# Intro to Statistical Analysis

Statistical literacy allows you to interpret and present data effectively.

Below are **THREE** tips to keep in mind as you learn to analyse statistical information.

## 1. Context and Aim

It's important to keep in mind the aim of the data available and the audience intended. A useful strategy is to develop a list of questions to help you think critically.

For example, if you are given the table below that looks at the median income of Australia by state, you might ask:

- Has income increased for all states?
- Are these changes meaningful?
- Are trends the same for all states?

### Change in Australian Household Income

| Weekly Median Household Income by State ($) | 2021 | 2016 | 2011 |
| --- | --- | --- | --- |
| Australian Capital Territory | 2373 | 2070 | 1920 |
| New South Wales | 1829 | 1486 | 1237 |
| Northern Territory | 2061 | 1983 | 1674 |
| Queensland | 1675 | 1402 | 1235 |
| South Australia | 1455 | 1206 | 1044 |
| Tasmania | 1358 | 1100 | 948 |
| Victoria | 1759 | 1546 | 1216 |
| Western Australia | 1815 | 1595 | 1415 |

## 2. Organising Data

To notice relationships, patterns or trends, it's often helpful to use spreadsheets, tables or graphs.

Going back to the table above, we can convert the table into a graph to better show changes in income.

Once you've noticed the trends and patterns, you can begin your analysis.

We can also add additional information (e.g. median income of Australia) to further analyse the data we already have (i.e. how does each state compare to the median Australian income?)

It's also a good time to reflect and ask questions such as:

- What overall trend (if any) do you notice?
- What does this trend indicate?
- What conclusions/recommendations can you make based on this data?

Find this helpsheet online
studyskills.federation.edu.au

Federation University
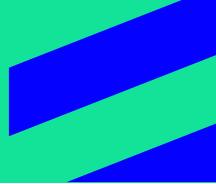
# 3. Correctly refer to your data

Ensure that you place the data and the text referring to it, close to each other.

For example, don't have a table in the first page that you refer to on page 3.

In the chart below, you can see that the figure is labelled, explained in detail, and clearly referred to in text.

- Avoid simply describing the content of a chart or table in text as this doesn't add any further value
- Use language that indicates analysis (explain what the data is showing), which is highlighted below, that shows interpretation and implication based on the data

All groups CPI, Australia, quarterly and annual movement (%)
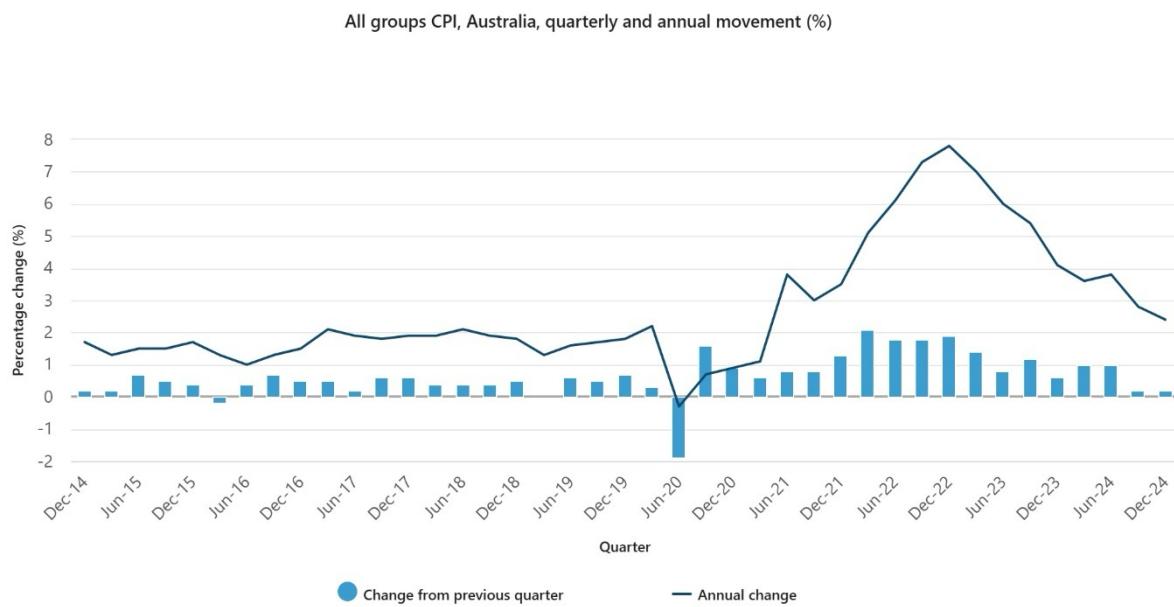


Source: Australian Bureau of Statistics, Consumer Price Index, Australia December Quarter 2024

Fig. 1 – Annual and quarterly change of the Australian consumer price index (CPI)

*"As the Figure 1 shows, there is a significant decrease from the percentage change of inflation in Dec 2024 compared to the same period over the past 2 years.*

*This suggests that the moderating price rises for new dwellings and fall in prices for electricity (housing) and lower transport costs has led to the continued decline of the consumer price index (CPI) change. This indicates that inflation is beginning to stabilise."*