Regional Course on SNA 2008 (Special Topics):
Improving Exhaustiveness of GDP Coverage

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Country Report

UZBEKISTAN

Data sources and estimation methods
for compiling quarterly national accounts

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Introduction

The implementation of national accounts in Uzbekistan started in 1994 when the State program of transition to internationally accepted accounting and statistics system was adopted. Before that there was the Material Product System (MPS), which was used in the Soviet Union and its republics as a tool for the analysis of macroeconomic processes and the economic policy development.

At present, System of National Accounts implemented in the Republic of Uzbekistan is based on the concepts of the 1993 SNA. 2008 SNA changes are gradually being implemented in national statistical practice.

All current accounts of the System (production account, generation of income account, allocation of primary income account, secondary distribution of income account, use of disposable income account) and among the accumulation accounts, capital account are compiled on an annual basis.

Supply and Use tables and experimental tourism satellite accounts are also compiled annually.

At present, in practice of State Statistics Committee, GDP is estimated by two approaches: Production approach and final expenditure approach. GDP is compiled by both approaches on an annual and quarterly basis, at current and constant prices. Gross regional product for the 14 territorial administrative units of Uzbekistan is also compiled by the production approach on an annual and quarterly basis, at current and constant prices.

GDP is calculated in accordance with "Methodological regulations for GDP calculation by production approach" and "Methodological regulations for GDP calculation by final expenditure approach", approved by the State Statistics Committee of Uzbekistan. They are broadly consistent with the 1993 SNA and 2008 SNA recommendations.

Compilation and dissemination dates of quarterly and annual GDP are set in the Program of state statistical works, which is annually approved by the Cabinet of Ministers of Uzbekistan.

The GDP data are revised and made more precise in accordance with availability of input information. Preliminary annual estimates of GDP at current prices and constant prices are compiled and disseminated in January next to reference year. Revised annual estimates of GDP obtained from the data of annual state statistical reporting are compiled in November next to reference year.

Preliminary quarterly GDP estimates are made on the 14th day after the end of the reference quarter. Revision of the quarterly data is made in 3 months after completion of final annual GDP. Revised quarterly GDP estimates are compiled taking into account the proportions and ratios of the last annual GDP estimate.
Data sources for estimates of GDP includes a wide range of information resources, the development of which envisaged in the annual Program of state statistical works (short-term business surveys, sample survey of small enterprises, micro-firms and individual entrepreneurs, household budget surveys, structural surveys of enterprises and organizations, and administrative data).

The main data sources for GDP calculations:
- Monthly survey covering all large commercial enterprises;
- Quarterly sample survey of small enterprises and micro-firms;
- The annual structural survey covering all large commercial enterprises, commercial small enterprises and micro-firms, public non-profit organizations, non-public non-profit organizations, banks, insurance companies and agricultural farms;
- Regular household budget survey;
- Quarterly, semi-annual and one-time sample surveys of individuals (informal sector) engaged in agricultural, industrial, construction, commercial activities and providing transportation and other services;
- Administrative data of the Ministry of Finance, Ministry of Economy, tax and customs authorities, the Central Bank, extra budgetary funds and other agencies (on execution of the state budget, balance of payment, tax receipts, customs duties, rendered financial services, monetary indicators, and other relevant statistical data).

**Practice of GDP compilation by the production approach**

Production approach is considered as a main approach for the official GDP estimates in Uzbekistan. This choice is connected with the specific characteristics of the existing data sources and some features of the Statistics of Uzbekistan.

GDP by production approach is compiled at current prices and constant prices for the calculation of the real growth rate and the GDP deflator. The corresponding period of the previous year is used as a base for comparison, in order to take account of active structural changes in the economy. The base year for constant price estimates is changed every year.

The annual GDP estimations are compiled on the basis of more detailed and reliable data sources. It is ensured the highest consistency of production indicators for the various types of economic activity, the use of goods and services to the satisfaction of final demand, and income generation processes in the annual GDP estimations. Annual GDP estimations are compiled at the level of the NACE, rev.2 sections.

Quarterly GDP estimates are compiled to characterize the current economic dynamics, the values of which are revised after the annual estimates based on more detailed information. Quarterly GDP, unlike the annual, is compiled at a higher level of aggregation.
Quarterly GDP is compiled on a cumulative basis. The growth rate and the deflator is also compiled and published in comparison with the same cumulative period of the previous year. At present, Compilation of discrete quarterly GDP estimates at current and constant prices is at an experimental stage.

