**On approval of the methodology for constructing an index of tariffs for freight transport services**

Order of the Chairman of the Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan dated June 3, 2016 No. 104. Registered with the Ministry of Justice of the Republic of Kazakhstan on July 4, 2016 No. 13869.

      In accordance with subparagraph 5) of Article 12 of the Law of the Republic of Kazakhstan "On State Statistics" and subparagraph 22) of paragraph 17 of the Regulations on the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, approved by Decree of the President of the Republic of Kazakhstan dated October 5, 2020 No. 427, **ORDER** :

     Footnote. Preamble - as amended by the order of the Head of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan dated 08/06/2021 No. 13 (shall be enforced ten calendar days after the day of its first official publication).

      1. Approve the attached Methodology for constructing an index of tariffs for freight transport services.

     2. The Department of Price Statistics, together with the Legal Department of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, shall ensure in the manner prescribed by law:

     1) state registration of this order with the Ministry of Justice of the Republic of Kazakhstan;

     2) within ten calendar days after the state registration of this order with the Ministry of Justice of the Republic of Kazakhstan, referral for official publication in print periodicals and the information and legal system "Adilet";

     3) within five calendar days after the state registration of this order with the Ministry of Justice of the Republic of Kazakhstan, sending to the Republican State Enterprise on the right of economic management "Republican Center for Legal Information of the Ministry of Justice of the Republic of Kazakhstan" for placement in the Reference Control Bank of regulatory legal acts of the Republic of Kazakhstan;

     4) placement of this order on the Internet resource of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan.

     3. The Department of Price Statistics of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan to bring this order to the structural subdivisions and territorial bodies of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan for guidance and use in work.

     4. To impose control over the execution of this order on the Deputy Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan (Dzharkinbaev Zh.A.).

     5. This order shall enter into force ten calendar days after the day of its first official publication.

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| Chairman of the Statistics Committee of the Ministry of National Economy of the Republic of Kazakhstan | N. Aidapkelov |

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|   | Approved by the order of the Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan dated June 3, 2016 104 |

 **Methodology for constructing an index of tariffs for freight**
**transport services**

**Chapter 1. General provisions**

      Footnote. The title of chapter 1 is as amended by the order of the Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan dated 06/20/2019 No. 2 (shall be enforced ten calendar days after the day of its first official publication).

      1. The methodology for constructing an index of tariffs for freight transport services (hereinafter - Methodology) refers to a statistical methodology formed in accordance with international standards and approved in accordance with the Law of the Republic of Kazakhstan dated March 19, 2010 "On State Statistics" (hereinafter - Law).

     2. This Methodology defines the main aspects and methods of nationwide statistical monitoring of changes in tariffs for freight transport services, selection of surveyed sample sets, formation of weight components, calculation of tariff indices and is applied by the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan and its territorial divisions.

     Footnote. Paragraph 2 - as amended by the order of the Head of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan dated 08/06/2021 No. 13 (shall be enforced ten calendar days after the day of its first official publication).

     3. The methodology was developed taking into account the principles and recommendations of the Producer Price Index Manual: Theory and Practice issued by the International Labor Organization, the International Monetary Fund, the Organization for Economic Co-operation and Development, the Statistical Office of the European Communities, the United Nations and the World Bank (2004). ), adapted taking into account the peculiarities of the economy of the Republic of Kazakhstan and the surveyed type of economic activity.

      4. This Methodology uses concepts in the meanings defined in the Law, and in the laws of the Republic of Kazakhstan dated September 21, 1994 "On transport in the Republic of Kazakhstan", dated December 8, 2001 "On railway transport", dated July 4, 2003 "On road transport", dated July 6, 2004 "On Inland Water Transport", and the following definitions:

     1) aggregate price index - a relative indicator that characterizes the change in prices for a separate subgroup, group or phenomenon under study as a whole and is formed on the basis of individual price indices;

      2) aggregation - combining low-level economic indicators into larger aggregates at all subsequent levels;

