Approved by the order of the Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan

dated December 12, 2016

no. 310

**Methodology for determining the gross output for the industry "Construction"**

**Chapter 1. General provisions**

1. The methodology for determining the gross output in the industry "Construction" (hereinafter - Methodology) refers to the 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. The methodology determines the procedure for calculating the gross output of construction products within the framework of national statistical observations, taking into account hidden and informal activities.

3. The System of National Accounts of 2008 and the recommendations of the Organization for Economic Cooperation and Development on measuring the non-observed economy were used as a methodological basis.

4. The methodology is applied by the employees of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan when formation statistical indicator "Gross output of construction products".

5. The following main definitions are used in this Methodology:

1) non-observed economy - includes types of production activities that cannot be covered when collecting information from the main sources used to compile national accounts;

2) overhaul of buildings and structures - work on the restoration and replacement of individual parts of buildings (structures) or entire structures, parts and systems of engineering and technical equipment due to their physical wear and tear and destruction to more durable and economical, improving their performance;

3) gross output - the output of goods and services is the total value of goods and services that are the result of the production activities of resident units of the national economy in the reporting period;

**Chapter 2. The procedure for calculating the gross output of construction products**

6. Gross output of construction products includes the cost of construction and reconstruction of buildings and structures carried out by organizations, as well as the cost of construction work performed by individual developers, households.

7. The output of the construction industry consists of the volume of   
construction and installation works of new construction, capital and current repairs of buildings and structures, taking into account hidden and informal activities.

8. The information base of the calculations made are the forms of statistical observations of monthly, quarterly and annual frequency for the sectors of construction and investment, selective statistical observations for individual entrepreneurs and households

9. The procedure for calculating the gross output of construction products consists of the following stages:

1. determination of the volume of construction work of the formal economy;
2. determination of the volume of construction work, taking into account the hidden and informal economy.

**Paragraph 1. Determination of the volume of construction work of the formal economy**

10. The volume of construction work in new construction is determined by summing up the volume of investments in fixed capital for construction and installation work carried out by business entities and individual developers, as well as other costs associated with the construction of the facility.

The volume of construction work in new construction is calculated using the following formula:

|  |  |
| --- | --- |
| , | (1) |

Where:

*v nov* - about the volume of construction work in new construction;

*v sm* r *P* - the volume of costs for construction and installation works for large, medium and small enterprises;

*v smrIS* - the amount of costs for construction and installation works of individual developers;

*v p* - the amount of other costs associated with the construction of the facility.

11. Statistical information on the costs of construction and installation works for large, medium and small enterprises is formed on the basis of monthly nationwide statistical observation on investments in fixed assets.

12. Statistical data on the costs of construction and installation works of individual developers are formed on the basis of statistical observation of the objects put into operation by individual developers.

13. Data on the statistical indicator "Other costs associated with the construction of the facility" are formed annually on the basis of a nationwide statistical observation on investment activity. From the total volume other costs used in calculating the gross output of construction excludes the costs of design and survey work and interest paid to the bank for a loan.

In the monthly calculation of the gross output of construction products, 1/12 of the annual volume of other costs associated with the construction of the facility is used.

14. The volume of construction work on the repair of buildings and structures is formed by summing up the volume of work on the overhaul and current repair of buildings and structures carried out by economic entities, as well as household expenses for building materials for the maintenance and repair of residential premises and the volume of construction, repair and construction work and services provided by households.

The volume of construction work on capital and current repairs of buildings and structures is calculated by the following formula:

|  |  |
| --- | --- |
| , | (2) |

Where:

*v rem* - the volume of construction work on capital and current repairs of buildings and structures;

*v kP* - the volume of investments in fixed capital for the overhaul of buildings and structures for large, medium and small enterprises;

*v tKR* - the volume of current repairs of buildings and structures performed by large and medium-sized contractors;

*v tM* - the volume of current repairs of buildings and structures performed by small contractors;

*v rDom* - the volume of construction services, repair and construction works provided by households;

*v mDom* - household expenditures on materials for the maintenance and repair of residential premises.

15. Statistical information on the volume of investments in fixed assets for the overhaul of buildings and structures for large, medium and small enterprises is formed monthly on the basis of nationwide statistical observation on investments in fixed assets.

16. Statistical information on the volume of construction work on current repairs performed by large and medium-sized enterprises is formed on the basis of nationwide statistical observation of completed construction work (services) on a monthly basis.

