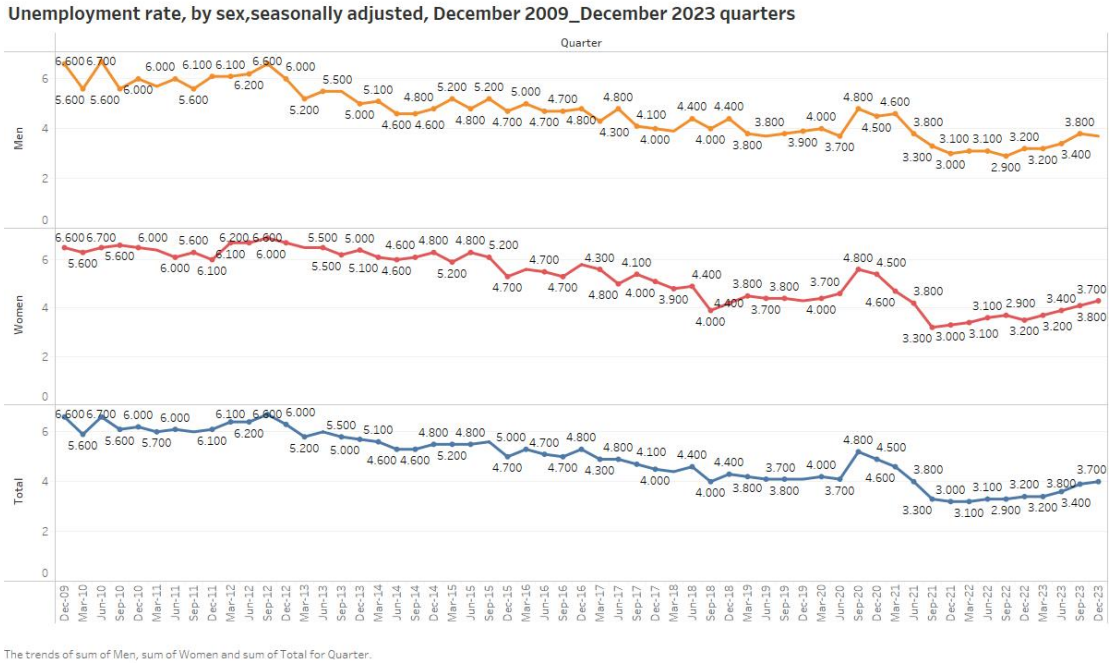


Picture 1: Line chart

a. Data [10 marks]

The data discussed in this report comes from Statistics New Zealand (Stats NZ), the official statistics agency of the New Zealand Government, which is responsible for collecting, collating, and publishing a wide range of data on New Zealand, covering a wide range of areas such as population, economy, society, environment, and climate. The feasibility of my choice of Stats NZ (*Employment and Unemployment | Stats NZ*, n.d.). as a data source was based on the following factors:

1. Data reliability: Stats NZ data has been collected and verified by authoritative institutions with high reliability and accuracy. Its data collection process is strictly regulated to ensure the quality and authenticity of data.

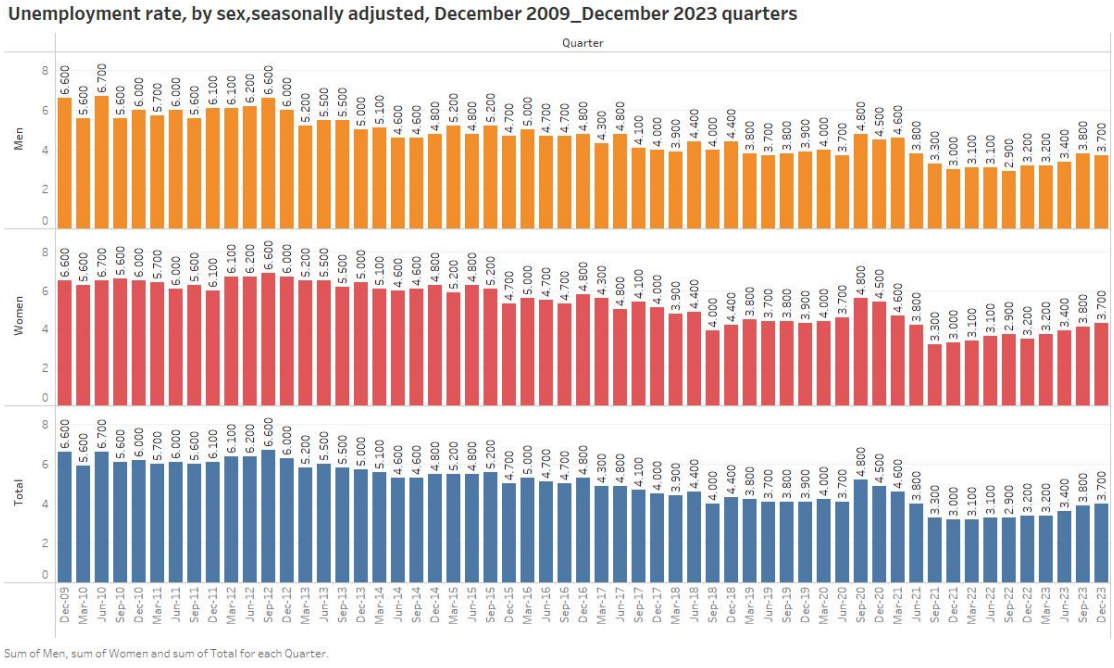
2. Data breadth: Stats NZ collects data covering all aspects of New Zealand, including but not limited to population, Labour market, economic output, social welfare, environmental indicators, etc. This breadth provides us with multi-dimensional data support, which helps to analyze various issues and trends in depth.

