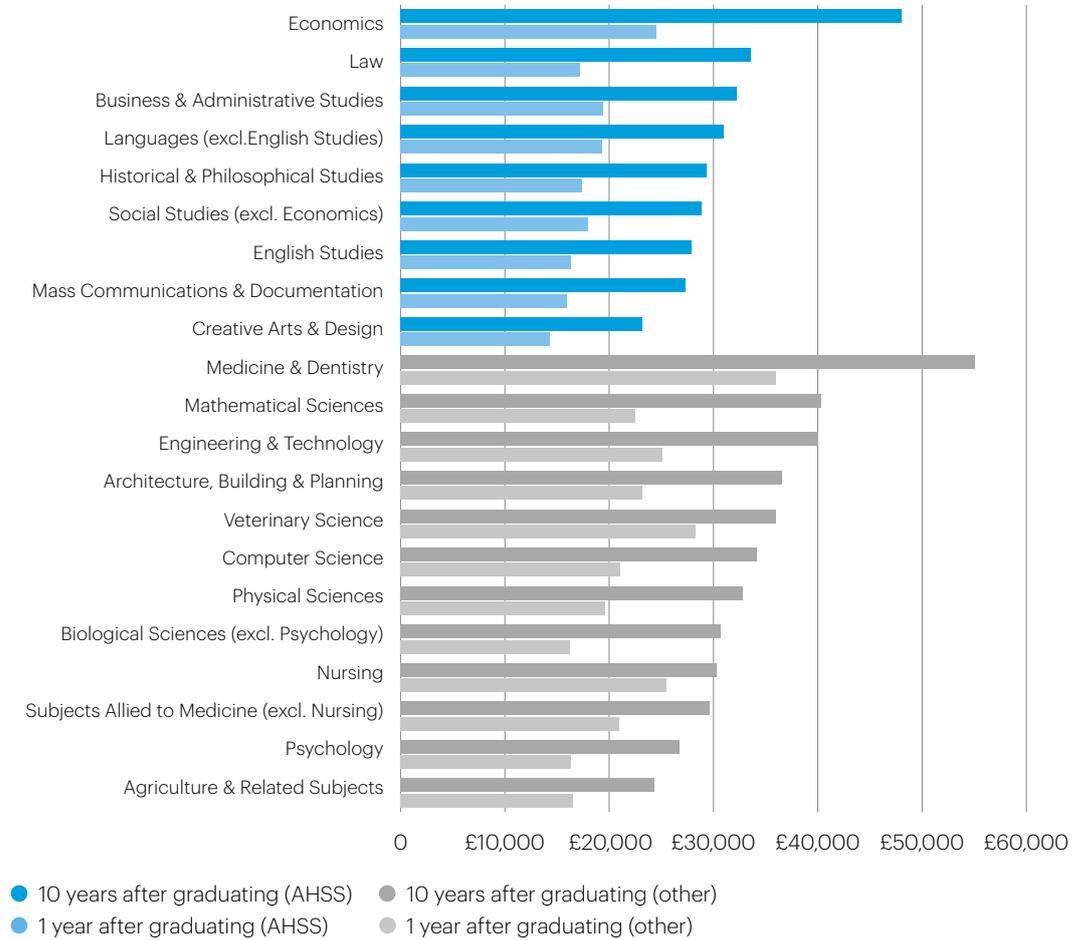


Source: DfE Graduate outcomes (LEO) SFR15/2018

The LEO data suggests that annualised wage growth over a 10-year period is around 5.3% for both AHSS and STEM graduates, while graduates of medicine and allied subjects appear to see slower annualised wage growth of around 2.9%. Nevertheless, the higher initial earnings of STEM graduates mean that even with identical wage growth, the gap between median AHSS and STEM graduate earnings will grow as individuals progress through their working life.

Within the broad subject groupings of AHSS and STEM, the picture is more complex, with considerable variance in earnings and earnings growth. For instance, the median earnings of economics graduates ten years after graduation are more than twice that of creative arts and design graduates (Figure 11). A similar difference can be seen between medicine graduates and agriculture graduates. The strength of earnings growth also varies considerably, with economics and law graduates predicted to see annual growth in earnings of around 7%, compared with less than 2% in subjects allied to medicine.

Figure 11: Median earnings of the cohort one year and ten years after graduation by subject (tax year 2015/16)



Source: DfE Graduate outcomes (LEO) SFR15/2018

2.6 AHSS graduates are flexible and adaptable, moving between roles and sectors

The Labour Force Survey also shows that AHSS graduates are more likely to change sector and role voluntarily, and without wage penalty, suggesting they have greater flexibility and choice than STEM graduates.³⁰ After leaving their job voluntarily, male AHSS postgraduates are approximately 13% more likely to change occupation than male STEM postgraduates. For male undergraduates, the change in wages associated with changing jobs is 2.3% higher for AHSS graduates than for STEM graduates.

