

# Graphing Stuff

## With SPSS

Stats Central

UNSW



# What am I talking about?

- Making good graphics for publication
- Basic principles of graphing
- Building blocks of graphs
- Examples of common types of graph

# Statistical Graphs

“... statistical graphics are instruments to help people reason about quantitative information”<sup>1</sup>

- Should be illustrative
- Should be helpful

Tell your story

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<sup>1</sup>Tufte, E. R. 2001. 'The Visual Display of Quantitative Information', p. 91

# Basic elements of a plot

- Graph panel
- Scales, labels, tick marks
- Plotting symbols, line types, colour
- Reference lines
- Legend
- Captions

Maximise the “data-ink ratio”<sup>2</sup>

- Use ink for data, not unnecessary decoration

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<sup>2</sup>Tufte, E. R. 2001. ‘The Visual Display of Quantitative Information’, p. 96

# Basic guidelines of graphing data

## Make the data stand out

- Let the data fill the graph panel
- Don't force axes to start at zero if data values are not close to zero (could use “break” marks to show axis does not start at zero)
- Label the axes clearly
- Use symbols, lines, colours etc. that highlight the data
- Use reference lines or grids with care
- Put legends outside the graph panel
- Put notes in the caption or text
- Make sure the graph remains clear if made smaller (e.g. for publication)