



Official Statistics System

# Using official statistics: estimating regional performance in an imperfect world

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*Infometrics*

# Estimating regional GDP



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- SNZ Regional GDP feasibility study
  - 2000 to 2003
  - 15 industries, 15 regions
- Ongoing demand for regional growth measures
  - Economics consultancies
  - National Bank regional economic activity
  - ASB/Main Report Regional Economic Scoreboard

# Infometrics approach: Estimating regional GDP



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- Top down approach
- Split national GDP (29 industries) to regional/TA level
- Calculate regional shares of industry GDP:
  - How many people were employed? (number of persons)
  - How intensively did they work? (hours worked per person)
  - How productive were they? (output per hour)

# How many people were employed?



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## Quarterly LEED

- Statistically robust
- Industry and regional detail
- Quarterly

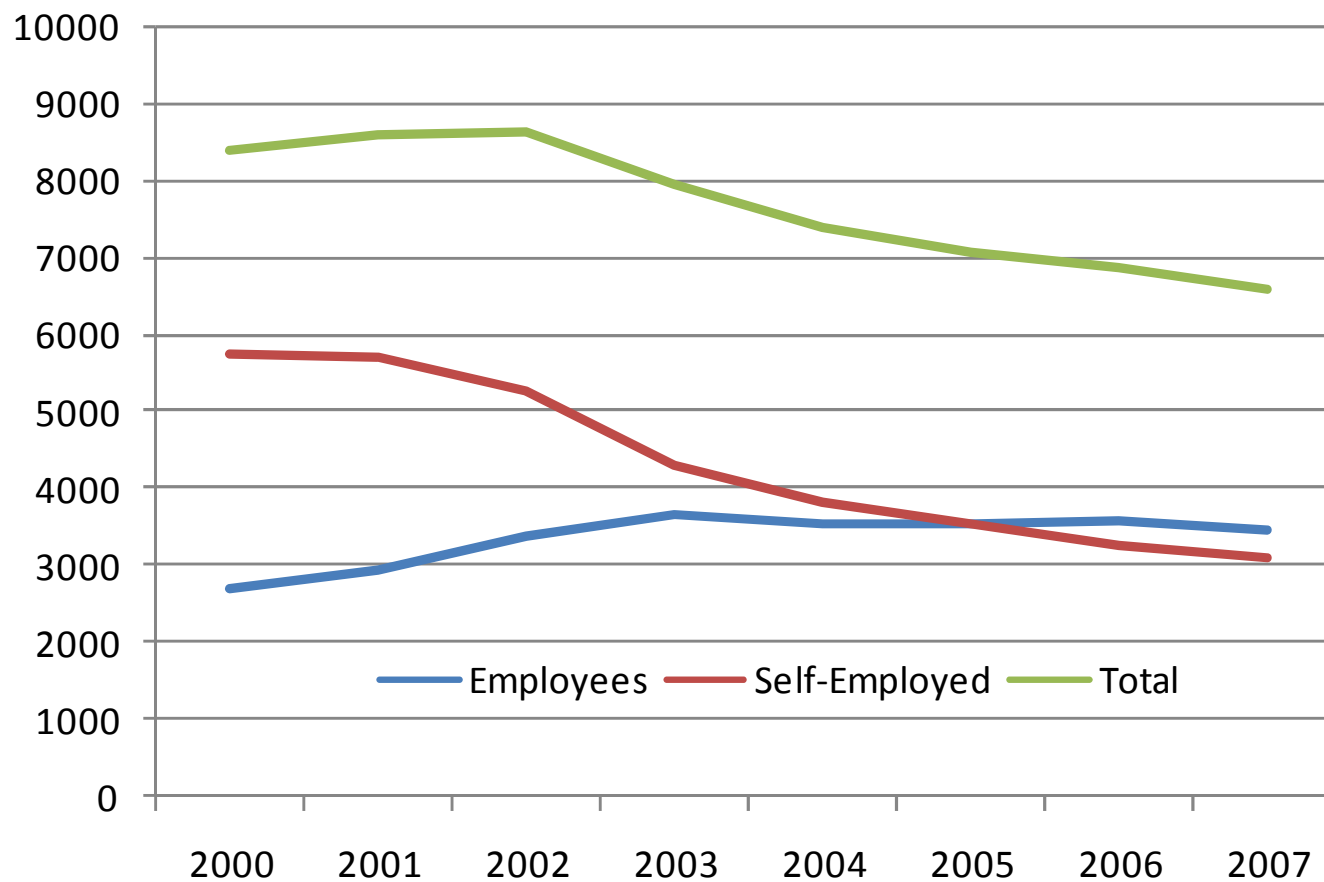
## But:

- Excludes self-employed
- Not very timely (most recent December 2007)

# Taranaki: agriculture employment



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# How many people were employed? Contd.