The Right Skills report demonstrated that AHSS graduates developed skills which facilitate this adaptability and resilience, including independence, self-motivation, creativity and openness to new ideas.³¹ These skills are especially valuable in the sectors where AHSS graduates are typically employed, including the creative industries, communications and media, and roles in the third sector or social enterprise, which have less rigid career pathways and are more likely to involve portfolio careers.

30 London Economics (2019), *Understanding the career paths of AHSS graduates in the UK and their contribution to the economy*
 31 British Academy (2017), *The Right Skills: Celebrating skills in the arts, humanities and social sciences*

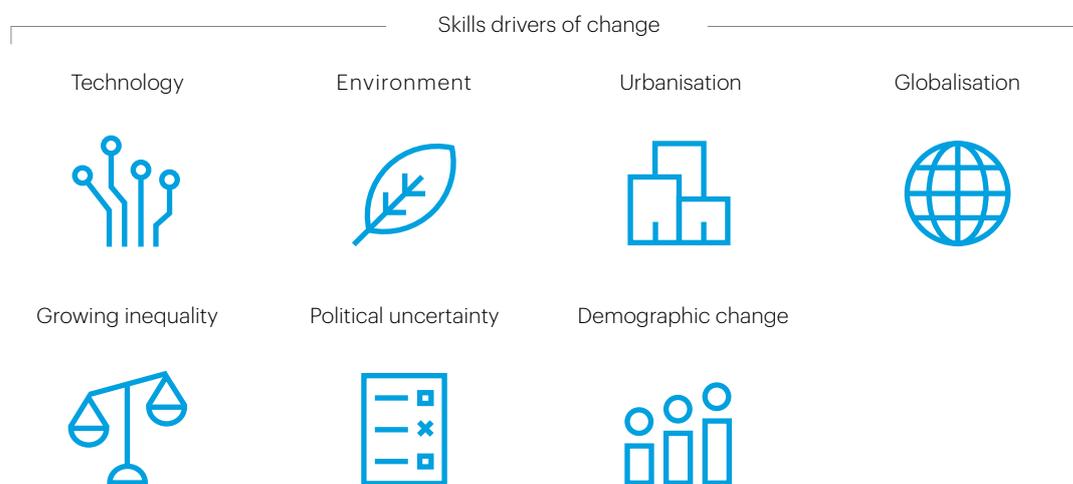
3. Future demand for skills: AHSS in the future UK workforce, economy and society

3.1 Significant global forces are driving change and creating uncertainty

Future demand for skills is difficult to predict, and education systems are working against a moving target, addressing current skills deficits and replacement demand while also trying to anticipate future requirements for work and life.

“educators are often tasked to tackle the ‘wicked’ problems of preparing students for jobs that don’t yet exist, using technologies that have not yet been invented, and spotting and solving problems that we have yet to define clearly”³²

But there is a growing consensus about some of the emerging themes driving changes in demand for skills in future. Much of the focus around future changes in supply and demand for skills has been on the impact of automation and computerisation. However, a recent report identified technological change as just one of seven forces affecting future skills and employment, alongside the environment, urbanisation, growing inequality, political uncertainty, globalisation and demographic change.³³



Changes to working life as a result of these drivers will not be solely destructive.³⁴ Much of this change could be positive, leading to greater productivity, innovation, and social responsibility, as well as new opportunities and increased leisure time for many. Many jobs will change rather than disappear, as they respond to shifting needs and greater efficiency in performing certain tasks. Technology and other drivers may be complementary and enhancing to many industries such as marketing, communications, creative industries, and education, and new jobs will also be created.

32 Quality Assurance Agency for Higher Education (2018), *Enterprise and entrepreneurship education*
33 Nesta & Pearson (2017), *The future of skills: Employment in 2030*; see also IPPR 2(016) *Future Proof: Britain in the 2020s* and IPPR (2017), *Skills 2030: Why the adult skills system is failing to build an economy that works for everyone*
34 British Academy & Royal Society (2018), *The impact of artificial intelligence on work: an evidence synthesis*; Servoz, M. (2019) *AI – The Future of Work? Work of the Future!*; RSA (2019), *The Four Futures of Work: Coping with uncertainty in an age of radical technologies*

