POSITIVE PROSPECTS
CAREERS FOR SOCIAL SCIENCE GRADUATES AND WHY NUMBER AND DATA SKILLS MATTER

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Introduction

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Overview

• Prospects
  • Employment, sectors & occupations, earnings, institutions

• Futures

• Pathways
  • AS/A level maths, impact of number & data skills on earnings

• Conclusions
What we are NOT saying...

- This is NOT a full causal analysis
  - Self-selection of students, complex pathways
  - Most important, IMMEDIATE employment outcomes

- NOT saying all social science studies should be number-based
  - Appreciate sociological theory, small-group studies, other methods, etc.

- NOT saying ALL students need same level of number and data skills, or that these skills are the same as standard statistical analyses

- But ARE saying we need more social science undergraduates with these skills
Prospects
Population

Almost 4 out of 10 students graduate from university with a *social science* degree.*

These degrees cover a wide range of fields.

- Human & Social Geography
- Architecture, Building, & Planning
- Management Studies
- Marketing
- Sociology
- Business Studies
- Education
- Psychology
- Finance
- Politics
- Law
- Economics
- Accounting
- Social Work
- Hospitality, Leisure, Sport, Tourism & Transport
Social Science graduates have good immediate employment prospects.

• One year after graduation:
  • 66% in work in the UK or abroad
  • An additional 7% in a combination of work & study
  • An additional 18% in further study alone

• In other words: 90% are in some form of work and/or study
Destinations of full-time social science graduates 2015/16

- 63% in UK Work
- 18% in Further Study
- 7% in Work & Further Study
- 2% in Overseas Work
- 5% Unemployed
- 5% Other
Social science graduates’ overall immediate employment rates are similar to those in STEM and A&H.

Total in Work and/or Study

- **Arts & Humanities**: 89%
- **Social Sciences**: 90%
- **STEM**: 91%

- **Full-Time Work (UK & Overseas)**
- Combination of Work and Further Study
- **Further Study**
Employment rates vary for different degrees within the broader category of social science, just as they do for STEM or A&H.

The gender gap in employment remains low and often favors women.

**UK Graduates in Full-Time Work in the UK and Abroad, 2015/16**

- Architecture, Building & Planning
- Education
- Business & Administrative Studies
- [ STEM ]
- [ Arts & Humanities ]
- Social Studies
- Law

![Bar chart showing employment prospects for different fields.](chart.png)

- *Men Employed* (blue bars)
- *Women Employed* (pink bars)
Looking at separate social science disciplines, shows that immediate employment rates are related to whether students in those disciplines normally go on to postgraduate study.
Social science graduates go on to work in a wide range of sectors and occupations, confirming that their skills are useful in a range of fields.
Sectors

This pattern remains largely similar among individual social science disciplines, with some minor variations.

**Psychology Graduates**
- Human Health & Social Work Activities (28%)
- Education (17%)
- Wholesale & Retail Trade (10%)

**Economics Graduates**
- Financial & Insurance Activities (28%)
- Professional, Scientific & Technical Activities (27%)
- Information & Communication (9%)

**Human & Social Geography Graduates**
- Professional, Scientific & Technical Activities (21%)
- Wholesale & Retail Trade (13%)
- Education (10%)

**Politics Graduates**
- Professional, Scientific & Technical Activities (15%)
- Public Administration & Defence (13%)
- Financial & Insurance Activities (10%)

**Finance Graduates**
- Professional, Scientific & Technical Activities (29%)
- Financial & Insurance Activities (26%)
- Wholesale & Retail Trade (8%)

**Sociology Graduates**
- Public Administration & Defence (16%)
- Human Health & Social Work Activities (13%)
- Education (12%)
Social science graduates also go on to a range of occupations, with 76% of them going on to work in professional occupations.

- The most popular professions are:
  - 31% Business and public service associate professionals
  - 17% Business, media and public service professionals
  - 11% Teaching and educational professionals

- The most popular non-professional occupations are:
  - 8% Administrative occupations
  - 6% Caring personal service occupations
  - 3% Sales occupations
60% of global leaders have undergraduate degrees in social science.

Social science graduates as a whole account for large percentages of those in leadership positions in many career fields.
Social scientists generally do well in terms of earnings.

- One year after graduation, the median salary of all UK domiciled full-time graduates in the social sciences was broadly similar to the median salary of all subjects combined.
Social science degrees that are more professionalised/vocational or whose graduates are more likely to have number and data skills, tend to have higher earnings one year after graduation.

For example, economics students reported the highest earnings in the upper quartile, and some of the highest median and even lower quartile earnings, among graduates in the social sciences.
Institutions Matter Too

- Social science students graduating from Russell Group universities do better on average—and at the lower and upper quartiles—than others in terms of reported earnings one year after graduation.

- Notably, this effect appears to be bigger for social science disciplines where students are expected to have number and data skills—like economics, finance, and accounting—than for some other social science disciplines like politics and sociology.

- It is not clear, though, if this is due to selection effects, post-employment recruiting networks, reputation, or what is taught.
Futures
Futures

• Social science graduates have analytical skills making them valuable to employers.

• But as the nature of work changes, social scientists are likely to need to enhance their number and data skills in the context of the digital revolution.
  • This will help them successfully compete in tomorrow’s job market
  • It will also allow them to play their part in solving the society’s grand challenges.
Recall: Social Science graduates often go into professional occupations across an array of industries.

