

THE IMPACT OF THE PANDEMIC ON
BUSINESS FOUNDATION PATTERNS IN THE UK
DATA VISUALIZATION

by

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Questions to the dataset

- How many companies were incorporated during the pandemic? Did the number fall? How did the number change month by month? How was it in comparison to a previous couple of years? How did this trend differ across industries?
- Considering London as the centre of economic activity with the most significant number of companies registrations, did the pandemic affect the location of companies' birth?
- How did the number differ across all possible SIC codes?

Design choices

Chart 1. Interrupted time series

To answer the questions from the first category, the most logical way to show the data was to aggregate the number of companies opened per month (from now on as "Counts") and put months on the 'x' and counts on the 'y' axis. To emphasise major events (lockdown measures), three corresponding points with labels were attached to the line. To give the chart user the chance to compare the Counts during the pandemic with counts since 1990, a small subplot showing the Counts from 1990 was inserted on the top left. The heatmap was inserted as a subplot beneath the main figure to display the percentage change of Counts for each month to the previous month during the pandemic for each industry.

Chart 2. Geospatial animation

To show counts per location in London on the most granular data, the shapefile of London Wards was used. Each polygon represents the Ward and contains Counts on the logarithmic scale since they differ exponentially. To provide the user with a perspective of the locations where firms opened in the UK during the pandemic, a subplot with a UK map was included, featuring dots representing companies. To prettify the both main and subplots, the base maps provided by contextily were set in the background. 23 matplotlib 'monthly' figures were transferred into a GIF file to see how counts changed in time.

Chart 3. Interactive bokeh visualisation

To compare Counts before (Year 2019) and during COVID-19 (Year 2020) aggregated by SIC codes, I decided to show data on a slope chart. Only the first SIC code was used to

correspond to the main business activity. However, it would be impossible to see the data for each 732 available SIC codes without adding an interactive component. The user has all instruments (hover, scroll, zoom) to appreciate data on the granular level and not get lost.

Insights

- The most significant number of companies in UK history was incorporated in July 2020. Although intuitively pandemic should have negatively affected foundational business patterns, resulting in fewer companies opening.
- The number of incorporated companies operating in internet retail skyrocketed during the pandemic (increase by 367% from 2019 to 2020).
- Overall, there are much fewer SIC codes that fell than those which rose. Only 20 SIC codes corresponded to the fall greater than 20%, and not a single one dropped by more than 50%.
- London's most appealing ward to set up the company is St. James's.
- About 1/3 of UK companies open in London.