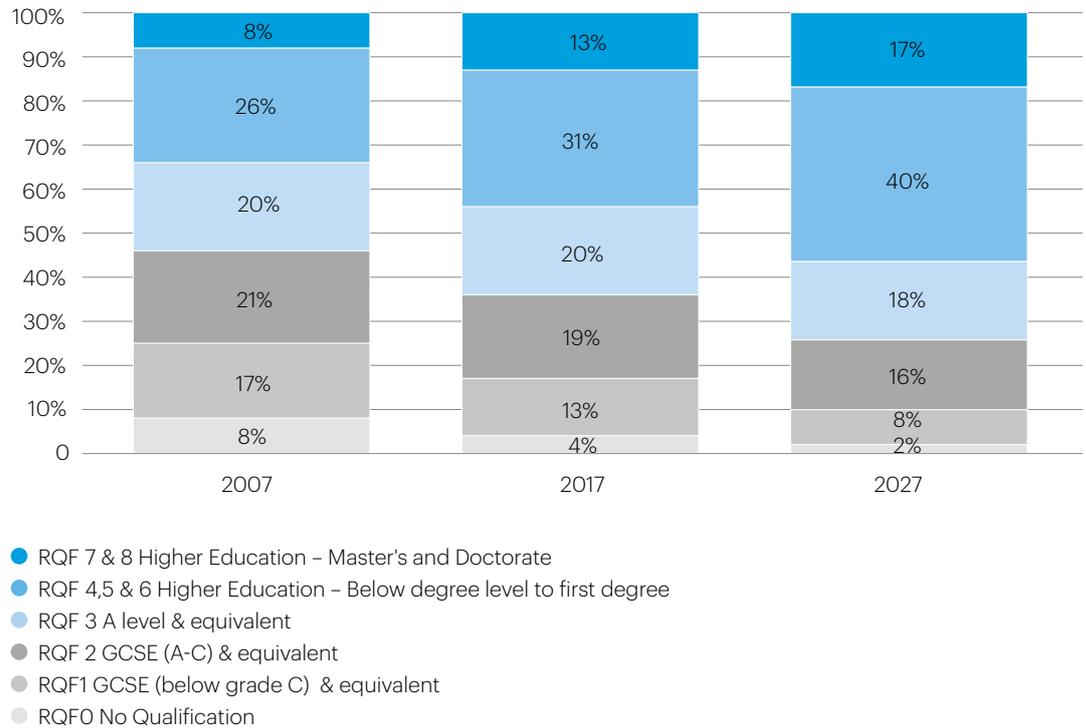
This creates a high degree of uncertainty. We cannot know exactly how people and markets will respond to change, meaning that the past may not be a good predictor of future skills needs.

3.2 The UK is projected to need more higher-level skills

Despite these uncertainties, several programmes of research agree that the future UK economy will need more graduates, postgraduates and the skills these qualifications represent.³⁵ Even over the shorter term, employment at qualification levels of degree or above are projected to rise much faster than average.

According to Department for Education projections, between 2017 and 2027, the UK will see a 30.5% increase in employment of people with higher level qualifications (RQF levels 4-6 in England, Wales and Northern Ireland, SCQF levels 7-10 in Scotland, which includes Higher National qualifications, foundation degrees and bachelor's degrees), and a 32.4% increase of those with master's degrees and doctorates. By 2027, it is projected that 57% of the UK workforce will require a higher-level qualification (RQF level 4 and above, Figure 12 below).

Figure 12: UK employment, 2007 to 2027, by qualification level – all industries



Source: DfE 2020 *Working Futures 2017-2027*

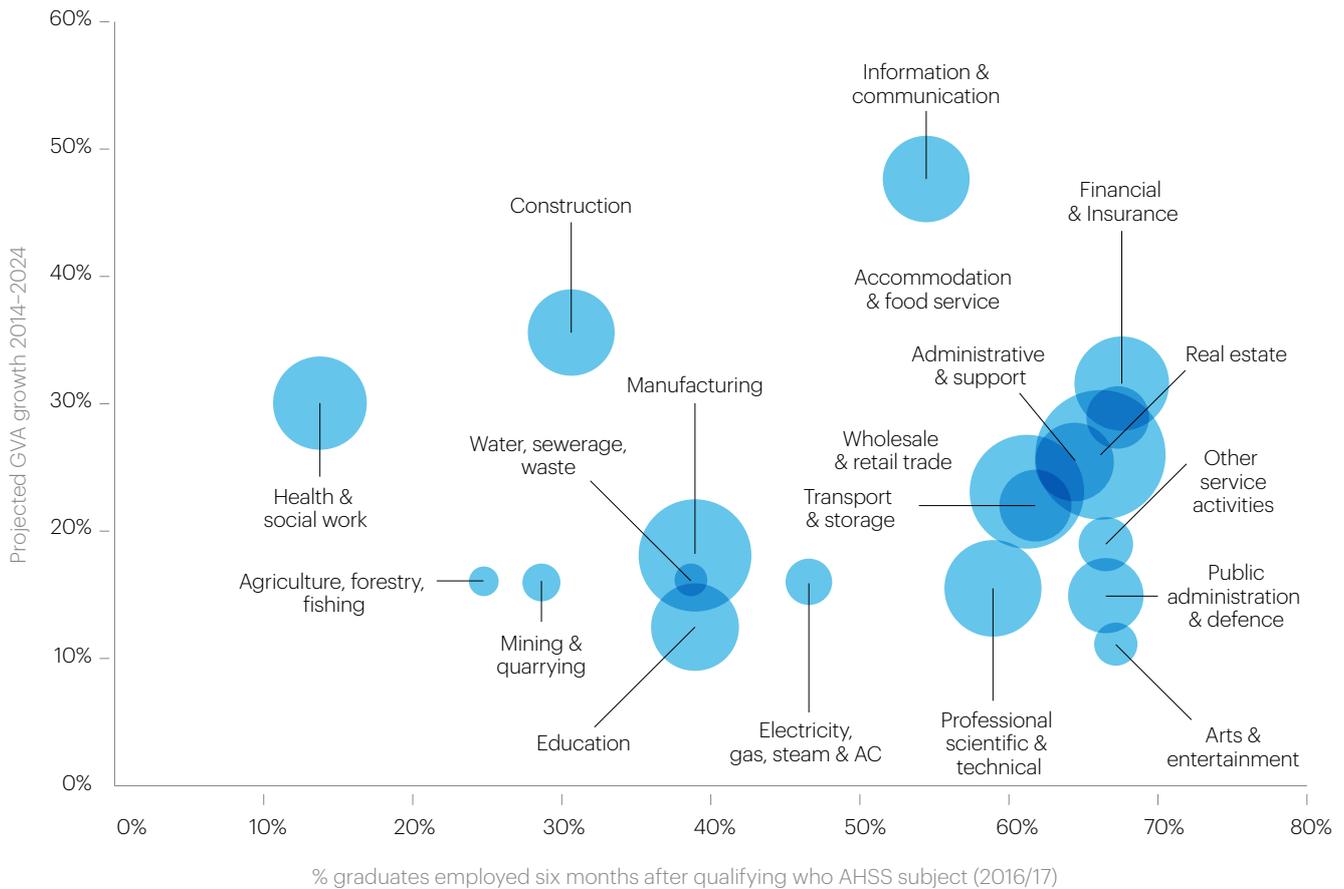
The 2018 CBI Education and Skills survey found that ‘over three quarters (79%) of businesses expect to increase the number of high-skilled roles over the coming years, and two thirds (66%) are concerned there will be a lack of sufficiently skilled people to fill them.’³⁶

