

Introduction

The dataset used was from the Companies House repository for the companies incorporated over the years. The time period between January 2019 and December 2021 was chosen to understand how Covid-19 affected the number of businesses that were being found in England. The month of July 2020 was used for the distinction between before and after Covid for two reasons – A) The pandemic's effects on businesses may not have been explicit until they were compounded for a couple of months after initial inception. B) The time period is split into nearly equal parts in terms of the months before and months after.

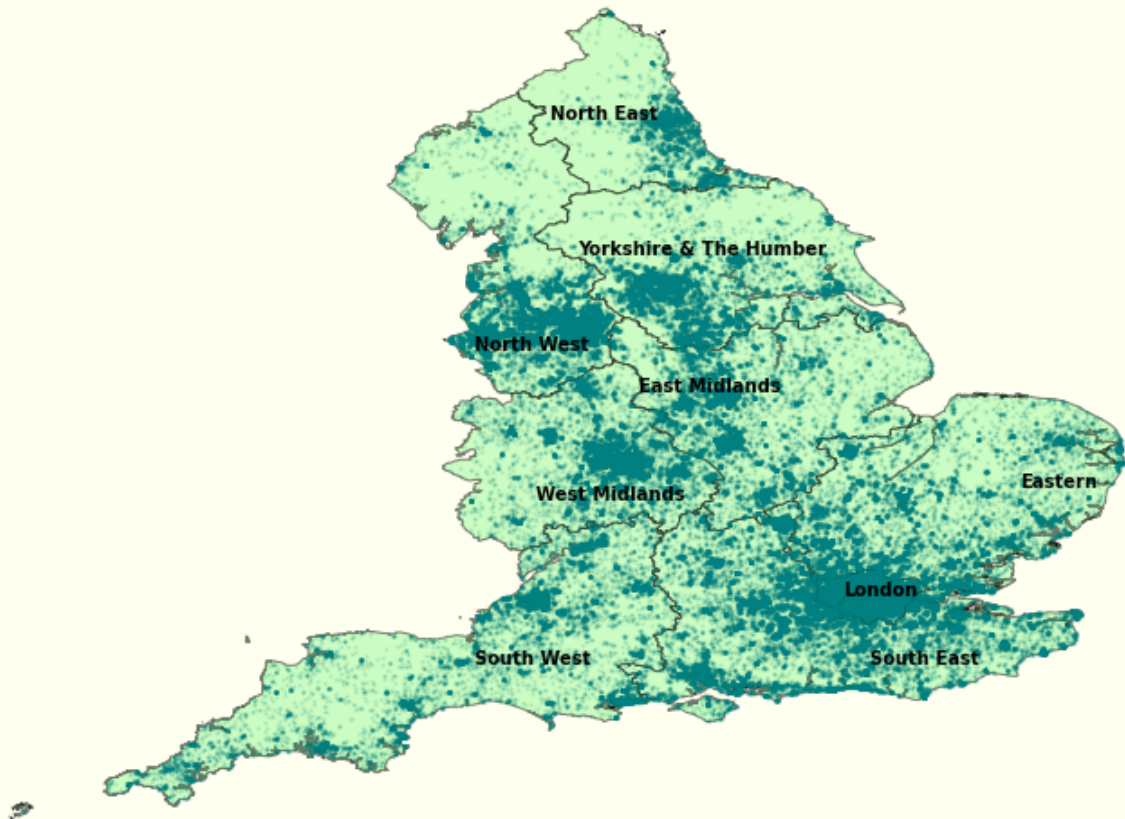
Plot1

The first graph was chosen to understand the macro-level changes and to identify the prominent regions. This plot leverages Geopandas to create the lines that distinguish England's 9 European Electoral Regions. The companies' latitudes and longitudes are obtained to plot their locations across these regions. The After map shows higher concentrations of companies across all areas – this is counterintuitive at first but not different from the US where the pandemic created a surge of new businesses incorporations (Casselmann, 2021). There were many people laid off work, which may have stimulated the passive entrepreneurs. Whilst the increase was across all regions, London, North West and South East became denser than other regions; with East the least and West Midlands somewhat medium. The next plot was created to gauge cross-industry changes within these regions.