Annual GDP estimates are available since 1990, and quarterly estimates - since 2000. GDP estimates up to 2015 were compiled in accordance with the national classification of industries, so called OKONH. Since 2016, GDP estimates have been compiled on the basis of NACE, rev.2. At present, GDP estimates have been compiled on the basis of NACE, rev.2 for 2014-2015 and for the first and the second quarters of 2016 (cumulative estimates). It is planned to recalculate the retrospective time series of GDP from OKONH to NACE, rev.2 for the period from 1990 to 2013.

Quarterly estimates of output are based on the reporting data, which are summarized by branch departments and presented to the Macroeconomic indicators and national accounts department on the 6-7th day after the end of the reference quarter.

Branch departments present the following data:
- Output at current prices (on a cumulative basis);
- Volume indices as a percentage of the corresponding period of the previous year.

The calculations of intermediate consumption on an annual basis are produced according to the structural survey data of enterprises and organizations, the report on the execution of the state budget and the admission of expert assessments.

Quarterly estimates of intermediate consumption by economic activities are produced using the share of intermediate consumption in gross output in final annual accounts.

When compiling preliminary quarterly estimates of GDP, due to the lack of direct information on some indicators, GDP estimates are made using indirect indicators and admission of expert assessments.

Calculations of quarterly GDP by production approach at constant prices (at the prices of the corresponding period of the previous year) are produced by economic activities using single indicator method. Constant prices are derived by the method of extrapolation with the volume indices (for agriculture, transport), the deflated value index (in industry, construction, trade and certain types of market services) and the employment index (mainly for non-market services).

In some cases, single deflation method is also used.

Volume index of agricultural production, which is calculated by the Agriculture and ecology statistics Department, is used as an extrapolator for gross value-added of agriculture. This index is calculated using the direct revaluation method, as a limited number of homogeneous products is produced in agriculture.
The gross value added of transportation activity is extrapolated using the volume index obtained by aggregating the indices cargo turnover and passenger turnover by all types of transport.

The gross value added of industry activity (sections B, C, D, E of NACE, rev.2) is extrapolated with the index of industrial production. Index of industrial production is calculated by the Industrial statistics department by deflating the data on output with Producers’ Price Index (PPI). Calculation of aggregated index of industrial production is produced using the gross value added structure of industry subsectors as weights at the 2-digit level of the NACE, rev.2.

The gross value added of construction at constant prices is estimated using volume index of construction, which is calculated by the Investments and construction statistics department. The volume index of construction is calculated by deflation current output using the price index for construction and assembly works. This price index is calculated on the basis of the data on prices for construction costs.

Estimates of output and value added of wholesale and retail trade at constant prices are carried out using an extrapolation method by volume index of wholesale and retail trade turnover, which are calculated by the Foreign Economic Activity and Trade Statistics Department. The retail and wholesale trade turnover at constant prices is calculated by deflating the data at current prices using the consumer price index.

When estimating gross value added by other market services, appropriate price indices, average wage changes index or employees change index and other physical indicators that adequately reflect the dynamics of the development of these types of services are used as constant price conversion indexes.

Gross value added by non-market services at constant prices is calculated mainly by extrapolating employment index data. Data on organizations financed from the state budget, are converted into constant prices by revaluation on cost elements through appropriate price indices.

Estimation of net taxes on products at constant prices: VAT – with the volume index of value-added of taxable sectors; excise duties - with the volume index of excisable goods; import taxes - by the growth rate of imports in the external trade turnover; subsidies – by the deflator of subsidized products and services.

**Practice of GDP calculation by the final expenditure approach**

The GDP estimates by the final expenditure approach are compiled at current and constant prices on an annual and quarterly basis. Terms of data compilation and dissemination are identical to that of GDP by the production approach.

Quarterly calculations, like the GDP by production approach, are compiled on a cumulative basis.

The corresponding period of the previous year is used as the base period for comparison.
Gross domestic product calculated by the final expenditure approach consists of final consumption expenditure, gross capital formation and net export.

An independent calculation of GDP by all expenditure components is produced on an annual basis. Not all the GDP expenditure components are assessed independently in the quarterly estimates. Change in inventories is determined by a residual principle in the quarterly GDP estimates. The existing imbalances between the production and expenditure GDP components are shown on the expenditure side, together with the changes in inventories.

**Household final consumption expenditure** consists of the expenditure on the purchase of consumer goods and paid services, and consumption of goods and services produced by households for their own final consumption. The COICOP is used as the classification of these expenditures.