     3) price registration - collection of primary statistical data on prices (tariffs) for goods and services in the course of nationwide statistical observations;

      4) base object - a legal entity selected for monitoring and registration of tariffs in it;

     5) an individual price index - a change in the prices of one element of the studied population (a specific product, service);

     6) classification - division of a set of objects into groups according to similarity or difference in accordance with accepted features;

     7) imputation - the process of replacing missing, incorrect or inconsistent values with other values;

     8) the weight of the index is a value that reflects the significance of each individual element in their totality;

     9) representative service - transportation of one ton of a specific variety of the selected type of cargo in a certain message for a certain (fixed) distance by the corresponding mode of transport;

     10) rotation - a deliberate replacement of the observed base object with a similar one with a similar specialization of foreign trade transactions;

     11) weighting - a procedure used in index calculations to obtain summary indicators and ensure the commensurability of different tariffs that are not directly summable;

     12) weighing scheme - a set of weights for specific types of cargo, determined for all degrees of aggregation according to the standard classification;

     13) a statistical indicator - a qualitative characteristic of socio-economic phenomena and processes in society, reflecting the essence of a phenomenon or process in specific conditions of place and time;

     14) sample - individual items from classifiers, nomenclatures and directories used in the collection and processing of statistical data.

     Footnote. Clause 4 as amended by the order of the Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan dated 06/20/2019 No. 2 (shall be enforced ten calendar days after the day of its first official publication).

**Chapter 2. Selection of basic objects for observation**

      Footnote. The title of chapter 2 is as amended by the order of the Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan dated 06/20/2019 No. 2 (shall be enforced ten calendar days after the day of its first official publication).

     5. To monitor the change in tariffs for freight transport services, the basic objects are selected taking into account their representativeness in the entire aggregate and the possibility of regularly obtaining data on the types of services selected for observation. The selection is made by a combination of continuous and selective methods.

     6. In the railway, pipeline, inland waterway, sea and air modes of transport, the number of active transport enterprises is limited and continuous observation of all units is used.

     In railway transport, monitoring is carried out at the head enterprise of the railway, in pipeline transport, it is carried out in the departments of main pipelines. In the air, inland waterway and maritime modes of transport, the list of basic facilities includes all transport enterprises operating in the Republic of Kazakhstan, regardless of their size.

     Footnote. Paragraph 6 - as amended by the order of the Head of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan dated 08/06/2021 No. 13 (shall be enforced ten calendar days after the day of its first official publication).

     7. The information basis for creating a list of basic objects is the data of the statistical business register and the nationwide statistical observation on the services of road and urban electric transport by type of communication.

     The sample set includes transport enterprises of all forms of ownership and dimensions, operating on a permanent basis and providing a significant volume of services for a particular region. Transport companies that have a significant fleet of vehicles and have stable relationships with the main customers of cargo transportation services are connected, ensuring the regularity of obtaining price information comparable in time.

     To form a list of basic objects from the general list of operating motor transport enterprises, large and medium-sized enterprises are first selected in a full circle.

     Next, small auto enterprises are connected using the main array method, which involves selecting from the general population the most significant of its units that have the largest share for a certain attribute.

     A sign is the statistical indicator "the volume of services rendered for the carriage of goods." Transport companies are selected that provide significant volumes of cargo transportation and are the most suitable for the survey in this industry. The sample network includes transport companies with a relatively small volume of services, but specializing in the transportation of certain types of goods.

     Footnote. Paragraph 7 - as amended by the order of the Head of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan dated 08/06/2021 No. 13 (shall be enforced ten calendar days after the day of its first official publication).

     8. The sample of basic objects is rotated annually. At the end of the year, based on an analysis of the regularity of providing information on tariffs during the reporting year by each base facility, and data from nationwide statistical observations on the volume of services provided by transport enterprises for the carriage of goods, the list of base facilities is updated and expanded. The sample includes new transport companies that provide significant volumes of services for the region or carry out the transportation of types of goods and were not previously included in the price survey.

