Sector Paper

Commercial and Industrial Machinery Repair and Maintenance - 3312
Overview

• Introduction
• Status
• Classifications – industry and product
• Turnover
• SPPI
• Main conclusions
Introduction

• Commercial and Industrial Machinery Repair and Maintenance
  Service sector presents challenges
  – Diverse machinery for repair
  – Repair and Maintenance as secondary activities
  – Bundling of services

• Summary of experiences of France, Japan, Mexico, Sweden and US
  as presented at Voorburg 2012

• Recommendations based on these experiences and shaped by
  market conditions and practices, data availability and resources
Status - Commercial and Industrial Machinery Repair and Maintenance Service sector ISIC 3312

<table>
<thead>
<tr>
<th>ISIC 3312 Coverage</th>
<th>No. of Countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. PPI details (\geq) CPC</td>
<td>1</td>
</tr>
<tr>
<td>b. PPI details (\geq) CPC soon</td>
<td>0</td>
</tr>
<tr>
<td>c. Turnover details (\geq) CPC</td>
<td>9</td>
</tr>
<tr>
<td>d. Turnover details (\geq) CPC soon</td>
<td>0</td>
</tr>
<tr>
<td>e. Industry prices calculated</td>
<td>12</td>
</tr>
<tr>
<td>f. Industry turnover collected</td>
<td>19</td>
</tr>
</tbody>
</table>

1. Detailed turnover and prices well aligned    | 1                |
2. Detailed turnover and prices well aligned soon | 0                |
3. Industry level turnover and prices aligned   | 11               |
4. Industry level turnover and prices aligned soon | 2                |
5. Other - no industry coverage for prices and/or turnover, etc. | 8                |
# Classification – Industry

### Classification – Section

<table>
<thead>
<tr>
<th>Classification</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISIC 4.0</td>
<td>C Manufacturing</td>
</tr>
<tr>
<td>Nace Rev.2</td>
<td>C Manufactured Products</td>
</tr>
<tr>
<td>2012 NAICS</td>
<td>81 Other Services</td>
</tr>
<tr>
<td>JSIC Rev.12</td>
<td>R Services, N.E.C.</td>
</tr>
</tbody>
</table>

### Classification – Division

<table>
<thead>
<tr>
<th>Classification</th>
<th>Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISIC 4.0</td>
<td>33 Repair and installation of machinery and equipment</td>
</tr>
<tr>
<td>Nace Rev.2</td>
<td>33 Repair and installation of machinery and equipment</td>
</tr>
<tr>
<td>2012 NAICS</td>
<td>81 Other Services</td>
</tr>
<tr>
<td>JSIC Rev.12</td>
<td>R Services, N.E.C.</td>
</tr>
</tbody>
</table>
Classification - Products

CPC Version 2

87120: Maintenance and repair services of office and accounting machinery
87156: Maintenance and repair services of commercial and industrial machinery

CPA 2008
33.1: Repair services of fabricated metal products, machinery and equipment

33.10: Medical and surgical equipment and orthopaedic appliances
33.11: Repair services of fabricated metal products
33.12: Repair services of machinery
33.12.1: Repair and maintenance services of general-purpose machinery
33.12.2: Repair and maintenance services of special-purpose machinery
33.13: Repair services of electronic and optical equipment
33.14: Repair services of electrical equipment
33.15: Repair and maintenance services of ships and boats
33.16: Repair and maintenance services of aircraft and spacecraft
33.17: Repair and maintenance services of other transport equipment
33.19: Repair services of other equipment

33.2: Installation services of industrial machinery and equipment
Classification – Products (continued)

