A simple portrait of immigrants in UK

Global events, such as Brexit, Covid-19 and refugee problem caused by Russo-Ukrainian War, are changing the UK immigration debate, exaggerating conflicts between the need of key workers from the world and the requirement for stricter regulations. Immigration also draws our attention being the main reason for population increase in 2022. In this project, we mainly focus at three perspectives: a simple portrait of immigrants in UK by age, country of birth and their distribution, the inequalities faced by immigrants and investigation on the relation between some economic terms and immigration.

The data here are manually sorted from the downloaded csv files from ONS and most data in this project are collected in this pattern. Downloading data locally is convenient for operation data in excel and python. To avoid messing the axis, a pie chart with a legend is used to deal with the "long" name of 11 regions. I also rearranged the range of age groups, decreasing the number of age groups from 18 to 7. The second chart contains 3 variables, the chart directly tells the percentage (generate from the calculation in excel) and the 7 age groups. The nominal number of people is conveyed by tooltip. Most immigrants are from European Union, south-east Asia and sub-Saharan Africa. Most immigrants arrived UK in their twenties and the proportion of children is higher than the proportion of adolescents.

The topojson file of England is generated by UK-GeoJSON. Data from the topojson file and Local csv file downloaded from ONS are matched by LA name. The csv file contains the proportion of residents born outside England and Wales and in order to accord the map, observations of Wales are dropped. The reason for seeing a white area in the mid of map is that the data of areas (LA code E07000001 to E07000006) are missing in ONS. By visualizing the map generated in the ONS website, it seems that ONS combined these areas with their neighbour areas. It can be seen that the proportion in big cities, especially LAs near London, is relatively high. Leicester is the only area with percentage above 40% which is not from the south-east.

The first chart looks at the difference between migrants and the natives in terms of unemployment rate. The second chart investigate the deviation. I choose the data from 2011 to 2022 for analysis, because during this period when the UK economy was recovering from recession, there is a clear decreasing trend. The process of detrending operated in Google colab, using OLS to acquire the predict values and producing the deviations by calculating their deference. The unemployment rate for immigrants is always higher than the natives. Meanwhile, the proportion of immigrants is more fluctuated during expansion of economy. In all, immigrants undertake more risk exposure in labour market.

The data of CPIH and claimant count, which are regarded as indicators of price level and stability of labour market respectively, are download from ONS. The data of net migration is a combination of data from ONS and the migration observatory, which also includes calculation based on inflow and outflow data. Observations after 2020 Q2 are considered as outlier here, since then immigration was severely influenced by regulation due to Covid-19. Those observations are dropped in the CPIH chart, since it will give an adverse result if those point are kept. Those observations are kept in the CC chart, which is aimed to show the significant impact of Covid-19 on both datasets, hence the R squared is slightly decreased as a result. The R-Squared values of the regressions is 0.25 and 0.26 respectively, suggesting there is a correlation, though relatively weak, between net immigration and both CPIH and Claimant count.

In conclusion, the chance of job opportunities may be vital for immigrants since most of immigrants are from developing regions, at ideal working age and heading to big cities. Immigrants also face inequalities from the society, making their life more unstable than the natives, eg.in the labour market. Moreover, examining the relationship between different economy indicator and immigration implies what attracts the immigrants, such as an ideal price level and a stable labour market.