What can linked data tell us about tourism businesses and those employed in them?

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Employment in tourism – Realising its full potential
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Outline

1. Tourism data in New Zealand
2. Linked administrative and survey data
3. Tourism employment and characteristics of tourism businesses
4. Questions and discussion
In New Zealand, the **Business Frame** is now mainly based on administrative data from the tax system

- Business Activity Indicator comes from “Goods and Services Tax” (or VAT) registrations and payments
- Information about **employment** comes from the Employer Monthly Schedule - information on wages & salaries paid and tax deducted for each person employed in the business during the calendar month

Information on business performance mainly comes from company tax returns and financial accounts filed by businesses (supplemented by surveys)
Increased use of administrative data

Large amount of administrative and survey data on businesses and individuals are being linked together at unit record level for statistical and research purposes

- Stats NZ are investigating whether the **Quarterly Employment Survey** of businesses can be replaced with tax data (i.e. information on the wages & salaries paid to each person employed in the business during the calendar month)

- **Domestic Travel Survey** will be run for the last time in 2013 – currently investigating whether we can use electronic funds transfer at point of sale (EFTPOS) and credit card transaction data as indicator series
Linked Admin and Survey Data

• Statistics New Zealand’s **Integrated Data Infrastructure** (IDI) brings together unit record level information on individuals and firms

• It includes both administrative data sources and surveys

• The final datasets are anonymous and all outputs are checked to ensure confidentiality (i.e. to ensure that no individual information is published or disclosed in any other form)

• In the diagrams that follow the *green* boxes indicates administrative data sources and the *blue* boxes indicate survey sources
Integrated Data Infrastructure (IDI)

- Household Surveys
- Business Surveys
- Linked Employer-Employee Data
  (Income from wages & salaries and government transfers)
- Self Employed
- Person Links
- Admin Data
- Admin
- Household Survey
- Business Survey
- Business Frame
- Admin Data
- Business Survey
Longitudinal Business Database

Survey data
- Annual Enterprise Survey
- Accommodation Survey
- Business Finance Survey
- Business Operations Survey
- Business Practices Survey
- Business Activity Indicators (Goods & Services Tax)
- Business Activity Frame 2000-2011
- Administrative data
- Linked Employer-Employee Data
- Quarterly Employment Survey
- Retail Trade Survey
- Company tax returns (IR4)
- Overas Merchandise Trade (Customs)
- Tax filed financial accounts (IR10)
- Innovation Survey
- Linked Employer-Employee Data
- Linked Employer-Employee Data
- Linked Employer-Employee Data
Linked Employer-Employee Data
(Provides information on employment, worker turnover, job creation/destruction in tourism industries)

Worker turnover rate

%
Linked Administrative Data

Information on individuals monthly income from earnings and government transfers is linked at the unit record level to other data sources, e.g:

• Linked with information on tertiary education and work-based training it can tell us about the employment and earnings benefits of gaining new qualifications (e.g. qualifications in tourism, hospitality and retail)

• Linked with information on welfare it can tell us about transitions from welfare to work - industry of employment, sustainability of employment and wage growth
Transitions from welfare to work

About 7% of new jobs were filled by those leaving welfare

- Manufacturing (10%), Health care & social assistance (10%),
  Admin & support services (9%), Retail trade (7%),
  Accommodation & food services (6%), Arts & recreation
  (5%), Professional & technical (4%), Finance & insurance
  (3%)

The proportion of new jobs filled by those leaving welfare
decreased in Accommodation & food services and Arts &
recreation, unchanged in Retail

- Large increase in the number of temporary migrants
  holding working holiday and seasonal employment visas –
  many working in tourism industries and agriculture
What is the impact of workplace based training on earnings?

Monthly earnings before and after training
Males who completed a level 4 qualification
Tourism in New Zealand

Directly accounts for 6% of employment and 3% of GDP

- Per cent of employees: Full-time equivalent employees; 2012
  - Tourism: 6.2%


Note: Indicative data only, based on applying tourism industry ratios to Statistics New Zealand’s Business Demography Statistics (2012) firm counts.
What percentage of your sales came from tourists?
Include: sales of goods and services indirectly related to tourism but purchased by tourists (e.g. retail sales of food, alcohol and clothing) and sales of goods and services directly related to tourism (e.g. accommodation, transport and recreation services)