Data sources for household expenditures for the purchase of consumer goods and paid services are as follows:

- data on retail trade statistics;
- data of paid services rendered to population;
- results of the household budget survey;
- balance of the basic agricultural food resources.

Consumption of goods and services produced for household own final use includes:

- Agricultural products produced by households (own farms);
- Industrial and other goods produced by households for their own consumption;
- Services of owner-occupied dwellings.

The value of agricultural products produced for own final consumption is determined on the basis of the data on balance of basic food resources.

The value of industrial and other goods produced by households for their own consumption is determined on the basis of the data from household budget surveys.

Owner Occupied housing service is estimated as imputed housing service. Imputed services of owner-occupied dwellings are calculated using the cost method.

Estimates at constant price are carried out by deflating household final consumption expenditure at current prices with the relevant consumer price indices.

**General government final consumption expenditure estimations** are carried out on the basis of the data of the report on execution of the State budget of the Ministry of Finance. The Ministry of Finance provides detailed information on revenues and expenditures of the state budget on a quarterly and annual basis.

Estimates at constant price are produced mainly by extrapolating government expenditure of the base period using the index of employees.
Final consumption expenditure of non-profit institutions serving households (NPISHs) is defined on the basis of the state statistical reporting for non-profit organizations. Estimates at constant price are carried out by extrapolating the data of the base period with the index of employees.

Estimation of gross fixed capital formation is based on: state statistical reports of legal entities carrying out investment activities; information of the territorial bodies of public administration on the construction of individual housing and nonresidential facilities by individuals; sample surveys data on individual houses commissioned.

The conversion of gross fixed capital formation to constant prices is carried out by deflating the data of the current period with the price index of fixed capital investment, which is obtained as an aggregated index from price indices for construction and assembly works, machinery and equipment, and other capital works and expenses.

The change in inventories is calculated as the difference between the stock value at the end and the beginning of the reporting period according to data on financial condition of enterprises. To eliminate the effects of changing prices (holding gains) when calculating changes in inventories, a special calculation is made, the purpose of which is to assess the stocks at the beginning and the end of the period at average prices of the period. Corresponding quarterly chain indexes are used for this purpose.

Producers’ Price Indexes are used for the revaluation of materials and supplies, work-in-progress and finished products. Goods for resale are revalued by consumer price index.

Data on exports and imports of goods and services are generated by the Department of Foreign Economic Activity and Trade Statistics on the basis of:
- monthly data from the State Customs Committee on the export and import of goods;
- monthly state statistical reporting of enterprises on the export-import of certain goods (electricity and natural gas), as well as goods, the ownership of which was transferred from resident to non-resident, without crossing the country’s borders and not accounted for in the customs declarations and customs statistics;
- quarterly state statistical reporting of enterprises engaged in export-import of services.

Exports-imports price indices are used for conversion of the data to constant prices.

Data quality assurance

The quality of the GDP calculations is ensured as follows:
- GDP is compiled in strict accordance with the methodical regulations approved by the State Statistics Committee on the calculation of GDP by production approach and by final expenditure approach that correspond to the concepts of the 1993 SNA / 2008 SNA;
Calculations of input data for GDP, generalization and processing of primary data are also carried out in strict accordance with the instructions and methodological guidelines approved by the State Statistics Committee;

- Work on improving the methodology for calculation of macroeconomic indicators, conduction and organization of state statistical observations is carried out on a regular basis;
  - Input data is constantly analyzed and checked for dynamic conformity;
  - Consistency of data from different data sources is monitored continuously.
  - Comparative analysis and comparison of GDP and other economic indicators are performed continuously;
  - Quality of the estimations of GDP data is analyzed by compiling SUT;
  - The application of modern methods of primary data collecting, processing and storage through the use of IT-resources of the State Statistics Committee (a system of 100% electronic submission of statistical reports has been implemented).

**Areas of concern and plans for the future:**

- Implementation of the discrete approach for quarterly GDP estimates;
- improving the quarterly GDP estimates at constant prices, the transition to calculations at the average prices of the base year;
- Implementation of seasonal adjustment in order to enhance the analytical usefulness of discrete quarterly data;
- Recalculation of retrospective time series of the GDP due to the transition to a new industrial classification – the NACE rev.2;
- Developing the deflation system of NA aggregates, including double deflation method;
- Improving the methodology of measuring the non-observed economy;
- Implementation of 2008 SNA;
- Human resource development in the field of the SNA.