**Exploratory Data Analysis: Finding the reasons of high claimant’s count in Birmingham County**

**Introduction**

The Claimant count is the number of people claiming benefits primarily for the reason of being unemployed. This is measured by combining the number of people claiming Jobseeker’s Allowance, National Insurance credits and receiving Universal Credits [1]. The claimant count and unemployment are both important measures of labour force in the UK. However, the claimant count is mostly derived from Department for Work and Pensions (DWP) administrative systems, while unemployment based on individual’s self-declaration as being out of work, but currently and actively seeking to work in the Labour Force Survey (LFS).

The increased number of claimant count, especially during pandemic has long lasting impacts on individuals, economy, and society. According to IFS (Institute of Fiscal Studies), during the pandemic, JSA (Job Seekers Allowance) volumes began to rise, and achieved its highest level in August 2020 since August 2018. Latest JSA figures to February 2021 show that there were 260,000 people claiming Jobseeker’s Allowance (JSA), which is still an increase of 96,000 (57%) on the pre-pandemic figure of 170,000 at February 2020[2].

According to an article in BBC, the government spend about £100bn a year on the working age people benefits than it does on educational or national defence and policing [3]. It showed the importance of spare or out of work labour in the nation’s broader economy and well-being of the society. It has long lasting impact on individuals’ capability, and physical and mental health.

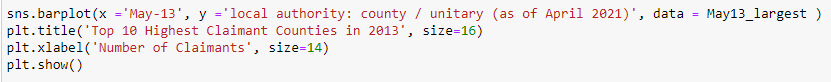
The government introduced furlough scheme during pandemic to protect the economy and to maintain the unemployment rate during the Covid-19. Reading these articles on increased amount of government spending on benefits has led me to explore the claimants count on local authorities’ (counties) level.

**Background Information**

In my previous course work, I gathered the data related to claimants count, unemployment data, and the largest working age population among local counties. I have presented the summary of my previous analysis below.

* **Ten Local Authorities with Highest Claimants Count of Age above 16 years**

I used sns.barplot to visualise the highest claimants count of age 16+ from 2013-2022.



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Birmingham, Kent, Essex, Leeds, Glasgow City, Lancashire, and Manchester are seven local counties which appeared in top ten highest claimants count of above 16 years age throughout the last 10 years (2013-2022). Liverpool did not appear only during pandemic, in 2020 and 2021. First interesting observation from the graph was, Birmingham County always on top of the list in all years with huge difference in number of claimants (two times higher) as compared to second highest claimant’s county; Kent, and Glassgow City. The analysis of this graph also showed that Hertfordshire and Hampshire are the only two counties that appeared in top ten highest claimants count during the pandemic years (2020-2021).

* **Ten Local Counties with Largest Unemployed Working Age Population**

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The seven counties appeared nearly each year, Birmingham County with highest unemployed working age population throughout each year. Surrey appeared only in 2014, 2016, and 2020. Not all counties with highest unemployed population appeared in highest claimant count neither in highest unemployment rate.

* **Ten Local Counties with Largest Working Age Population and their Unemployment rate**

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There were only two changes in ten local authorities with highest working population throughout the period of 2013 to 2021. The two changes were the replacement of West Sussex County in 2015 and 2020 by Leeds County. There are some interesting findings:

1. Birmingham has the highest unemployment rate, nearly two times higher than others among ten local counties with highest working population. The unemployment rate ranges from 7.8% to 15.6%.
2. Kent has the highest working age population during 2013-2021 with nearly half of the Birmingham’s unemployment rate. The unemployment rate ranges from 3.3% to 7.6%.
3. Surrey is the 5th largest county in terms of working age population from 2013 to 2021. It has low unemployment rate, ranges from 2.2% to 4.7%.

**Aims &Objectives**

There is plenty research on unemployment and its effect on the economy and society, but there is hardly any research on claimant count. The researcher may use both interchangeably to review the economy outlook on the national level, there is no research on local level regarding the claimants count and their reasons for such high claimants’ count.

The interesting finding from my previous work was that Birmingham has always on top of the list of the claimants count from 2013-2022. However, the top 10 highest claimants count does not necessarily come from largest unemployed population or largest working age population counties.