*Source: Statistics New Zealand, Business Operations Survey 2012*

<table>
<thead>
<tr>
<th>Industry</th>
<th>0%</th>
<th>1-25%</th>
<th>25-50%</th>
<th>50-75%</th>
<th>75%+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>81</td>
<td>13</td>
<td>1</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Wholesale trade</td>
<td>82</td>
<td>12</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Retail trade</td>
<td>53</td>
<td>36</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Accommodation &amp; food services</td>
<td>19</td>
<td>46</td>
<td>9</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Transport, postal, &amp; warehousing</td>
<td>73</td>
<td>16</td>
<td>2</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Information media &amp; telecommunications</td>
<td>70</td>
<td>23</td>
<td>3</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Rental, hiring, &amp; real estate services</td>
<td>76</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Administrative &amp; support services</td>
<td>76</td>
<td>7</td>
<td>2</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>Health care &amp; social assistance</td>
<td>92</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Arts &amp; recreation services</td>
<td>48</td>
<td>33</td>
<td>1</td>
<td>0</td>
<td>13</td>
</tr>
<tr>
<td>Other services</td>
<td>81</td>
<td>16</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>75</td>
<td>16</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>
Barriers to innovation

Appropriate labour and skills, and a lack of marketing expertise are more likely to hamper tourism businesses than others.

Per cent of firms reporting a barrier to innovation; 2011

- Lack of management resources: 65%
- Lack of appropriate personnel: 51%
- Lack of marketing expertise: 47%
- Lack of information: 45%
- Government regulation: 42%
- Lack of cooperation with other businesses: 24%
- Access to intellectual property rights: 17%

Source: Statistics New Zealand, Business Operations Survey (2011)

Many perceived barriers relating to labour and skills.
Recruitment difficulties

Tourism businesses have difficulty recruiting managers, professionals and ‘other’ occupations

Per cent of firms reporting ‘severe’ or ‘moderate’ difficulty hiring by occupation; 2011

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Tourism</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tradespersons &amp; related workers</td>
<td>47%</td>
<td>48%</td>
</tr>
<tr>
<td>All other occupations</td>
<td>70%</td>
<td>52%</td>
</tr>
<tr>
<td>Technicians &amp; associate professionals</td>
<td>19%</td>
<td>31%</td>
</tr>
<tr>
<td>Managers &amp; professionals</td>
<td>46%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Tourism has difficulty hiring the large, mainly lower skilled workforce it relies on to meet seasonal demand; but also faces difficulty meeting demand for managers.

Source: Statistics New Zealand Business Operations Survey (2011)
% of tourism businesses reporting perception of quality of skilled labour
Perception of labour quality; 2007-2011

Source: Statistics New Zealand Business Operations Survey (2011)
What can linked data tell us about tourism businesses and those who work for them?

• A large amount of administrative and survey data on businesses and individuals has been linked together in New Zealand over the last 10 years for statistical and research purposes

• The Business Frame (register) is now mainly based on administrative data from the tax system

• Information on employment in businesses comes from information supplied to the tax department on the wages & salaries paid to each person employed in the business
  – We are increasingly relying on administrative data for information on employment rather than surveys
  – Admin data can tell us about employment, worker turnover, job creation and destruction in businesses in tourism industries
  – Many other applications – e.g. identifying the benefits of workplace training

• Tourism data - greater use of linked administrate data and less reliance on surveys in future
Disclaimer

Access to the data used in this study was provided by Statistics New Zealand under conditions designed to give effect to the security and confidentiality provisions of the Statistics Act 1975.

The results are based in part on tax data supplied by Inland Revenue to Statistics NZ under the Tax Administration Act 1994. This tax data must be used only for statistical purposes, and no individual information is published or disclosed in any other form, or provided back to Inland Revenue for administrative or regulatory purposes.

Any person who had access to the unit-record data has certified that they have been shown, have read and have understood section 81 of the Tax Administration Act 1994, which relates to privacy and confidentiality. Any discussion of data limitations or weaknesses is in the context of using the Linked Employer-Employee Database (LEED) for statistical purposes, and is not related to the ability of the data to support Inland Revenue's core operational requirements. Careful consideration has been given to the privacy, security and confidentiality issues associated with using tax data in this project.

The results presented in this study are the work of the author, not Statistics New Zealand.
Seasonally adjusted visitor arrivals to New Zealand
(source = International Travel and Migration, Statistics New Zealand)
Tourism Satellite Accounts

Tourism expenditure is measured in purchaser prices. Other monetary aggregates are measured in producer prices.

Direct tourism employment

Employment has returned to 2007 levels after peaking in 2009

Direct employment (FTE); 2002-2012

2002-09 = 2% growth (+17,500 FTE)

2009-12 = 1% decline (-4,500 FTE)