1. The current state of national accounts

After designing by International organizations System of National Accounts 1993 (1993 SNA), it began in Kyrgyz Republic the Implementation of the System of National Accounts (SNA). It was adopted the Republic program of transition of the Kyrgyz Republic on the internationally accepted accounting and statistics system to create a reliable information base for economic analysis in market conditions. The most important section of the program was the transition from the formation of the national economy indicators - to the system of national accounts indicators.

The national accounts of the Kyrgyz Republic are compiled by the department of national accounts of the NSC according to main concepts, categories, definitions and other methodological principles of the System of National Accounts – 1993 (1993 SNA). Since 2000, National accounts are compiled according to a NACE rev.1 based nomenclature (GKED), since 2010, National accounts are compiled according to a NACE rev.2 (GKED 3). Macroeconomic indicators are produced by 19 types of economic activities.

National accounts are developed based on next classifications:

- economic activities GKED-3 (NACE Rev.2) - since 2010;
- products of SCPC-3;
- individual consumption by COICOP objectives (COICOP);
- the functions of general government( COFOG);
- institutional units by sector GKSE (KIES).

The full sequence of accounts, excluding the financial accounts, is compiled on annual basis.

GDP is calculated by the reconciliation of the production and the expenditure approach on a quarterly base and exclusively by the production approach on a monthly base.

Monthly GDP estimates are published 8-10 days after the reporting month, quarterly estimation 90 days after the reporting period and the annual national accounts in November after the reporting year.

In 2009, a methodological provision for calculation of the non-observed economy was developed. In 2015 a methodological provision was improved which described determination of volumes of the hidden and informal sectors by economic activities, evaluation of the NOE.
according to the modular method of Eurostat. Rough estimates of the non-observed economy are
done mainly by the departments producing primary economic statistics and indicators before
these data are incorporated in the framework of the national accounts. The estimate non-
observed economy for the overall economy is close to 20-23 % of the GDP.
Input – Output tables are compiled annually by types of economic activities (34*34) (GKED).
The statistical discrepancy in annual calculations is narrowed by means of an iterative process
based on input and output data, and the small remaining balance is distributed to output
(production) and household final consumption.
Moreover, the NSC calculates Gross Regional Product (GRP) on an annual basis in current
prices and prices of the previous year for the 7 regions and the 2 main cities (Bishkek and Osh).
GRP is calculated by the same structure like GDP. In current prices, the total GRP equals the
national GDP.
National accounts are compiled using Excel tables. Monthly and quarterly GDP estimations are
revised based on the annual national accounts figures.
Data are disseminated via the website of the NSC, as well as in electronic format and on paper
(special publications on National Accounts). Preliminary estimation of monthly GDP are
provided in Express information of the NSC (release), quarterly GDP – in the report Social and
economic situation of the Kyrgyz Republic. National accounts data are then conveyed to
international organisations through standard questionnaires to the UNECE and CIS-Stat and
through the ISC system to the IMF. Methodology, techniques and methods of calculation are
posted on the NSC website http://www.stat.kg//. In addition, brief methodologies on calculation
of main SNA aggregates are included into the annual thematic and general publications.

2. Data sources and methods of estimation of quarterly national accounts at
current and constant prices
Three methods of calculating GDP are adopted – output approach, expenditure approach, income
approach. For the time being, only first two approaches - output approach, expenditure approach
– are applied at quarterly level.
The main sources for the calculation of GDP by the production approach are the following:

- Annual and quarterly reporting on income and expenditures of state and private
  enterprises covering all types of enterprises – juridical persons and all types of economic
  activity of the real sector of economy;
- Integrated sample survey of households and labour force and other surveys conducted by
  the NSC;
- Employment and wage survey;
• Banking statistics provided by the National Bank of the Kyrgyz Republic (NBKR) and commercial banks;
• Report on state budget execution provided by Central Treasury of the Ministry of Finance of the Kyrgyz Republic;
• Reports on customs payments and taxes provided by the Customs and Tax Inspection;
• Special sample surveys on peasant farms and individual entrepreneurs.