To avoid subjective bias in the selection of the data, I gathered the data of the local counties based on these previous characteristics that are, highest claimants count, largest unemployed population, and largest working age population. I have selected the 10 local counties data with similarities in between for better understanding and analysis. I have selected Birmingham, Essex, and Kent as all of them have appeared in highest claimants count, have largest unemployed working population, and they also have largest working age population. Other counties are Lancashire, Bradford, Manchester, and Leeds. They have diverse population and interestingly only Lancashire were on top 10 largest working population but still the remaining counties were in the top 10 largest claimant’s count throughout the years (2012-2022). Lastly, 3 counties named, Surrey, Hampshire, and Hertfordshire. They all have the largest working age population and only appeared in few years in the list of high claimant’s count.

These three different sets of counties where each county has a similar representation will help me to analyse the reasons of the highest claimant’s count in Birmingham County throughout the years and helps me to do the comparative analysis as well.

My aim of the second part of this exploratory research can be divided into following objectives.

* Explore the data of those 10 local counties based on the percentage of age 16+ who are economically inactive and then find the main reasons of the economic inactivity. According to Nomis Website, economically inactive are thosePeople who are neither in employment nor unemployed.
* Analysis of White working age population in those counties and explore the similarities and difference between them.
* Analysis of Ethnic minority working age population in those counties and explore the similarities and difference between them.
* Analysis of the percentage of economically inactive who don’t want a job.
* The analysis of employment rate of White and Ethnic minority working class of selected10 local counties. It may help to understand the relation of the diverse population.
* Lastly, analyse the impact of having no qualification in the claimant’s count.

**Data**

**Data source and description**

The data for this project obtained from the Nomis website. Nomis is a service provided by [Office for National Statistics](https://www.ons.gov.uk/) (ONS), the UK’s largest independent producer of official statistics. The data has taken from 2012 to 2021 as Claimants count introduced in 2012 to replace Job seekers allowance (JSA). Currently the Claimant Count is a composite of the number of people claiming Jobseeker’s Allowance (JSA) and those claiming Universal Credit (UC) who are required to seek work to qualify for their benefits. Combining these two identifies all the people claiming benefit principally for the reason of being unemployed [4].

I have taken the data from Nomis [5] and construct my query broadly on the above-mentioned parameters, select the data by local authorities (as of April2021), select the dates from January 2012 to December 2021.

**Limitations of Data**

The claimant count and unemployment both have large degree of similarities between them. However, both have few limitations in terms of reporting the data. These are:

1. People with part time job can claim benefits if their earnings are very low. However, they would not appear in LFS measure of unemployment.
2. Those in full time education while searching for work will not appear under claimant count as they are not eligible for the benefits, which predominantly affect 16-21 years old. They will appear in unemployment data.
3. Those over or around state pension age who are looking for work will not be eligible for unemployment benefits and not report under claimant count. They will appear in the LFS measure of unemployment.
4. The people who are looking for part time work cannot claim unemployment benefits and therefore will not be reported under claimant count but under unemployment. The effect of this claimant count can be seen particularly in women with school age children.

**Ethical Consideration of the Data**

The data is easily publicly accessible, and it has featured different datasets (Excel, XML, Csv and so on). The download has a limit of1000000 cells in a single download.

**Importing the Data**

I have imported the claimant’s data in CSV format as ‘Exploratory data\_CW2.csv’. I download the data with the geography location on rows and variable on columns.

**Data Cleaning and Processing**

There are 217 counties or local authorities in UK and my interest is to select ten local counties during 2012-2021. The selected ten local counties will be enough to find the reasons of high claimant’s count in Birmingham County.

1. **The Percentage of Age Above 16 Years who are Economically Inactive**

First, I imported the following libraries.



Then I import the percentage of age above 16 years who are economically inactive by using the function of skiprows and nrows into the table form through pandas and data frame.

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* **Sorting out the percentage of Age 16+ who are economically inactive from Years 2012 to 2021**

I have used sort function to sort the values by years and used function ascending = false to sort the value in descending order. I have sorted the values of each year from 2012 to 2021.

