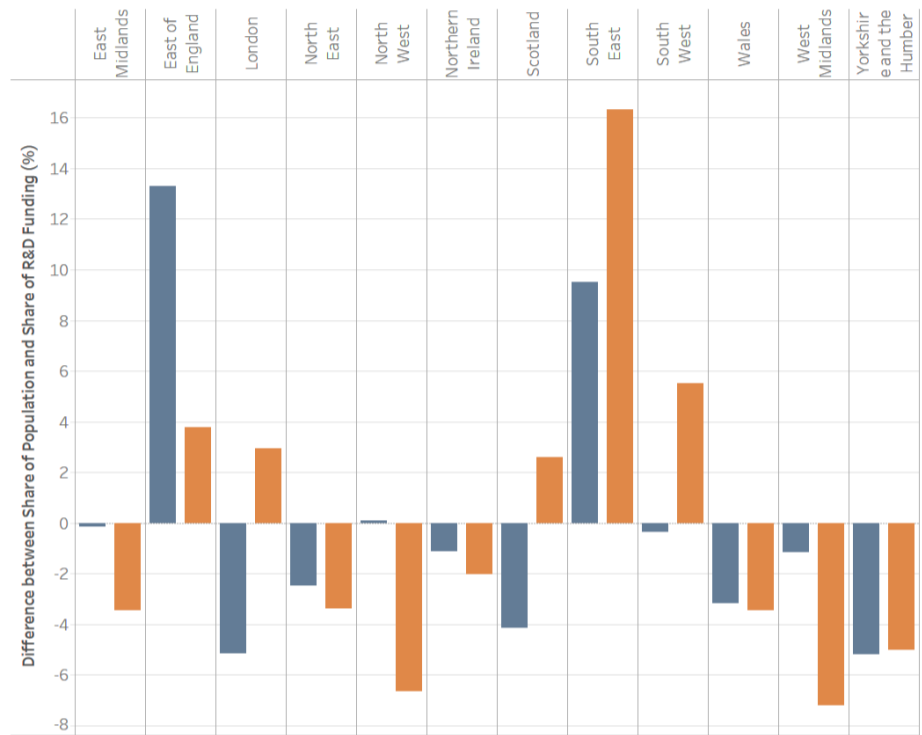


Policy@Manchester – Levelling Up

# Regional Research and Development Inequalities for Levelling Up

Chris Hall | Politics, Philosophy and Economics

Regional Disparities in R&D Funding Per Capita



Disparities between R&D funding and population shares in UK Regions

## Overview

My data fellowship took place at Policy@Manchester, the University of Manchester's policy engagement team. I was asked to conduct an independent research project around the theme of 'Levelling Up', the government programme of reducing socio-economic imbalances around the UK.

After reading through government policy surrounding the Levelling Up Programme, I noted the significance of research and development funding as a means for achieving socio-economic equality. I therefore set out to research whether increases in R&D funding could meaningfully improve quality of life at the local and regional level.

## Data Analysis

I used a government dataset which tracked the distribution of research and development funding by region, source and recipient as my independent variable in a linear regression. My dependent variable was an index of Prosperity developed by the Legatum institute. This allowed me to make comparisons between regions and local authorities, assessing the extent to which research and development funding has been invested and the potential impact it has had. I carried out my analysis in R and Python, which I was offered the opportunity to learn during the internship during training weeks.

## Findings

- Research and development funding is not distributed equally across the regions and nations of the UK. Funding is concentrated in London and the South East, with the North and Midlands receiving far less funding relative to population.

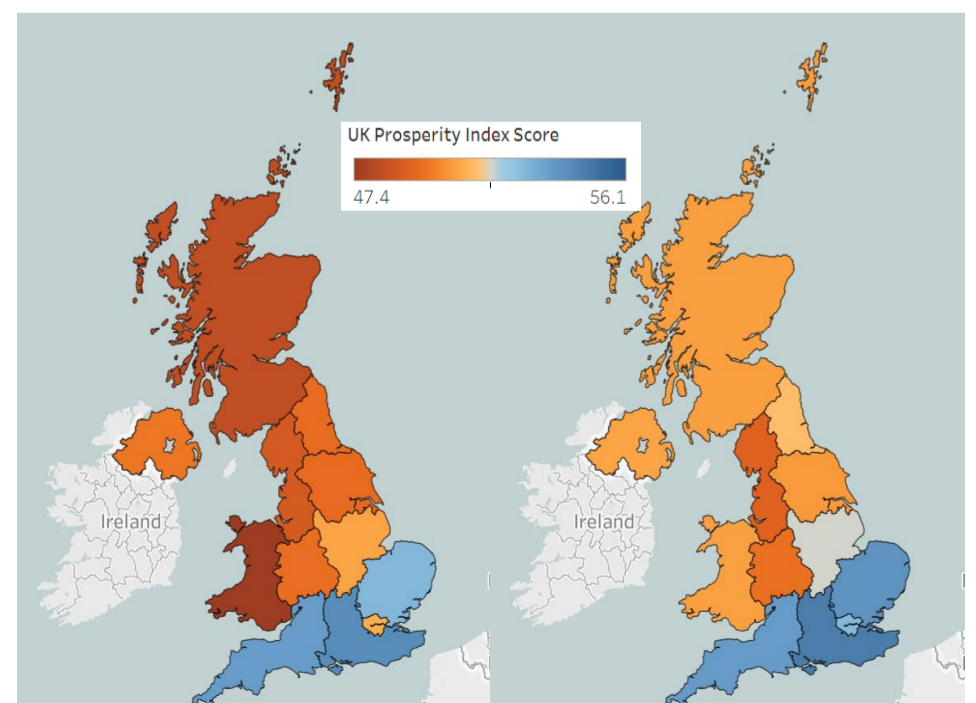
- I could not create a comprehensive model for estimating the impact of a certain amount of R&D investment, but I found sufficient evidence that there was a statistically significant positive relationship, albeit with a time lag. Government investment is most effective when it provides a platform for private investment.

## Key Skills Learnt

The primary skill I learned was to do with research design. I had been given the broad theme of 'Levelling Up', and from this I narrowed it down to discussing research and development funding. However, this topic still seemed dauntingly broad; at this point, I had to list a series of steps it would take to finish this analysis. By breaking down a complex problem into smaller, simpler steps I was able to critically assess the problem in a way which made it feel more achievable. I was also better able to manage my time and track my progress to ensure I was working at the correct rate.

The technical skills were particularly important, as I had built a solid foundational understanding of statistics and R in my lectures. However, this open-ended process of finding my own data, applying my own techniques and answering my own questions was more demanding of my skills. The training opportunities and the ability to learn these techniques with an applied problem were really valuable to my professional development.

Working in an office environment was also informative. Seeing the dynamic of the Policy@Manchester team and the ways in which the distinct roles collaborated for policy engagement. It was particularly interesting to see the ways in which my supervisor, a data analyst, interacted with a non-technical team.



Regional disparities in prosperity, 2010-2020