17. Statistical information on the volume of construction work on current repairs performed by small businesses is formed on the basis of nationwide statistical observation of completed construction work (services) on a quarterly basis. Due to the lack of monthly information on small enterprises, an adjustment is made for the intermediate volume of small enterprises until the quarterly volume of construction work is received.

18. The source of information for indicators: construction works (services), repair and construction works and expenditures on materials for the maintenance and repair of residential premises, is a quarterly questionnaire of nationwide statistical observation on household expenditures and incomes.

19. Statistical data on the volume of manufactured products and services rendered by individual entrepreneurs are formed on the basis of nationwide statistical observation on the activities of an individual entrepreneur on an annual basis, in accordance with the main type of economic activity "Construction".

In the monthly calculation of the gross output of construction products, 1/12 of the annual volume is used.

20. Statistical data on the rental of construction machinery and equipment with an operator for large and medium-sized enterprises are formed monthly on the basis of nationwide statistical observation of completed construction works (services).

21. The formation of statistical data on the rental of construction machinery and equipment with an operator for small enterprises is carried out on the basis of a quarterly nationwide statistical observation of completed construction works (services) for small enterprises.

22. Statistical data on the rental of construction machinery and equipment with an operator for individual entrepreneurs are formed in accordance with the code of economic activity "Rental of construction machinery and equipment with an operator" on the basis of nationwide statistical observation on the activities of an individual entrepreneur.

Rental of construction machinery and equipment with an operator, by enterprises is calculated according to the following formula:

, (3)

Where:

*v arendaP* - rental of construction machinery and equipment with an operator, by enterprise;

*v arendaKR* - rental of construction machinery and equipment with an operator, for large and medium-sized enterprises;

*v arendaM* - rental of construction machinery and equipment with an operator, for small businesses.

23. Volume of performed construction works (services) the formal economy is calculated using the following formula:

|  |  |
| --- | --- |
| , | ( 4 ) |

Where:

*v f* - volume of construction works (services) formal economy;

*v nov* - volume of construction works in new construction;

*v rem* - about the volume of construction works for the repair of buildings and structures;

*v IP* - the volume of manufactured products and services rendered by individual entrepreneurs;

*v arendaP* - rental of construction machinery and equipment with an operator, by enterprise;

*v arendaIP* - rental of construction machinery and equipment with an operator, for individual entrepreneurs.

The algorithm for calculating the gross output of construction in the formal economy is given in Appendix 1 to this Methodology.

Paragraph 2. Determination of the volume of hidden and informal activities in the construction industry

24. Estimation of the volume of gross output includes all types of official and non-observed activities of economic entities. When all adjustments and adjustments to the gross output of construction products are collectively indicated, an additional calculation is made for covert and informal activities.

Hidden and informal activities in terms of construction include:

1) construction of country houses and other outbuildings on country and garden plots, garages and other facilities by individuals who do not submit data to the statistical authorities;

2) the activities of unincorporated enterprises engaged in the construction and repair of facilities (temporary construction teams that are not registered and have not received a license for construction activities in the manner prescribed by law);

3) underestimation of data on completed volumes by construction organizations in order to evade taxes.

25. When determining the volume of contract work in construction, taking into account hidden and informal activities, the balance method is used. This method is based on a comparison of interrelated indicators, from different points of view, characterizing the phenomenon under study (revenues and expenses, resources and their use). On the basis of investment resources, the volumes of contract work in construction are determined and compared with statistical observation data. The resulting difference characterizes the magnitude of hidden and informal activities.

Investment resources are understood as construction and other materials used in construction and installation, repair work, as well as engineering products.

26. When determining the volume of contract work in construction, taking into account the parameters of hidden and informal activities, the following stages are distinguished:

1) determination of possible (estimated) volumes of contract work in construction;

2) determination of the volume of contract work in construction for large and medium-sized enterprises and organizations;

3) determination of the scope of contract work in construction performed by small businesses and organizations;

4) determination of the parameters of hidden and informal construction activities by comparing the possible volumes of contract work with the relevant data of statistical observations and their distribution by region.

27. Determination of the volume of hidden activities in the construction industry is carried out on the basis of investment resources.

28. The amount of investment (material) resources for construction, installation works (including the repair of buildings and structures) is calculated according to the following formula:

*R s = (P + C - Δ3 ) ×(1 + K 1 )× dn /d,* ( 5 )

Where:

*Rs*- cost of investment resources;

*P* - production of products of the building materials industry (taking into account the informal economy) without intra-industry turnover;

*C* - foreign trade balance ( the ratio between the value of exports and imports of the country for a certain period ) for building materials;

*Δ3*- change in stocks of goods from manufacturers and in trade;

*K1 \_*- the ratio of trade and transport margins of building materials to the resources of building materials at buyer's prices;

*dn* - the share of intermediate consumption of building materials in the "construction" industry in the total intermediate consumption of building materials;

*d* - the share of intermediate consumption of building materials in the total volume of intermediate costs of the construction industry.