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* 1. **Tabulating the Percentage of Age 16+ Female who are Economically inactive:**

I have selected the data of male age 16+ and Female age 16+ who are economically inactive. However, there is very small difference between the mean values of male age16+ between the 10 local counties (Area).

I have imported the file of exploratory data and select the percentage of aged 16+ Female who are economically inactive by using skiprows and nrows function.

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* **Calculating the Mean Value of Each Local County (Area):**

I have calculated the mean value of each local county by using mean function and select all years by using axis function and ignore the non-numerical values by numeric\_only function. The mean value helps me to analyse the extent of the average difference between counties throughout the years from 2012-2021.

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* **Sorting out the percentage of Age 16+ Female who are economically inactive from Years 2012 to 2021**

I have sorted the values by year through sorting function and use ascending function = false to arrange the values in descending order. I am presenting the screen short of only one year and rest of the years have been presented in my python working file.

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1. **Exploring the Reasons of Economic Inactivity:**

There are three major reasons of economic inactivity as per Nomis data information. These are.

1. Being Student (due to education)
2. Looking after Family/Home
3. Being Retired.
   1. **The Percentage of Economic Inactive Student:**

I have loaded, filtered, and cleaned the selected data from my csv file using skiprow, nrows, and na\_values function.

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* **Calculating the Mean value of the percentage of Economically Inactive Student:**

I calculated the mean value of each county of economically inactive student by using the mean and axis function.

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* **Sorting out the percentage of Economically Inactive Students from Years 2012 to 2021:**

I have sorted the values by year through sorting function and use ascending function = false to arrange the values in descending order. I am presenting the screen short of only one year and rest of the years have been presented in my python working file.

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* 1. **The Percentage of Economic Inactive Looking after Family/Home:**

I have loaded, filtered, and cleaned the selected data from my csv file using skiprow, nrows, and na\_values function.

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* **Calculating the Mean value of the percentage of Economically Inactive Looking after Family/Home:**

I calculated the mean value of each county of economically inactive looking after family/home by using the mean and axis function.

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* **Sorting out the percentage of Economically Inactive Looking after Family/Home from Years 2012 to 2021:**

I have sorted the values by year through sorting function and use ascending function = false to arrange the values in descending order. I am presenting the screen short of only one year and rest of the years have been presented in my python working file.

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* 1. **The Percentage of Economically Inactive Retired:**

I have loaded, filtered, and cleaned the selected data from my csv file using skiprow, nrows, and na\_values function.

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* **Calculating the Mean value of the percentage of Economically Inactive Retired:**

I calculated the mean value of each county of economically inactive retired by using the mean and axis function.

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* **Sorting out the percentage of Economically Inactive Retired from Years 2012 to 2021:**

I have sorted the values by year through sorting function and use ascending function = false to arrange the values in descending order. I am presenting the screen short of only one year and rest of the years have been presented in my python working file.

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1. **Exploring the Percentage of White Working Age Population (Aged 16-64 years)**

I have loaded, filtered, and cleaned the selected data from my csv file using skiprow, nrows, and na\_values functions. I am using percentage of white working age population data to compare with percentage of ethnic minority working age population of local counties and not using age 16+ as it will include retired age population that will give false result in terms of claimant’s count. The claimant’s count is only applicable to working age population.

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* **Calculating the Mean value of the percentage of White Aged 16-64:**

I calculated the mean value of each county of economically inactive retired by using the mean and axis function.

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* **Tabulating and sorting out the percentage of White Aged 16-64 (White working Age Population) from Years 2012 to 2021:**

I have sorted the values by year through sorting function and use ascending function = false to arrange the values in descending order. I am presenting the screen short of only one year and rest of the years have been presented in my python working file.

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1. **Exploring the Percentage of Ethnic Minority Working Age Population (Aged 16-64 years)**

I have loaded, filtered, and cleaned the selected data from my csv file using skiprow, nrows, and na\_values functions. I am using percentage of Ethnic minority age population data to compare with percentage of White working age population of local counties and not using the percentage of age 16+ population as it will include retired age population that will give false result in terms of claimant’s count. The claimant’s count is only applicable to working age population.

