Productivity by the numbers
Productivity hub symposium: Unpicking NZ’s productivity paradox

Session One: Performance

Peter Gardiner, Statistics New Zealand

July 2013
Outline

- Introducing productivity measurement
  - Productivity statistics: a decade in the making
- Productivity by the numbers: setting the scene
  - Through the years
  - Across industries
Importance of measuring productivity

- “Productivity isn’t everything, but in the long run it is almost everything”  Paul Krugman (1994)
- “…nothing contributes more to the reduction of poverty, to increases in leisure, and to the country’s ability to finance education, public health, environment and the arts.”  Alan Blinder and William Baumol (1993)
Productivity statistics: a decade in the making

- Treasury – leading the charge (late 90s)
  - Diewert & Lawrence and others
- SNZ’s development initiative (mid 2000s)
  - Suite of official productivity measures
    - Measured sector coverage: ~80%
    - Composition-adjusted labour inputs
    - Comparability with international agencies
- Parallel improvement in micro-data quality and access
  - Understanding the drivers of firm performance
Growth accounting decomposition

OUTPUT
Real GDP

LABOUR INPUT
Amount of labour

LABOUR
PRODUCTIVITY
Real GDP/labour input

MULTIFACTOR
PRODUCTIVITY
Real GDP/total inputs

CAPITAL/LABOUR
Contribution of capital deepening

Source: New Zealand Treasury (2008)
## The measured sector

<table>
<thead>
<tr>
<th>Industry</th>
<th>Contribution to GDP (2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry and fishing</td>
<td>6.6</td>
</tr>
<tr>
<td>Mining</td>
<td>2.4</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>12.4</td>
</tr>
<tr>
<td>Electricity, gas, water, and waste services</td>
<td>3.5</td>
</tr>
<tr>
<td>Construction</td>
<td>5.9</td>
</tr>
<tr>
<td>Wholesale trade</td>
<td>5.0</td>
</tr>
<tr>
<td>Retail trade</td>
<td>5.0</td>
</tr>
<tr>
<td>Accommodation and food services</td>
<td>2.1</td>
</tr>
<tr>
<td>Transport, postal and warehousing</td>
<td>4.5</td>
</tr>
<tr>
<td>Information, media and telecommunications</td>
<td>3.3</td>
</tr>
<tr>
<td>Financial and insurance services</td>
<td>6.3</td>
</tr>
<tr>
<td>Arts and recreation services</td>
<td>1.6</td>
</tr>
<tr>
<td>Rental, hiring, and real estate services</td>
<td>6.6</td>
</tr>
<tr>
<td>Professional, scientific, and technical services</td>
<td>7.8</td>
</tr>
<tr>
<td>Administrative and support services</td>
<td>2.2</td>
</tr>
<tr>
<td>Other services</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Education and training</strong></td>
<td><strong>5.0</strong></td>
</tr>
<tr>
<td><strong>Healthcare and social assistance</strong></td>
<td><strong>6.8</strong></td>
</tr>
<tr>
<td>Local government administration</td>
<td>0.6</td>
</tr>
<tr>
<td>Central government administration, defence, and public safety</td>
<td>4.2</td>
</tr>
<tr>
<td>Ownership of owner-occupied dwellings</td>
<td>6.2</td>
</tr>
</tbody>
</table>
Measured sector labour productivity
1978–2012

Index

1978-85: 1.8%
1985-90: 2.7%
1990-2000: 2.6%
2000-08: 1.3%
2008-12: 0.6%
Measured sector multifactor productivity
1978–2012

1978–85: 0.7%
1985–90: 0.4%
1990–2000: 1.9%
2000–08: 0.6%
2008–12: - 0.5%
Contribution to measured sector output growth
Annual percentage change
1997–2012

Source: Statistics New Zealand
Sector contributions to measured sector labour productivity growth

Contribution, size, and labour productivity growth

 Labour productivity growth

Contribution to measured sector labour productivity growth

Primary 1980-90
Primary 1990-2000
Goods 1980-90
Goods 1990-2000
Services 1980-90
Services 1990-2000
Sector contributions to measured sector labour productivity growth

Contribution, size, and labour productivity growth

Labour productivity growth

Contribution to measured sector labour productivity growth
Labour productivity levels
By industry

Source: Statistics New Zealand
Summary: key points

- Post reform 1990s labour productivity underpinned by MFP
- Strong output growth reflects increased inputs during the last decade
- Slowing in labour productivity in 2000s reflects weaker MFP growth and Global Financial Crisis
- Service sector, in particular business services, has contributed the most to labour productivity
- Mining and utilities have relatively high levels of labour productivity