29. The estimated volume of construction, installation and repair work performed is determined by the formula:

*V o = (R s / d mater ) \* d h,* ( 6 )

where :

*V o* - the estimated volume of completed construction, installation and repair work;

*Rs \_*- the cost of investment (material) resources for construction and installation and repair work;

*d mater* - the share of the cost of materials in the total volume of construction, installation and repair work;

*d h* - share of work performed for own needs.

thirty. The amount of additional calculation for covert activities is determined as the difference between the estimated volume of contract work and the data of statistical observation forms, taking into account small enterprises according to the following formula:

*D s = V o- V c*, ( 7 )

Where:

*D s* - about the amount of additional calculation for covert activities;

*V o* - the estimated volume of completed construction, installation and repair work;

*Vc \_* - volume of completed construction works.

31. The value of hidden and informal construction activities is distributed by regions, in proportion to the amount of underestimation of data on the volume of construction and installation works in the reporting of contractors, over similar data in the reporting of the customer and is calculated using the following formula:

*D p = Zsp / Zspk× D pk* , ( 8 )

Where:

*D p* - the amount of additional calculation for hidden and informal activities at the regional level;

*D rk* - the value of the adjustment for covert and informal activities at the republican level;

*Зsp* - the amount of underestimation of the volume of construction and installation work in the reporting of contractors over similar data in the reporting of the customer at the regional level;

*Zsrk* - the amount of underestimation of the volume of construction and installation work in the reporting of contractors over similar data in the reporting of the customer at the republican level.

32. When evaluating the objectivity of the results obtained, the dynamics of the share of costs by elements and items in the volume of contract work is monitored, the volume of developers and the volume of contract work performed are compared.

33. The volume of informal activities is formed from:

1) the amount of additional calculation for the construction of individual residential buildings built by the population;

2) the amount of additional calculation for the construction of country houses and garages built by the population.

34. When determining the amount of additional calculation for the construction of individual residential buildings built by the population, administrative data on permits and statistical data on commissioned residential buildings by individual developers are used.

Determining the amount of additional calculation for the construction of individual residential buildings built by the population consists of several stages:

1. the average duration of the process of building houses by individual developers is determined on the basis of statistical data from a semi-annual questionnaire on the start of construction and installation work according to permits;
2. by dividing the total area of residential buildings by the average length of months, the average total area of residential buildings is determined per month;
3. the average total area of residential buildings per month is multiplied by the average actual costs for the construction of one square meter of the total area of residential buildings built by individual developers.

Estimated amount of additional calculation for the construction of individual residential buildings built by the population is calculated according to the following formula:

*n is = ( S /* 15 *)\* Ps \_* , (9)

Where:

*n is* - the amount of additional calculation for the construction of individual residential buildings built by the population;

*S* - the total area of residential buildings according to the submitted permits by individual developers, square meters;

15 - average duration of the construction process;

*Ps \_* - average actual costs for the construction of one square meter.

35. The amount of additional calculation for the construction of country houses and garages built by the population is formed on the basis of the annual statistical observation on the commissioning of facilities by individual developers.

The calculation is based on the dynamics of the averaged data of the last three years on the total area and the actual cost of commissioned dachas for temporary residence, garages for cars and individual houses built by the population.

Specific weights are calculated separately for each year by the ratio of the total area of dachas for temporary residence and garages for cars to the total area of houses built by individual developers according to the following formula:

*q d1,2,3 = ( S d + S g ) / S in )\** 100, ( 10 )

where :

*q d 1,2,3* - share of allowances for the construction of country houses and garages built by the population;

*S d* - the total area of cottages for temporary residence, square meters;

*S g* - total area of garages for cars, square meters;

*S in* - the total area of individual residential buildings, square meters.

At the last stage, the average specific gravity is calculated:

*q sr* = ∑ *qd 1,2,3 \_* / 3, ( 11 )

Where:

*q sr* - the average share of the adjustment for the construction of country houses and garages built by the population;

*q d 1,2,3* - share of allowances for the construction of country houses and garages built by the population;

3 is the number of years.