Calculations of GDP by expenditure approach are based on:
• data of integrated sample survey of households and the workforce;
• retail trade turnover and surveys of market services;
• balance of agricultural products for calculation of the volume of agricultural production for own consumption;
• administrative data from the Ministry of Finance, the Social Fund, FOMS - used to calculate public administration costs;
• records of the enterprises - for the calculation of gross capital formation and changes in inventories;
• Balance of payments data of the National Bank - for the calculation of exports and imports of goods and services (slide).

2.1 Preliminary estimates of quarterly GDP at current and comparable prices

As quarterly data, based on the basis of annual balance sheets and annual statistics are calculated only in October-November, following the reporting year, then to obtain preliminary estimates it is applied certain indicators (see. Table 1).

Preliminary estimates by production approach at current and comparable prices, mainly based on extrapolations of quarterly data for the corresponding quarter of the previous year.

The exceptions are: industry, agriculture and construction (see. Table 1).

Table 1: Indicators for assessing quarterly GDP at current and comparable prices by type of economic activity

<table>
<thead>
<tr>
<th>Types of economic activity</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture, forestry and fishing</td>
<td>Gross industry output, volume indices. Wages, the index of employment from labor statistics, equivalent to 100% if data are missing.</td>
</tr>
<tr>
<td>Mining</td>
<td>Production from goods made on commission. Volume indices of mining production from statistics of industry and innovations</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>Production from goods made on commission. Volume indices of manufacturing production from statistics of industry and innovations</td>
</tr>
<tr>
<td>Activity</td>
<td>Description</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Electricity, gas, steam and air conditioning supply</td>
<td>Production from goods made on commission excluding electricity purchase. Volume indices of industrial products for the production and distribution of electricity, gas and water from statistics of industry and innovations</td>
</tr>
<tr>
<td>Water supply; sewerage, waste management and remediation activities</td>
<td>Production from goods made on commission. Volume indices of industrial products for the distribution of water from statistics of industry and innovations</td>
</tr>
<tr>
<td>Construction</td>
<td>Gross output of construction. Growth rates of construction from investment and construction statistics</td>
</tr>
<tr>
<td>Wholesale and retail trade; repair of motor vehicles and motorcycles</td>
<td>Turnover. Volume indices and prices by modes of trade and services from consumer market and services statistics</td>
</tr>
<tr>
<td>Hotels and restaurants</td>
<td>Volume of services. Volume indices and prices of services of hotels and restaurants from consumer market and services statistics</td>
</tr>
<tr>
<td>Transportation</td>
<td></td>
</tr>
<tr>
<td>freight</td>
<td>Labor remuneration. Growth rates of freight turnover and price indices by mode of transport</td>
</tr>
<tr>
<td>passenger</td>
<td>Labor remuneration. Growth rates of passenger turnover and price indices (CPI) by mode of transport</td>
</tr>
<tr>
<td>Information and communication</td>
<td>Labor remuneration. Volume of services. The summary index of prices and tariffs</td>
</tr>
<tr>
<td>Financial activities, including FISIM</td>
<td>Labor remuneration. The index of employment from labor statistics. Finance statistics data.</td>
</tr>
<tr>
<td>Real estate activities</td>
<td>Labor remuneration. The index of employment from labor statistics. Average price index consisting of price indices for rents and housing services.</td>
</tr>
<tr>
<td>Professional, scientific and technical activities</td>
<td>Labor remuneration. The index of employment from labor statistics, data on the national and local budgets. Average CPI for veterinary services.</td>
</tr>
<tr>
<td>Administrative and support service activities</td>
<td>Labor remuneration. The index of employment from labor statistics. Average price index consisting of price indices for administrative and notary services.</td>
</tr>
<tr>
<td>Public administration and defense; compulsory social security</td>
<td>Labor remuneration. The index of employment from labor statistics, data on the national and local budgets.</td>
</tr>
<tr>
<td>Education</td>
<td>Labor remuneration. The index of employment from labor statistics, data on the national and local budgets, price indices for education.</td>
</tr>
<tr>
<td>Human health and social work activities.</td>
<td>Labor remuneration. The index of employment from labor statistics, data on the national and local budgets. Average CPI for health care.</td>
</tr>
<tr>
<td>Arts, entertainment and recreation.</td>
<td>Labor remuneration. The index of employment from labor statistics, data on the national and local budgets. Average CPI for recreation and cultural events</td>
</tr>
<tr>
<td>Other service activities</td>
<td>Labor remuneration. The index of employment from labor statistics, data on the national and local budgets. Average CPI for dry cleaning, sauna, hairdressers, funeral services.</td>
</tr>
</tbody>
</table>
Calculation of taxes and subsidies on production are based on annual reports of the Ministry of Finance on the execution of state and local budgets and reports on payment of customs payments and taxes. Most transactions are reflected by accrual method, which is consistent with the general principle of the 1993 SNA, with the exception of current expenditures and revenues of the general government units, which are accounted on a cash basis.

