

Commercial and Industrial Machinery Repair and Maintenance

Session Leader: Niall O’Hanlon, CSO Ireland

The session began with an overview of the industry and product classifications. A review of the ISIC 4.0, NACE Rev.2, 2012 NAICS, and JSIC Rev.12 illustrated that all classifications examined included the same activities although in different sections of the classifications. The Commercial and Industrial Machinery Repair and Maintenance sector is classified under manufacturing in the ISIC and NACE while the NAICS and JSIC include it under services.

Mini-presentations on Turnover/Output for Commercial and Industrial Machinery Repair and Maintenance were presented by :

Johan Åhman – Statistics Sweden

Ramon Bravo – INEGI, Mexico

Alain Gallais – INSEE, France

Mini-presentations on PPI for Commercial and Industrial Machinery Repair and Maintenance were presented by :

Hina Kikegawa – Bank of Japan

Bonnie Murphy – United States Bureau of Labour Statistics

Charles Pilarski – INSEE, France

Michael Morgan of the ABS, Australia presented the discussant remarks.

The presentations and ensuing discussion highlighted the following issues:

Description of the activity

The primary output is the repair and/or maintenance of commercial and industrial machinery and equipment. The essence of repairs and maintenance is to maintain the working order of machinery. It can be difficult to decouple the cost of parts from the value of the service provided. Many establishments engaged in the repair and maintenance of commercial and industrial machinery are also involved with the installation or distribution of such machinery. They are very different activities however there are challenges in separately measuring the output of each of the activities. The cost of

installation of machinery can also include the ongoing maintenance. Also, some establishments do their own repairs and maintenance so this output isn't recorded for statistical purposes.

The range of machinery can be very diverse – “from a typewriter to a ship”. Some products are subject to a high degree of change in terms of quality improvement and technological advances.

Classification

Differences in the classification of Commercial and Industrial Machinery Repair and Maintenance are evident across countries with European countries classifying this activity under manufacturing while the USA and Japan include it as services.

Some discussion arose on whether it was appropriate to classify Commercial and Industrial Machinery Repair and Maintenance as manufacturing. In response it was clarified that production of or extension of the life of an asset is to be treated as capital formation while routine repairs and maintenance are treated as intermediate consumption. Although the repair and maintenance of commercial machinery is classified as manufacturing under ISIC this does not pose a problem as long as production and repairs are kept separate. Overall, the view was expressed that there should be better consistency across the international classifications.

It was also stated that given the nature of the market conditions, it would be more appropriate for ISIC to have categories in section “G-Wholesale and retail trade” as well. Currently, however, there are no categories in section G.

Secondary production activity

A number of the presentations showed that much of the repair and maintenance activity was recorded as secondary production activity. This poses challenges in the measurement of output and prices for these activities.

Data availability

There is good availability of industry and product level information on the sector. As this sector is classified in manufacturing in EU countries it comes under the STS, SBS and Prodcom Regulations which ensures good detailed availability of industry and product level information.

Data sources

The main source of information on this sector is statistical surveys of establishments. In the discussion it was noted that there is increasing pressure to replace surveys with administrative data sources to reduce respondent burden. Some of the difficulties faced in using administrative data were highlighted. These included the lack of detailed product level information as well as the risk that an administrative source may cease or change over time.

Structure of the Commercial and Industrial Machinery Repair and Maintenance sector

In Mexico this sector is dominated by small micro enterprises while there is a more even distribution of enterprise sizes in France.

Pricing method

The pricing unit of measure is the repair or maintenance job. The following are typical types of pricing mechanisms

- Model pricing

As many services are customized to customer requirements model pricing may be the appropriate pricing method.

- Charge out rates

When repair and maintenance companies base their charges on the amount of labor and the parts used time-based charge-out rates may be appropriate

- Flat fee for service

Short term maintenance contracts are priced with the direct use of prices for repeated services method.

The utilization rate of machinery can affect the levels of repair and maintenance required. This may need to be taken into account in selecting the appropriate pricing mechanism.

In the USA, long term maintenance contracts (those more than two years in duration) typically include “escalator” clauses as more maintenance is needed as equipment ages. The U.S. approach to the compilation of PPIs is to sum the yearly prices as the escalator clauses can produce price increases that are not necessarily inflationary. The summed price represents prices that are received from both old and new contracts.

Sampling for PPI should cover all activities of establishments to take account of both primary and secondary activities.

The importance of collecting price and turnover data at the finest level of detail and the need to frequently review specifications of model pricing were noted. Once specifications were kept up-to-date quality adjustment should not be an issue.

Use of PPIs as deflators for National Accounts

Some discussion took place on the extent to which National Accounts use PPIs as deflators and measures which could be taken to increase the usage. It was important that PPI compilers work closely

with national accountants to identify priority sectors and jointly develop price and turnover questionnaires.

Conclusions

The discussion concluded with the identification of the key challenges facing the measurement of price and turnover/output statistics for the Commercial and Industrial Machinery Repair and Maintenance sector as:

- 1) Identifying and pricing Secondary production activities
- 2) Some products are subject to a high degree of change in terms of quality improvement and technological advances
- 3) Ability to distinguish between repairs and maintenance and capital formation
- 4) Ability to deal with differing utilization rates of commercial machinery
- 5) Ability to measure 'bundled' repair and maintenance activity