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PRICE INDEX SYSTEM*

**Paper submitted by the State Statistical Committee
of the Azerbaijan Republic**

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I. INTRODUCTION

1. Since prices for both producer and consumer goods and services are changing in Azerbaijan in all sectors of the economy, the problem of measuring these changes in statistical practice is now being tackled in a comprehensive fashion. Accordingly, Azerbaijan's State statistical bodies have for the last few years been addressing the task of building a system of price indices for all sectors of the economy.

* Invited paper prepared by Ms. N. Guliyeva, State Statistical Committee of Azerbaijan.

2. Considered fundamental to the building of a system of price indices reflecting inflation in sectors of the economy was the establishment of uniform methodological approaches to the recording of prices and the calculation of price indices. Such methodological approaches were formulated as follows:

- (a) Monitoring of prices for a sample population of core enterprises;
- (b) Formation of sets of representative goods and services with maximum harmonization of the items chosen (development of a nomenclature applicable to all sectors of the economy);
- (c) Uniform temporal parameters for recording prices of goods and services (at the end of the reporting month);
- (d) Uniform principles for weighting and an annual revision of weights;
- (e) Calculation formula common to the whole system of price indices.

3. Common approaches to calculating the system of price indices enable the greatest possible precision in comparing price movements in all sectors of the economy.

4. At present Azerbaijan's State statistical bodies have at their disposal the following system of price indices:

- (a) Indices of consumer prices for goods and services;
- (b) Price index for industrial producer enterprises;
- (c) Price index for the marketing of agricultural produce;
- (d) Indices of tariffs for goods transport.

5. Since a consumer price index is treated in international practice as an index characterizing inflation, we feel that the actual methodology used in compiling the index needs to be explained in more detail. It should be borne in mind here that the methodology for constructing other price indices in Azerbaijan is identical, in terms of its key parameters, to that used for compiling the index of consumer prices, as stated above.

II. BASIC METHODOLOGICAL PRINCIPLES FOR CONSTRUCTING THE CONSUMER PRICE INDEX (CPI)

6. The consumer price index in Azerbaijan has been developed following the methodology and with the support of the International Monetary Fund and was introduced as an official tool for the measurement of inflation in January 1995.

7. The methodology for compiling the CPI is constantly being improved, and this is largely to be explained by the substantial changes in inflation and consequently the greater need for precise calculations. Beginning from the second half of 2005 Azerbaijan embarked on the calculation of a new consumer price index, as well as the calculation of regional CPIs. The Classification of Individual Consumption According to Purpose (COICOP), expanded with reference to local conditions, is applied for the calculation of both the regional and the republic-wide CPIs.

8. The CPI is calculated using information derived from two sources:

(a) Data on price changes gathered through monthly recording of prices and tariffs on the consumer market;

(b) Data on the pattern of actual consumer spending by the public over the preceding year, estimated on the basis of figures from a sample household survey.

9. Decelerating rates of inflation have made it possible to switch from weekly to monthly recording of prices. The switch was accompanied by an extension of the range of representative goods and services from 268 to 585 in 2005. This broadening of the range was an objective requirement in view of the saturation of the consumer market with new goods and the public's increasing prosperity.

10. The process of monitoring prices of goods and paid services on the consumer market and calculating a consumer price index involves the following steps:

(a) Selection of core enterprises in the distributive trade and services sectors;

(b) Selection of representative goods and services;

(c) Recording of prices and tariffs;

(d) Establishment of a structure of weights for calculating the CPI;

(e) Calculation of the CPI;

(f) Calculation of average prices or tariffs for goods and services.

11. A Laspeyres formula with weights for the preceding year is employed in the index calculations. Consumer expenditures of the public derived from a household survey of family spending on the purchase of goods and services are used as weights for the CPI calculation. The index covers the country's whole population and uses the preceding year as the base year.

12. The consumer basket includes 585 kinds of goods and services and consists of three main groups: food goods (151), non-food goods (307) and paid services to the public (127). Each group is made up of specific goods or small subgroups (100).