**Calculations of quarterly GDP by expenditure**

Quarterly GDP estimates, based on expenditure approach are mainly based on cumulative data with the exception of household final consumption expenditure and exports and imports of goods and services.

Estimates of household final consumption expenditure based on retail turnover data (consumer goods) and market services provided to the population (reporting enterprises, service providers).

Quarterly estimates of gross fixed capital formation and changes in inventories are based on reports of enterprises. General government data are obtained from the government accounts, and exports and imports of goods and services are obtained from the balance of payment statistics that are compiled by the central bank. It was noted that the government accounts and the government finance statistics are both available in a cumulative form.

To recalculate the quarterly GDP by expenditure components, accumulation and net exports to the prices of the previous year is used deflation method (table 2).

**Table 2: Price Index of the recalculation GDP by expenditure at previous year prices**

<table>
<thead>
<tr>
<th>Components</th>
<th>Deflation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household</td>
<td>Price Index (CPI) for goods and services</td>
</tr>
<tr>
<td>NPISH</td>
<td>Index-deflator for specific industry in the production account</td>
</tr>
<tr>
<td>General government</td>
<td>Index-deflator for specific industry in the production account</td>
</tr>
<tr>
<td>Gross fixed capital formation</td>
<td>Price Index on capital investments</td>
</tr>
<tr>
<td></td>
<td>Price Index of selling prices for cattle.</td>
</tr>
<tr>
<td></td>
<td>Price Index for the overhaul</td>
</tr>
<tr>
<td>Net acquisition of valuables.</td>
<td>CPI</td>
</tr>
<tr>
<td>Changes in inventories</td>
<td>PPI, CPI</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------</td>
</tr>
<tr>
<td>Exports (f.o.b.)</td>
<td>Price Index of Exports</td>
</tr>
<tr>
<td>Imports (f.o.b.)</td>
<td>Price Index of Imports</td>
</tr>
</tbody>
</table>

The production method is considered basic for the quarterly and annual GDP estimates.

The difference between GDP by production and expenditure methods is taken into account in the accounts as a statistical discrepancy in preliminary calculations and smoothed with refined calculations.

**Quarterly estimates of GDP by production approach are reviewed / formed 3 times:**

- **preliminary** – formed on the basis of operational data, published in the current and comparable prices by 8 - 10 days after the reporting year. At the same time the previous year (T0), also formed from the preliminary estimates.

- **amended** - after the calculation of the annual final data the recalculation of the preliminary quarterly data of the previous year (T0) is made based on the obtained changes both in the structure of the PP, and in the release.

Thus, having the data in general for T0 and T1 - by economic activity and certain quarterly indicators (see table 1 above), they must be adjusted so that a total of four (4) quarter the figures were annual data.

Since the gross value added activity consists of labor income, mixed income, taxes on production payment, then as an important indicator for the evaluation / breakdown of annual GDP using the available rate "payment for labor". For comparability of data, this index is formed from the operational quarterly data. I.e., quarterly amended data is formed on the basis of annual accounts and structurally broken down according to the payment for labor share in the relevant quarter.

Reevaluation by economic activity at constant prices (previous year prices) is produced by using of the method of extrapolating the data for the previous year at current prices indices of physical volume, number of employees index or physical indicators. The obtained data on real gross output by economic activity are multiplied by the respective share of intermediate consumption in the current year T0 and GVA in real terms is obtained by subtracting.