3. Real-time data: It is vital that Stats NZ updates its data regularly so that data workers can keep it real-time and up to date. This allows us to obtain the latest information, so that we can make accurate analysis and judgment of the current situation.

4. Open Data Policy: Stats NZ actively supports an open data policy, and many datasets are freely available and provide easy access and download channels. In this way, it is

convenient for people to search and consult very quickly and efficiently. Moreover, data workers can obtain different file formats, such as CSV, and effective file formats such as Excel. This openness makes it convenient for us to obtain data and analyze it, thus saving time and cost. In view of the above advantages, Stats NZ data was selected as the data source for this report based on its reliability, universality, real-time and open nature, which will enable us to conduct in-depth data analysis and effective visualization.

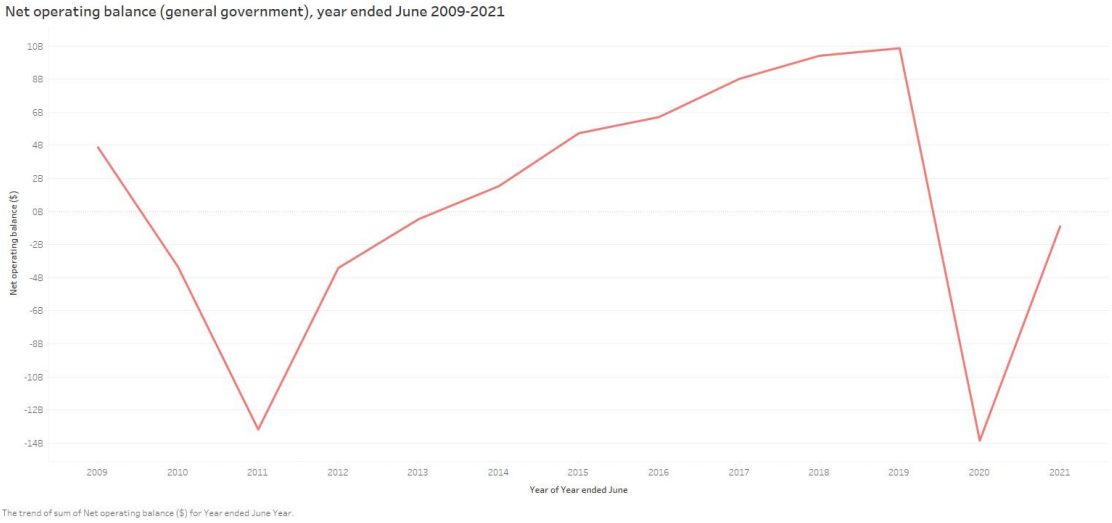
I found myself intrigued by the current employment situation in New Zealand as many around me expressed concerns about finding satisfactory employment. Therefore, I explored relevant data within Stats NZ and came across a significant dataset in a report on employment and unemployment. This dataset categorizes the unemployed population into four major types: 1. Those without paid work, 2. Those of working age, 3. Those capable of working and actively seeking employment in the past four weeks, and 4. Those about to start a new job within the next four weeks. Initially, I attempted to present the data using bar charts, but I found that bar charts were not effective when dealing with data exhibiting temporal trends. Using bar charts might lead to loss or distortion of information since they typically only represent individual time points or categories and are not conducive to displaying trends over time.



Picture 2: Bar charts are not intuitive.

