Career options for economics graduates

Report for Discover Economics

Contents

Project background and objectives

Discover Economics (DE) is a campaign launched in October 2019 with the aim of improving diversity in the economics profession.

- Women, ethnic minorities and state-educated students are under-represented among UK economics undergraduates and A-level students in UK.
- This lack of diversity ends up flowing through into the professional world.
- DE seeks to broaden the appeal of economics to potential students from a wide variety of backgrounds, changing perceptions of what economics is and what economists do.
- The campaign is targeted at 15-17 year olds who are making decisions about future education and career pathways.

DE provides potential students with information about career options for economics graduates, but current evidence is limited.

- DE currently relies on anecdotal information (e.g. testimonials from economics graduates) or limited analysis (e.g. data from individual universities).
- The service could benefit from more systematic and comprehensive evidence on economist jobs and/or employers.

Key project objective	Using **novel data on job advertisements**, undertake a **comprehensive analysis of jobs requiring economics degrees and skills**, to allow DE to produce materials highlighting the career options available to economics graduates and to spread the message that economics training opens up a wide range of opportunities with diverse employers.

Our approach

We use real-time labour market data collected by Burning Glass Technologies (BG)

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- BG collect and curate data on millions of online jobs listings posted every day by employers across multiple countries including the UK.
- BG extract information about each job such as title, occupation, employer, and location, and use natural-language technology to read each job description to identify specific skills and qualifications that employers are seeking.

We use data from 2019 to analyse the types of jobs where economics skills are required by employers, to answer the following **three key questions**:

1. What do economics graduates do? i.e. economics-specific jobs	We identify jobs that satisfy at least one of the following criteria: ▪ Require an economics (or similar) **degree** ▪ Have "economist" (or similar) in the **job title** ▪ Require economics (or similar) **skills**, e.g. econometrics, economic analysis
2. What *could* economics graduates do with the skills they gain from a degree? i.e. economics-related jobs	We identify jobs that require skills that are similar to economics and that are often desired alongside economics skills. These include data/analytics and policy development skills. We then apply a degree filter, to avoid including those jobs which require skills that are similar to economics, but which require a degree too dissimilar from Economics or too specialised (e.g. Chemistry or Engineering).
3. What are some high profile employers / jobs identified from Q1 & Q2 above?	We use data from Interbrand's Best Global Brand rankings to identify high profile employers from the list of jobs identified above and use these to inform deep-dives on particular sectors.

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Burning Glass data contains thousands of economics jobs across a wide range of sectors and all regions of the UK

In 2019, there were ads for around 12,000 **economics-specific** jobs, and around 8,000 of these contained the employer name.

If we look at jobs that are **economics-related**, there were ads for around 192,000 jobs, where around 100,000 had a named employer.

This gives 204,000 job ads in total, of which 108,000 had a named employer.

