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The PPI for Road Haulage Services in The Netherlands

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Remarks:

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Introduction

In 1993, Statistics Netherlands was contracted by Eurostat to conduct a pilot aimed at exploring the options for a road haulage price statistic. Two years later, after an intensive study of the branch, Statistics Netherlands published the first price indices for road haulage services on the basis of a sample of over one hundred respondents. They supplied us with about five hundred price quotes.

This paper describes the PPI for road haulage services in The Netherlands following the structure proposed in the paper *Voorburg Group Content Development Framework for Service Sector Statistics* (structure point 1 of attachment B).

- 1. Definition of road haulage services.** Road haulage services are transports of freight on public roads by wheeled road vehicles. For the PPI, these services are sold by companies to companies.

According to OECD/Eurostat¹, freight transport by road includes carriage of agricultural equipment, international haulage, tankers, temperature controlled transport, tipping and constructing, warehousing and distribution.

Statistics Netherlands uses however the expression 'transport of freight' for the pure transports of goods itself. The expression does not include any other logistic services such as warehousing and distribution or complete logistic outsourcings. For warehousing, a separate PPI is installed. Also for sea and coastal water transports as well as air transports, price statistics are in development at Statistics Netherlands. Moreover, data collection at pure subcontractors is excluded in order to isolate a net total PPI for road haulage services delivered to other branches. Also deals between related companies are excluded to avoid double counting of internal company deals. The collected prices are market prices. Statistics Netherlands also distinguishes between national and international freight transport by road.

- 2. Pricing unit of measure.** About 60 percent of the price quotations refer to real or fictitious trips. In these trips, all price determining factors are fixed. For the remaining prices, Statistics Netherlands collects road haulage service prices per load weight, time unit, distance, cargo volume etc.

In practice, the total amount of a road haulage service bill arises through a mix of *different* pricing mechanisms depending on the firm's pricing policy. Prices are generally expressed in euros. Different parts of the bills relate to

¹ OECD/EUROSTAT, 2005, Methodological Guide For Developing Producer Price Indices

different characteristics depending on the respective pricing policy of the delivered service: time, weight of cargo, volume or size of cargo, distance, price of inputs (for example Diesel surcharge) and/or times of deployment etc. Then, the price is related to units like days, hours, tons, kilograms, liters, cubic meters, kilometers etc. Statistics Netherlands neglects these patterns, which is plausible because customers are assumed to be interested in all-in prices, the final bill thus. It is relatively irrelevant to the customer what the final amount of the bill in detail is paid for, as long as freight is moved in the appropriate way from start to destination. In those cases where a real or a model price per trip cannot be collected, Statistics Netherlands take one of those price characteristics – like for example weight or distance – as a proxy for the total service.

3. **Market conditions and constraints.** The prices of road haulage services are determined by the balance between (national or international) supply and demand. During the last two decades, the strong competition on the road haulage market in The Netherlands was intensified twice. Firstly, through the introduction of the internal market of the EU in 1992 and, secondly, through the enlargement of the internal market in 2004 due to the expansion of the EU by 10 countries. Because wages are relatively low in the new EU member states, the Eastern-European wage level has become the price-determining factor for the road haulage market. The uncompetitive wages in The Netherlands have reinforced the innovation like the Twin system in order to compensate the wage disadvantage. Twin is a system where two containers are transported above each other. Some companies compensate the wage disadvantage through employing cheaper employees from, for example, Eastern-European countries.

Besides this, larger road haulers typically work on the basis of long-term contracts with more established customers, whilst smaller transport companies tend to target ad-hoc, single contract customers.

a. Size of industry. In 1999, road haulage made up 40% of the total transport sectors in terms of GDP. 80% of the 9770 road haulage companies were small, employing less than 10 employees. 60% of all trips were border-crossings. The branch employed 126,400 employees (98,200 full-time equivalents) and generated a turnover of 9,163,000,000 euro.

b. Special conditions or restrictions. Statistics Netherlands does not take trips into account that consist predominantly of oversea ferry passages. By contrast, trips requiring ferry passages are taken into account as long as the road trip dominates the whole trip. This is because Statistics Netherlands aims to measure the competition price for road haulage and not for sea freight services. However, the world-wide standardization of container packaging can hinder to keep freight transport by road separate from the transport over sea or by air, for example.

c. Record keeping practices. Companies pull the required information out of their typical firm administration. Statistics Netherlands collects prices by means of short questionnaires sent by postal service. Only if there are changes in the defined service, companies are approached by telephone. The telephone call serves to figure out a new,

narrowly described service to replace the old one.