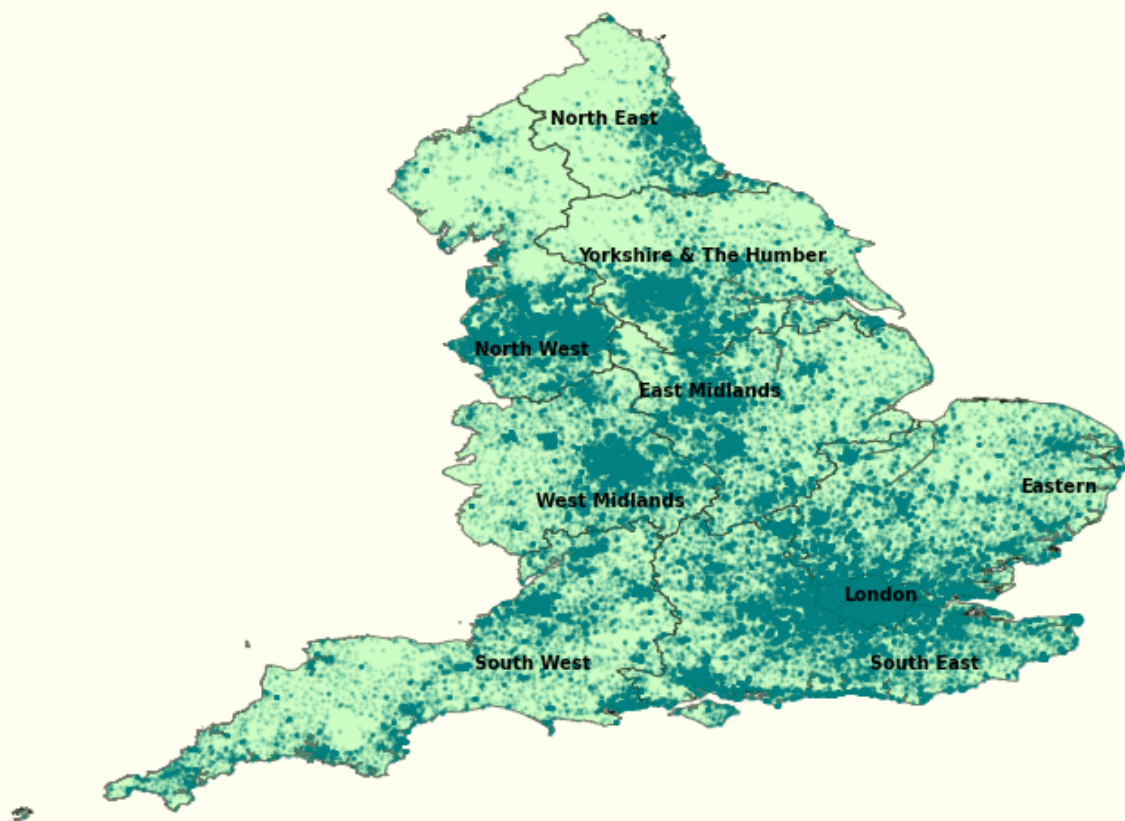
Businesses incorporated in England before and after July 2020: gauging the impact of peak Covid-19 lockdowns.