When we dive into the data, we can bust two myths…

Economics grads only work in banking and finance…

Economics jobs only exist in London…

Myth #1

Myth #2

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Note: throughout the analysis, the number of jobs refers to the number of unique job titles listed. It is possible that some job ads were for multiple individuals but this was not picked up by Burning Glass. Therefore, these figures can be considered a lower bound.
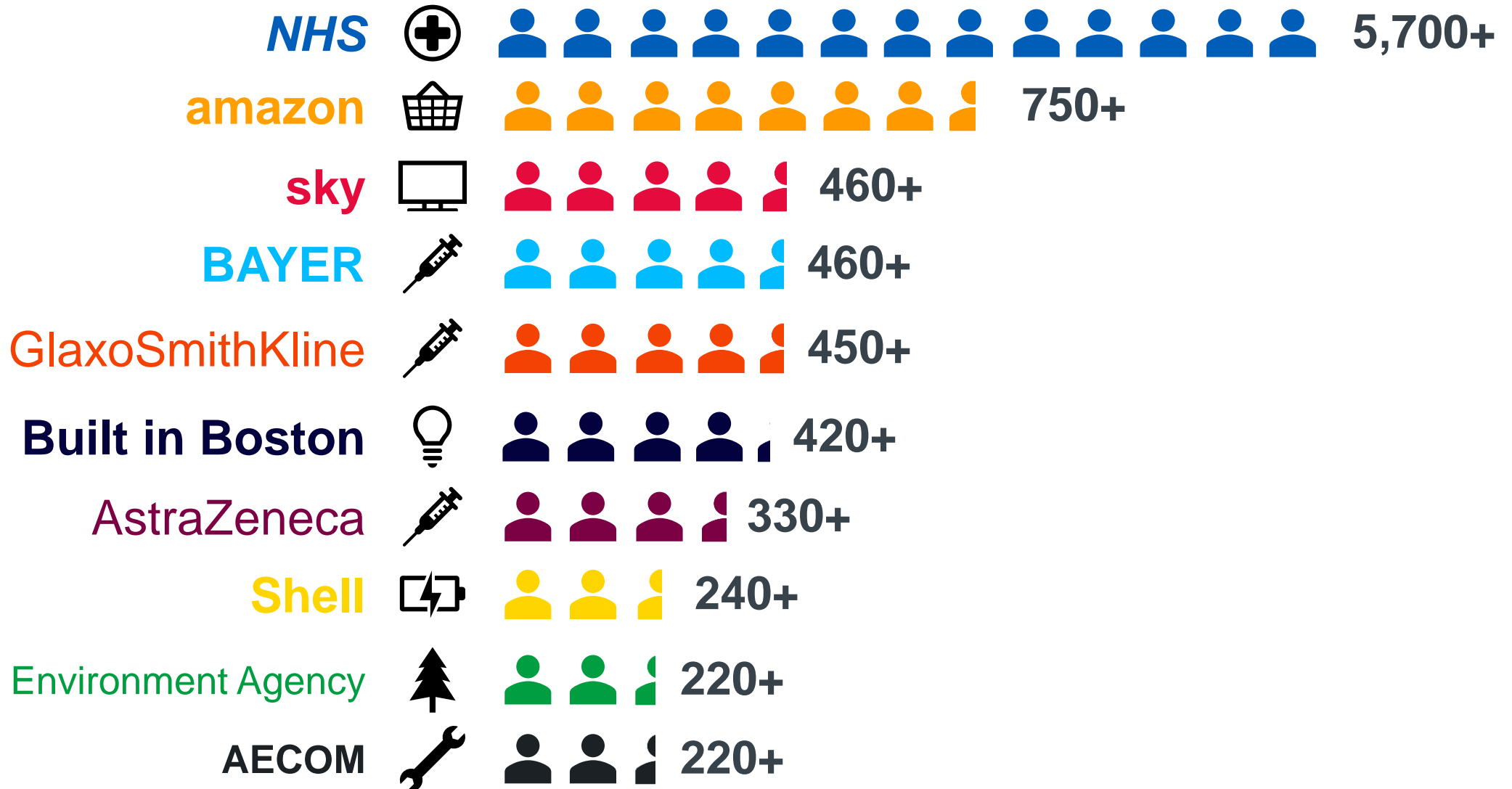
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Myth #1: Economics graduates only work in banking and finance

Burning Glass data shows that there are economics-specific and economics-related jobs across almost all sectors of the economy.

Note: throughout the analysis, "graduates" refers to both new and more experienced graduates.

Myth #1: Economics graduates only work in banking and finance

The top 10: Economics training opens up a wide range of opportunities with a diverse set of employers

NHS ⊕	👤👤👤👤👤👤👤👤👤👤👤👤👤	**5,700+**
amazon 🧺	👤👤👤👤👤👤👤👤	**750+**
sky 🖥	👤👤👤👤👤	**460+**
BAYER 💉	👤👤👤👤👤	**460+**
GlaxoSmithKline 💉	👤👤👤👤👤	**450+**
Built in Boston 💡	👤👤👤👤	**420+**
AstraZeneca 💉	👤👤👤👤	**330+**
Shell 🔋	👤👤👤	**240+**
Environment Agency 🌲	👤👤👤	**220+**
AECOM 🔧	👤👤👤	**220+**

Myth #1: Economics graduates only work in banking and finance

Economics-related jobs in the tech industry include those with the "Big 5" and other companies such as Spotify, Deliveroo, Sony, Netflix and IBM.

