

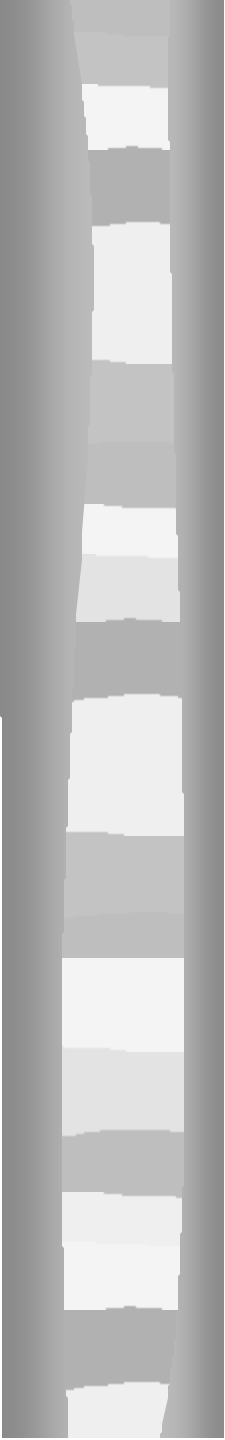
To what extent should  
statistical agencies be involved  
in analysis?

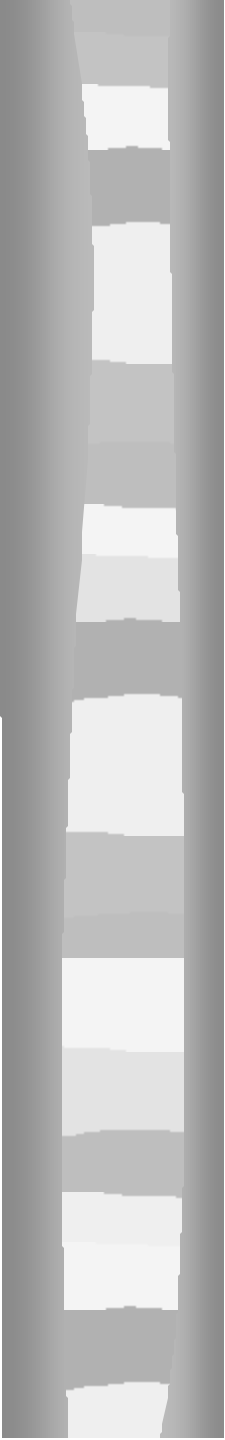


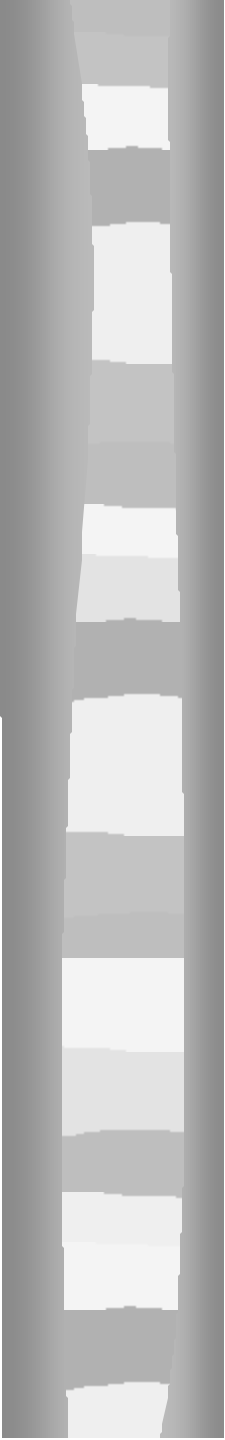
The role of analysis in improving  
statistical products and programs

# Janet Norwood (1975)

- Should those who produce statistics also analyse them? Yes.

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- How far should they go with these analyses? As far as resources permit, provided that objectivity is maintained and policies and speculation are avoided.

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- Agencies which produce statistics should engage in an extensive and far reaching program of research and analysis aimed at the impartial and knowledgeable dissemination and understanding of their data

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- The combination of analytic and survey skills in a single organisation can, more than any other factor, serve to ensure that the data developed are suitable for the purpose intended.

