

## **RECOMMENDATION ON ESTIMATION OF FULL VOLUME OF RETAIL COMMODITY TURNOVER**

During the period of economic transition a significant expansion of coverage of retail trade, creation of trade's new types, and development of private sector creates necessity of re-establishment of statistical survey methods and indicator system of retail commodity turnover according to international standards and NAS principles.

The main point of retail trade turnover is final consumption of the population or commodity sale for use in households.

The total volume of retail commodity turnover is formed by following groups:

- large and medium enterprises' turnover;
- small enterprises' turnover;
- retail commodity turnover by private owners engaged with trade in outside of market (persons engaged with business activity without forming legal entity based on license of tax authorities);
- turnover by markets and fairs of foods, commodities and mixed goods.

### **Estimation of volume of retail commodity turnover by trade enterprises (small, large and medium) of legal entities**

The statistical information on volume of goods sold to population by economic units of legal entities is formed based on reports of registered trade enterprises (including enterprises, the main activity of which is not trade) and surveys.

The volume of retail commodity turnover is characterized schematically by the following formula:

$$V_t = V_{l.m.} + V_s$$

$V_t$  – volume of retail commodity turnover by legal entities;

$V_{l.m.}$  – volume of retail commodity turnover by large and medium enterprises;

$V_s$  – volume of retail commodity turnover by small enterprises

Statistical information on volume of retail commodity turnover by large and medium enterprises covering all branches of economy is formed based on source documents of monthly surveys.

As a rule, statistical observation of small enterprises is carried out based on quarterly sample surveys. The volume of commodity turnover of small enterprises

by population is defined based on average commodity turnover per enterprise involved in survey:

$$V_s = \frac{V_{survey.}}{N_{survey.}} \times N_s$$

$V_s$  - total volume of commodity turnover of small enterprises;

$V_{survey.}$  - volume of commodity turnover of small enterprises involved in survey;

$N_{survey.}$  - number of small enterprises involved in survey;

$N_s$  - number of small enterprises in total population.

Definition of total population is implemented based on principles of sample survey methodology.

In case of intentional decreasing of primary data or unrepresenting data, the primary data submitted by trade enterprises should be adjusted on the base of unaccounted volume of corresponding indicators; and data adjusted on the base of full accounting rate of turnover by state statistical survey forms should be used as basic from standpoint of database of large, medium and small enterprises. Accounting of volume of informal activity in retail trade sector that belongs to legal entities, by means of different traditional statistical methods is impossible. In case of unrepresenting of report or decreasing of corresponding data, the corrections to primary data may be implemented by means of comparison of time series of indicators of statistical and accounting reports.

In order to estimate the volume of retail commodity turnover by enterprises operated but unrepresenting report intentionally (for example, avoid tax payment and etc.), it is necessary to specify the number of these enterprises. For this purpose, total population by large and medium enterprises and list of enterprises presented report is grouped by types of economic activity and compared and number of enterprises unrepresented report is defined. Total population of enterprises unrepresented report by sample population is used with regard to small enterprises involved in quarterly sample statistical survey. The definition of enterprises unrepresented report is possible by means not only activity types, but place of registration of these enterprises.

### **Estimation of volume of retail commodity turnover by natural entities engaged in ownership activity without forming legal entity**

Private ownership activity plays an important role in formation of retail commodity turnover in outside of markets without formation of legal entity, which makes half of its share and that's why special requirements on organizational and methodological assurance of statistical surveys on trade activities are brought into

focus. Information on trade activity of natural entities engaged in business activity without forming a legal entity is obtained based on periodical sample surveys.

The basis of survey list makes register (total population) of private owners. In order to provide with sufficient accuracy of results, the total population is grouped based on several indicators such as regions, economic activity types, property types, number of employees and etc. The list of sample units involved in survey by means of systematic sample is formed based on sample list divided and regulated by purpose. Total population is compiled based on average indicator of turnover by each group of sample population, and share of each group in total population (or from number of units). Concerning of sample data in total population is carried out by the following formula:

$$Y_d = \sum_{k=1}^{n_d} W_k Y_k$$

- $Y_d$  - aggregate indicator of the survey;
- $W_k$  - sample weight of "k" unit ;
- $Y_k$  - "k" unit estimation;
- $d$  - estimation index by territory;
- $n_d$  - number of units involved in survey.

*The volume of retail commodity turnover by private owners engaged in business activity without forming legal entity* is estimated after obtaining of the information on average monthly turnover by number of private owners by total population and per private owner engaged in trade out of market.

### **Estimation of volume of commodity turnover in markets of food-products, commodity and mixed goods**

Accounting of sale of consumer goods' to population by different citizen (natural persons) in specially places destined for trade – markets (fairs of foods, commodity and mixed goods, markets of agriculture products) is carried out based on quarterly sample statistical surveys by means of official statistical questionnaire forms.

