

**Documentation of statistics for
Cost index for refuse collection, sludge removal and freight
transport by road 2024**

1 Introduction

The purpose of these indices is to show trends in prices for refuse collection, slurry pump and freight transport by road in Denmark. The indices are made at the request of Dansk Transport og Logistik (DTL - Danske Vognmænd) and are, among others, used for price regulation of contracts. The indices have been published since 1997.

2 Statistical presentation

The indices are produced on a quarterly basis and separately for refuse collection, slurry pump and freight transport by road. They are calculated separately for each industry. In addition, separate indices for each industry excl. the cost of fuel, are also published.

2.1 Data description

The indices for refuse collection, slurry pump and freight transport by road are quarterly cost indices based on labour costs and other costs associated with capital equipment and materials. These costs cover wages and salaries, social benefits, repairs and maintenance, fuel, tiers, overheads, insurance and fixed capital. The indices are separated to cover the development of costs in refuse collection, slurry pump and freight transport by road, respectively. For indices excl. fuel, the fuel category has been removed from calculations.

The cost indices for refuse collection, slurry pump and freight transport by road is calculated as a chained fixed-weights Laspeyres index that shows the quarterly change in costs of a fixed basket of goods, in this case consisting of materials and labour costs associated with refuse collection, slurry pumping and freight transport by road. The weight bases are based on data collected by The Danish Transport and Logistics Association and Confederation of Danish Industry. The weights are evaluated approximately every fifth year in case the weights are in need of updating. The weights were last updated in the third quarter of 2022, and the weight reference period changed to 2022. The index reference period is 2022 for the general indices for refuse collection, slurry pump and freight transport (2022 = 100), and for the indices excl. fuel the index reference period is quarters 2, 3, and 4 of 2022 = 100.

The indices for refuse collection and slurry pump have been produced since the first quarter 1997. The index for freight transport by road has been produced since the third quarter of 2022.

The purpose of the indices is to follow the development in costs associated with refuse collection, slurry pump and road transport and the indices, therefore, do not reflect the actual level of costs.

2.2 Classification system

Not relevant for these statistics.

2.3 Sector coverage

Renovation companies, sewage service and companies that perform road transportation

2.4 Statistical concepts and definitions

Refuse collection: Refuse collection includes all refuse that stems from consumption by households and the like, institutions, cafeterias etc. Households' compost is not included.

Labor costs: Labor costs of drivers are calculated on the basis of the convention salary agreed upon by the Danish union for workers in transport and logistics and 3F (United Federation of Danish Workers)

2.5 Statistical unit

Costs.

2.6 Statistical population

The population encompass costs for all materials and labour used in refuse collection, slurry pump work and freight transport by road

2.7 Reference area

Denmark.

2.8 Time coverage

Refuse collection and slurry pump work: 1997- Freight transport by road: 2021Q2- Indices excl. fuel: 2022Q2-

2.9 Base period

Refuse collection, slurry pump and freight transport by road: 2022 = 100 Indices excl. fuel: 2022Q2 + 2022Q3 + 2022Q4 = 100

2.10 Unit of measure

Indices and percentage change.

2.11 Reference period

Cost indices for refuse collection, slurry pump and freight transport by road reflect the quarterly change in costs, i.e. the relevant index value is represents costs in the respective quarter.

2.12 Frequency of dissemination

Quarterly.

2.13 Legal acts and other agreements

Data are collected in accordance with the Act on Statistics Denmark §8 stk. 1 cf. consolidation act no. 599 of June 22nd 2000. The Council's order (EF) no. 1165/98 of May 19th 1998 concerning business cycle statistics and the Commissions' order no. 588/2001.

2.14 Cost and burden

There is a miniscule direct response burden since most of the data are collected from other statistics in Statistics Denmark.

2.15 Comment

Further information on the cost index for refuse collection, slurry pump and freight transport by road is available at [statistics' website](#) or from contacting the Statistics Denmark, Division for Prices and Consumption.

3 Statistical processing

The Cost index for refuse collection, slurry pump and freight transport by road includes costs of labor, repairs and maintenance, fuel, tires, administration, insurance and capital costs. These are weighed together to form the total indices. The weights reflect the cost shares of the total costs of performing refuse collection, slurry pump and freight transport by road. For indices excl. fuel, the fuel category has been removed from calculations.

3.1 Source data

To calculate the indices for refuse collection, slurry pump and freight transport by road mainly data (prices) from other statistics in Statistics Denmark are used. Monthly prices of some goods and services are collected from Price index for Domestic Supply (PRIS1115) and the Net Price Index (PRIS1116). See the statistical documentation for these indices for more info. Labour costs relate to wage rates fixed by collective agreements between Danish Industry and the United Federation of Danish Workers (previously the Danish Specialized Workers' Union). Fuel prices are gathered as quarterly averages of daily prices from fuel stations incl. various taxes but excl. sales tax.