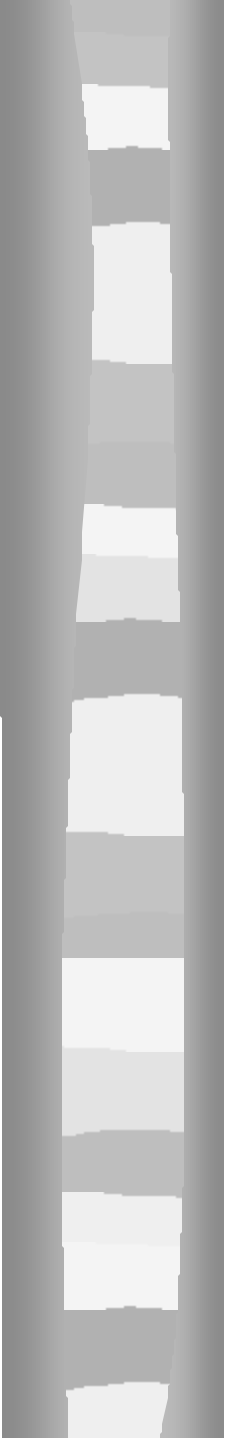


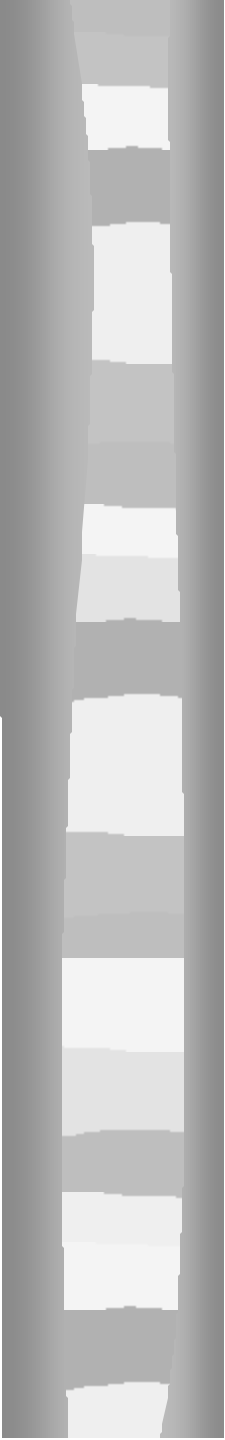
# Unknown

- Raw data are as palatable as raw onions to most people.
- We must give our onions some sizzle!

# What is analysis?

- Taking account of the survey objectives, analysis is the summary and interpretation of the data collected so that users are fully aware of what the data are saying.

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- Exploring data relationships
  - Evaluating and comparing data
  - Establishing what is meant by significant

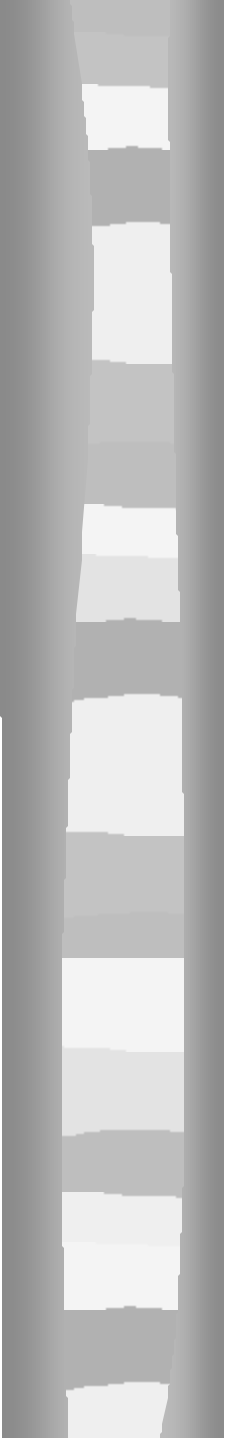
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- Analysis therefore involves both the statistical manipulation of data and the communication of the results of the analysis, which can be in the form of tables, graphs, charts, diagrams and text

# Statistical manipulation of data

- Numerical narrative
- Identifying patterns, summary statistics, eg means, medians, rates
- Modeling statistical relationships, eg life expectations, population projections, seasonal adjustments, trend estimates

# Statistical tables – the bread and butter, but do we do it well?

- What is the issue?
- What does the data tell us?
- How can the data be best presented to tell that story?

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- Would any modeling be appropriate?
  - What commentary can be presented to highlight that story?

# Key points

## ■ Reiteration

*non-residential building fell 8.2% from the previous quarter to \$880.5m but this was still 6.3% above that of a year ago*



- Comment

*The trend estimate for stocks held by the mining industry have been rising over the last four quarters, but the rate of growth has been declining over the last two quarters*

# Description

## ■ Explanation

*An increase in the prices of steel based materials was the main contributor to the rise in the index. This was offset slightly by a decrease in ready mixed concrete prices.*

## ■ Interpretation

*Despite drought severely affecting grain production, 1994-95 continued to be a year of further financial recovery from the low point in 1991-92. Wool prices continued to show improvement during 1994-95.*

# Analysis

- *A strong demand for oilseeds in China and a number of other Asian countries continued to be the primary reason for the increase in the world consumption of oilseeds. Oilseeds with a high oil content, such as canola, were in particularly strong demand.*

# Technical

- *An upward adjustment was made to the experimental estimates because registered births data for 1992, 1993, and 1994 indicated higher undercount in the 1991 Census than had been allowed for.*



# There is another angle

- Develop new measures from existing data



# Statistics for ‘small domains’

- National crime and safety survey
- Population Census
- Model crime victimisation and the characteristics for people and locations from the Census

# Using alternative data sources

- Many agencies have large data banks
- Taxation, social security agencies
- Business demographics (business formation, growth, decline and closure)



# Drawing statistical threads together

- Compendium publications
- Australia's environment, Australian Social Trends
- Measuring Australia's progress

# Emerging technical issues

- Analysis of large data sets
- Eg scanner data for price and quantity of sales of retail goods
- Implications for calculating price indexes?



# Collaborative research and development

- Other agencies, universities
- Joint projects/peer review

# Knowledge management

- Data
- + content = Information
- + experience = Knowledge
- +value = Wisdom