

REGIONAL SKILL NEEDS: MEASURING THE PAST AND FORECASTING THE FUTURE

Andrew Whiteford

Infometrics

28 March 2007



Labour Market Need for Skills

- Providing skills that are needed in the labour market
- Requires information about trends in demand for occupations
- How do we gain an understanding of this?
 - Talk to employers, industry organisations, key informants
 - Conduct surveys
- But, these processes are expensive and they impose burden

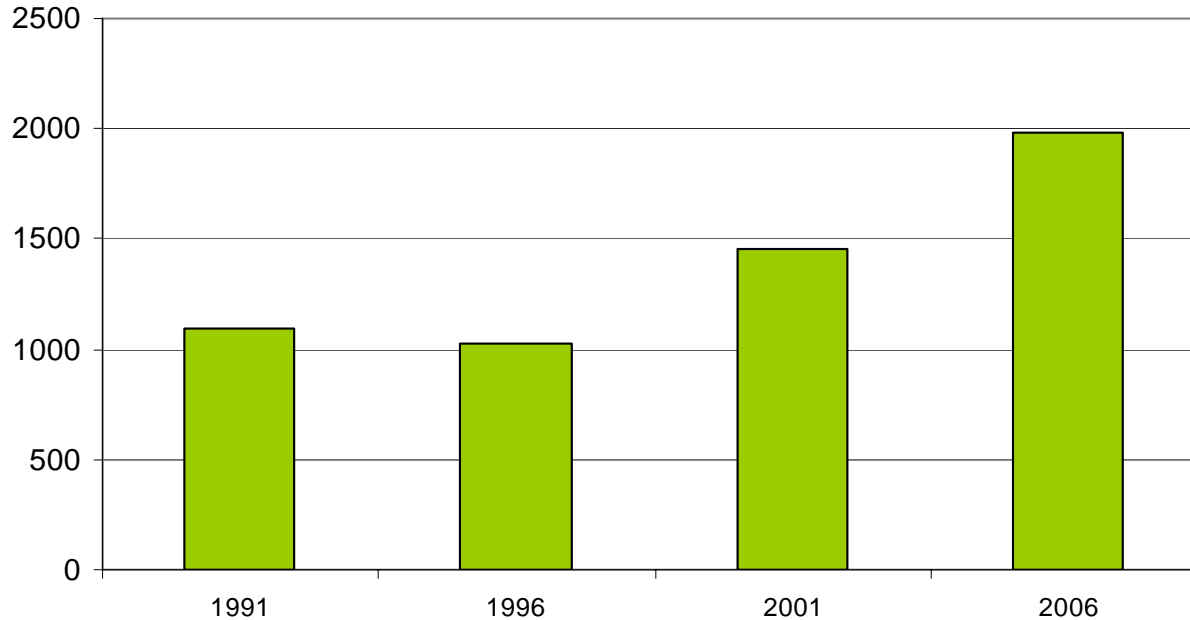


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Using official data

- Can we use official data to measure historical demand for occupations?
- Typically measure demand for labour in terms of employment
- Two major sources of occupational employment data:
 - Census
 - Household Labour Force Survey
- Case study – Boatbuilder

Boatbuilder: Census



- Occupations coded to Level 5 (NZSCO)
- But: only provides a snapshot every five years



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Boatbuilder: HLFS

- Occupations coded to level 3 (NZSCO)
- Boatbuilder is grouped in with bricklayers, carpenters and builders (Building Frame Workers)
- Boatbuilders only comprise about 4% of category
- Also, issues with quality of occupational coding, sample error and very little regional disaggregation
- Conclusion – really limited to census



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But what about industry employment data?

- Can we learn something about trends in demand for occupations by analysing industry employment data?
- New Zealand has an incredibly rich array of industry employment data
- Together the sources can provide a robust picture of employment in each industry in each part of the country



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Sources of industry employment data

- Business Demography
 - Published annually in November by SNZ
 - Snapshot of situation in February
 - Extremely detailed: available for each Territorial Authority (75) and Level 5 industry
 - Based on Business Frame Update Survey
- But:
 - Excludes self-employed
 - Only once a year
 - Becomes outdated

Sources of industry employment data (contd)

- Linked Employer Employee Database (LEED)
 - Available quarterly
 - Based on administrative data
 - Considerable detail – region (16), level 3 industry
 - Most accurate source of industry employment data
- But:
 - Considerable time lag between reference period and publication (most recent quarter is Dec 05).