Plot 1

Before



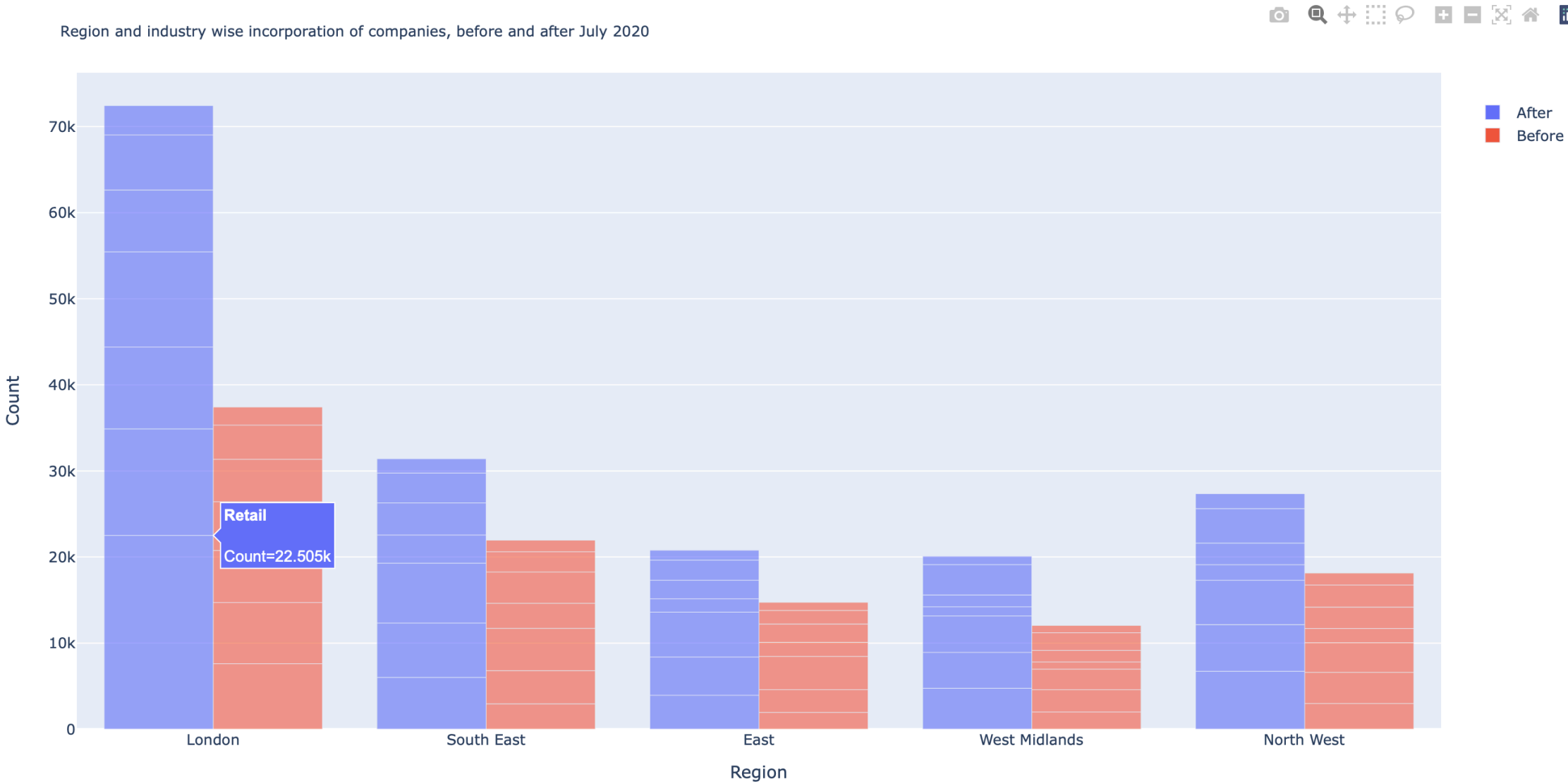
After



Plot2 (HTML file attached)

In order to understand and incorporate 4 dimensions whilst not trading off simplicity, an interactive visual seemed the best fit; and it was created using Plotly Express. The stacked and grouped graph shows the number of businesses that were found before and after July 2020 for each of the 5 regions. To gain a more granular industry understanding, hovering the mouse over each stack will reveal the numbers per industry for each of the 7 dominating industries (Retail, Hospitality, Healthcare, Consultancy, IT, Construction, and Real Estate). It can be inferred that businesses founded in London doubled in the period after July 2020 and the Retail industry almost tripled – more than any other region. Retail growth was prominent across all regions – however, the figure indicates industry aggregates of two time periods and breaking down the timeline might lend insight into the finer fluctuations.