Beyond the workforce, there is evidence that higher levels of education lead to greater civic engagement, better wellbeing and quality of life, as well as increased productivity.³⁷ However, as the numbers of graduates grow, so does the risk of ‘mismatching’ in the labour market, where an individual is in a role which does not require the level of skills which they have. Mismatching is a problem because it means that skills are not being utilised in the economy as effectively as they could be.³⁸

3.3 Key future growth industries are underpinned by AHSS graduates

The UK economy is predicted to grow in several key sectors over the next five years. Of the ten fastest growing sectors, eight employ more graduates from AHSS than other disciplines, with six having over two-thirds of their graduate workforce from AHSS (Figure 13).

Figure 13: Distribution of recent AHSS graduates in employment sectors by current size and projected growth of sector



Bubble size = Sector GVA 2017

Source: UKCES 2016 *Working Futures 2014-2024*; HESA DLHE 2018; ONS Regional GVA Reference Tables 2018

36 CBI (2018), *Educating for the modern world: CBI/Pearson education and skills annual report*
 37 Department for Education (2019), *The wider (non-market) benefits of post 18 education for individuals and society*
 38 Universities UK (2015), *Supply and Demand for Higher-Level Skills*

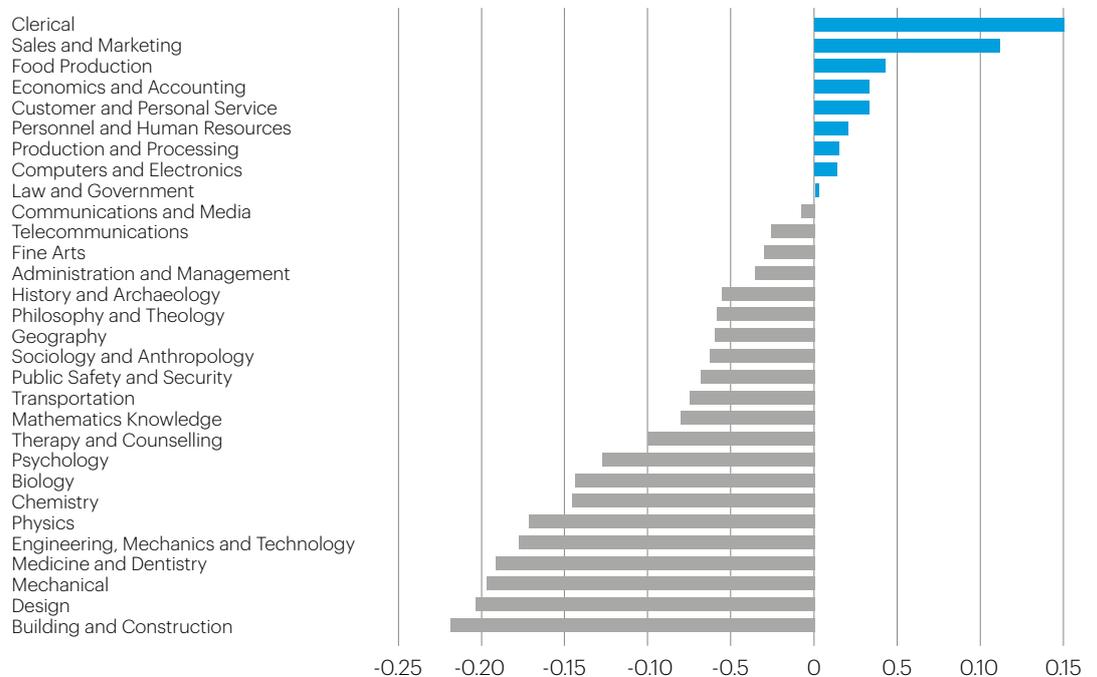
Nesta (2018) predicts that 900,000 new jobs will be generated in the creative industries between 2013 and 2030, with local economies growing their creative industries employment by an average of 11%, twice as fast as other sectors. The creative industries employ a very high density of AHSS graduates. Over 58% of the creative industry workforce holds a degree or equivalent, and most of these degree-holders are digital technology, creative arts and design, and arts and humanities graduates.³⁹ 25% of arts and humanities graduates find work in the creative sector and are three times more likely to be in a creative job than other graduates.⁴⁰