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* **Calculating the Mean value of the percentage of Ethnic Minority Aged 16-64 (Ethnic Minority Working Age Population):**

I calculated the mean value of each county of economically inactive retired by using the mean and axis function.

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* **Tabulating and sorting out the percentage of Ethnic Minority Aged 16-64 (Ethnic Minority working Age Population) from Years 2012 to 2021:**

I have sorted the values by year through sorting function and use ascending function = false to arrange the values in descending order. I am only presenting the screen short of one year and rest of the years have been presented in my python working file.

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1. **Exploring the Percentage of Aged 16-64 (Working Age Population) who are Economically Inactive**

I have loaded, filtered, and cleaned the selected data from my csv file using skiprow, nrows, and na\_values functions.

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* **Calculating the Mean value of the percentage of Aged 16-64 who are economically Inactive:**

I calculated the mean value of each county of economically inactive retired by using the mean and axis function.

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* **Tabulating and sorting out the Percentage of Aged 16-64 (Working Age Population) who are Economically Inactive from Years 2012 to 2021:**

I have sorted the values by year through sorting function and use ascending function = false to arrange the values in descending order. I am only presenting the screen short of one year and rest of the years have been presented in my python working file.

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1. **Exploring the Percentage of Economically Inactive who Don’t Want a Job**

I have loaded, filtered, and cleaned the selected data from my csv file using skiprow, nrows, and na\_values functions.

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* **Calculating the Mean value of the percentage of Economically Inactive who Don’t want a Job:**

I calculated the mean value of each county of economically inactive retired by using the mean and axis function.

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* **Tabulating and sorting out the Percentage of Economically Inactive who Don’t want a Job from Years 2012 to 2021:**

I have sorted the values by year through sorting function and use ascending function = false to arrange the values in descending order. I am only presenting the screen short of one year and rest of the years have been presented in my python working file.

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1. **Exploring the Employment rate of White Aged 16-64 (White Working Age Population)**

I have loaded, filtered, and cleaned the selected data from my csv file using skiprow, nrows, and na\_values functions.

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* **Calculating the Mean value of the Employment rate of White Aged 16-64:**

I calculated the mean value of each county of economically inactive retired by using the mean and axis function.

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* **Tabulating and sorting out the Percentage of Employment rate of White Aged 16-64 (White Working Age Population) from Years 2012 to 2021:**

I have sorted the values by year through sorting function and use ascending function = false to arrange the values in descending order. I am only presenting the screen short of one year and rest of the years have been presented in my python working file.

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1. **Exploring the Employment rate of Ethnic Minority Aged 16-64 (Ethnic Working Age Population)**

I have loaded, filtered, and cleaned the selected data from my csv file using skiprow, nrows, and na\_values functions.

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* **Calculating the Mean value of Employment rate of Ethnic Minority Aged 16-64:**

I calculated the mean value of each county of economically inactive retired by using the mean and axis function.

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* **Tabulating and sorting out the Percentage of Employment rate of Ethnic Minority Aged 16-64 (Ethnic Minority Working Age Population) from Years 2012 to 2021:**

I have sorted the values by year through sorting function and use ascending function = false to arrange the values in descending order. I am only presenting the screen short of one year and rest of the years have been presented in my python working file.

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1. **Exploring the Percentage of Aged 16-64 with No Qualification**

I have loaded, filtered, and cleaned the selected data from my csv file using skiprow, nrows, and na\_values functions. This will be the interesting data to observe the difference of qualification among local counties.

I have used no qualification as a benchmark or to simplify to analyse the difference between the local counties and can observe the implication of having no qualification among local counties. I did not use the different level of education as it will nearly be impossible to find the impact of different level of education on claimant’s count in local counties.

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* **Calculating the Mean value of the percentage of Aged 16-64 with No Qualification:**

I calculated the mean value of each county of economically inactive retired by using the mean and axis function.

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* **Tabulating and sorting out the Percentage of Aged 16-64 (Working Age Population) with No Qualification from Years 2012 to 2021:**

I have sorted the values by year through sorting function and use ascending function = false to arrange the values in descending order. I am only presenting the screen short of one year and rest of the years have been presented in my python working file.