NAPCS US

8113.1.0: Maintenance and repair and related services for commercial and industrial machinery and equipment
8113.1.1: Maintenance and repair services for agricultural, construction, mining, and oil and gas field machinery and equipment
  8113.1.1.1: Maintenance and repair services for agricultural machinery and equipment*
  8113.1.1.2: Maintenance and repair services for construction machinery and equipment*
  8113.1.1.3: Maintenance and repair services for mining and oil and gas field machinery and equipment*
8113.1.2: Maintenance and repair services for commercial and service industry machinery and equipment
8113.1.3: Maintenance and repair services for manufacturing and metalworking machinery and equipment
8113.1.4: Maintenance and repair services for other commercial and industrial machinery and equipment
  8113.1.4.1: Maintenance and repair services for commercial refrigeration equipment
  8113.1.4.9: Maintenance and repair services for other industrial and commercial machinery and equipment, nec.
8113.1.5: Cleaning services for commercial and industrial machinery and equipment

*indicates product in US version
Turnover Statistics

• Data Availability
  – Good. 19 of 22 respondents to the 2012 Voorburg Detailed Status report compile turnover data, 9 at product level
  – Relatively small sector in respect of national output
  – Varying degrees of industry concentration

• Collection of Data
  – Annual from a variety of sources
  – Sub-annual generally published as indices

• Data Issues
  – Secondary activity
  – Bundling of repair and maintenance with other activities (installation)
  – Own account production
  – Repairs v capital formation
  – Labour v parts??
## Recommended Approaches

<table>
<thead>
<tr>
<th>Category</th>
<th>Data Source</th>
<th>Level of Detail Collected</th>
<th>Frequency</th>
<th>Cost</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best</td>
<td>Survey/Census</td>
<td>Industry turnover and product turnover detail</td>
<td>Annual and/or sub-annual collection</td>
<td>- Most expensive&lt;br&gt;- Largest response burden</td>
<td>- Due to secondary activity issues - cross industry product level detail desirable.&lt;br&gt;- Distinguish where possible between repair and production</td>
</tr>
<tr>
<td>Good</td>
<td>Survey/Census</td>
<td>Industry detail only</td>
<td>Annual and/or sub-annual collection</td>
<td>- Expensive&lt;br&gt;- High response burden</td>
<td>Industry level detail may not be sufficient due to secondary activity issues</td>
</tr>
<tr>
<td>Minimum</td>
<td>Administrative (tax data, industry association data etc.,)</td>
<td>Industry detail only</td>
<td>Annual</td>
<td>- Least expensive&lt;br&gt;- Little or no respondent burden</td>
<td>Least timely&lt;br&gt;Units may be misclassified to incorrect industry/secondary activity</td>
</tr>
</tbody>
</table>
SPPI Data

- **Data Availability**
  - Reasonably good. 12 of 22 respondents to the 2012 Voorburg Detailed Status report compile SPPIs, 1 at product level

- **Collection of Data**
  - Dedicated surveys
  - CPI cannot be used

- **Pricing Methods and Issues Arising**
  - Highly heterogeneous service outputs
  - Often non-recurring (model pricing)
  - Routine/flat fee (direct use of prices of repeat services)
  - Performed under contract (contract pricing) or warranty
  - Labour and parts used (mixture of pricing mechanisms – mixture of pricing methods. Also changes in productivity)
# SPPIs - Recommended Approaches

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Pricing Mechanism</th>
<th>Pricing Method</th>
<th>Data type in survey</th>
<th>Quality and Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routine, repeatable</td>
<td>Flat fee</td>
<td>Direct use of repeated services</td>
<td>Real transaction prices</td>
<td>High if transactions remain representative and at constant quality</td>
</tr>
<tr>
<td>Unique and non-recurring</td>
<td>Often a combination of costs of labour and parts</td>
<td>Model</td>
<td>Estimated by respondent</td>
<td>Good if model remains representative</td>
</tr>
<tr>
<td>Preventative maintenance</td>
<td>Contract</td>
<td>Contract</td>
<td>Real transaction prices</td>
<td>Good if transactions remain representative and at constant quality, escalation clauses accounted for. Does the resulting index reflect price development in the sector?</td>
</tr>
</tbody>
</table>
Main Conclusions

• Well developed measurements
• International classifications are not very well harmonised
  – services or industry?
  – differences at industry and product level (more pronounced)
• Secondary activity services present a challenge (product level measures)
• Bundling, warranties and contracts
• Mix of pricing mechanisms and methods