The weight basis is developed in collaboration with Danish Transport and Logistics and Danish Industry. Index calculations include costs of labour, social costs, repair and maintenance, fuel, tires, administration, insurance and capital costs.

3.2 Frequency of data collection

Primarily quarterly. Some prices are gathered monthly or yearly.

3.3 Data collection

Some materials prices are collected from Price index for Domestic Supply (PRIS1115) and the Net Price Index (PRIS1116). See the statistical documentation for these indices for more information on methods. Furthermore, some prices are collected from the internet, collective agreements and reporting by collaborators.

3.4 Data validation

The initial data validation is done when collected prices are loaded in Statistics Denmark's dedicated calculation system, which generates a list of all price developments. An automated test for unusual developments from one period to the next is performed. Price developments that exceed a fixed threshold value are only accepted if such developments can be accounted for by reporting entities. The final validation is a qualitative evaluation of the calculated indices.

3.5 Data compilation

The Cost index for refuse collection, slurry pump and freight transport by road is calculated by a hierarchical system, where the collected prices are divided into a number of product groups. These groups are aggregated into basic aggregates, which form basic prices using geometrical averages. Basic indices, which is the most detailed index level, are then calculated as the development between basic prices in two consecutive periods. Using the Laspeyres type index method, the basic indices are weighted to aggregated subindices, which are then weighed to the aggregated total indices - the top level in the index hierarchy.

Basic aggregates include costs of labor, repairs and maintenance, fuel, tires, administration, insurance and capital costs. For the calculation of indices excl. fuel, the fuel category is removed from calculations.

The combined aggregation from basic prices to total indices uses individual classification codes and weights for refuse collection, slurry pump and freight transport by road, respectively. Prices are updated every quarter, while weights are updated approximately every five years.

The weights reflect the cost shares of the total costs of performing refuse collection, slurry pump and freight transport by road.

3.6 Adjustment

Materials may be replaced over time. There is running quality control of new materials that are used in the The Cost index for refuse collection, slurry pump and freight transport by road.

No corrections are made besides from what has already been described under data validation and data treatment.

4 Relevance

The purpose of the indices is to reflect the development in the costs of refuse collection, slurry pump and freight transport by road.

4.1 User Needs

Cost indices for refuse collection, slurry pump and freight transport by road are primarily used in regulating of contracts.

4.2 User Satisfaction

No information on user satisfaction is collected.

4.3 Data completeness rate

Not relevant for these statistics.

5 Accuracy and reliability

Index weights are established in cooperation with Dansk Transport og Logistik (the Danish Transport and Logistics Association) and Dansk Industri (Confederation of Danish Industry). The indices are deemed representative for refuse collection, slurry pump and freight transport by road performed in Denmark.

5.1 Overall accuracy

The quality of data collection and weight basis is continuously monitored. The index is considered to be of high quality, and representative of the general development of costs associated with refuse collection, slurry pump and freight transport by road in Denmark.

Sources of error include faulty price reporting by companies, and the accuracy of the weight basis used to represent contemporary work with refuse collection, slurry pump and freight transport by road in Denmark, which may change over time. This is accommodated by continuous monitoring of prices and data validation, as well as updates of the weight basis approximately every five years.

Figures on the statistical reliability are not estimated.

5.2 Sampling error

Some prices are collected from the Price index for Domestic Supply, which selects reporting companies using a "top-down" principle based on company turnover. Other price sources are selected based on data quality and availability. As the data sources have not been randomly selected, an estimation of sampling error cannot be performed.

5.3 Non-sampling error

Errors related to price reporting: The index is calculated based on a fixed basket of goods. In reality, goods may be substituted. This may cause discrepancies between price developments in the index and what is actually experienced by companies. This uncertainty is minimized by running error sampling, quality control and contact with companies. Errors may occur when an enterprises report prices for other commodities than expected. The reason for this is normally misunderstandings e.g. change in staff. Such errors are sought to be minimized by continuous random sampling of prices, as well as dialogue with companies, which are requested to evaluate the validity of their reported wares approximately every two years.

The population sample for Price index for Domestic Supply covers minimum 70 percent of Danish production and import, and is therefore considered to be representative of the actual price development in the population.

Other uncertainties: Changes in the salary agreements often take effect from the month of March. The new agreements, however, are often not publicly available until the second quarter. Thus, they are not included until the calculation of the second quarter. This might produce a slight discrepancy between when the agreement actually take effect and when this effect shows up in the development of the indices.

Errors may occur when questionnaires are recorded in Statistics Denmark. Our error checking procedures normally spot such errors, so recording errors are not regarded to be important. Calculations are performed by routine computer programming, and errors are therefore not considered to occur in that context.

Index calculations are performed in a dedicated calculation software system. The probability of calculation errors is therefore considered to be insignificant.

5.4 Quality management

Statistics Denmark follows the recommendations on organisation and management of quality given in the Code of Practice for European Statistics (CoP) and the implementation guidelines given in the Quality Assurance Framework of the European Statistical System (QAF). A Working Group on Quality and a central quality assurance function have been established to continuously carry through control of products and processes.

