Road Freight PPI

ABS approach to the Producer Price Index for Road Freight Services
1. Service being priced

• ANZSIC93 class 6110
  – ISIC3.1 6023
  – CPC 6433

• Road freight transport service
  – Excluding:
    • Delivery services
    • Taxi truck service (with driver)
    • Truck hire (with driver)
1. Service being priced (continued)

- Measures (quarterly) prices of road freight transport services received by producers
  - Business to business and
  - Business to household, government and NPISH

- Excludes own account activities

- Similar activities measured elsewhere:
  - Logistics (supply chain solutions)
  - Road Freight Forwarding
  - Courier Services

- Only concerned with road freight services
2. Pricing Unit of Measure

- No standard pricing mechanism

- Service defined by
  - Origin & destination
  - Commodity being transported
    - And volume
  - Customer type

- Recent changes include *fuel surcharge*
3. Market Constraints and Conditions

- Road freight services $16.5 b AUD
  - $1,100 b AUD for total production (98-99 IO)

- Small companies & owner-drivers represent 12% of revenue but 66% of businesses
  - Dominated by large companies

- Gradual move to integrated solutions
3. Market Constraints and Conditions (continued)

- Tiers of operation
  - National competitors, large fleets
  - Contracting companies (usually State based)
  - Small companies & owner-drivers

- Large fleet owners contract out business to smaller operators during peak demand

- Fuel increases offset by increased competition
  - Margins being squeezed
3. Market Constraints and Conditions (continued)

- Australia’s geography and population distribution
  - Large area
  - Low population density
    - Both sparse and clustered

- Road network
  - Relatively large compared with number of people
  - Relatively small compared with area

- Island
  - No international road freight component
    - Still have exports of freight purchased by non-residents

- Conditions dissimilar to other countries
### Population, area and roads

<table>
<thead>
<tr>
<th>Selected country</th>
<th>Population (persons)</th>
<th>Area (km²)</th>
<th>Roads (km)</th>
<th>Persons per km² of area</th>
<th>Persons per km of road</th>
<th>Metres of road per km² of area</th>
<th>Metres of road per person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>20,264,082</td>
<td>7,686,850</td>
<td>811,601</td>
<td>2.6</td>
<td>25.0</td>
<td>40.1</td>
<td>105.6</td>
</tr>
<tr>
<td>Austria</td>
<td>8,192,880</td>
<td>83,870</td>
<td>133,718</td>
<td>97.7</td>
<td>61.3</td>
<td>16.3</td>
<td>1,594.3</td>
</tr>
<tr>
<td>China</td>
<td>1,313,973,713</td>
<td>9,596,960</td>
<td>1,809,829</td>
<td>136.9</td>
<td>726.0</td>
<td>1.4</td>
<td>188.6</td>
</tr>
<tr>
<td>Denmark</td>
<td>5,450,661</td>
<td>43,094</td>
<td>71,847</td>
<td>126.5</td>
<td>75.9</td>
<td>13.2</td>
<td>1,667.2</td>
</tr>
<tr>
<td>European Union</td>
<td>456,953,258</td>
<td>3,976,372</td>
<td>4,634,810</td>
<td>114.9</td>
<td>98.6</td>
<td>10.1</td>
<td>1,165.6</td>
</tr>
<tr>
<td>Finland</td>
<td>5,231,372</td>
<td>338,145</td>
<td>78,168</td>
<td>15.5</td>
<td>66.9</td>
<td>14.9</td>
<td>231.2</td>
</tr>
<tr>
<td>France</td>
<td>60,876,136</td>
<td>547,030</td>
<td>891,290</td>
<td>111.3</td>
<td>68.3</td>
<td>14.6</td>
<td>1,629.3</td>
</tr>
<tr>
<td>Germany</td>
<td>82,422,299</td>
<td>357,021</td>
<td>231,581</td>
<td>230.9</td>
<td>355.9</td>
<td>2.8</td>
<td>648.6</td>
</tr>
<tr>
<td>Italy</td>
<td>58,133,509</td>
<td>301,230</td>
<td>479,688</td>
<td>193.0</td>
<td>121.2</td>
<td>8.3</td>
<td>1,592.4</td>
</tr>
<tr>
<td>Japan</td>
<td>127,463,611</td>
<td>377,835</td>
<td>1,177,278</td>
<td>337.4</td>
<td>108.3</td>
<td>9.2</td>
<td>3,115.9</td>
</tr>
<tr>
<td>Mexico</td>
<td>107,449,525</td>
<td>1,972,550</td>
<td>349,038</td>
<td>54.5</td>
<td>307.8</td>
<td>3.2</td>
<td>176.9</td>
</tr>
<tr>
<td>Netherlands</td>
<td>16,491,461</td>
<td>41,526</td>
<td>116,500</td>
<td>397.1</td>
<td>141.6</td>
<td>7.1</td>
<td>2,805.5</td>
</tr>
<tr>
<td>New Zealand</td>
<td>4,076,140</td>
<td>268,680</td>
<td>92,662</td>
<td>15.2</td>
<td>44.0</td>
<td>22.7</td>
<td>344.9</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>60,609,153</td>
<td>244,820</td>
<td>387,674</td>
<td>247.6</td>
<td>156.3</td>
<td>6.4</td>
<td>1,583.5</td>
</tr>
<tr>
<td>United States</td>
<td>298,444,215</td>
<td>9,631,420</td>
<td>6,407,637</td>
<td>31.0</td>
<td>46.6</td>
<td>21.5</td>
<td>665.3</td>
</tr>
</tbody>
</table>
Auslink National Road Network and Major International Airports

