

A. Group information

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B. What story are you trying to tell?

We are trying to tell a story of the labour force changes in Hong Kong recent years by asking the question: What phenomenon can be discovered from studying Hong Kong's labour force data? By looking at the changes of labour force in Hong Kong, we can discover several social phenomena. The datasets in our visualization project suggest that there is a slight decrease in both the employed population and employment rate for most age groups between Nov 2021-Jan 2022 and Oct-Dec 2022.

If we look at the monthly employment earnings of the people, it is discovered that there are serious wealth gap and gender inequality in terms of payment. Although income inequality in Hong Kong has been existing for a long time, its gap seems to keep growing. As the wealthy gets wealthier and the poor get poorer, it hinders the stability and harmony of Hong Kong society.

On the other hand, the territorial data graphs show the employment rate and number at a specific location in Hong Kong. We read through all the relevant data and try to find the causes behind such trends.

Additionally, aging problem alongside with declining labour productivity implicate that Hong Kong may have a hard time for economic growth. With more people aged over 60 and declining workforce, it is not sure whether the society can sustain itself by producing enough money and materials to take care of everyone in need.

C. Where the dataset(s) is/are from? The link is required.

The datasets are extracted from DATA.GOV.HK (<https://data.gov.hk/en/>) and Hong Kong Geodata store (<https://geodata.gov.hk/>).

1. Table E016 : Detailed statistical tables on labour force, employment, unemployment and underemployment [Discontinued product] [Bilingual(Traditional Chinese and English)]

<https://data.gov.hk/tc-data/dataset/hk-censtatd-tablechart-statistics-on-labour-force-unemployment-and-underemployment/resource/305d504f-0f68-46ae-88cd-944336a0ea99>

2. Territorial Population and Employment Data Matrix (2019-based Generalised Version)

<https://data.gov.hk/en-data/dataset/hk-pland-pland1-2019-based-tpedm>

D. Any pre-processing steps?

Yes, since the datasets of labour force are involved with many calculations, we have to first pre-process the data if we want to perform any analysis on them. This could involve cleaning the data, checking for missing values, handling outliers, and standardizing the data of the labour force. It can help to improve the accuracy and efficiency of data analysis. Cleaning and handling missing data can help to eliminate errors and biases in the data. Outlier removal can also help to eliminate extreme values that can skew the analysis.

We selected the data that we wanted and put them in an Excel file. That way, it sped up the process of putting data onto Tableau and avoided all the other unnecessary numbers. For example, we used men and female data as we wanted to compare the value between sex. We used the total population separated into different age groups to compare numbers between young people, adults, and the elderly. Also, we selected up-to-date data to show trends from recent years, e.g., 2021-2023.

E. How do you design your visualization?

In our story, we use coloured bar charts to visualise the labour force by age so as to discuss the labour productivity declining and ageing problem. Next, we use coloured bar charts to visualise employed population from different age groups to examine the trend in both the employed population and employment rate for most age groups. Finally, we use coloured bar charts to visualise the unemployed population from different age groups which is to examine the trend of middle-aged unemployment and the extremely high unemployment rate among young people (15-30).

Also, we used both bar chart and line graph for the monthly income throughout the employed population, which is one part of the story to discuss income inequality.

Moreover, we used a side-by-side bar chart for the median of employed population by monthly income and sex to compare the median of the income between male and female. It shows the drastic gap where the median of men is way higher than that of women and there are serious reasons behind the trend.

In the last part of the story, we used two map graphs to make observation from the employment population in different territorial areas such as in Kwun Tong District, Central and Western District, Sham Shui Po District and Tuen Mun District. We decide to add a little bit of interaction for the map graphs. Users can mouse click one of the areas on the map and both maps will zoom in simultaneously to the selected area, giving information about the population number and the employed population number in the selected area.

We added labels to most of the graphs for the readers to directly see the numbers represented in the bars. Colours were sometimes used to distinguish between sex or time periods. Title of the graphs, x-label, y-label, and legends were provided.

F. Any things in your work you want to specifically highlight?

The results we discovered from our work highlight the issues of inequality and discrimination which can have significant social and economic consequences.

To tackle the problems of inequality, policies and programs that focus on promoting education, economic development, and job creation in disadvantaged areas are essential. These efforts can help to reduce inequality by ensuring that job opportunities and employment are accessible to all, regardless of their background.