

CAREERS THROUGH MATHS: ECONOMIST



JOB OVERVIEW

An economist in the UK applies advanced mathematical and statistical methods to analyse data, build models, and forecast trends to understand how society, businesses, and governments allocate resources. Their daily responsibilities are deeply analytical, involving the collection and processing of large datasets from sources like the Office for National Statistics (ONS) or HM Revenue & Customs. They then use this data to test hypotheses, evaluate the potential impact of policy changes (such as a rise in the National Living Wage or a new carbon tax), and advise on strategic decisions. A typical project might involve building a econometric model to predict UK inflation trends for the Bank of England or conducting a cost-benefit analysis for a proposed high-speed rail (HS2) infrastructure project to determine its long-term value for money.

KEY MATHS APPLICATIONS

Primary Areas:

- **Econometrics:** This is the primary mathematical discipline, combining economic theory, statistics, and mathematics to give empirical content to economic relationships.
- **Calculus (Differential and Integral):** Calculus is essential for modelling change and optimisation. Economists use derivatives to find the rate of change in cost or revenue (marginal cost/revenue)...
- **Linear Algebra:** This area of mathematics is crucial for handling and solving systems of equations that underpin complex economic models.

ESSENTIAL SKILLS & TOOLS

SKILL	APPLICATION
Stata / EViews	These are the industry-standard econometric software packages in UK academia, government,...
SQL	Essential for querying and extracting specific data from large relational databases,...
Mathematical Modelling	The core skill of building abstract representations of real-world economic processes.

TYPICAL PATHWAY

The standard pathway begins with strong GCSEs and A-levels, with Mathematics and Further Mathematics being highly advantageous, if not essential. The fundamental requirement is a strong undergraduate degree (a 2:1 or higher) in Economics or a closely related quantitative degree...

INDUSTRY DEMAND

Demand for economists in the UK remains robust, driven by economic uncertainty, complex policy challenges (net zero, productivity puzzle), and the increasing importance of data analytics across all sectors.

REAL-WORLD IMPACT

Economists have a profound impact on UK society. Their analyses at the Bank of England influence interest rate decisions that affect every mortgage and savings account in the country.

QUICK FACTS

- **Education:** GCSEs and A-levels, with Mathematics and Further Mathematics being highly advantageous, if not
- **Growth:** Demand for economists in the UK remains robust, driven by economic uncertainty, complex policy challenges (net zero, productivity puzzle), and the increasing importance of data...