     Transport companies that have left the market of transport services are excluded from the sample. When the observed base objects are liquidated or reorganized, they are replaced. When transport enterprises are merged or disaggregated, newly created enterprises are connected to the observation, those that have left the observation are replaced by others, taking into account the following:

     1) preservation of the message (direction) of the cargo flow;

     2) tariffs for the observed types of services do not differ significantly from their level prevailing at the transport enterprise that dropped out of the survey.

**Chapter 3. Selecting Service Representatives for Observation**

      Footnote. The heading of chapter 3 is as amended by the order of the Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan dated 06/20/2019 No. 2 (shall be enforced ten calendar days after the day of its first official publication).

     9. The selection of services-representatives for registration of tariffs for the carriage of goods is carried out in two stages.

     At the first stage, in order to ensure a unified approach to the formation of an index of tariffs for freight transport services, a list of freight transport services is formed on the basis of data from nationwide statistical observations on the services of various modes of transport by type of message.

     The list includes all directions (messages) of cargo flows and the most important, mass types of transported goods for this type of transport. The main selection criteria are:

     1) social, economic and strategic importance of the direction of cargo transportation, type of cargo for a particular mode of transport;

     2) the volume, mass character and regularity of the provision of transportation services in the selected direction (for the selected type of cargo) in their totality.

     To identify the volume and significance of the directions of cargo transportation and types of transported goods, based on the data of nationwide statistical observations on transport services by types of messages, the structure of income from the transportation of various types of goods by types of messages of each mode of transport is determined. The types of messages and cargoes that occupy the largest volumes in cargo transportation are selected to connect to the monitoring of tariffs for a particular type of transport.

     10. To monitor the dynamics of tariffs in railway and pipeline modes of transport, types of cargo are selected that are of paramount importance for the economy of the Republic of Kazakhstan: transportation of grain, its products, coal, metals, oil products, timber and other products, pumping oil, gas.

     11. In air and inland water transport, the main directions of cargo flows are determined: international and within the Republic of Kazakhstan.

     Footnote. Paragraph 11 - as amended by the order of the Head of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan dated 08/06/2021 No. 13 (shall be enforced ten calendar days after the day of its first official publication).

     12. In road transport, all possible directions of transportation are covered: international, within the republic, urban and suburban. On the basis of data on the income of motor transport enterprises by type of cargo obtained from the nationwide statistical observation, the types of cargo that are of paramount importance for the economy of the Republic of Kazakhstan are selected.

     Footnote. Paragraph 12 - as amended by the order of the Head of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan dated 08/06/2021 No. 13 (shall be enforced ten calendar days after the day of its first official publication).

      13. At the second stage, on the basis of a given list of modes of transport, messages (directions) of cargo transportation and types of cargo, a regional set of services representing freight transport representatives is formed for regular inspection.

     The main principle for selecting representative services for monitoring tariffs is their representativeness for characterizing price dynamics.

     When forming the list of representative services, the following is taken into account:

     1) selected specific types of cargo occupy a significant share in the total volume of cargo transportation;

     2) selected types of cargo are transported relatively stably during the calendar year;

     3) the selected routes prevail in the available directions of cargo flows;

     4) each type of cargo selected for observation has a specification reflecting the distance (direction) of their transportation, the type (make) of the vehicle (car) used;

     5) data on the value of tariffs for them are comparable in both periods.

     14. The following types of goods are not covered by price monitoring:

     1) dangerous goods that cause death, injury or disease of people, animals, explosion, fire, damage or destruction of property, and harm the environment;

     2) perishable goods that have a limited shelf life and require special conditions of transportation and storage.

     15. The reliability of the calculated indices at all levels of aggregation depends on the correctness and representativeness of the selected service representatives.

     The selected freight transport services and their specifications remain unchanged throughout the year. Revision and replacement of previously selected service representatives is carried out at the beginning of the year, with a change in the weighing scheme. In exceptional cases, in order to maintain the continuity of the price range (liquidation of the route, the disappearance of this type of cargo), their replacement is allowed during the year.