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So:

- Annual LEED - self-employment rates to adjust quarterly LEED upwards
- Quarterly Employment Survey - up-to-date regional employment growth to project LEED measures to most recent quarter

# Infometrics approach: Estimating regional GDP



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- How many people were employed?
  - Adjusted Quarterly LEED + QES
- How intensively did they work?
  - QES: hours worked per employee
- How productive were they?
  - SNZ regional GDP feasibility study
  - Output per employee for 2003
  - Other primary sources

# How good were our estimates?



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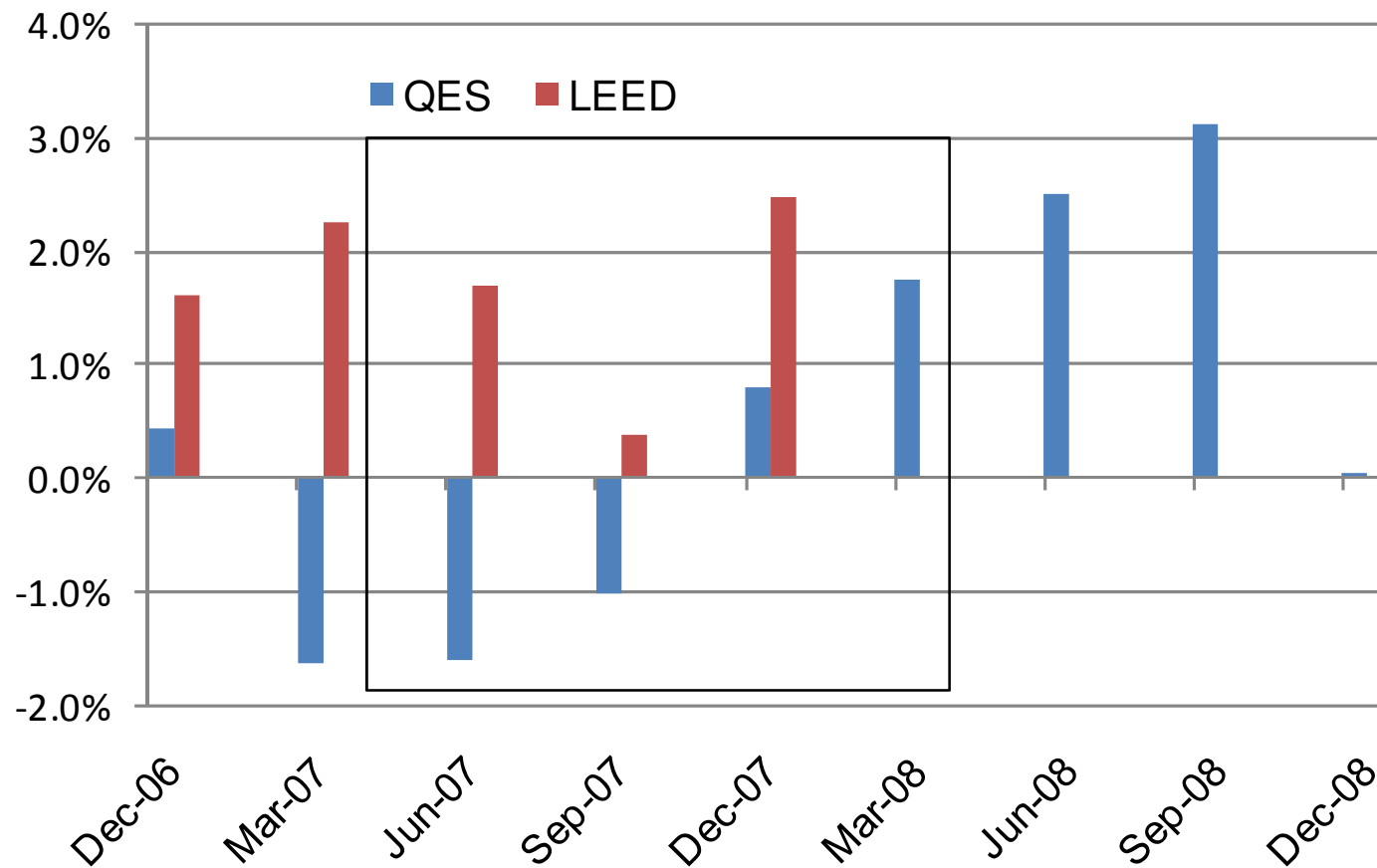
- Our recent GDP measures in some regions were inconsistent with other economic indicators:
  - Auckland
  - Southland
  - Hawke's Bay
- Over reliant on QES: not designed for sub-national analysis