However, unemployment rate changes represent a long-term process. Therefore, I

switched to using line graphs, which allow for a clear analysis of changes over time. Line graphs can highlight the impact of specific events or policy changes on unemployment rates. By observing the inflection points or trends in the line graph, it becomes easier to identify key events associated with changes in the unemployment rate. During this process, I noticed that the unemployment rate remained relatively stable in September 2020 but exhibited an overall downward trend. However, upon further observation, I discovered a precipitous decline in the unemployment rate from September 2020 to December 2021. This piqued my interest, leading me to conduct further research into this time period. After collecting a considerable amount of data, I reached a relative conclusion: in mid-August 2020, the New Zealand government announced nationwide adoption of remote learning and working arrangements, resulting in an increase in the unemployment rate and consequently exacerbating government fiscal expenditures.



Picture 3: Government fiscal expenditure in recent years

This trend is also apparent in the following years' fiscal expenditure data for New Zealand, indicating that the government implemented a series of economic stimulus measures to mitigate the impact of the COVID-19 pandemic on the economy. These supportive policies include financial assistance and support for businesses and individuals, which have helped protect employment and stabilize the labor market, thereby reducing the unemployment rate. As the impact of the pandemic diminished after 2022, the New Zealand government also relaxed its policies. With the pandemic under control, economic recovery ensued, which likely stimulated employment growth and reduced the unemployment rate. This played a significant role in promoting post-pandemic economic recovery, assisting New Zealand's economy in accelerating its return to normalcy.

b. Audience & Purpose [20 marks]

Firstly, a portion of the audience comprises government officials in New Zealand. They primarily focus on national economic policies and the labor market situation. They seek to understand the impact of unemployment rate changes on national development and aim to make corresponding adjustments based on actual situations during decision-making. Their goal is to promote employment growth and economic stability through policy intervention. Secondly, another part of the audience consists of leaders and managers of businesses. They are concerned about how unemployment rate changes affect recruitment and human resources management in their organizations. They adapt and make necessary changes accordingly. For individuals seeking employment opportunities, the current job market situation provides them with objective advice.

Regarding the specific characteristics of the audience groups, government decision-makers and policymakers are responsible for formulating national economic policies and labor market policies. They possess high levels of policy analysis and decision-making capabilities and play a direct role in mobilizing and coordinating the market. In the market economy, they hold a leading position. For labor union representatives and business leaders, timely adjustments are required based on specific policy changes. They play a follower role in the market economy, ensuring fair treatment for all workers. The overall objective is to promote the overall economic development and social stability of New Zealand. It aims to provide detailed information and in-depth analysis of unemployment rate changes to government leaders, decision-makers, business leaders, economists, labor union representatives, and the general public. The goal is to help them better understand the reasons, trends, and potential impacts of unemployment rate changes and to provide specific, relatively actionable solutions and suggestions. This will facilitate collective efforts to address unemployment rate changes and promote economic development and social stability in New Zealand.

c. Visual Justification [20 marks]

I've chosen to employ a line graph to visualize the fluctuations in the unemployment rate. Below is a concise description of my chosen visual design:

Color Scheme: I've opted for a bold color palette with distinct contrasts, utilizing shades of yellow and red to ensure visual clarity while highlighting trends and key data points.

Labels: Each data point on the line graph is accompanied by numerical labels to provide detailed information. Additionally, a brief and clear title is positioned above the graph to effectively convey the theme of unemployment rate fluctuations, supplemented by relevant time markers.

Sorting Scheme: Typically, time is arranged chronologically on the horizontal axis to accurately portray the progression of unemployment rates. However, when transferring time data from the CSV file to the horizontal axis, I encountered alphabetical sorting of months instead of chronological order. Subsequently, I found a solution on the Tableau official website to address this issue.

Fonts: To ensure legibility, I've selected clear and readable font styles, maintaining crisp and distinct text content (*How to Change Sort Order of Month / Year Date Field Filter to Descending | Tableau Software*, n.d.).

Potential issues may include Label overlap: Excessive data points or lengthy label text could result in overlapping, reducing the readability of the data visualization. Unclear color contrast: Inappropriate color choices or insufficient contrast may lead to difficulties in distinguishing data or cause visual confusion.

Considering the intended audience consisting of government officials, business leaders, and the general public, I've tailored the visualization to be easily understandable. By employing a vibrant color scheme, clear labels, and axis titles, the graph facilitates straightforward interpretation for all audience members. Additionally, the deliberate choice of a line graph enables intuitive comprehension of unemployment rate trends.

Reference:

1. How to change sort order of month / year date field filter to descending | Tableau Software. (n.d.). https://kb.tableau.com/articles/howto/how-to-change-sort-order-of-month-year-date-field-filter-to-descending?lang=it-it
2. Employment and unemployment | Stats NZ. (n.d.). https://www.stats.govt.nz/topics/employment-and-unemployment