Sources of industry employment data (contd)

- Quarterly Employment Survey
 - Available quarterly
 - Very current – Dec 06 data has been published
 - Survey based on a sample of employers
- But:
 - Limited industry (Level 1) and regional breakdown
 - No agriculture
 - Sample error

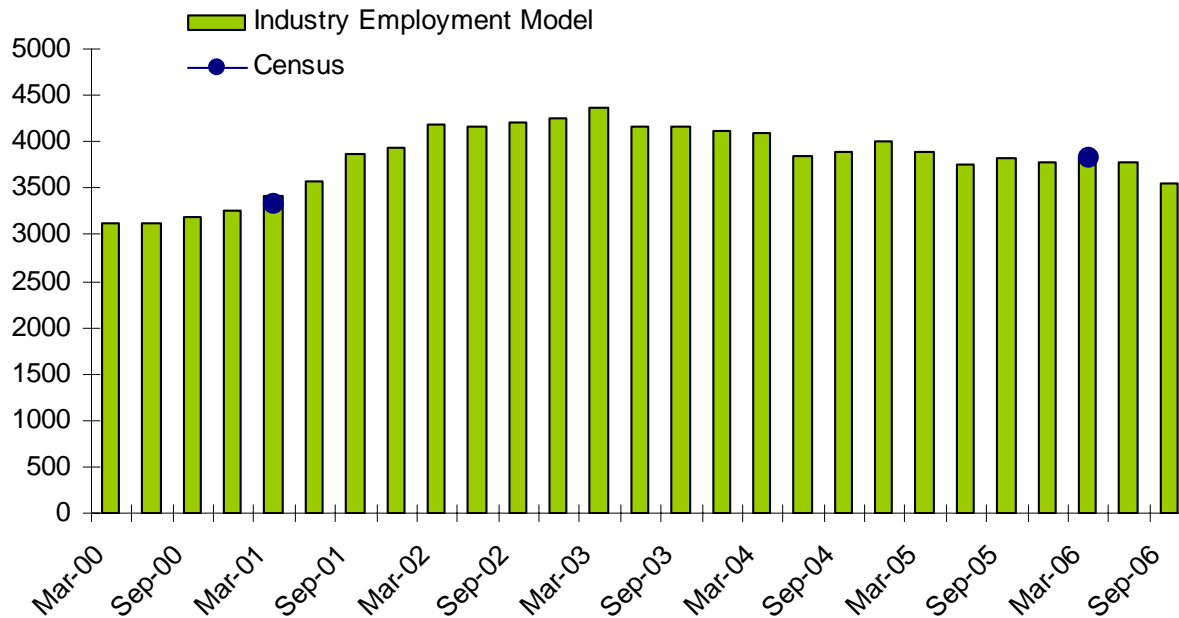
Tying it all together: Industry Employment Model

- All sources have their strengths and weaknesses
- Harness the statistical robustness of LEED, the detail of Business Demographics and the currency of QES into an Industry Employment Model
- This work was pioneered at national level at the Dept of Labour
- Infometrics are breaking it down to region and TA

Industry Employment Model

- An up-to-date quarterly measure of employment by level 5 industry for each region (16) and territorial authority