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# Auckland as an example

## Annual employment growth







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# Partial economic indicators

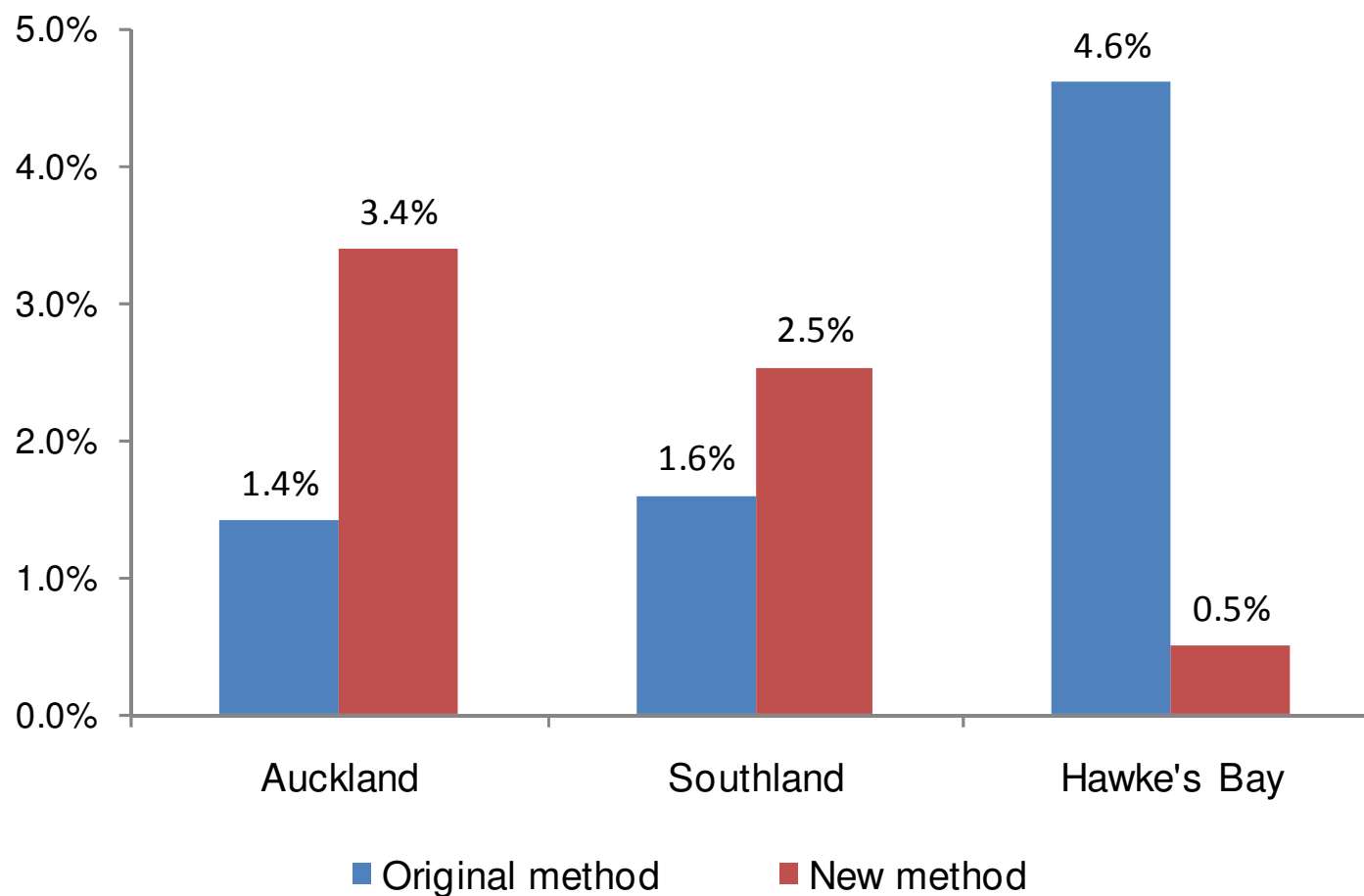
- Retail sales
- Building consents (residential + non-residential)
- Guest nights
- House sales
- House prices
- Days to sell
- Car registrations
- Commercial registrations
- Electricity consumption
- Permanent and long term arrivals

# Old vs New method

Average annual growth to March 2008



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# Concluding remarks

- Ongoing demand for regional GDP estimates
- Official series would be desirable
  - Duplicated effort
- Imperfect information
  - Rich industry employment data by region
  - Numerous timely regional indicators
  - SNZ feasibility study provides valuable benchmark