Tech

amazon 750+

Insights and Innovation Economist, Strategy and Operation Manager, Big Data Consultant, Digital Marketing Manager

Microsoft 150+

Data Scientist, Game Development Researcher, Machine Learning Researcher, Government Affairs Manager

Google 130+

Government Affairs and Public Policy Manager, Games Growth Consultant, Business Developer Manager, Cloud Consultant, User Experience Consultant

facebook 130+

Growth Marketing Analyst, Data Science Manager, Trading Analyst, WhatsApp Research Leader, Public Policy and Connectivity Manager

Apple   **ebay**

NETFLIX   **IBM**   **deliveroo**

Spotify   **SONY**

380+

Product Insights Manager, Data Scientist (Market Analytics), Business Analyst

frontier economics   **burningglass** TECHNOLOGIES   The figures refer to the number of job ads within the wider pool of both economics-specific and economics-related jobs that contained the employer name (n = 107,596).

Myth #1: Economics graduates only work in banking and finance

An economics degree could prepare graduates to work for the top pharmaceutical companies in the world, as well as high profile charities such as Cancer Research UK.

BAYER 460+

Digital Analytics Consultant, Production Research Analyst, Business Intelligence Specialist

GlaxoSmithKline 450+

Real World Data Analyst, Supply Chain Consultant, Global Trade Policy and Advocacy Director

AstraZeneca 330+

Health Economics Specialist, Global Pricing Analyst, Innovative Strategies Lead

Johnson & Johnson 100+

Global Health Economics Associate, Commercial and Marketing Graduate, Supply Planning Analyst, Customer Development Executive

CANCER RESEARCH UK 80+

Policy Advisor, Cancer Information Analyst, Fundraising Intelligence Manager

NOVARTIS 70+

Business Planning Analyst, Customer Solutions Manager

Myth #1: Economics graduates only work in banking and finance

The NHS is the top employer of individuals with economics-related skills.

Public sector

NHS 5,700+

Economic Analyst, Healthcare Assistant, Heath Economics Consultant, Governance Business Manager and Data Analyst

Environment Agency 220+

Sustainable Economic Development Specialist, Sustainable Growth And Economic Prosperity Advisor, Water Resources Data Analyst, Modelling and Forecasting Graduate