3.4 AHSS graduates have the skills and knowledge needed to fill anticipated workforce gaps

The anticipated changes to the UK economy and the sectors underpinning growth mean the future UK skills profile will be different. AHSS skills and knowledge will be at the core of the gaps which need to be filled. Nesta and Pearson (2017) highlighted several AHSS-related knowledge fields as being strongly associated with occupations expected to see an increase in workforce share, including English Language, Administration and Management, Sociology and Anthropology, and Education. The OECD estimates the UK has a shortage in 21 out of 33 knowledge areas (Figure 14), which refer to the body of information that makes adequate performance of the job possible. The shortages in the UK are most prevalent in STEM related subjects such as medicine and dentistry, and in design, but also include many wider AHSS disciplines, including fine arts, history and archaeology, philosophy and theology, geography, sociology and anthropology.⁴¹

Figure 14: UK skill shortage by knowledge area

OECD Index showing the degree of skill shortage (-) or surplus (+) per knowledge skill



Source: OECD Skills need database cited in Industrial Strategy Council (2019)

39 Comunian, R., Faggian, A. & Jewell, S. (2015), *Digital technology and creative arts career patterns in the UK creative economy*. *Journal of Education and Work*, 28 (4): 346-368

40 Lyonette, C., Hunt, W. & Baldauf, B. (2017), *Occupations and skills of arts, humanities and social sciences graduates*

41 Industrial Strategy Council (2019), *UK Skills Mismatch in 2030*

A further report from Nesta concluded that the skills likely to be in greater demand in the future are interpersonal skills, higher-order cognitive skills, and systems skills, originality, fluency of ideas and active learning, judgement and decision-making, customer and personal service, operations analysis.⁴² Similarly a 2019 UK Government report on emerging skills issues cited the following as “survival skills for 21st Century life”:⁴³

- Critical thinking and problem-solving;
- Collaboration and leadership;
- Agility and adaptability;
- Initiative and entrepreneurialism;
- Effective oral and written communication;
- Accessing and analysing information; and
- Curiosity and imagination

These skills, deemed crucial to the future UK workforce, closely match those identified in the common core of skills shared across AHSS disciplines in our report *The Right Skills: communication, creativity, decision making, and problem solving*.⁴⁴

Vitality, AHSS graduates develop their skills in the context of subject knowledge which focuses on understanding of the human dimension in which they will be applied. Businesses increasingly need employees with the ability to analyse data but also to communicate what it tells us, or an individual who has both creative and technical expertise.⁴⁵ A study by Deloitte concluded that in order for the UK to anticipate and respond to the uncertainties created by technological change, the economy will require more skills in digital know-how, management, creativity, entrepreneurship, problem solving and negotiation.⁴⁶

This was reinforced in a report by the Industrial Strategy Council, which concluded that the most widespread area of ‘under-skilling’ in the UK by 2030 will be in digital skills, with the basic level required across the workforce becoming increasingly advanced. They also estimated that 2.1 million workers are likely to be acutely under-skilled in at least one core management skill such as leadership, decision-making or advanced communication, again skills core to the study of AHSS.⁴⁷

3.5 AHSS graduates have the flexibility to respond to changes in ways of working

While many conventional graduate career pathways and professions will remain, more graduates will find themselves moving between jobs during their working life, often across different sectors, and others will be building portfolio careers, juggling multiple jobs at once.⁴⁸