First, it is necessary to compile the register of market and fairs as well as to study the system of organization of trade in markets. The register of food, commodity and mixed goods fairs and agriculture products' markets is approved by corresponding decree of the SSC of the Republic of Azerbaijan and quarterly report on agriculture products' markets and fairs that is compiled and presented by heads of agriculture products' markets and food, commodity and mixed goods'

fairs based on official statistical report form 1 Market (fair). Several requisites, such as property forms of fair and markets, activity type, number of sale areas, number of sellers, payment for per sale area, number of working days of fairs and markets that are considered necessary for conducting of next sample surveys are compiled and presented to statistical offices by management of markets and fairs. Information on list of operated markets and fairs as well as sale areas in them is obtained by means of available statistical survey form. The aggregate number of sellers - $N_T$  (person/day) is estimated based on number of persons engaged in trade and number of working days:

$$N_T = N_t * D_w$$

$N_t$  – number of traders;

$D_w$  – number of worked days of markets.

*For example: if there is 75 sale areas in market and all of them are operated during the month then aggregate number of sellers is equal to  $(75 \times 30) = 2250$  person/day. If in markets 30% of sale places are occupied by representatives of other trade organizations (legal entities or operated trade enterprises without forming legal entity), and 70% - occupied by natural persons paid duty per day, per week and etc. to market manager then aggregate number of seller by market and fair is equal to 1575 person/day:*

$$\left( \frac{75 \times 70}{100} \times 30 \right)$$

Average monthly volume of retail sale by per fair and market is estimated by means to multiply aggregate number of sellers during the month (person/day) by commodity turnover per seller per day. The survey is being conducted during two days in quarter (working day and Sunday) and the share of working day and Sunday is used for estimation of average per day turnover per seller during corresponding period:

$$\left( \frac{V_w \times S_w + V_s \times S_s}{100} \right)$$

$V_w$  and  $V_s$  - average volume of per day commodity turnover by per seller in working days and Sunday;

$S_w$  and  $S_s$  -share of working days and Sunday in corresponding month;

The adequate price index of consumer goods, number of places in fairs and markets during next months and number of trading days per month is used in order to estimate the volume of sale in markets for next months before following survey. According to survey results the volume of average selling per day per seller for

next month is estimated by means of multiply of average selling per day per seller by price index of consumer goods (price index in report month compared to surveyed month).

For example,  $S_{ty}$ - is the volume of average sale per day per sales area in January (in survey month). For estimation of commodity turnover ( $\Theta_f$ ) in February the volume of average selling per day per sale area in January is multiplied by corresponding price index (price index in February compared to January), in February – number of sale areas in fairs and markets, and in February – number of worked days of fairs and markets, i.e:

$$V_f = N_{tf} * S_y * N_w * J_p$$

here:

$V_f$ -volume of commodity turnover in February;

$N_{tf}$ - number of operated sale areas in February;

$S_y$ - volume of average per day selling per sale area during January;

$N_w$ - number of worked days of markets and fairs in February;

$J_p$ - price index in February compared to January.

### **Estimation of full volume of retail commodity turnover including non-organized marketing**

The non-organized marketing's (highway retailing, near the shops, markets and etc.) turnover is not covered by above-mentioned methods of formation of retail commodity turnover.

The volume of trade turnover in non-organized sphere is estimated based on comparison of total volume of retail commodity turnover with expenditures spent by households for purchasing of goods (referring to total population) in budget statistics. Compared with indicators of commodity turnover the monthly volume of retail commodity turnover is defined based on estimated rate with regard to heavy expenses spent for purchasing of goods in households.

During the year the volume of retail commodity turnover by non-organized marketing is defined based on estimation of additional rate by following formula once a year:

$$K_g = \frac{V_{ex}}{V_t}$$

$K_g$ - additional rate of estimation;

$V_t$ - total volume of retail commodity turnover by organized marketing including reduced or unrepresented volume;

$V_{ex}$ - volume of expenditures spent for purchasing of goods.

Total volume of retail commodity turnover, including informal activity is estimated by means to add report data to additional estimated data:

$$V = V_r + V_n + V_d + V_f + V_{mf} + V_{e.in}$$

**V**- total volume of retail commodity turnover;

**V<sub>r</sub>**- retail commodity turnover based on indicators of report submitted by legal entities;

**V<sub>n</sub>**- retail commodity turnover estimated based on operating enterprises but not submitted report;

**V<sub>d</sub>**- decreased volume of retail commodity turnover by enterprises submitted report;

**V<sub>f</sub>**- volume of retail commodity turnover by private owners engaged in business activity without forming legal entity;

**V<sub>mf</sub>**- retail commodity turnover by markets and fairs;

**V<sub>e.in</sub>**- estimated volume of retail commodity turnover by informal activity.

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