Ministry of Justice 120+

Intelligence Analyst, Prisons Policy Advisor, Access to Justice Researcher

Department of Health & Social Care 100+

Health Service Data Analyst, Health Economist, Public Health Intelligence Analyst
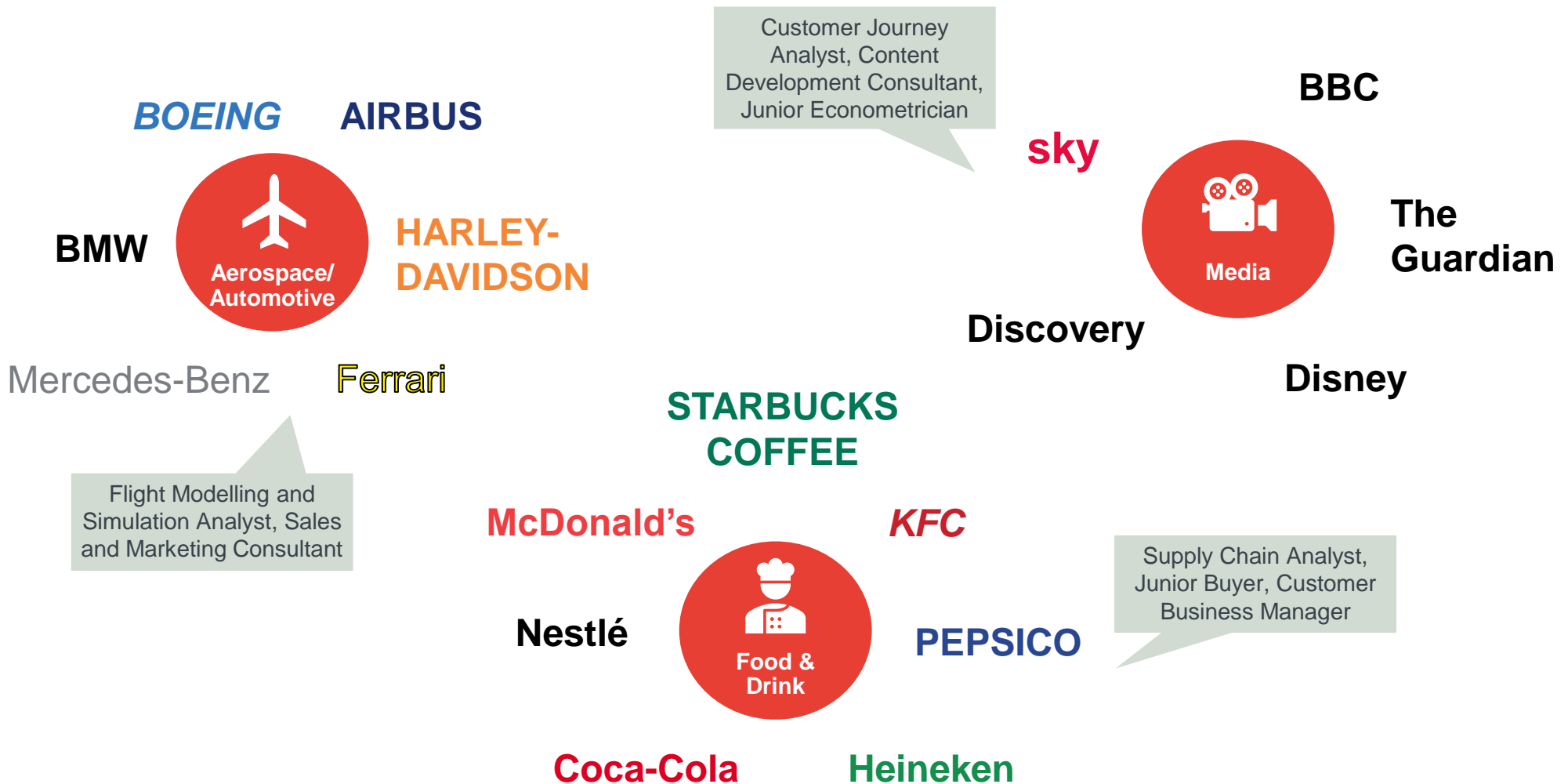
TRANSPORT FOR LONDON 70+

Transport Innovation Policy Manager, Diversity Inclusion Advisor, Assistant Asset Manager, Pricing and Forecast Analyst