- **final** - calculated similarly amended after receiving the annual reports, published a year after the reporting year. (see the calculation algorithm above).

**Quarterly Estimates of GDP by expenditure approach are also reviewed / formed 3 times**
All quarterly calculations are adjusted on the basis of the annual reporting.

3. Problems of quarterly estimates of GDP

Currently, quarterly estimates of GDP by production continue to be based on cumulative data from the beginning of each year. Discrete quarterly data at current prices are derived from the cumulative accounts by subtracting the corresponding values of the precedent period, thus, the accounts for the third quarter are obtained as the difference between the value for January-September and the value for January-June.

In this connection, there is no way to determine the changes in the data so prior periods. Therefore, any such changes will be reflected in the data for the last quarter and not the quarter to which they relate.

According to the accounting principles of all corrections made by the company during the period when the detected inaccuracy / error. In this revised information included in the next cumulative index. This shows a major flaw in existing data gathering common practice.

The Kyrgyz Republic subscribed to the IMF’s Special Data Dissemination Standard in February 2004. Quarterly GDP data are disseminated for both the production and expenditure approaches; however, these data are derived from cumulative source data, thus, deviating from the internationally recommended compilation practices, and producing misleading results.

Estimates are compiled at current prices, at comparable prices of the previous year, and at 2010 prices.

Comparative (benchmark) approach to the preparation of quarterly accounts not apply.

In Kyrgyzstan, in the previous year adopted as the base year.

Quarterly Estimates of GDP taking into account seasonal adjustments are not made.

Currently, work has been started by the Office of the National Assembly on the calculation of the GDP production approach by quarters with the transition from discrete to cumulative data (base year, 2010.) under the IMF's technical assistance.

3. Possible solutions to the problems associated with the calculations KNS

- Quarterly estimates need to be compiled based on discrete data. Efforts should be made to collect discrete data from enterprises and in cases where it is not possible, revised data for past cumulative periods should be obtained to avoid allocating the revisions to the last quarter.
• Compilation should be made at a detailed level; thus, for GDP by production, the estimates should be compiled at least at the two-digit level of the industrial classification. This would provide more accurate estimates as it will take into account, changes in the structure of production on a current basis.

• Quarterly estimates should be compiled at average prices of the previous year and as chain-linked volume values with reference to a selected year.

• The NAD should organize meetings with the main users of the quarterly national accounts (QNA) data to explain and convince the users of the benefits of having quarterly data based on international standards.

4. Monitoring and management of quality

In recent years, statistics of Kyrgyzstan has made great progress in improving data quality. The Kyrgyz Republic became the 57th country in the world and fourth among the CIS countries, which has signed the IMF Special Data Dissemination Standard (SDDS). This was a tremendous step forward in the development of the State Statistics and the recognition that the system meets some important international standards. In the framework of the SDDS, a regular external monitoring of quality is provided by the IMF. The NSC provides the collection and dissemination of data in compliance with the IMF SDDS information concerning four quality parameters:

• coverage, periodicity and timeliness of data;

• public access;

• data reliability;

• the quality of data.

In the State Statistics of the Kyrgyz Republic, the quality monitoring is the responsibility of the heads of the substantive organisational units according to the hierarchical principle.

Procedures or methods to monitor the quality of the stages in the statistical production process (survey planning, survey design, data collection, data processing, data analysis, and dissemination) are routinely applied. For all surveys, the field operations, the data entry, and the coding are routinely supervised. Revisions of the results are made when required.

The Main Computer Centre (MCC) is responsible for the development and improvement of software allowing logical quality checks of the primary data and the aggregation process. For some areas, internal handbooks, guidelines, or recommendations for the statistical production process are available.
In order to improve the quality of management, main objectives and tasks of the state statistics have been included in the Program of improvement and development of state statistics of the Kyrgyz Republic for 2015-2019 years.

Currently there is no:

However, there is currently no specific unit that would be responsible for quality monitoring, management and training, and the prevailing policy is that everybody strives to achieve maximal quality given the low available resources.

A comprehensive handbook and training programme on quality monitoring and management for staff members are not yet available.

Thank you for attention