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**Exploratory Data Analysis**

1. **The Percentage of Age Above 16 Years who are Economically Inactive**

I have used sns.barplot method to graphically represent the data and for better visualisation used for loop to assigned each bar value

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The range of the percentage of age 16 plus who are economically inactive from 2012 to 2021 is 29.7% to 42.7%. It has two observable group of counties, one group include Leeds, Hertfordshire, Hampshire, and Surrey that has the range from 29.7% to 37.1%. The remaining local counties percentage of age 16 plus who are economically inactive ranges from 32.1% to 42.7%. Birmingham economic inactivity was from 36% to 42.7% and there is no visible difference to other counties. The Bradford has highest economic inactivity and most of the time on top of the list.

* 1. **The Percentage of Age 16+ Female who are Economically Inactive**

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There is noticeable (observable) difference between Bradford and Birmingham to other counties. The range of the percentage of aged 16 plus female who are economically inactive is from 32.7% to 51.2%, and most of the counties has the range from 37% to 41%. Bradford and Birmingham have highest percentage of women who are economically inactive and nearly half of the women working class has been economically inactive during 2012-2019. In the year, 2020 and 2021 the percentage decreases to 43.7% and 41.2%.

1. **Reasons of the Economic Inactivity**

There were broadly three reasons for economic inactivity as per Nomis Data Information.

* **The Percentage of Economically Inactive Student**

I have used again sns.barplot to visualise the data and for better visualisation used loops to iterate through the list to plot the each bar value.

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One of the reasons of being economically inactive is the education or being student. There is no big difference throughout the years from 2012 -2021 as the range of percentage varies from 24.8% to 35.8%. Lancashire and Bradford have the highest percentage of economically inactive students most of the time during the last 10 years. The percentage of economically inactive student in Birmingham fall between 29.2% to 33.8%, and there is no prominent difference between Birmingham and other counties.

* **The Percentage of Economically Inactive Looking After Family/Home**

I have used sns.barplot to visualise the data and for better visualisation used loops to iterate through the list to plot the each bar value.

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The second reason of being economically inactive is to look after family/home. The range of the percentage of economically inactive looking after family between 16.2% to 36.1%. Bradford and Essex have highest percentage and appeared most of the time from 2012-2021. The Birmingham has the range between 25.1% to 32.1%.

* **The Percentage of Economically Inactive Retired**

I used sea born (sns.barplot) to visualise the data and for better visualisation apply loops function to iterate through the list to plot the each bar value.

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The third reason to being economically inactive is due to being retired. There is large range of the percentage of economically inactive being retired from 3.5% to 23.5%. The range can be separated into two groups of counties, the lower range group that is from 3.5% to 14.4% included Manchester, Leeds, Birmingham, and Bradford. The upper range group that is from 12.6% to 23.5% and include the rest of the local counties. The Manchester and Birmingham has the lowest percentage of economically inactive retired, range from 3.5% to 8.4% during the last 10 years.

There was no noticeable difference in the range between Birmingham and other counties in the percentage of age 16 plus who are economically inactive. However, Birmingham has the highest claimant counts and this may be one of the contributing factors the Birmingham has the highest claimants. The people can not claim benefits if they are retired. So, the lower percentage of economically inactive due to retired leads to high claimants with comparable percentage of age 16 plus who are economically inactive from 2012 to 2021.

1. **The Percentage of White Aged 16-64 (White Working Age Population)**

I used Sea born (sns.barplot) to visualise the percentage of white aged 16-64 from 2012-2021 and for better understanding used loops function to plot the value of each county in front of the bar.

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There are two distinct group of counties which represent different proportion of the percentage of white aged 16-64 from 2012 to 2021.The group of counties which have the smallest mean values of white aged 16-64 years old that include Birmingham (56.14%), Manchester (67.20%), and Bradford (71.73%). The remaining 7 counties mean values range from 84.37% (Leeds) to 94.33% (Hampshire). It is quite evident from the graph that Birmingham has the least percentage of white age 16-64 years old population (working age population) as compared to the rest of the counties.