Ministry of Defence 60+

Digital Technology Apprentice Scheme Data Analyst

Myth #1: Economics graduates only work in banking and finance

And there are thousands of economics-related jobs across the aerospace/automotive, media and food/drink industries.
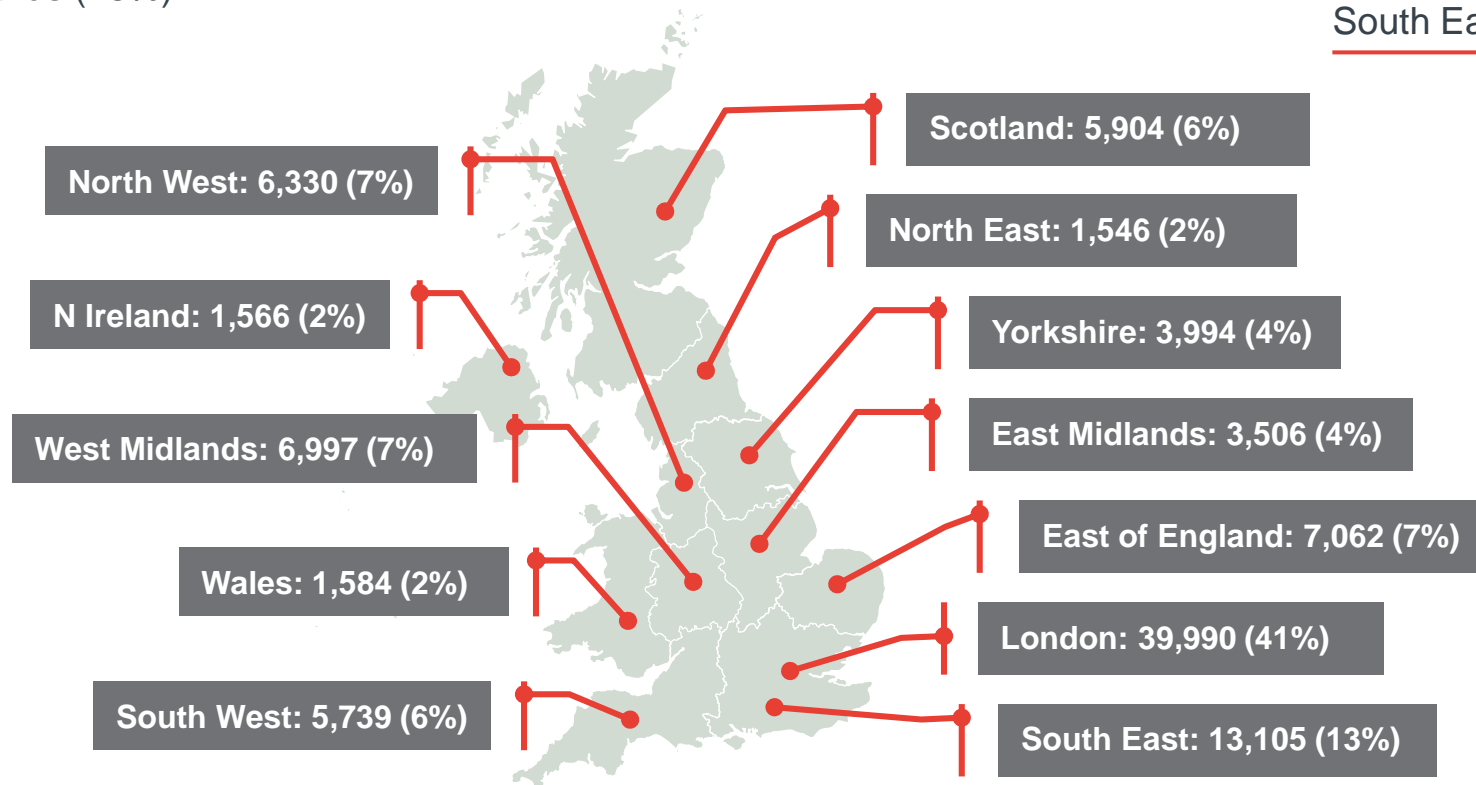
BOEING **AIRBUS**

Aerospace/Automotive

BMW

HARLEY-DAVIDSON

Mercedes-Benz Ferrari

Flight Modelling and Simulation Analyst, Sales and Marketing Consultant

Customer Journey Analyst, Content Development Consultant, Junior Econometrician

sky

BBC

Media

The Guardian

Discovery

Disney

STARBUCKS COFFEE

McDonald's *KFC*

Food & Drink

Nestlé

PEPSICO

Supply Chain Analyst, Junior Buyer, Customer Business Manager

Coca-Cola **Heineken**

Myth #2: Economics jobs only exist in London

Nearly half (45%) of economics-related and economics-specific jobs are not in London or the South East. Fewer are based outside London/South East (35%) when we focus on economics-specific jobs.