42 Nesta & Pearson (2017), *The future of skills: Employment in 2030*

43 K4D (2019), *21st Century Skills: evidence of issues in definition, demand and delivery for development contexts*

44 British Academy (2017), *The Right Skills: Celebrating skills in the arts, humanities and social sciences*

45 British Academy (2015), *Count Us In: Quantitative skills for a new generation*

46 Deloitte (2016), *Talent for survival: Essential skills for humans working in the machine age*

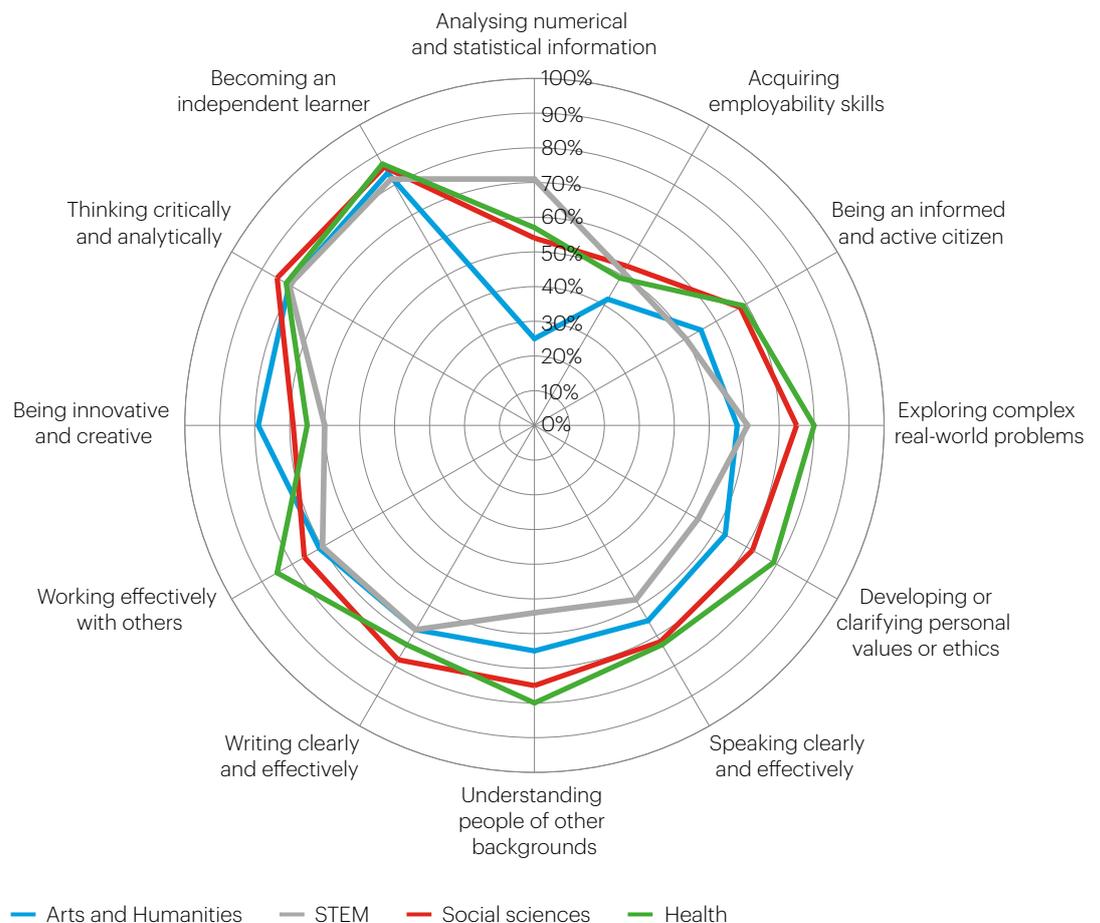
47 Industrial Strategy Council (2019), *UK Skills Mismatch in 2030*; see also Burning Glass Technologies for DCMS (2019), *No Longer Optional: Employer Demand for Digital Skills*

48 RSA (2017), *Good Gigs: A fairer future for the UK's gig economy*; CIPD (2017), *To gig or not to gig? Stories from the modern economy*

These more irregular and flexible ways of working require a high level of adaptability and resilience as well as a broad underlying set of skills that can create value in multiple work roles and environments.⁴⁹ Even within sectors and businesses, many roles are likely to evolve rapidly as specific tasks are affected by technological and other changes, including the introduction of more flexible, virtual and open workspaces. In the 2018 CBI Education and Skills Survey, 60% of businesses rated a broad, flexible skillset among their top three priorities when recruiting.

The evidence from the Labour Force Survey shows that AHSS graduates are already demonstrating these broad characteristics in the workforce in the way they are able to move between sectors and into new jobs.⁵⁰ Our findings are reinforced by students' perceptions of the skills they are developing. The 2018 UK Engagement Survey found that AHSS students are more likely than STEM students to think that their student experience made a strong contribution to their knowledge and skills in key areas such as oral communication, independent learning, creativity and innovation, in ethics and understanding others, and being an informed and active citizen (Figure 15).

Figure 15: Percentage of students responding “very much” or “quite a bit” to whether their student experience contributed to their knowledge, skills, and personal development



Source: Advance HE, UK Engagement Survey 2018

49 British Academy (2017), *The Right Skills: Celebrating skills in the arts, humanities and social sciences*

50 London Economics (2019), *Understanding the career paths of AHSS graduates in the UK and their contribution to the economy*

3.6 AHSS insights and skills are crucial to addressing future challenges, alongside STEM

Much of the debate around future skills has focused on the needs of the workforce and ensuring that the UK economy is well equipped. But the challenges of the future are not confined to the workplace. There are a growing number of organisations dedicated to identifying, unpicking and planning for the challenges facing humanity in the future. Although there is not complete consensus on what these are, there are several common themes: climate change and resource scarcity, pandemics and global health, cyber-security and artificial intelligence, international terrorism and new methods of warfare.⁵¹



Source: Adapted from CSER, Global Challenges Foundation, UN Foundation, and UK Industrial Strategy

Successfully addressing these challenges of the future will need not just technological solutions but the understanding of human behaviour and how to achieve social and cultural change which AHSS can provide.⁵² For instance, critical elements in addressing climate change include changing consumer behaviour and harnessing capacity for co-ordinated action, while key risk factors in the spread of pandemics are urbanisation and the nature of global connections.