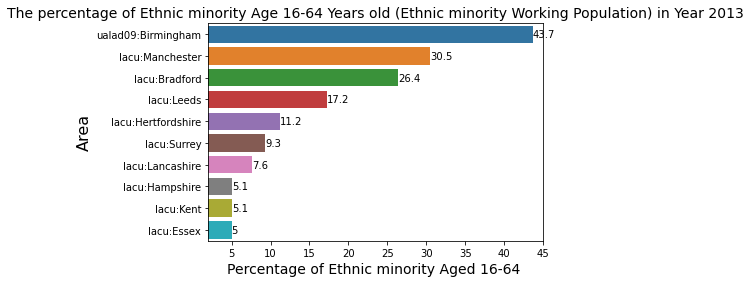
1. **The Percentage of Ethnic Minority Aged 16-64 (Ethnic Working Age Population)**

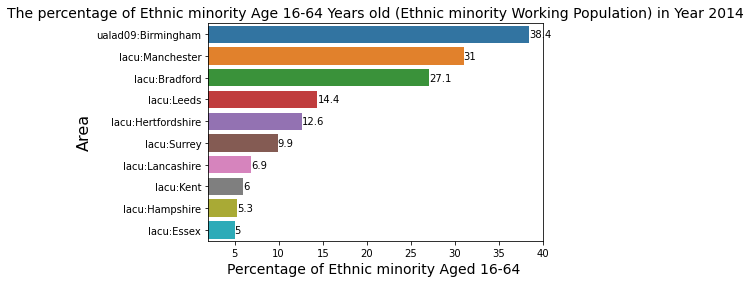
I used Sea born (sns.barplot) to visualise the percentage of Ethnic minority aged 16-64 from 2012-2021 and for better understanding used loops function to plot the value of each county in front of the bar.

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The percenatge of ethnic minority aged 16-64 has distinctive represntation in those 10 local counties from 2012 to 2021. There are broadly two groups of counties, one group of counties with their mean vlaues of percenatage of ethnic minority aged 16 to 64 years from 28.15% to 43.75%. It include Birmingham (43.75%), Manchester(32.71%) and Bradford (28.15%). The mean values of the second group that is remaining local counties range from 5.57% (Hampshire) to 15.57% (Leeds).

It is evident that there are two different group of local counties based on diversity. The Birmingham has substantially the highest presenation of ethnic minorities of aged 16-64 years old throughout the last 10 years as compare to other local counties.

1. **The Percentage of Aged 16-64 (Working Age Population) Who are Economically Inactive**

I used Sea born (sns.barplot) to visualise the percentage of aged 16-64 who are economically inactive from 2012-2021 and for better understanding used loops function to plot the value of each county in front of the bar.

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It can be observed from the graph that Birmingham has the highest the percentage of aged 16-64 who are economically inactive most of the time during 2012 to 2021 and it has a mean value of 30.11%. The Surrey has the mean value of 18.40%, Hampshire mean value is 17.59%, and Hertfordshire (18.03%) have the lowest percentage of age 16-64 years old economically inactive population.

The mean values range from the lowest 17.59% (Hampshire) to 30.11% (Birmingham). Manchester has the second highest mean value of 29.10%, and Bradford has the mean value of 27.55%. So, again Birmingham, Manchester, and Bradford have the highest mean value and have similar findings and the rest of the counties have similar mean values.

1. **The Percentage of Economically Inactive Who Don’t Want a Job**

I used Sea born (sns.barplot) to visualise the percentage of aged 16-64 who are economically inactive from 2012-2021 and for better understanding used loops function to plot the value of each county in front of the bar.

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The Birmingham and Bradford has the highest percentage of economically inactive who don’t want a job and appeared most of the time during 2012 to 2021. They have less percentage of economically inactive due to retired and still these counties have high percenatge of economically inactive population who don’t want to work. The Manchester has contrasting percentage as compare to Birmingham and Bradford. However, Manchester has the lowest percentange of economically inactive due to retired and similar results as compared to Bradford and Birmingham in terms of percenatge of ethnic minorities and others. The mean values of Birmingham and Bradford are 83.08 % and 83.71%. However, Manchester has the second lowest mean value of 75.52%.

It is reflected from tha data that percentage of working age population in Bradford and Birmingham as comapred to other counties don’t want to work.