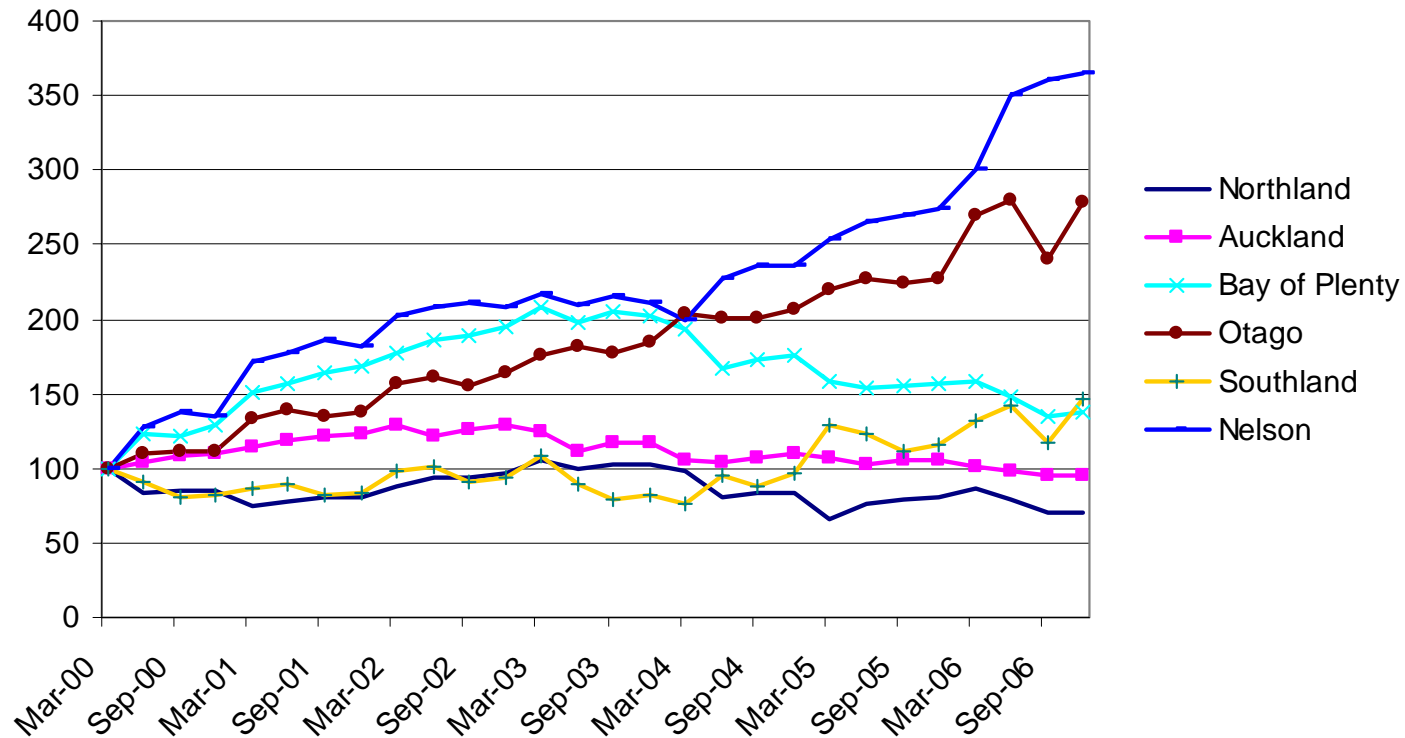
EMPLOYMENT: BOATBUILDING



Industry Employment Model

Regional differences

EMPLOYMENT: BOATBUILDING



How does industry data help us understand occupational trends?

- There is often a close relationship between industry and occupation i.e. occupations are often concentrated in certain industries
- e.g. about 85% of boatbuilders are employed in the ship/boatbuilding industries
- Census provides us with info on the relationship between industry and occupation:
 - Occupational composition of employment in each industry
 - And how this is changing over time

Boatbuilder

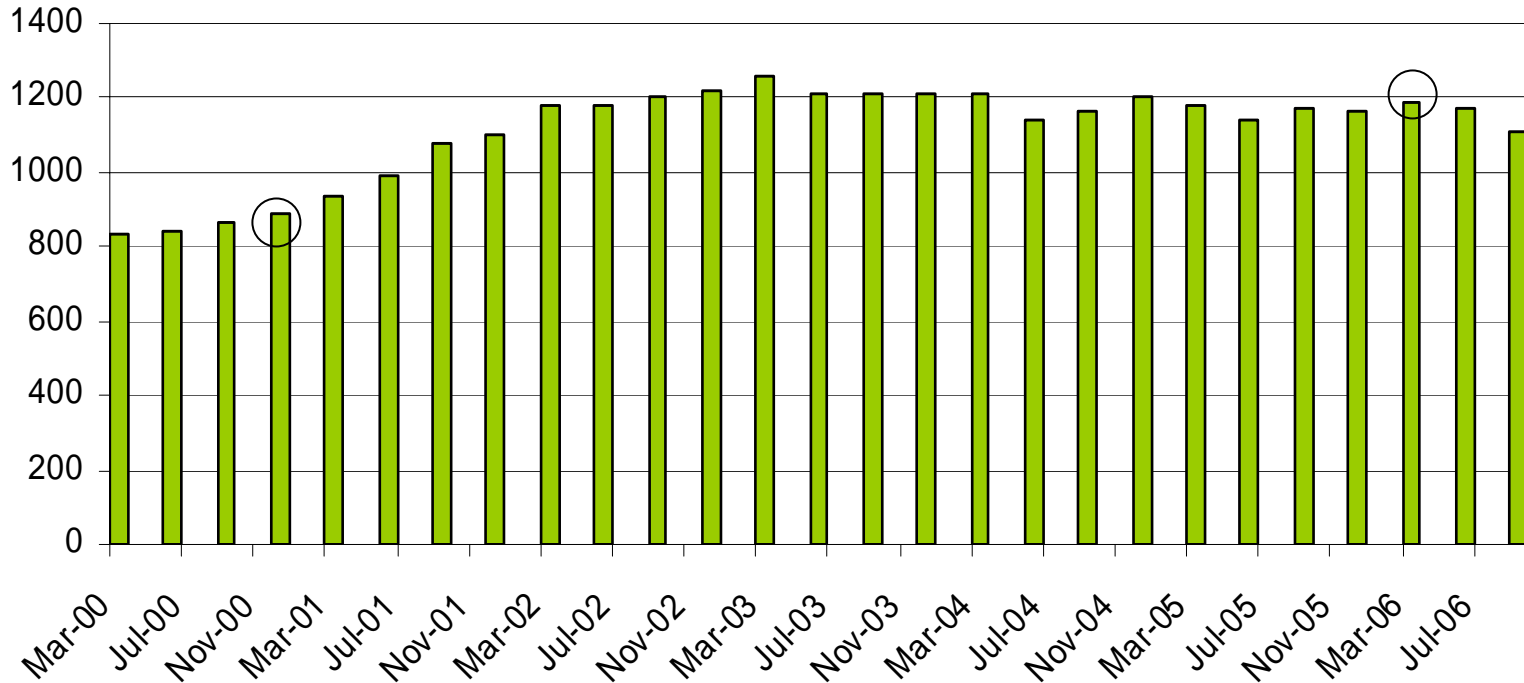
- 24% of all employees in the boatbuilding industry were boatbuilders in 1996
- This rose to 27% in 2001
- From census we can impute a time series of boatbuilder's share of employment in boatbuilding:
 - 1996 (24%) 2001 (27%) 2006 (31%)
- Apply these shares to estimates of employment in the boatbuilding industry from model to arrive at employment of boatbuilders