- 4. Standard road haulage classification structure / details.** The PPI for road haulage services is classified by Statistics Netherlands on the basis of the two following characteristics: (i) national or international transport, and (ii) type of lorry. Ad (i): national freight transport by road means road haulage within the national borders and international freight transport by road means road haulage crossing The Netherlands' borders. Ad (ii): categories are, containers, removers, tippers, freezers and coolers, tankers, others (lorries not elsewhere specified). The latter category includes "open and closed box lorries".

Table 1 gives the CPA categories registered:

Table 1: Classification of road haulage services by type of lorry

Type of lorry	CPA
containers	60.24.14
removers	60.24.15 (part.)
tippers	60.24.17 (part.)
freezers and coolers	60.24.11; 60.24.17 (part.)
tankers	60.24.12; 60.24.13; 60.24.17(part.)
other lorries	60.24.15 (part.); 60.24.17 (part.); 60.24.21; 60.24.22

Furthermore, the population of transport companies is classified by size of firm. Three strata persist of the smallest companies with zero to four employees. Medium-sized firms from five till 99 employees are classified into four strata. Finally the largest firms from 100 employees and more are categorized in three strata. Only medium- and large-sized firms have been part of the sample because for the smallest companies the economic burden of providing data is

disproportionately high. The turnover of selected firms is representative for 45 percent of the branch turnover.

5. **Evaluation of standard vs. definition and market condition.** Statistics Netherlands classification of road haulage services differs from the standard in the way that it distinguishes between national and international transport. International transports play an important role in The Netherlands. Respondents generally assess the classification to be compatible with market conditions for road haulage services.

International transport can – in a strict sense – not be ascribed completely to exports. Border-crossing transports are partially domestic intermediate consumption, namely the part of the trip done between the Dutch loading or unloading place and the country border. This carries consequences for the compatibility with national account concepts which will be addressed in point 6. In general companies do not register the distances between the border and the Dutch loading or unloading place, nor the distances between border and foreign loading and unloading place.

6. **National account concepts and measurement issues for road haulage related to GDP.** Statistics Netherlands integrates the PPI for road haulage services into the national account system without changing the figures.

For national account issues there has to be generated a PPI for domestic intermediate consumption and a PPI for exports. Generally spoken, it is reasonable that the PPI for national road haulage is representative for domestic intermediate consumption. And the PPI for international transport is representative for export of road haulage. Because of the small geographical size of The Netherlands, international trips largely take place abroad. Because the time and distance spent in The Netherlands is relatively

small, the entire trip is assumed to be export rather than domestic intermediate consumption.

In the past, volumes have been adapted to more plausible outcomes but these adjustments were negligible. These little adjustments concern shifts between subgroups of road haulage services. As exports and domestic intermediate consumption of road haulage services are not perfectly congruent with international and national road haulage services respectively, volume and corresponding value are shifted between the categories national and international. Statistics Netherlands uses a ratio of 76 to 24 by which volumes of international freight transport by road are allocated to exports and domestic intermediate consumption, respectively. This percentage is based on (a key of) distance of weight of moved cargo, that is – in terms of units – ton kilometers of cargo. Consequently, the volume for road haulage services is made compatible with Dutch national accounts.

7. **Pricing methods and criteria of choosing pricing methods.** Preferably one would use actual transaction prices for shipping goods. This price must be real, i.e. the price that is indicated in the shipment bill – discounts, taxes and subsidies included. The decision to use specific pricing methods was the result of close consultations with branch organizations and typical branch companies. The main implicit criterion for choosing specific pricing methods was, whether or not they were feasible for the companies as well as being the closest to transaction prices. Statistics Netherlands did not *explicitly* formulate such criteria.

Respondents supply prices on a quarterly as well as annual basis for a number of trips. Each respondent provides prices for up to 20 representative trips. These trips are described using the various aspects that determine the price, such as type of lorry and cargo, packing material, weight of cargo,

loading and unloading, places of loading and unloading, number of places of loading and unloading, ferryboat fees, inclusion of return cargo or not, reimbursement for waiting, toll (i.e. German MAUT, French Péage, Swiss Vignette), rent for lorry drivers and lorries, Diesel surcharge etc. Another important aspect is whether the customer is periodically or incidentally served. An example for a road haulage service price description is given in box 1.

Box 1:

example service description for a price quotation

Truck and trailer 25 tonnes. From Assen to Mayer (Germany), 217 km, ± 6.5 hours. Advance notice of 3 days. Excluding return cargo, including loading, unloading and reimbursement for waiting. Including German toll. Contract price for a fixed client No. 10502. Price per ton.

Especially large haulers have mainly clients for whom they perform the same services repeatedly for many years. The rule is that prices of trips to serve customers periodically, contract pricing, are to be preferred.