1. **The Employment Rate of White Aged 16-64 (White Working Age Population)**

I used Sea born (sns.barplot) to visualise the percentage of white aged 16-64 from 2012-2021 and for better understanding used loops function to plot the value of each county in front of the bar.

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We know that there is inverse relation between employemt rate and claimant counts, means if employment rate is high in any local counties then most likely the claimant counts is low. This is the reason we are now analysing the employment rate of white age 16-64 years old and we will later analyse the emplyement rate of ethnic minorities aged 16-64. The Manchester, Bradford and Birmingham have the lowest employment rate of white aged 16-64 years with their mean values of 68.7%, 72.88% and 70.33%. However, they have the lowest percentage of white aged 16-64years old as compare to other counties. There is no significant difference between the mean values of other counties as it range from 75.01% (Lancashire) to 79.24% (Hertfordshire).

1. **The Employment Rate of Ethnic Minority Aged 16-64 (Ethnic Minority Working Age Population)**

I used Sea born (sns.barplot) to visualise the percentage of ethnic minority aged 16-64 from 2012-2021 and for better understanding used loops function to plot the value of each county in front of the bar.

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There is a contrasting difference between the lowest employment rate of ethnic minority age 16-64 years old to the lowest employment rate of white aged 16-64 years during 2012 to 2021. The lowest employment rate in ethnic minority aged 16-64 is 46.3% and the lowest employement rate of white aged 16-64 is 62.5%. It reflected in their mean values. The lowest mean values are in the range of 51.92% to 60.02% while the highest mean values range from 68.29% to 74.82%. The counties with highest percentage of the ethnic minority aged 16-64 have the lowest emplyement rate, such as Birmingham, Bradford, and Manchester. Bradford has the smallest mean value (51.92%) of the employement rate of ethinic minority aged 16-64, Birmingham has 52.85%, and Manchester has 57.62%. Surrey has the largest mean value (74.82%) and then Hertfordshire (74.68%).

It is evident that the employement rate of ethnic minority is less as compare to employment rate of white aged 16-64. This will have significant effect to those counties with largest percentage of ethnic minority, as it appeared in the case of Birmingham, Manchester, and Bradford. The less employment rate most likely will leads to high claimant counts.

1. **The Percentage of Aged 16-64 (Working Age Population) With No Qualification**

I used Sea born (sns.barplot) to visualise the percentage of aged 16-64 from 2012-2021 with no qualification and for better understanding used loops function to plot the value of each county in front of the bar.

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The percentage of aged 16-64 with no qualification has interesting findings during the 2012 to 2021 years. The percentage of working age population with no qualification has the mean values ranges from 4.68% to 13.67%. The mean values value of the percentage of aged 16-64 with no qualification from 2012 year to 2021 year can be classified into 2 groups. First group of counties that include Birmingham has the highest mean value (13.67%), Bradford (13.51%), and Manchester (11.14%). The second group of counties has mean value of 8.4% (Leeds), 8.33% (Lancashire), 7.34% (Essex), 7.25% (Kent), 5.90% (Hertfordshire), 4.82% (Surrey), and the smallest mean value is 4.68% (Hampshire). The mean value of Birmingham County is nearly 2 times high as compared to the mean value of the second group of counties.

It is very much clear that there is a relation between education and claimants’ count and with the percentage of ethnic minority. However, there is no direct evidence or data to reflect this and there may be other factors to considered.

**Summary & Conclusion**

I have achieved my aim of the second part of this exploratory research as I have achieved my six following objectives.

* I have explored the data of 10 local counties based on the percentage of age 16+ who are economically inactive and find the three main reasons of the economic inactivity, which are students (part time or full-time education), looking after family/home, and lastly being retired. The two interesting finding that can be related to high claimant counts in Birmingham County is that the percentage of economically inactive retired has significantly less as compared to most of the other counties. However, comparable with Manchester and Bradford. The second finding was that the percentage of female looking after family/home is slightly higher as compared to other counties.
* I have analysed the percentage of White working age population in those counties and there was large variance in terms of the percentage of white working age population. The group of counties which have the smallest mean values of white aged 16-64 years old that include Birmingham (56.14%), Manchester (67.20%), and Bradford (71.73%). The remaining 7 counties mean values range from 84.37% (Leeds) to 94.33% (Hampshire). It is quite evident that Birmingham has the least percentage of white age 16-64 years old population (working age population) as compared to the rest of the counties.
* I have also analysed the percentage of Ethnic minority working age population in those counties. The Birmingham has substantially the highest presenation of ethnic minorities of aged 16-64 years old throughout the last 10 years as compare to other local counties. Thae Birmingham has the highest mean value of the percentage of Ethnic minority working age population (43.75%), followed by Manchester(32.71%) and Bradford (28.15%).