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Boatbuilders contd.

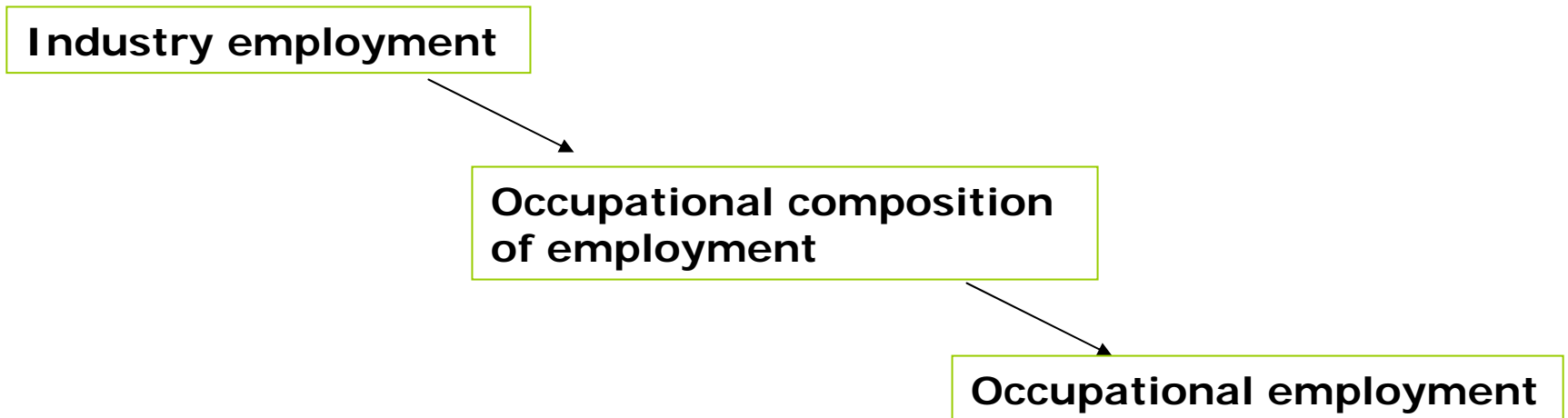
EMPLOYMENT: BOATBUILDERS



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Bringing it together

- Repeat this process for all industries and occupations to arrive at a time series of employment by occupation



What about the future?

- Infometrics: a new approach for forecasting regional economic activity
- Uses a principal components approach
- By analysing historical data we establish what are the key drivers (e.g. exchange rate, commodity prices) that affect growth in each industry in each region
- Our view on what will happen to these drivers in the future provides a basis for forecasting economic activity in each region



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A Baseline Scenario

- A baseline scenario of economic growth by region by industry
- Consistent with our macroeconomic forecasts
- A 'no shock' scenario
- Translate them into occupational forecasts using occupational composition of employment by industry and change over time



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A Decision Support Tool

- Baseline scenarios are of limited value as shocks do happen
- Build scenarios into a Decision Support Tool
- Enable user to change underlying assumptions e.g. exchange rate and incorporate ad hoc adjustments (e.g. factory closure)
- Use local knowledge
- Develop alternative scenarios and investigate the implications for demand for occupations



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Summary

- Official occupational employment data has limitations for measuring demand for occupations in the regions
- Very rich industry employment data together with a knowledge of occupational composition of industry employment (and how that changes over time) provides an alternative
- Infometrics regional baseline economic scenarios and Decision Support Tool will provide a framework for investigating future occupational demand in the regions