

Evaluating business assistance schemes with large longitudinal databases

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Ministry of Economic
Development
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Introduction

- Good evaluation requires good data
 - But data collection is expensive
- Changes in technology
 - Possible to bring together large administrative databases
- Limitations of existing evaluations
 - Good for understanding nature of impact
 - Less good for quantitative assessment

Evaluation of BES in NZ

- MED has policy responsibility for a wide range of business support programmes administered by New Zealand Trade and Enterprise
- Considerable resources applied to evaluation of efficiency and effectiveness, mandated by Cabinet decisions
- Evaluations to date have relied on NZTE data on participant performance, and participant assessments of impact and additionality derived from interviews, surveys and case studies

Robustness of evaluation results

- Valuable insights but difficult to control for biases
 - From non-response to voluntary inquiries (direction unclear)
 - From beneficiary self-assessment (direction unclear)
 - From selection of participant firms (likely to lead to over-estimates of impact)

What is IBULDD?

- **I** Improved **B**usiness **U**nderstanding via **L**ongitudinal **D**atabase **D**evelopment
 - Thus the acronym...
- Two year feasibility project
- Led to creation of the prototype Longitudinal Business Database (LBD)

What is IBULDD? (II)

- Phase 1 – Development
 - bringing the data together, establishing rules for the database, international peer group review, looking at the potential to produce new/improved official statistics
- Phase 2 – Research
 - Flight-testing the data
 - Papers for conferences and journals

So what is the LBD?

- Longitudinal Business Frame (LBF)
- GST/Business Activity Indicator (BAI)
- Financial accounts (IR10)
- Company tax return (IR4)
- Pay-as-you-Earn (PAYE)
- Customs merchandise trade
- Government programme lists
- Sample surveys
 - AES, BOS, Innovation, R&D, BFS, BPS

Programme data issues

- Difficulties matching programme data to business frame
 - Agencies use a variety of records systems
 - Common business number?
- Variation in match rates
 - Up to 80% for some schemes
 - Much lower for employee data

Evaluation with the LBD

- Two major pieces of work (with Michele Morris):
 - *Evaluating Government Business Assistance Programmes: An exploratory analysis using a sample NZT&E scheme*
 - *Evaluation of the Growth Services Range: Statistical analysis using firm-based performance data*
- Plus a Statistics New Zealand paper

*Evaluating Government Business Assistance Programmes:
An exploratory analysis using a sample NZT&E scheme*

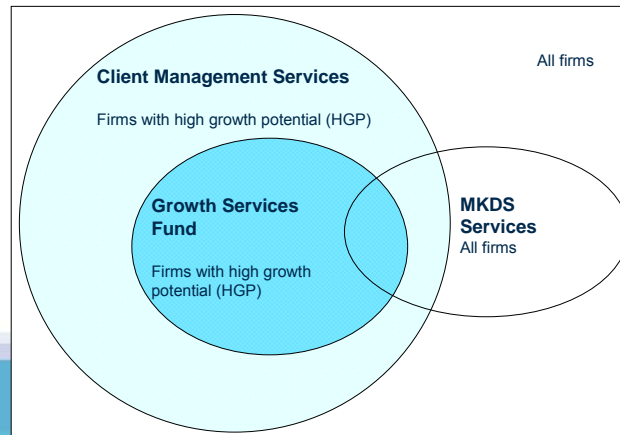
- Assessed potential of LBD for evaluation
- Examined difference-in-differences and propensity score matching estimators.
 - Considered nearest-neighbour, kernel, radius, and stratified matching estimators
- Used four outcome measures
 - Sales and sales-per-employee
 - Value-added and labour productivity

*Evaluating Government Business Assistance Programmes:
An exploratory analysis using a sample NZT&E scheme*

- Results for levels of outcomes differ
- Results for growth rates similar
 - Suggests that much of the unexplained difference between the results can be explained by time-invariant effects
- Important to account for multiple treatment
- Many of the techniques were designed to overcome problems not faced by LBD

Evaluation of the Growth Services Range: Statistical analysis using firm-based performance data

- GSR package of grants & services to accelerate the development of firms with *high growth potential*



Evaluation of the Growth Services Range: Statistical analysis using firm-based performance data

- Recipients differ from the average NZ firm
 - Higher levels of:
 - Employment and Sales
 - Value added and Productivity
 - More likely to:
 - Export
 - Be in the manufacturing sector;
 - Receive other government business assistance

Evaluation of the Growth Services Range: Statistical analysis using firm-based performance data

- Found positive effect on sales
- No impact on value added or productivity
- Impact one-off
 - Levels rather than growth rates
- Learnings:
 - Issues relating to obtaining counterfactuals
 - Effects on probability firm failure
 - Variation *within* recipients

Questions?