* I have analysed the percentage of economically inactive who don’t want a job. The findings were that the Birmingham and Bradford has the highest percentage of economically inactive who don’t want a job. However, they have less percentage of economically inactive retired and they should have less percentage of economically inactive who don’t want a job. So, it seems there may be other factors of economically inactive or lack of encouragement to go to work in those counties.
* I have analysed the employment rate of White and Ethnic minority working age population. The Manchester, Bradford and Birmingham have the lowest employment rate of white aged 16-64 years with their mean values of 68.7%, 72.88% and 70.33%. However, they have the lowest percentage of white aged 16-64years old as compare to other counties. There is no significant difference between the mean values of other counties as it range from 75.01% (Lancashire) to 79.24% (Hertfordshire).
* There is a contrasting difference between the lowest employment rate of ethnic minority age 16-64 years old to the lowest employment rate of white aged 16-64 years during 2012 to 2021. The lowest employment rate in ethnic minority aged 16-64 is 46.3% and the lowest employement rate of white aged 16-64 is 62.5%. It reflected in their mean values. The lowest mean values are in the range of 51.92% to 60.02% while the highest mean values range from 68.29% to 74.82%. The counties with highest percentage of the ethnic minority aged 16-64 have the lowest emplyement rate, such as Birmingham, Bradford, and Manchester. Bradford has the smallest mean value (51.92%) of the employement rate of ethinic minority aged 16-64, Birmingham has 52.85%, and Manchester has 57.62%. Surrey has the largest mean value (74.82%) and then Hertfordshire (74.68%). It is evident that the employement rate of ethnic minority is less as compare to employment rate of white aged 16-64. This will have significant effect to those counties with largest percentage of ethnic minority, as it appeared in the case of Birmingham, Manchester, and Bradford. The less employment rate most likely will leads to high claimant counts
* Lastly, I analysed the impact of having no qualification in the claimant’s count. The percentage of aged 16-64 with no qualification has interesting findings during the 2012 to 2021 years. The percentage of working age population with no qualification has the mean values ranges from 4.68% to 13.67%. The mean values value of the percentage of aged 16-64 with no qualification from 2012 year to 2021 year can be classified into 2 groups. First group of counties that include Birmingham has the highest mean value (13.67%), Bradford (13.51%), and Manchester (11.14%). The second group of counties has mean value of 8.4% (Leeds), 8.33% (Lancashire), 7.34% (Essex), 7.25% (Kent), 5.90% (Hertfordshire), 4.82% (Surrey), and the smallest mean value is 4.68% (Hampshire). The mean value of Birmingham County is nearly 2 times high as compared to the mean value of the second group of counties.

It is very much clear that there is a relation between education and claimants’ count and with the percentage of ethnic minority. However, there is no direct evidence or data to reflect this and there may be other factors to considered.

I can conclude the 3 dominant reasons of the high claimant counts in Birmingham from this analysis. Firstly, the prominent findings between Birmingham and other counties were the difference of the percentage of aged 16-64 with no qualification with other counties. Secondly, the significant difference of percentage of ethnic minority aged 16-64 or white working population as compared to other counties. Lastly, the huge difference in the employment rate of ethnic and white working age population as compared to other counties and as compared to ethnic population.

It will need further research to find the reasons of the percentage of economically inactive who don’t want a job and the further analysis of the ethnic minority groups (like, Pakistani, Indian, Bangladeshi, or Black African) to further understand the reasons of the high claimant counts. The research can be extended to find the percentage of education/qualification among White working age population and Ethnic minority working population, and it may be helpful to develop detail insight of the affect of the education with respect to claimant count.

References

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