**Chapter 4. Registration of tariffs**

      Footnote. The title of chapter 4 is as amended by the order of the Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan dated 06/20/2019 No. 2 (shall be enforced ten calendar days after the day of its first official publication).

     16. The tariff is indicated as of the 15th day of the month, in tenge without value added tax. When tariffs are set in US dollars and other hard currencies, they are converted into the national currency at the official (market) exchange rate according to the data of the National Bank of the Republic of Kazakhstan on the date of carriage.

     17. Tariffs are registered for specific representative services with predetermined specifications that allow identification of the service during the reporting period to ensure their comparability.

     The value of railway freight rates depends on the distance of transportation, the type of rolling stock and the size of the cargo being sent, air - on the distance of transportation and tariff class, road - on the class of cargo, vehicle capacity, distance or duration of transportation, for transportation by inland water transport - on natural and climatic factors and timing of navigation.

     The main principle of comparability of registered tariffs is the absence of significant discrepancies between the specifications that determine the amount of the tariff (carriage charge or cost of transportation) and their composition. Comparability is ensured by registering tariffs for the same assortment type of cargo transported in the same direction and under the same transportation conditions.

     18. The activity of transport enterprises often depends on fluctuations in consumer demand for the services they provide and the seasonality of the operation of certain types of freight transport. In these cases, during the year there is a need to replace temporarily missing tariffs for freight transport services. The choice of which method to replace the missing actual tariff depends on the results of a thorough analysis of tariff developments.

     Replacement of one service-representatives by another is made at the beginning of the year. In exceptional cases, in order to maintain the continuity of the price range during the reporting year, it is allowed to introduce a new representative service to replace the retired one.

     In the absence of replacement tariffs, imputation is carried out to ensure the continuity of the dynamic range of calculated indices.

**Chapter 5. Formation of a weighting scheme for tariff indices**

      Footnote. The heading of chapter 5 is as amended by the order of the Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan dated June 20, 2019 No. 2 (shall be enforced ten calendar days after the day of its first official publication).

     19. One of the steps in constructing the index of tariffs for freight transport services is the formation of a weighting scheme that allows aggregation from the lowest to the highest level according to the applied classification.

     Weighing schemes are formed centrally for the Republic of Kazakhstan as a whole and for each region. The information basis for the formation of the weighting scheme used to calculate the index of tariffs for the transportation of goods by various modes of transport is the data of nationwide statistical observations on the income received by transport enterprises from the services they provide for cargo transportation in current prices (tariffs) for a certain year, taken as the base one.

     20. For each region, there are cost data distributed by type of transport service. They are broken down by type of message and cargo, depending on the specific weight of the direction and type of cargo transportation. The obtained cost data on representative services and types of communication are summarized for the Republic of Kazakhstan by types of transport, directions of cargo transportation and types of cargo.

     21. The ratio of the volumes of services rendered for the carriage of goods between types of transport services undergoes certain changes from year to year, due to differences in the volume of cargo transportation. In view of this, the weighting scheme formed for the index of tariffs for freight transport services is updated annually. When replacing cost data on revenue from freight transportation, the types of services identified for price observation are reviewed and expanded.

     22. For the accuracy of calculation of tariff indices and to prevent distortion of the index, the base period of weights and the base period of tariffs are reduced to a single time interval. To do this, the procedure for adjusting the weights is used, which consists of the following sequential operations:

     1) determination of the correction factor;

     2) determination of adjusted weights;

     3) normalization of weights.

     To calculate the adjustment factor, a number of monthly tariff indices are used by December of the previous year for the reference period under consideration. The adjustment factor is the quotient of the value of the tariff index for December and the average value of the tariff indices for the entire base period:



1)

     where:

      K - the correction factor;

       *I* t 12 – tariff index of December of the previous year to December of the previous year;

       *I* t 1 *, I* t 2 *,... I* t 12 monthly tariff indices of the year on which the weights are determined, to December of the previous year;

       *1, 2,..., 12* are the months of the base year.