Plot 2

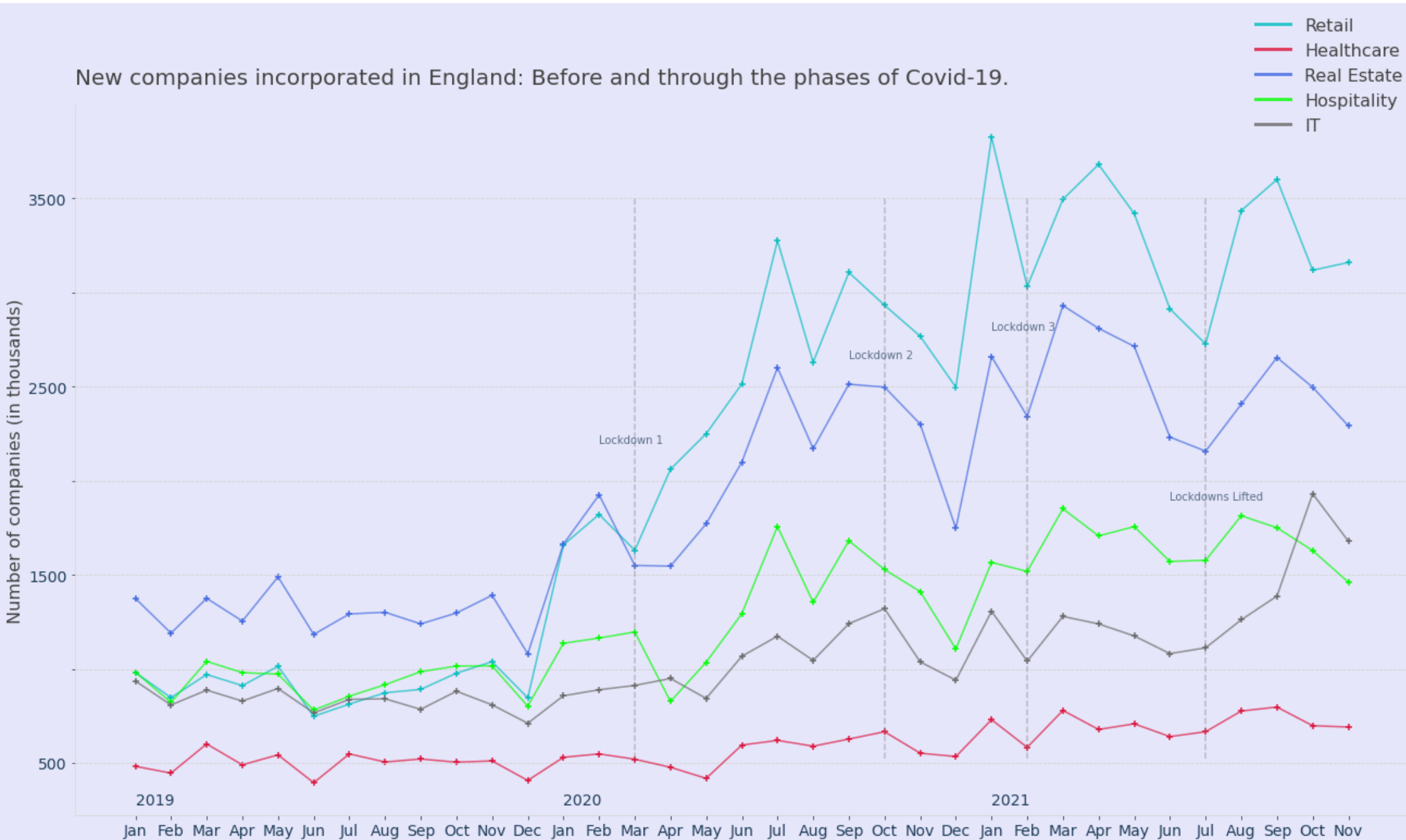


Plot3

Five of the industries were plotted to create a contrast between the highest performing industries (Retail, Real Estate, and Healthcare) and the two industries that are believed to have been impacted by the pandemic (Hospitality and Healthcare); December 2021 was excluded to prevent misinformation arising from the dropping trends due to lacking records. The Matplotlib line and scatter plot was used to realise the industry wise fluctuations in the timeseries. The increase in the after July 2020 incorporations in Retail is now explained here because there was a very steep jump in December 2020 after the October 2020 lockdown (Appendix1). Another important observation is the increasing trajectory of Hospitality, Real Estate, and Retail from March 2020 onwards – when the Bank Rate was remedially dropped to 0.1% (Bank of England, 2021). Hospitality businesses have continued opening despite the general resistance.

Plot 3

New companies incorporated in England: Before and through the phases of Covid-19.



References

Casselman, B. (2021) *Start-Up Boom in the Pandemic Is Growing Stronger*, *Nytimes.com*.

Available at: <https://www.nytimes.com/2021/08/19/business/startup-business-creation-pandemic.html> (Accessed: 14 December 2021).

