Labour Market and Skills Review – Greater Manchester Combined Authority

Work and Skills in Greater Manchester

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Overview of the Data Fellowship

Greater Manchester is not only UK's second largest urban area, but its economy ranks higher to that of Wales and Northern Ireland. The Greater Manchester Combined Authority (GMCA) facilitates cooperation between the 10 boroughs of Greater Manchester and is run jointly by the Mayor and the leaders of the ten councils. My main focus was on developing and automating the Labour Market and Skills Review that helps inform policy decision making of individual councils and provides actionable insights for businesses and charities. The review is now an automated and highly interactive analysis of benefit claimants, deprivation indexes, business profiles, population, universities, and salaries. I also worked on other projects including an analysis of benefit deductions in Greater Manchester and the difference in salary between Manchester's residents and workforce.
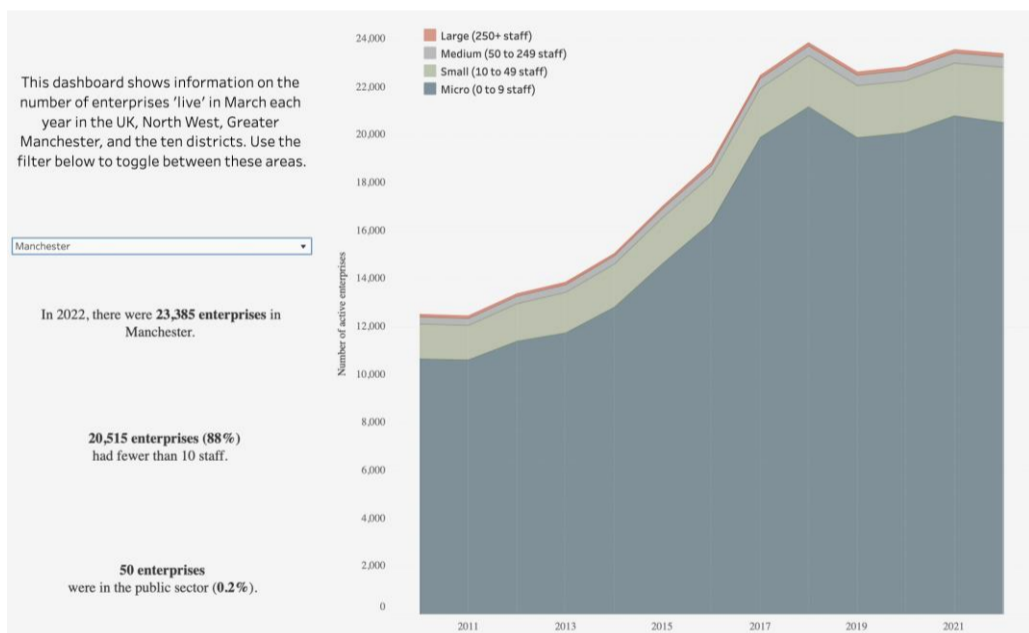

Figure 1: The Business Dashboard of LMSR; Manchester selected.

Data Analysis

The data used for this analysis comes from Nomis and Stat-Xplore. The data for business counts comes from the Business Register and Employment Survey available at Nomis. I downloaded and shaped the data through the nomisr API package. It shows the number of 'Live' businesses by Local Authority (LA) in Greater Manchester with a breakdown of size of the businesses by the number of employees. The second chart is a map of the Index of Multiple Deprivation (IMD) in Greater Manchester. The dashboard shows how each Local Authority scores in the index and its relevant domains. The LAs are broken down by LSOAs (Lower Layer Super Output Area) that compose them. The map is interactive and can be focused on individual LAs and IMD domains.

Findings

- **Some Local Authorities have been more affected by lockdowns than others.** Bury and Oldham for example, have seen a greater decrease in the number of 'live' businesses than Wigan.

- Greater Manchester has a higher proportion of LSOAs that rank as 'most deprived' than the UK average. Overall **23% of LSOAs** score in the **10% most deprived areas nationally.**

- There is a large variance in the Index of Multiple Deprivation in Greater Manchester. **43% of LSOAs in Manchester** rank as the most deprived compared to only **5% in Trafford**. In the Employment, Skills and Training domain of IMD in Greater Manchester, **30% of LSOAs in Oldham** are in the 10% of most deprived areas nationally, compared to only **1% in Trafford.**

Key Skills Learnt

APIs in R: I learned how to automate the downloading and shaping of data through APIs. I have done this by writing an R script for each of the dashboards which saves analysts' time in producing a report every time a new dataset is released.

Data Manipulation in R: I learnt to manipulate data effectively in R so they can be processed quickly in Tableau.

Tableau: By automating the analysis of the data I have greatly expanded on my previous skills in Tableau and I learned how to create a more complex analysis including nested calculated fields and fitting a large number of insights into a single dashboard without sacrificing clarity.

Mapping in Tableau: I learnt to work with spatial data in Tableau and produce effective visualisations.

Large Project: Most of my time at the GMCA was focused on the LMSR which has taught me how to work consistently on a large project.
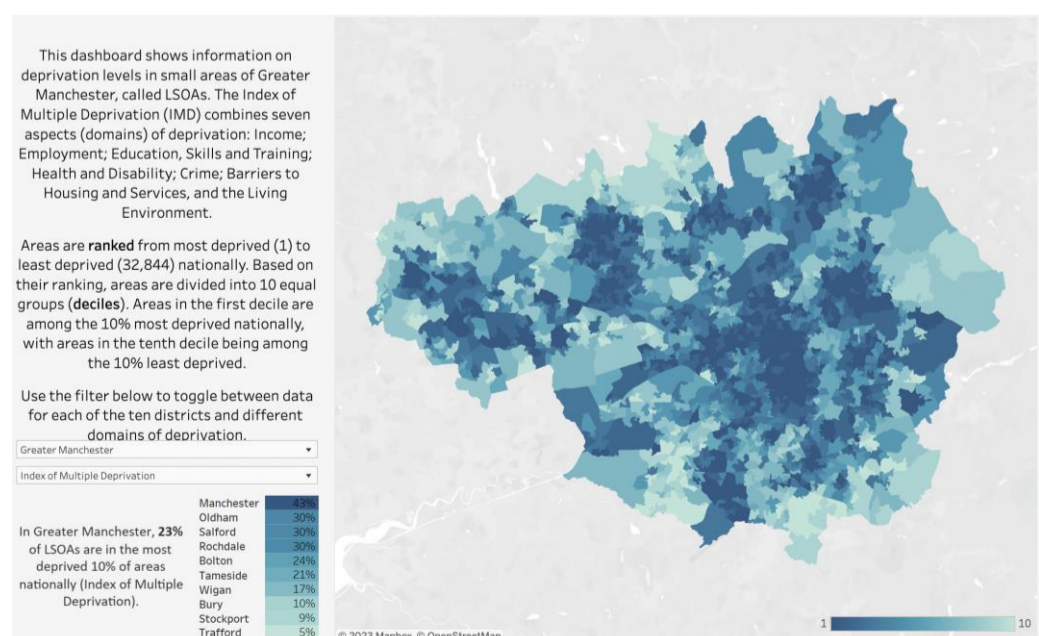

Figure 2: Map of Greater Manchester by LSOAs and level of deprivation.