13. Information on prices is gathered by the price collectors of local statistical bodies in all large cities and also in some regions of the country. Regional indices are aggregated for the country on the basis of the relative weight of the regions by population size. In principle this

kind of weighting is acceptable, while problems of improving household statistics are addressed. Price information is gathered with identical periodicity in all regions at one and the same time. Data are recorded over a period from day 1 to day 27 of each month. Information on the prices of food products is obtained three times a month every 10 days, while prices for all other goods and services included in the list are recorded once a month. Information on prices is gathered by the price collectors of local statistical bodies in the capital and five of the republic's major cities. Regional indices are aggregated for the country on the basis of the relative weight of the regions by population size. The price information gathered covers all possible places of large-scale regular sale of each good, including shopping malls, kiosks and department stores, agricultural and informal markets (street trading). Trade outlets are located in various districts of a city and vary in size. Two to three prices are recorded for each item in various shops in the city centre and three to four prices are recorded in those on the outskirts. Price observations are made at approximately 9,500 of the republic's trade outlets - 3,500 in the capital and about 6,000 in other cities - covering all marketing channels. The largest number of price quotations collected (8 to 10) is for the "food goods" group. The smallest is for the "rent, water, heating, electricity" group, where prices and tariffs are established centrally. Six to seven price quotations are obtained on average for each of the other groups. The selection of core enterprises in the services sector has focused on those offering people the greatest range of services.

14. The fact that the consumer market is saturated with all possible kinds of goods adds to the complexity of the exercise and calls for accurate recording of the items in greatest demand, since the varying quality of one and the same type of good (different producer countries, all sorts of imitations, goods with expired shelf lives, etc.) makes for a wide spread of prices both in the capital and especially in the provinces. This applies both to food goods and to non-food items.

15. Another factor - the steady rise in the well-being of the population - is having a positive influence on the price recording system, since outlets covered are gradually turning into more specialized shops or supermarkets offering a large selection of quality goods throughout the year and with free pricing of any good on sale in any packaging.

16. In sampling a particular kind of good, preference is given to an item likely to be on sale in subsequent months. Goods are selected as being suited to the typical consumer, and not on the basis of the price collector's own personal taste. The item selected is described in detail in the price collector's notebook. If there is a quality change or a new product appears, adjustments are immediately made in the range of goods covered or the retail outlet is altered. If a particular type or kind of good disappears from sale, two principal methods are used to ensure continuity in the calculation of the price indices:

- (a) Substitution of the representative good or service;
- (b) Use of a nominal price (the average price for the period preceding the disappearance of the good is adjusted with reference to the overall index of prices for a group of similar goods).

17. Records are kept of the actual price of a good which is freely available for sale (excluding goods sold at preferential rates) and paid for in cash. The recorded price includes VAT, excise duties and other indirect taxes. Prices for “black market” items, purchases of goods under credit arrangements and goods produced for own consumption, as well as the trading-in of old items for new ones, are not taken into account. Standard nationwide prices, where regulated centrally, are obtained once a quarter from the relevant organizations. This group includes prices for:

- (a) Electricity, natural gas, water; and
- (b) Rail and air transport, postal services and communications.

18. Prices for: (i) education and (ii) medical treatment are established in proportion to the expenditures taken from family budget surveys.

19. Goods with maximum and minimum prices are sampled in proportion to their respective shares in total sales. For each good, enough prices are recorded to make a representative determination of its average price. The average price of a good is determined as a geometric average value. Starting from 2005 observation of paid education services has been included in the monitoring of price levels and changes.

20. The CPI is calculated with a monthly and quarterly periodicity, as well as a progressive total for the period since the start of the year. It is compiled monthly relative to the preceding month, December of the preceding year and the progressive total from the beginning of the year to the corresponding period of the preceding year.

21. Price indices for the quarter, half-year and period since the beginning of the year are calculated by the “chain” method, i.e. by remultiplying the monthly consumer price indices.

III. CONCLUSION

22. Work is continuing in Azerbaijan to improve the existing methodology for the collection of price information and calculating both the consumer price index and the whole system of price indices. The basic principle here remains a systemic approach to constructing indices of the prices in all sectors of the economy.

23. Furthermore, considering that Azerbaijan’s price statistics system does not have an aggregated index of prices showing inflation as a whole, one of the tasks to be addressed is the development of a methodology for an indicator characterizing inflation in general.