     The adjustment factor is calculated according to the subtypes of the classification of the index of tariffs for freight transport services (six-digit level) and is applied for each lower level of aggregation - a position in the subtype. By multiplying the determined volumes of services by the adjustment factor, the adjusted volume is calculated for items in the service subtype.

     The adjusted weight across the entire population is found by summing the adjusted weights according to the existing aggregation. The resulting sum, the weight of the entire population, is equated to one by normalization. To do this, the resulting weight of each type of service is divided by the sum of the adjusted weights for their entire set.

**Chapter 6. Calculation of the index of tariffs for the transportation of goods**

     23. Depending on the degree of coverage of the elements of the sample population, the calculation of individual and aggregated indices of tariffs for freight transportation is carried out.

     24. The calculation of individual price indices is carried out on the basis of the values recorded in the statistical forms of the nationwide statistical observation and is carried out according to the formula:



(2)

     where:

       *I* nj – individual tariff index;

       *P* nj – tariff for representative service *j* in reporting period n ;

       *P (* n -1) j - tariff for representative service *j* in the previous period *n -1*

     Aggregated indices of tariffs for cargo transportation are calculated by groups of different degrees of aggregation: by types of cargo or directions of cargo transportation; by type of freight transport, by freight transport in general.

     The calculation of tariff indices for directions, types of cargo in the region is carried out using the indices of incoming services-representatives according to the geometric mean formula (Jvons index):



(3)

      where:

      I – index of tariffs by directions (types of cargo) by region;

       *I* 1 , *I* 2 ... *I* k - individual tariff index for representative services;

       *k-* the number of representative services.

     25. To calculate tariff indices for transport services of higher levels of aggregation, a modified Laspeyres formula is used, which allows calculating indices based on successive observations of tariff changes, weighted through a constant weighting scheme:



(4)

      where:

       *I* - index of tariffs for freight transport services for the reporting period relative to the base;



– individual index of tariffs for the type of service j ;



– the cost of freight transport services in the prices of the base period, taken as standard weights for aggregation;



– the cost of freight transport services in the reporting period

     at,



(5)

     26. The formation of tariff indices for the corresponding periods of the previous year (month, quarter, cumulative period) is carried out by the basic method, which provides for the "linking" of monthly price indices to each other in a sequential dynamic index series, which has a fixed reference point as a base.

     Calculation of monthly tariff indices of the reporting year to the corresponding month of the previous year is carried out by dividing the monthly tariff index in this index row of the reporting year by the monthly tariff index in the same row of the previous year:



6)

     where:

       *I* t - tariff index for month t of the reporting year to the corresponding month of the previous year;

       *I* tn – tariff index of month t of the reporting year n in the index row;

       *I* t ( n -1) – tariff index of month t of the previous year n -1 in the index row.

     Cumulative tariff indices for the corresponding period of the previous year are determined by dividing the sum of monthly tariff indices of the index series of the compared period with the same sum of monthly tariff indices of the previous year:



(7)

     where:

       *Ip* – tariff index for January-December of the current year to January-December of the previous year;

       *I* pn 1 *, I* pn 2 *... I* pn 12 - tariff index for January, February, ..., December of the reporting year n in the index row;

       *I* p ( n -1)1 *, I* ( p - n 1) 2 *... I* p ( n -1) 12 - tariff index for January, February, ..., December of the previous year n -1 in the index row.

     Tariff indices for a quarter to the previous quarter are calculated as the ratio of the sum of monthly tariff indices in the index series included in the observed period to the sum of monthly tariff indices of the previous period:



(8)

     where:

       *Ik* - the index of tariffs for the 2nd quarter against the 1st quarter;

       *I* n 1 *, I* n 2 *, I* n 3 - tariff indices for January, February, March of the reporting year n of the index series;

       *I* n 4 *, I* n 5 *, I* n 6 - tariff indices for April, May, June of the reporting year n of the index series.

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