- Mason et al. have found that an increasing percentage of 20-60 year-olds feel that advanced mathematical and statistical skills were important to their work
- And that advanced mathematical and statistical skills are ‘essential or very important’ for managers and professionals.
Pathways
Pathways

• The path from school to university to employment differs for everyone.

• The path students and undergraduates choose as social scientists will affect their personal ‘toolkit’ of skills.

• Having number and data skills as part of this ‘skills toolkit’ may not only increase future employment options, it may also help lead to higher earnings down the road.
The numbers of social science undergraduates with AS or A levels in mathematics varies by subject:

- some disciplines require or encourage applicants to have them
- But even those interested in other social science disciplines might benefit from pursuing a qualification that improves their number and data skills.

### Mathematical Backgrounds of Undergraduates (Hodgen et al.)

- **Mathematical Sciences**: 97%
- **Medicine & Dentistry**: 72%
- **Engineering & Technology**: 60%
- **Veterinary Science**: 59%
- **Physical Sciences**: 53%
- **Architecture, Building & Planning**: 32%
- **Subjects Allied to Medicine**: 26%
- **Social Studies**: 25%
- **Computer Science**: 25%
- **Biological Sciences**: 22%
- **Business & Administrative Studies**: 21%
- **Historical & Philosophical Studies**: 19%
- **Combined**: 17%
- **Law**: 16%
- **Languages**: 15%
- **Agriculture & Related subjects**: 14%
- **Education**: 8%
- **Creative Arts & Design**: 8%
- **Mass Communications & Documentation**: 4%

### Social Science Subjects
- **Biology & Bio. Sciences**: 85%
- **Genetics**: 54%
- **Molecular Biology,…**: 53%
- **Microbiology**: 45%
- **Biological**: 39%
- **Others in Bio. Sciences**: 38%
- **Zoology**: 29%
- **Psychology**: 15%
- **Sport & Exercise Science**: 8%

### All Other Subjects
- **Finance**: 57%
- **Accounting**: 54%
- **Management Studies**: 20%
- **Business Studies**: 15%
- **Marketing**: 8%
- **HR Management**: 6%
- **Hospitality, Leisure, Sport…**: 5%
Only in economics do as many as six out of ten entrants to university have A level mathematics.

Fewer than one in twenty sociology students in the UK had an A level in mathematics in 2007 or 2010.
Before 2016 curriculum reforms, the numbers of students taking A level maths was growing, and the numbers taking AS maths was increasing at an even higher rate.

But now that AS maths is no longer encouraged as a standalone qualification, and there is no funding to promote its uptake, the number of students pursuing AS level maths is now on a downward trend.

This is concern because AS level maths is an important way of refreshing number and data skills.
Impact on Earnings

• Social science graduates who are more likely to have number and data skills, and to have A level mathematics, do particularly well in terms of earnings.

• Social science students’ earnings may be affected by lower levels of these skills.

Estimate earning returns to university degrees by subject (Index by Sloane and O’Leary 2004)
Conclusions
Conclusions

- There is about as much variation in STEM employment and earnings as there is in social sciences.
- Social science students have good prospects.
- These will be enhanced if students can show number and data skills.
- This has implications for undergrads and for schools and school students.
Implications for Undergraduates

- Good social science degrees give undergraduates skills that employers value and those undergraduates go onto jobs in a range of sectors with good earnings prospects.

- Some of these jobs make overt use of social science knowledge, but many others depend on the general skills social science helps impart.

- Social science disciplines have different pathways & prospects, and the institution you attend may matter – but along with other considerations.

- Engaging with number and data skills during undergraduate study is likely to be helpful in giving them additional skills that are valued by employers, and can lead to interesting work and a wider range of career choices.
Implications for School Students

- School students should consider A level choices carefully. Grades matter, but so too do the courses they choose to take.

- For the widest range of employment opportunities, students should consider what type of university they wish to attend.

- School students should consider various ways in which they can continue to improve their number and data skills.
  - A level mathematics or statistics may be both useful for undergraduate studies and for getting jobs afterwards.
  - But AS level mathematics or statistics, or ‘Core Maths’, are also good routes to engage with number and data skills
  - Some schools also offer A level social science curricula that use numbers and data.
Implications for Schools

- The Campaign will continue to work for policies that give the widest range of pathways to improve number and data skills for those who will study social science as undergraduates.

- Recent funding reforms for A levels may support schools to encourage more students to take A level maths, but we will continue to work for funding – and support for AS mathematics and statistics at school – as an intermediate pathway. ‘Core Maths’ is another possible option for schools.

- A level social science courses and curricula offer varying degrees of experience in using numbers and data. Future curriculum updates are likely to continue to raise expectations that A level students will learn how to use data, including numerical data, to examine issues.
Implications for Policy

- Schools, universities, and employers need to work together on signaling and incentives to make it possible for more students to take post-16 mathematics and statistics in addition to their social science studies.

- The Campaign for Social Science supports the recommendations of the Smith Review, but would support their extension to a consideration of whether re-instating encouragement and funding for stand-alone AS level mathematics or statistics might be useful for a large number of students.

- Core Maths should also be more widespread.

- If the UK is to make good its aspiration to improve the number and data skills of its future labour force, we need to move away from a ‘zero-sum’ approach of having only one pathway and instead offer multiple routes to gaining these skills.
Panel Discussion

Chair: Sharon Witherspoon
Head of Policy, Campaign for Social Science

Dr Rita Gardner
Previous Director of the Royal Geographical Society

Rachel Neaman
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