A lot of smaller companies' trips are ad-hoc, one-off or irregular trips. Because the trips are incomparable in time, unlike the contract trips, a fictitious trip has to be described to retrieve a model price. The characteristics of such a fictitious trip have to be as realistic as possible. The company has to give an indication for a price, mostly taken *from* or calculated *through* the company's price list.

During the elaboration and composition of the trips – fictitious or not – the company's type of client is taken into account. If, for example, the company holds for 80% regular clients, then Statistics Netherlands strives to conduct for example four quotes for real contract prices and one quote for a fictitious model price into the questionnaire. Moreover,

companies may also deliver their price indications as an index. This does not provide any problems for the price perception by Statistics Netherlands.

Here, the main price-determining characteristics are named:

- Type of lorry
- Type of trip (national / international = inland / border-crossing)
- Place and country of destination or origin
- Distance
- Special routing (e.g. distribution or joint cargo)
- Type of customer (regular or incidental)
- Availability of return cargo
- Weight of cargo
- Type of cargo
- Packaging
- Inclusion of loading and unloading services
- Time of trip and waiting

The first two characteristics determine the main sub-markets that may have differing price developments. For this reason, the structure or heading of the publication is based on these two characteristics. Table 2 shows the publication structure of the PPI for road haulage services:

**Table 2: The PPI for road haulage services
in The Netherlands 4th quarter 2005, 2003 = 100
(example for the publication structure)**

PPI	National	Inter- national	Total
Container	105,1	104,9	105,0
Removers	104,1	104,8	104,2
Coolers and freezers	100,9	107,8	103,5
Tankers	103,0	106,4	104,1
Tippers	103,4	113,1	104,8
Others	105,5	109,2	106,5
Total	104,5	108,1	105,5

- 8. Quality adjustment methods.** Respondents can announce – using the questionnaire – that a certain service or trip cannot be priced anymore, for example because the contract has stopped for whatever reasons. Then a new service has to be described as a replacement. Statistics Netherlands and the respondent would make a new agreement with respect to a new service description. For the linking of the two, the old and new price, Statistics Netherlands preferably uses the overlap method. The problem with this method is that it requires at least one period in which a price of the old as well as a price of the new service has to be available. Because the old series often stops before the new one starts, Statistics Netherlands often asks the respondent to give an expert guess for a price of one of the two services for the concerning period. If the respondent is not in a position to provide such a guess, for example because of a lack of information, then Statistics Netherlands uses the targeted mean imputation method, to impute a price on the basis of the average of (similar) substitutional services at

the lowest aggregation level as possible. Statistics Netherlands assumes developments of similar services to be comparable.

- 9. Evaluation of comparability with turnover/output measures.** The comparability of PPI with turnover data is generally very good. Only for international, border-crossing freight transports by road, volumes are reallocated on exports and intermediate consumption by an estimation on the basis of the relationship between ton kilometers. For the PPI, calculating weights out of turnover data is unproblematic. Turnover classification is compatible with PPI classification. Table 3 shows the turnover-based weights structure for road haulage services in The Netherlands.

Table 3: Turnover-based weights for the PPI of road haulage services in The Netherlands (1999)

Turnover Weights	National	Inter-national	Total
Containers	0,82	0,35	1,17
Removers	0,24	0,05	0,29
Coolers and freezers	0,72	0,44	1,17
Tankers	0,64	0,32	0,96
Tippers	0,38	0,06	0,44
Others	3,67	1,46	5,13
Total	6,47	2,69	9,16

However, turnover data is available for PPI only with a time-lag of two years. Statistics Netherlands usually updates price statistics by rebasing the index. This means first of all that the weights have to be replaced by weights based on more recent turnover data. For the road haulage sector,

1992 data were replaced by data based on year 2000. Secondly, the panels of the sample and the transport categories were up-dated. This was done in 2002. The basic setup of the statistic remained intact.

- 10. Summary.** The PPI for the road haulage sector in The Netherlands has been successfully produced by Statistics Netherlands for more than a decade. Statistics Netherlands collects prices of road haulage trips quarterly including discounts, taxes and subsidies. Preferably the trips are contract prices, but if a respondent cannot not provide such prices, then model prices are collected. If a regular trip stops or a fictitious trip becomes too unrealistic, then the service is replaced by another one and both are linked by the overlap method. If overlap linking is not possible then a price guess by an expert from the responding company is used. If an expert guess is impossible then the missing price indication is calculated by the targeted mean imputation method. The publication structure for the PPI of road haulage services distinguishes between national and international trips and between six lorry types: containers, removers, coolers and freezers, tankers, tippers and others. The survey results are used by National Accounts and also the transport industry benefited by using the results to adapt contract conditions.