Source: Department of Transport and Regional Services.
3. Market Constraints and Conditions (continued)

- Record keeping practices
  - Mandatory for some commodities transported
  - No standards for general or express freight
  - Focussed on hours &/or distance travelled
    • And not revenue received by type of service

- Recent electronic innovations
  - e-tags, e-tolls
  - GPS, satellite navigation
    • Difficulties for small operators where initial outlay is high
4. Standard Classification Structure

- ANZSIC 6110 Road Freight Services is lowest level of Australian industrial classification
  - Similarly, no further detail available in product classifications

- **Index** structure currently reflects type of commodity being transported
4. Standard Classification Structure (continued)

FIGURE 1 CURRENT STRUCTURE OF THE PRICE INDEX OF ROAD FREIGHT

- Road Freight (ANZSIC93 6110)
  - Beer/Wine
    - Bulk Freight
  - Chemicals
  - General freight
  - Refrigerated
    - Furniture Removal
  - Containers
  - Livestock
  - Express freight
    - Car Carrying
4. Standard Classification Structure (continued)

- 2006 review of structure
  - Substitutability
  - More homogenous service types
  - More detail

- Improvements:
  - imputation
  - output editing
FIGURE 2 PROPOSED NEW STRUCTURE
THE PRICE INDEX OF ROAD FREIGHT

Road Freight Transport (ANZSIC93 6110)

- Beverages & Tobacco
  - Alcoholic
  - Non Alcoholic
- Non Bulk Freight
  - Tobacco & Tobacco Products
  - Other Commodities
- Containerized
- Cork & Wood Freight
  - Logs
  - Pulpwood
- Bulk Freight
  - Long Distance
    - 20 Feet
    - 40 Feet
  - Short Distance
    - 20 Feet
    - 40 Feet
- Sawn Timber
- Express Freight
  - Interstate
- General Freight
  - Contracted Supermarket Supplies
  - Non Contracted
  - Furniture Removal
- Livestock
  - Cattle
  - Sheep
  - Other
- Machinery, Transport Equip & Parts
  - Motor Vehicles & Parts
  - Other Vehicles & Parts
  - Machinery & Equip
    - Specialized Machinery
    - Office Machines & Equip
  - Other Food Products
- Temperature Controlled Transport
  - Dairy Products
  - Fruit & Vegetables
  - Meat & Meat Products

Crude Material
- Other Crude Prod.
  - Metals
- Other Manufactured Goods
- Manufactured Goods
  - Cement
  - Other Manufactured Goods
- Manufactured Goods
  - Fertilizers
  - Chemicals - Dangerous
  - Chemicals - Non Dangerous
- Mineral Fuel, Lubricant & Related Materials
  - Coal
  - Petroleum
  - Gas

Food
- Cereal
- Dairy
- Other Food

Other Food Products

ABS Road Freight PPI, 9-13 Oct 2006 15
5. Evaluation of standard against market conditions

- Greater vertical and horizontal diversification
  - Other road services
    - Freight forwarding
  - Other transport services
    - Rail

- Service provided is “move product from A to B”
  - Mode frequently not an issue for customer
  - Intermediate steps (packaging, warehousing) frequently provider or negotiated by Road Freight provider

- Not addressed by new ISIC or ANZSIC
6. National accounts concepts and measurement issues

- Same classification adopted

- Value added approach produces chain volume measure for 6110

- Adopts output indicator method
6. National accounts concepts and measurement issues (continued)

- Output indicator method
  - Begin with measure of current price gross value
  - Extrapolate via output indicator

- Output indicator is changes in income from sales of goods and services from QBIS

- Sales income deflated by PPI for road freight
7. Pricing methods

• Specification pricing
  – Type of commodity transported
  – Origin & destination
  – Type of customer
  – Conditions of sale (of service)
    • Tailored on commodity-by-commodity basis and business-by-business basis
    • Exclude “non-road freight” components
7. Pricing methods (continued)

- Representativeness
  - Purposive sample
  - Sample reviews
  - Sample maintenance

- Price
  - Transaction price (price received)
    - Not list price
7. Pricing methods (continued)

- Price to constant quality each quarter
  - Specifications tailored to service provider
  - Measure price each quarter
  - In addition, for each specification:
    - Determine variations from specification (if any)
    - Determine reasons for price changes
  - Tailored mail questionnaire with telephone queries
8. Quality adjustment methods

• Overlap pricing method
  – Necessary to determine true market price for changed service in previous period
  – Need to ensure cooperation of respondents
    • Tailored forms
    • Personal interviews at enrolment and when sample is reviewed
9. Comparability with turnover/output

- National accounts use QBIS data
  - Gross value at current prices (6110)
  - Output indicator (sales of goods and services)

- Classification of TAU potential issue
  - Blurring of road freight, freight forwarding, courier
  - More of a concern for “Services to transport” than “road Freight”

- Index weights below ANZSIC class determined by converting km-tonne data to income
  - Average price
10. Summary

- Physical conditions (population, roads, area) unlike other economies

- Constant quality:
  - tailored specifications and overlap pricing

- Concepts same as national accounts

- Classification issues on boundary
  - Freight forwarding, logistic solutions