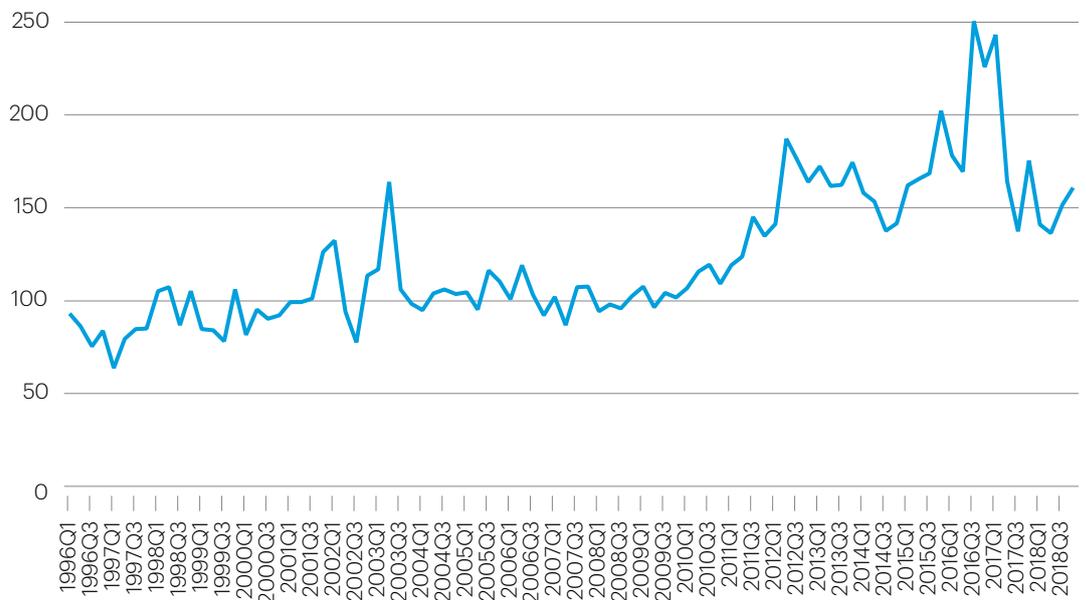
⁵¹ For example, Centre for the Study of Existential Risk, Global Challenges Foundation, UN Sustainable Development Goals, UK Government Industrial Strategy Grand Challenges, Ministry of Defence Global Strategic Trends, EU Global Trends 2030, Policy Horizons Canada, Global Catastrophic Risk Institute

⁵² British Academy (2017), *The most important challenges of our time: Positioning Britain to succeed and priorities for research and innovation*

The value of an interdisciplinary approach has already been demonstrated in beating the Ebola outbreak in west Africa, where an understanding of local culture and society from anthropologists was vital in enabling healthcare workers to develop effective approaches to identifying and diagnosing cases of the disease, managing death and funerals, caring for the sick, and improving communications and community engagement.⁵³

Alongside these “wicked problems”, political uncertainty has been on the rise, accelerated by the global financial crisis of 2007-8. The World Uncertainty Index, which measures economic policy uncertainty across 143 countries, has been ticking up since 2008 and peaked in 2016, largely as a result of the UK referendum on leaving the EU (figure 16). Fear and uncertainty are combining with existing inequalities and tensions to fuel anti-establishment, often anti-intellectual sentiment.