The calculated average specific gravity is multiplied by the monthly volume of costs for construction and installation works of individual developers according to the reporting data according to the following formula:

*n d* = *q sr* \* *v smrIS,* (12)

Where:

*n d* - the amount of additional calculation for the construction of country houses and garages built by the population;

*q sr* - the average share of the adjustment for the construction of country houses and garages built by the population;

*v smrIS* - the amount of costs for construction and installation work of individual developers.

36. The total amount of additional calculation for informal activities is determined by the following formula :

*d n* = *n d +* *n is,* (1 3 )

Where:

*d n* - about the amount of additional calculation for informal activities;

*n d* - the amount of additional calculation for the construction of country houses and garages built by the population;

*n is* - the amount of additional calculation for the construction of individual residential buildings built by the population;

37. The total amount of additional calculation for covert and informal activities is determined by the following formula:

*v n* = *ds +* \_ *d n,* (1 4 )

Where:

*v n* - about the volume of hidden and informal construction activities;

*d s* - calculation of the volume of gross output of construction products for hidden activities;

*d n* - calculation of the volume of gross output of construction products for informal activities.

The algorithm for calculating the gross output of construction products for hidden and informal activities is given in Appendix 2 to this Methodology.

Paragraph 3. Determination of the gross output of construction products

38. The volume of gross output of construction represents the total value of work performed in new construction, the volume of work on the overhaul of buildings and structures produced by enterprises, individual developers and households, taking into account hidden and informal activities, which is calculated using the following formula:

*V* = *vf \_* + *v n,* (15)

Where:

*V* - the volume of gross output of construction products;

*v f* - the volume of construction work in the formal economy;

*v n* - the volume of gross output of construction products, taking into account hidden and informal activities.

39. The formed volume in the total output of construction products quarterly and once a year is distributed:

1) by types of construction works in accordance with the type of economic activity "Construction";

2) by administrative-territorial objects (region, republic);

3) by the size of enterprises by the number of employees (small, medium, large);

4) by forms and types of ownership (state, private, foreign).

**Paragraph 4. Calculation of the index of the physical volume of the gross output of construction products**

40. When determining changes in the construction industry, a relative indicator of the physical volume index (hereinafter - IPV) of the gross output of construction products, which characterizes the change in the gross output of construction products in dynamics. IPV of the gross output of construction products is determined by the ratio of the gross output of construction products of the analyzed period to the previous period in actual prices, taking into account the deflator (price index).

When determining the IPV of the gross output of construction products, a deflator is used, which is the price index for   
construction and installation works, which characterizes the change in prices in the process of construction and installation works.

The calculation of the IPV of the gross output of construction products is made according to the following formula:

|  |  |
| --- | --- |
| , | ((1 6 ) |

Where:

*I* - IPV (rates);

*V* - the volume of gross output of construction products;

*t* - period of the current year;

*t-1* - the corresponding period of the previous year;

*I c t/t-1* is the price index for construction and installation works against the corresponding period of the previous year.

Appendix 1

to the Methodology for determining the gross output in the industry "Construction"

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**Algorithm for calculating the gross output of construction products according to the formal economy**

|  |  |  |
| --- | --- | --- |
| **Name of indicator** | **line number** | **Formation (calculation) of the indicator** |
| A | B |  |
| **Gross output of construction by formal economy** | 01 | line 01=line 02+ line 07+ line 13+ line 14+ line 15+ line 16 |
| **New construction** | 02 | line 02=line 03+ line 04+ line 06 |
| including: |  |  |
| construction and installation works, total | 03 | nationwide statistical observation on investments in fixed capital (monthly frequency) |
| construction and installation works performed by individual developers | 04 | nationwide statistical observation on the commissioning of facilities by individual developers (monthly frequency) |
| other costs associated with the construction of the facility | 05 | nationwide statistical observation on investment activity (annual periodicity) |
| from line 5 design and survey work | 05.1 | nationwide statistical observation on investment activity (annual periodicity) |
| from line 5 interest paid to the bank for the loan | 05.2 | nationwide statistical observation on investment activity (annual periodicity) |
| other costs associated with the construction of the facility minus design and survey work | 06 | line 06=(line 05-line 05.1-line 05.2)/12 |
| **Repair of buildings and structures, total** | 07 | line 07=line 08+ line 09+ line 10+ line 11+ line 12 |
| overhaul of buildings and structures for large, medium and small organizations | 08 | nationwide statistical observation on investments in fixed capital (monthly frequency) |
| the volume of construction work on current repairs for large and medium-sized enterprises | 09 | nationwide statistical observation on completed construction works (services) (monthly frequency) |
| the volume of construction work on current repairs for small enterprises | 10 | nationwide statistical observation on completed construction works (services) (quarterly frequency) |
| construction services, repair and construction works (households) | eleven | nationwide statistical observation quarterly questionnaire on household income and expenditure  1/12 of the annual volume |
| costs of materials for maintenance and repair of residential premises (households) | 12 | nationwide statistical observation quarterly questionnaire on household income and expenditure  1/12 of the annual volume |
| **The volume of manufactured products, work performed and services rendered, with the main type of economic activity "Construction", by IP** | 13 | nationwide statistical observation on the activities of an individual entrepreneur (annual frequency), 1/12 of the annual volume |
| **Rental of construction machinery and equipment with an operator, for large and medium-sized enterprises** | 14 | nationwide statistical observation of completed construction works (services) on a monthly basis |
| **Rental of construction machines and equipment with an operator, for small businesses** | 15 | nationwide statistical observation on completed construction works (services) on a quarterly basis |
| **Rent of construction machines and equipment with an operator, by IP** | 16 | nationwide statistical observation on the activities of an individual entrepreneur on an annual basis  1/12 of the annual volume in accordance with the code of economic activity rental of construction machines with an operator |