Of the 44,000 economics-related and economics-specific jobs not located in London or the South East, the regions with the highest proportions of jobs are in the East of England (16%) and West Midlands (16%).
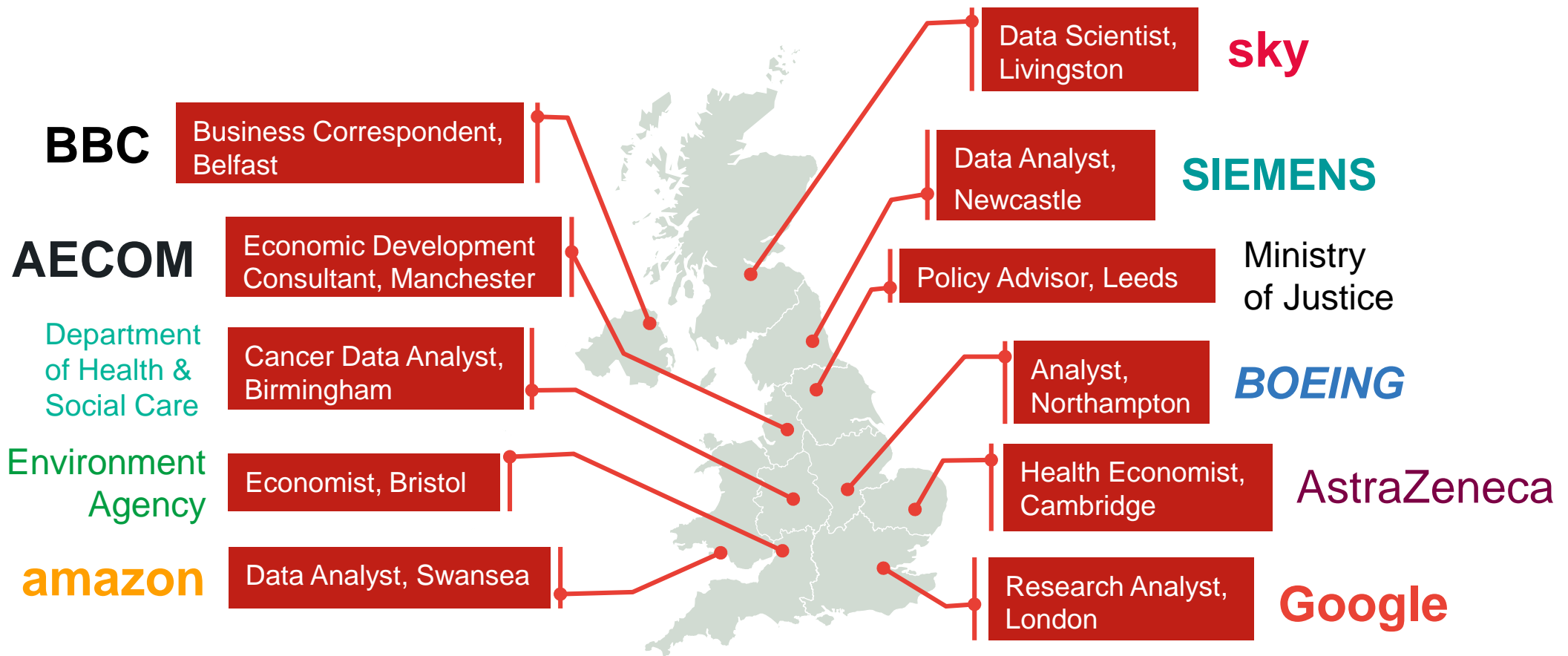
45%

The proportion of economics-related and economics-specific jobs **not** located in London or the South East

North West: 6,330 (7%)

Scotland: 5,904 (6%)

North East: 1,546 (2%)

N Ireland: 1,566 (2%)

Yorkshire: 3,994 (4%)

West Midlands: 6,997 (7%)

East Midlands: 3,506 (4%)

East of England: 7,062 (7%)

Wales: 1,584 (2%)

London: 39,990 (41%)

South West: 5,739 (6%)

South East: 13,105 (13%)

The figures refer to the number of job ads within the wider pool of both economics-specific and economics-related jobs that contained the employer name, and also contained the region (n = 97,323).