Figure 16: World Uncertainty Index (global simple average) 1996-2018

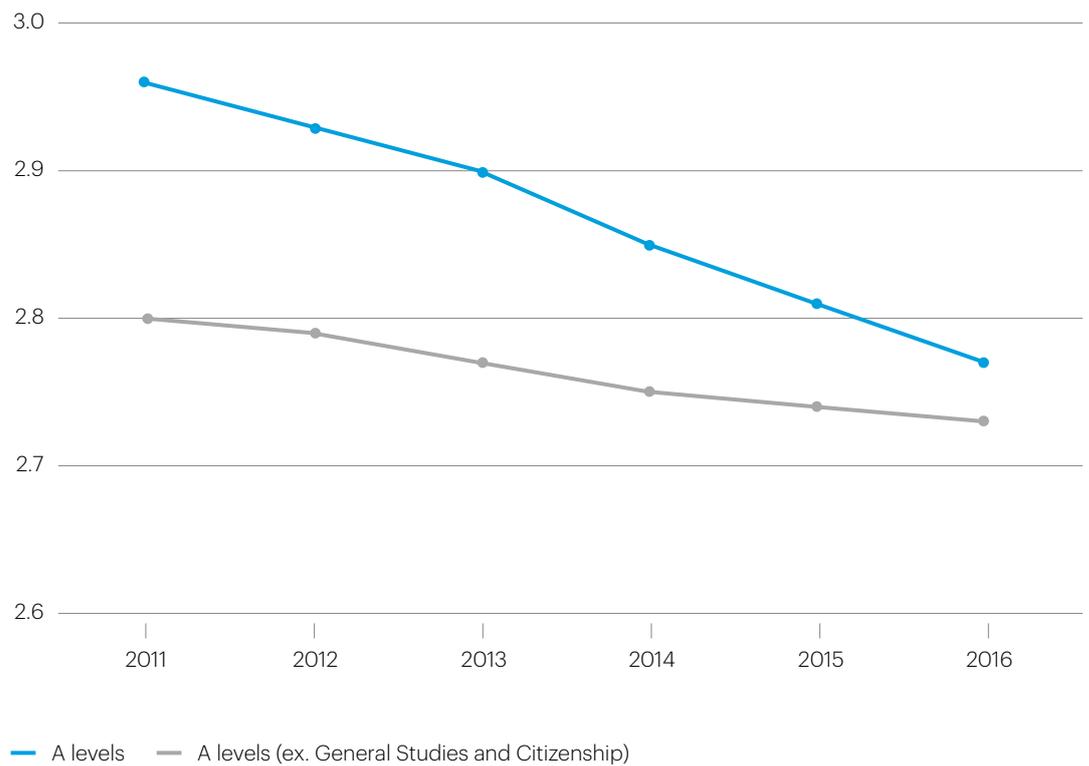


Source: Economic Policy Uncertainty

As Michael Cox (2017) has observed, we must ‘move beyond moral outrage at something so many of us might not like, and instead seek to understand what is happening here.’ Such understanding, and indeed the positive and constructive response to these trends, is driven by skills in critical analysis and reflection, communication and problem solving, as well as ethical understanding and social intelligence and metacognitive ability, skills and knowledge central to the study of AHSS. The arts, humanities and social sciences help to build active citizens who can think for themselves and hold authority to account.⁵⁴

We need to equip the future workforce with skills and knowledge from across multiple disciplines and give them the ability to integrate and apply the insights they learn.⁵⁵ Currently, the structure of secondary education onwards in the UK follows a narrow, and increasingly specialised curriculum compared to other countries.⁵⁶ Analysis by Education Datalab has shown that the average number of A levels taken by students in England is falling and that more and more students are opting to take exclusively STEM subjects (Figure 17).⁵⁷

Figure 17: Number of Level 3 entries per pupil 2011-2016



Source: Thompson & Keshwani (2017)

54 Evidence from the US shows that AHSS students are more likely to vote and participate in other forms of political activity: Hillygus, S. D. (2005), *The Missing Link: Exploring the relationship between higher education and political engagement*. *Political Behavior*, 27 (1): 25-47

55 The Royal Society, the UK's national academy for the sciences, has argued that STEM subjects need to sit alongside disciplines like English, history, geography, modern languages and the arts as part of a new universal education system up to age 18: Royal Society (2019), *President of the Royal Society calls for independent review of post-16 education in the UK*

56 Royal Society (2019), *Jobs are changing, so should education*

57 Thompson, D. & Keshwani, A. (2017), *Post-16 qualification and subject mix: a report for the Royal Society*

A broader curriculum has been shown to increase overall academic performance and hence the quality of the workforce as a whole: 90% of studies on the cross-curricular effect of language learning report a positive impact, across English language learning, literacy, maths and science.⁵⁸ The benefits also extend into key scientific careers. A study of trainee doctors found that those with greater exposure to arts and humanities subjects had enhanced skills and personal qualities such as empathy, emotional intelligence, self-efficacy and visual-spatial skills.⁵⁹ These skills and traits not only improve the quality of healthcare provision, but also improves the wellbeing of healthcare professionals and decreases the risk of burnout.

Whatever the future holds for the UK and wider world, it is our people, the skills they possess, the knowledge they have, and their personal attributes, that will ensure prosperity and wellbeing. We need to plan an education and skills system that will build the society we want to live in. The evidence shows that arts, humanities and social sciences are vital to developing individuals competent to tackle the challenges we face and to grasp the opportunities which will shape the future.

58 British Academy (2019), *The cognitive benefits of language learning: a critical synthesis for policy, practice and research*

59 Mangione, S., Chakraborti, C., Staltari, G., et al (2018), *Medical students' exposure to the humanities correlates with positive personal qualities and reduced burnout: a multi-institutional U.S. survey*

Appendix

Illustrative list of Arts, Humanities and Social Sciences (AHSS) subjects (from REF 2021)

Geography and Environmental Studies	Sociology	Classics
Archaeology	Anthropology and Development Studies	Philosophy
Economics and Econometrics	Education	Theology and Religious Studies
Business and Management Studies	Area Studies	Art and Design: History, Practice and Theory
Law	Modern Languages and Linguistics	Music, Drama, Dance, Performing Arts, Film and Screen Studies
Politics and International Studies	English Language and Literature	Communication, Cultural and Media Studies, Library and Information Management
Social Work and Social Policy	History	

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