appendix 2

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|  |  |  |
| --- | --- | --- |
| **Algorithm for calculating the gross output of construction products for hidden and informal activities** | | |
| **Name of indicator** | **line number** | **Formation (calculation) of the indicator** |
| A | **B** |  |
| **Accounting for the hidden and informal economy** | **01** | line 01= line 02+ line 17+ line 23 |
| including |  |  |
| ***hidden activity volume ( Ds )*** | 02 | *Ds = (V* ***about*** *- V c* ***)*** |
| production of products of the building materials industry at the manufacturer's price, thousand tenge (Р1) | 03 | statistical observation data on the production and shipment of products |
| intra-industry turnover, % (а1) | 04 |  |
| size of the informal economy in the building materials industry, % (а2) | 05 | calculated indicator in industrial statistics |
| production of products of the building materials industry (taking into account the size of the informal economy) without intra-industry turnover, thousand tenge (R) | 06 | Р1\*(100-а1)\*(100+а2)  10000 |
| foreign trade balance for this category of goods (import-export) (C) | 07 | customs statistics data |
| change in stocks of goods at producers and in trade (D3) | 08 | statistical observation data on the financial and economic activities of the enterprise |
| the ratio of trade and transport margins of building materials to the resources of building materials at purchase prices, % (K1) | 09 | usage resource table data |
| share of intermediate consumption of building materials in the construction industry in the total intermediate consumption of building materials, % (dn) | 10 | usage resource table data |
| share of intermediate consumption of building materials in the total volume of intermediate costs of the construction industry, % (d) | eleven | usage resource table data |
| the share of the cost of materials in the total volume of construction, installation and repair work ( d mater ) | 12 |  |
| estimated scope of contract work (Vо) | 13 | *Vo=(Rs: d mater )\*d h* |
| share of work performed for own needs (dh) | 14 |  |
| cost of investment resources (Rs) | 15 | *Rs=(P+C-Δ3)\*(1+K1)\*dn/d* |
| total volume of contract work by enterprises (Vс) | 16 | *V s = V ks + V m* |
| ***accounting for the construction of individual residential buildings*** | 17 | line 17=line 22\*line 20 |
| total area of residential buildings according to permits submitted by individual developers, square meters | 18 | nationwide statistical observation on the start of construction and installation works according to permits, semi-annual frequency |
| actual cost of construction of facilities, thousand tenge (for individual developers) | 19 | nationwide statistical observation on the commissioning of facilities by individual developers on a monthly basis |
| average actual construction costs for 1 square meter of the total area, thousand tenge | 20 | line 20=line 19/line 18 |
| average construction time | 21 | 15 months |
| average total area of residential buildings per month, square meters | 22 | line 22=line 18/line 21 |
| ***accounting for the construction of garden and summer cottages by individual developers*** | 23 | line 23 = line 26 of this appendix \*line 04 (construction and installation works for individual housing construction) Appendix 1 to this Methodology |
| total area of country houses and garages put into operation by the population | 24 | nationwide statistical observation on the commissioning of facilities by individual developers on a monthly basis |
| the total area of residential buildings put into operation by the population | 25 | nationwide statistical observation on the commissioning of facilities by individual developers on a monthly basis |
| share of the total area of commissioned country houses and garages by the population to the total area of residential buildings commissioned by the population | 26 | line 26=line 24/line 25 |