Myth #2: Economics jobs only exist in London

In 2019, there were ads for jobs requiring economics-related and economic-specific skills, such as data analysis and policy, all over the UK.

sky — Data Scientist, Livingston

BBC — Business Correspondent, Belfast

SIEMENS — Data Analyst, Newcastle

AECOM — Economic Development Consultant, Manchester

Ministry of Justice — Policy Advisor, Leeds

Department of Health & Social Care — Cancer Data Analyst, Birmingham

BOEING — Analyst, Northampton

Environment Agency — Economist, Bristol

AstraZeneca — Health Economist, Cambridge

amazon — Data Analyst, Swansea

Google — Research Analyst, London

Methodology: Identifying economics-specific jobs (Q1)

To identify economics-specific jobs, we identify jobs that meet one or more of the following criteria:

1. Requires an economics (or similar) **degree**. Note, this requirement could be one of multiple degrees considered suitable:
   - Economic(s)
   - Econometric(s)

2. **Job title** contains "Economist" (or similar):
   - Economist
   - Economic(s)
   - Econometric(s)
   - Econometrician

3. Requires at least one economics (or similar) **skill**:
   - Economic Development
   - Economics
   - Econometrics
   - Economic Models
   - Economic Analysis
   - Choice Modelling
   - Health Economics
   - Economic Forecasting
   - Economic Studies

Methodology: Identifying economics-related jobs (Q2)

To identify economics-related jobs, we used the following protocol:

1. List all skills required alongside jobs that require economics (or similar) skills (i.e. economics skills listed under 3. on previous slide)

2. Drop all "general" skills, defined as skills that cannot be categorised any more broadly. These include communication, research, organisation and leadership.

3. Order skills from most to least commonly required.

4. Search top 200 skills to identify those that fall under two economics-related categories: 1) Data/analytics 2) Policy. This identified the following skills:

- Data analysis
- Data science
- Machine learning
- Statistics
- Statistical analysis

- Big data
- Quantitative analysis
- Data visualisation
- Data manipulation
- Data mining

- Predictive Models
- AI
- Quantitative research
- Data management
- Data quality

- Simulation
- Data transformation
- Data modelling
- Statistical methods
- Big Data Analytics

- Policy development

Methodology: Identifying economics-related jobs (Q2), continued

5. Starting with the economics-related jobs identified by having at least one of the skills listed in step 4, **drop all jobs where the degree specified was considered too specialised or different to economics.*** The 5 most common degrees considered too different were Engineering, Computer Science, Electrical and Electronic Engineering, Physics and Biology.

   This left jobs which specified the following list of degrees:

- Accounting
- Accounting and Finance
- Accounting Technology/ Technician and Bookkeeping
- Actuarial Science
- Applied Mathematics
- Auditing
- Behavioural Sciences
- Business Administration and Management

- Business/Commerce
- City/Urban, Community and Regional Planning
- Construction Management
- Data Processing
- Facilities Planning and Management
- Finance
- Financial Mathematics
- Health/Health Care Administration/ Management

- Human Resources Management/Personnel Administration
- Insurance
- International Business, Trade, And Tax Law.
- International Relations and Affairs
- Marketing Research
- Marketing/Marketing Management
- Mathematics

- Office Management and Supervision
- Operations Management and Supervision
- Political Science and Government
- Public Administration
- Public Policy Analysis
- Research Methodology and Quantitative Methods
- Restaurant/Food Services Management

- Retailing and Retail Operations
- Social Sciences
- Specialised Sales, Merchandising and Marketing Operations
- Statistics
- Tax Law/Taxation
- Taxation
- Tourism and Travel Services Marketing Operations

The jobs associated with these degrees were considered to *require skills similar to economics and qualifications not specialised enough to rule out economics graduates.*

Note that many jobs listed several degrees that would be suitable for the particular role. For example, a job that required Restaurant/Food Services Management was likely to specify a number of additional suitable qualifications.

Methodology: Identifying high profile employers/jobs (Q3)

To identify high profile employers, we used Interbrand's top 100 Best Global Brands for 2019. This matched with 60 employers that have jobs included in the BG dataset.

To supplement Interbrand's list, we then manually scanned the top 300 employers (in terms of volume of job listings) that were not included by Interbrand to identify employers that may be attractive to prospective university students, where attractive employers were well-known employers in the following industries:

- Health care
- Tech
- Computing
- Engineering
- Media
- Public sector

This second process added an additional 24 employers to the list, giving a total of 84 high profile employers.

In both "phases" of the identification process, we excluded banking/financial services employers.