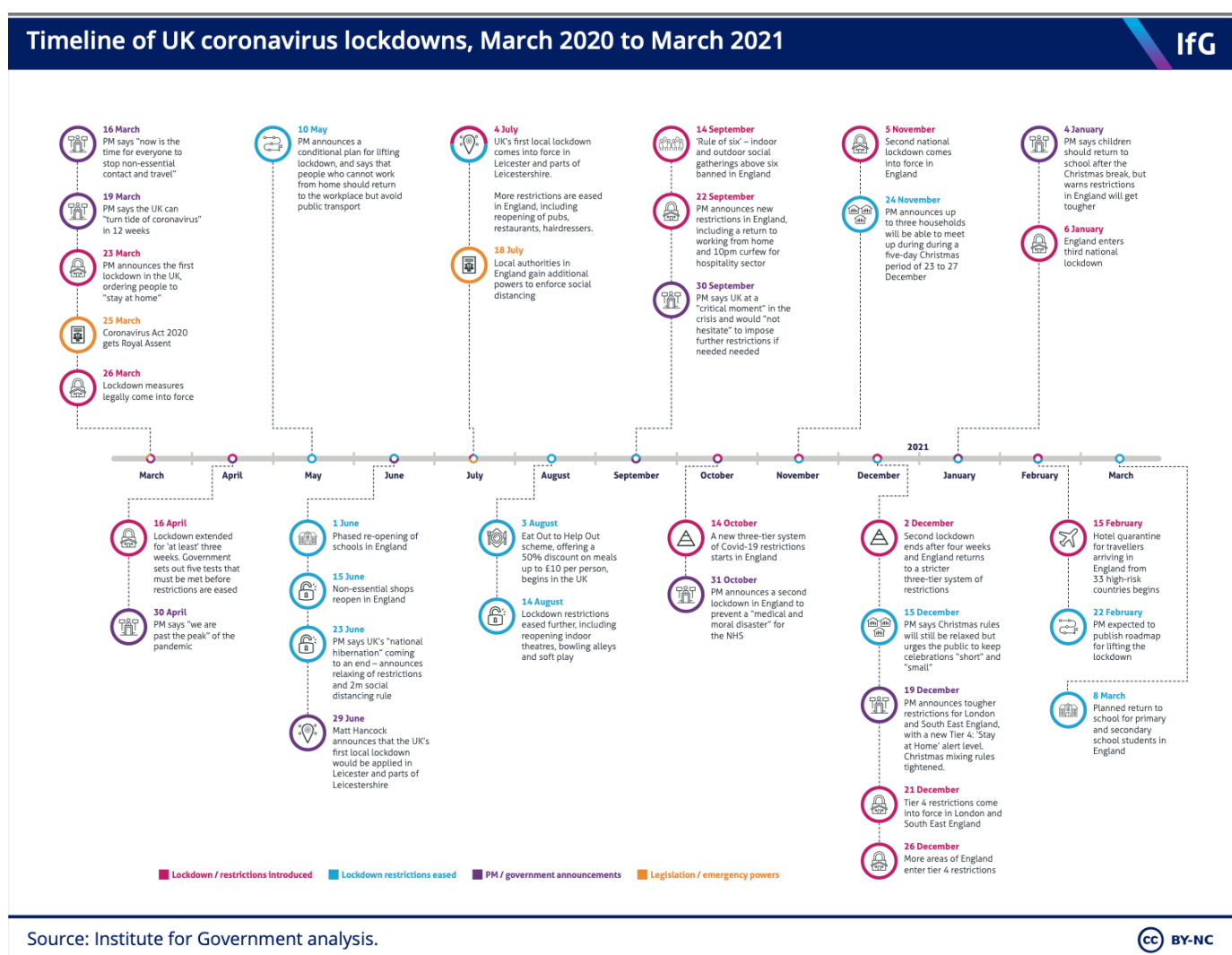
Our response to coronavirus (Covid) (2021) *Bankofengland.co.uk*. Available at:

<https://www.bankofengland.co.uk/coronavirus> (Accessed: 15 December 2021).

Appendix

1. Lockdown records

<https://www.instituteforgovernment.org.uk/sites/default/files/timeline-lockdown-web.pdf>



Links to datasets

1. <https://www.doogal.co.uk/PostcodeDownloads.php> UK Postcodes
2. <https://findthatpostcode.uk/areatypes/eer.html> eer.csv European Electoral Regions
3. <https://martinjc.github.io/UK-GeoJSON/> GeoJSON for drawing England