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SESSION 2: MINI PRESENTATIONS ON PRODUCER PRICE INDICES

Producer price index for sea freight transport

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1. Introduction

The Department of Economic Statistics at Statistics Sweden has been conducting a project with the purpose of developing price indices for service industries in accordance with the European Union's recommendations from 2000. These indices will be used for the National Accounts to calculate the production value of services, in constant prices.

We are currently developing a price index for sea and coastal freight services, among other indices. The purpose of this paper is to briefly describe the working progress for this index.

Discussions with the industry organisation, and some of the larger enterprises in this industry, took place during spring 2003. These discussions assisted in developing the knowledge about the industry, the market and how prices are determined. A trial-survey form was designed following advice from the larger companies.

2. Industry Classification

Our concentration is on industry 61.1 sea and coastal water transport and 61.2 inland water transport according to the classifications from SE-SIC 92, the Swedish Standard Industrial Classifications 1992. SE-SIC 92 is identical to NACE Rev.1, at four digit level. This corresponds to 65.1 Coastal and transoceanic water transport service and 65.2 Inland water transport services in CPA Vers.1.1. The statistical classification according to CPA is 61.1 Sea and coastal water transportation service and 61.2 Inland water transportation service.

Unfortunately the classifications of enterprises in this industry are not on the detailed level, which could be hoped for. This means that a number of enterprises which are not involved in sea transportation for goods activities are included in the frame.

3. The sea freight market

The sea freight market is extensive and international, and there are several different sub-markets in which the price system works in different ways. The market that, from an international viewpoint, is dominant in terms of volume is the *tramp market*, in which the smallest fluctuations of supply and demand give deviations in the form of price adjustments. Tramp is an older term for cargo shipping not linked to a timetable or to a fixed route. It differs from a *single trip charter*, which means that the vessel carries out a specific trip, and a *time charter*, which means that the vessel is hired out for a specific period of time under a contract of 3 months to 20 years. The breakdown between these is directed largely by demand. With increasing demand for freight, the owner of the goods will hire a vessel for a longer time and vice versa with lowering demand. This means that a vessel moves from the time charter market to the single trip charter market with lowering freight costs and vice versa with rising freight costs.

Line cargo shipping is the second largest sub-market, in which traffic is mostly carried out by large container vessels that service particular ports. The goods are mainly transported in standard goods carriers with a vessel in regular, timetabled transport between fixed ports.

4. Industry output

Within the industry in Sweden in 2001, there were 927 enterprises registered as having a calculated turnover amounting to at least SEK 5 million per year. The industry is dominated by a few large enterprises.

Sea and coastal freight transport companies realised revenue of SEK 18.7 billion in 2001. This corresponds to 68 per cent of the total income for shipping enterprises. SEK 17.1 billion of this income came from freight, whilst the rest was from passenger transport, in which transport, accommodation and catering are included.

Regarding the breakdown between tramp shipping and line shipping, the picture is different in Sweden, as shown in the table below.

Freight receipts of Swedish shipping by activities, 2001

	Foreign trade	Domestic trade	Total
Line shipping	10,360	43	10,404
Tramp shipping - dry goods	3,293	146	3,439
Tramp shipping - oil	2,952	336	3,288

As described earlier, sea transport of goods is a very international industry and, for the Swedish shipping enterprises, traffic to and from Sweden and intermediary foreign ports, accounted for 97 per cent of all activities. The table below shows the breakdown for 2001.

Foreign freight receipts of Swedish shipping by activities, year 2001

	From Sweden	To Sweden	Intermediary foreign ports	Total
Line shipping	1,733	441	7,528	10,360
Tramp shipping - dry goods	190	394	2,710	3,293
Tramp shipping - oil	313	47	2,591	2,952

The data shown above is based on a survey carried out by the Institute of Shipping Analysis¹.

5. Methodology

The price for transporting freight from one place to another can depend on a variety of factors, such as the distance between the places, the weight of the cargo, whether it concerns a domestic or an international destination, the kind of product transported, etc. Therefore model pricing is suggested to compiling price indices.

Briefly, model pricing involves, in consultation with enterprises in the industry, choosing a number of services which are representative for the business activity, these being specified as detailed as possible, regarding, among other things, type of freight, distance of transport and customer. This is to make it possible to follow them over time. When one of the specified services is no longer representative, this is replaced by a more representative service. The key criteria for the use of Model Pricing are: regular updating of the models used, representativity of the models and actual price charged.

¹ (Sjöfarten Analys Institut), Institute of Shipping Analysis - for 2001, complete year and with quarterly breakdowns.

Within the frame of Statistics Sweden's service price project, the price index for exports and imports of sea transport of goods services are also included. Export of services for sea transport of goods, is defined as the payment by an enterprise, which is located abroad, for a service from an enterprise, which is located in Sweden and import of services is defined as the purchase by an enterprise located in Sweden of a sea transport service from an enterprise located outside Sweden.

6. Trial survey

The trial survey was designed after discussions with some of the larger companies in the line of business from most different market areas. The methodology used was Model Pricing, which worked well for the enterprises that operated in the line trade market or with time charters. In the survey, enterprises were asked, among other things, which market they operated in, vessel type, deadweight tonnage, customer, type of freight and distance. Enterprises were also asked to give details of exports, on the basis of the given definition. The imports of sea transport of goods services have been provided at this stage although, at the current time, there is no appropriate frame for enterprises working with imports of sea transport services.

Since Model Pricing was found to be an appropriate method, it will be used for the larger scale survey, which will be a quarterly survey starting in 2004. A total of 30 companies will be included in the survey and the sample will be selected according to turnover.

Unfortunately this method was not found to be suitable for the companies that operated in the spot market for oil tankers, due to the difficulties in finding a representative service that would likely be repeated.

6. Challenges

One of the obstacles is that the classification of the enterprises is not as detailed as it could be. Another is the spot market, in which further discussions with the enterprises operating in this market and with statistical agencies in other countries are considered to be necessary in order to identify an appropriate method.

The development of a service price index for the import of sea transport of goods is considered to be possible as, in 2003, Statistics Sweden took over responsibility for a foreign trade survey from the Swedish Central Bank in which information is collected on, among other things, enterprises which import services related to sea transport of goods. It is therefore possible that these statistics can be used as a frame.