5.5 Quality assurance

Statistics Denmark follows the principles in the Code of Practice for European Statistics (CoP) and uses the Quality Assurance Framework of the European Statistical System (QAF) for the implementation of the principles. This involves continuous decentralized and central control of products and processes based on documentation following international standards. The central quality assurance function reports to the Working Group on Quality. Reports include suggestions for improvement that are assessed, decided and subsequently implemented.

5.6 Quality assessment

Overall the Cost index for refuse collection, slurry pump and freight transport by road is assessed to be of high quality and representative of price developments in these industries.

It is not possible to determine a measurement of errors in the index. Coverage and measurement errors may occur if the quality of reported goods changes, or if reporting companies report prices of the wrong goods and services.

To accommodate this, data quality is continuously monitored. Quality upgrades may include increased sampling of new companies, an increase in reported prices by existing companies, or the use of different methods to define and calculate prices. Running dialogue with reporting companies also decrease misunderstandings and faulty reporting.

5.7 Data revision - policy

Statistics Denmark revises published figures in accordance with the [Revision Policy for Statistics Denmark](#). The common procedures and principles of the Revision Policy are for some statistics supplemented by a specific revision practice.

5.8 Data revision practice

Only final figures are compiled.

6 Timeliness and punctuality

The statistics are published quarterly at the beginning of February, May, August and November. The statistics are usually published without delay in relation to the scheduled date.

6.1 Timeliness and time lag - final results

The statistics are published quarterly, about 30 days after the end of a quarter, at the beginning of February, May, August and November.

6.2 Punctuality

The statistics are usually published without delay in relation to the scheduled date.

7 Comparability

The cost indices for refuse collection and slurry pump are comparable over time from 1997 until today. The cost index for freight transport by road is comparable over time from 2022 until today.

There are no international statistics which are directly comparable to the Danish indices.

7.1 Comparability - geographical

There are no international statistics which are directly comparable to the Danish indices. Some agencies publish revenue statistics for waste collection and slurry pump, e.g. in Norway (Vassforsyning, avløps- og renovasjonsverksemd, omsætning).

7.2 Comparability over time

Statistics Denmark started publishing cost indices for refuse collection and slurry pump for the period March 1997 to March 2000 in News from statistics Denmark no. 272 on June 30th. 2000. The indices have had a new weighting scheme as of the calculation of the 3rd quarter of 2022, however they are comparable over time from 1997 until today. The cost index for freight transport by road was first published 3rd quarter of 2022, and is comparable from 2. quarter 2021 and until today. Indices excl. fuel were introduced with the publication of 4th quarter 2023 and are comparable from 2nd quarter 2022 and until today.

7.3 Coherence - cross domain

No other comparable statistics are available.

7.4 Coherence - internal

Calculation of cost developments are done separately for each product. Developments of each product in a product group may be based on different amounts or units, i.e., if the price of half a kg of product 1A rises by 4 pct. while one kg of product 2A rises by 6 pct., the total price development of products A is 5 pct., regardless of the individual weights.

8 Accessibility and clarity

The statistic is published in the Statbank as [BYG91](#). See more on the statistic's [subject page](#)

A subscription service is available, where overviews of the statistic are sent quarterly by email. The subscription is only available in Danish and can be ordered [here](#).

8.1 Release calendar

The publication date appears in the release calendar. The date is confirmed in the weeks before.

8.3 User access

Statistics are always published at 8:00 a.m. at the day announced in the release calendar. No one outside of Statistics Denmark can access the statistics before they are published.

8.2 Release calendar access

The Release Calendar can be accessed on our English website: [Release Calendar](#).

8.4 News release

Not relevant for these statistics.

8.5 Publications

Not relevant

8.6 On-line database

The statistics are published in the StatBank under the subject [Cost index for refuse collection, slurry pump and freight transport by road](#) in the following tables:

- [BYG91](#): Cost indices for refuse collection, slurry pump and freight transport by road by index type, unit and time

8.7 Micro-data access

The primary data are stored in registers. Special processing and linkages of the data are not possible.

8.8 Other

Not relevant for these statistics.

8.9 Confidentiality - policy

[Data confidentiality Policy](#).

8.10 Confidentiality - data treatment

All statistics in Statistics Denmark follow the data confidentiality protocol of Statistics Denmark. For the Cost index for refuse collection, slurry pump and freight transport by road only aggregated indices are published, thus discretion does not apply to this statistic.

8.11 Documentation on methodology

A further description of the methods is only available in Danish at: [Indeksberegninger](#).

8.12 Quality documentation

Results from the quality evaluation of products and selected processes are available in detail for each statistics and in summary reports for the Working Group on Quality.

9 Contact

The administrative placement of these statistics is in the division of Prices and Consumption. The contact person is Peter Fink-Jensen, tel.: + 45 2134 7692, and e-mail: PFJ@dst.dk.