



TECHNICAL ASSISTANCE REPORT

REPUBLIC OF AZERBAIJAN

Report on National Accounts Mission
(April 15–26, 2024)

DECEMBER 2024

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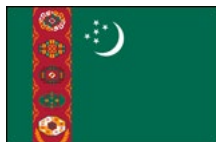
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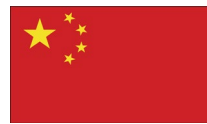
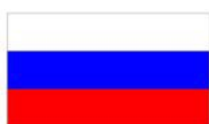
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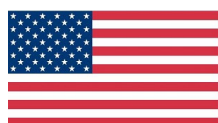
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Acronyms

| | |
|------------|--|
| 2008 SNA | <i>System of National Accounts, 2008</i> |
| CCAMTAC | Caucasus, Central Asia, and Mongolia Regional Capacity Development Center |
| COICOP | Classification of Individual Consumption by Purpose |
| CPI | Consumer Price Index |
| GDP-E | GDP by Expenditure |
| GDP-P | GDP by Production |
| NACE Rev.2 | European Classification of Economic Activities |
| NAD | National Accounts and Macroeconomic Indicators Department of the State Statistical Committee of Azerbaijan |
| PSD | Price Statistics Department of the State Statistical Committee of Azerbaijan |
| SSC | State Statistical Committee of Azerbaijan |
| TA | Technical Assistance |
| XMPI | Export and Import Price Indices |

Summary of Mission Outcomes and Priority Recommendations

1. **A technical assistance (TA) mission on national accounts of the Caucasus, Central Asia, and Mongolia Regional Capacity Development Center (CCAMTAC) visited Baku during April 15–26, 2024.** The mission assisted the State Statistical Committee of Azerbaijan (SSC) in developing the system of quarterly national accounts. The mission reviewed the compilation of quarterly GDP by production (GDP-P) and expenditure (GDP-E).
2. **The SSC has been working for the past few years to implement discrete quarterly GDP in line with international best practice.** For this purpose, a chain-linked time series of quarterly GDP data was compiled using the benchmarking and annual overlap technique, as recommended in the [2017 IMF Manual on Quarterly National Accounts](#) (Chapter 8 and 9). At this point, the discrete time series of quarterly GDP-P are almost complete, and more than half of the work required for the compilation of chain-linked time series of quarterly GDP-E is done.
3. **The mission reviewed the time series of discrete quarterly GDP-P and provided recommendations for further improvement.** The chain-linked time series is compiled by using the European Classification of Economic Activities (NACE rev.2) and starts from 2010. The mission noted that in some sections of NACE Rev.2 the quarterly structure of output needs to be adjusted through close cooperation with the SSC sectoral departments. The comparison of real GDP growth rates revealed considerable discrepancies in some quarters. The mission noted that after analyzing these differences and adjusting (if necessary) the time series will be ready for publication.
4. **The mission also reviewed the compilation of quarterly GDP-E.** Unlike the production approach, the quarterly time series of GDP-E starts from 2015. The mission reviewed the chain-linked time series of exports, imports, gross fixed capital formation, and changes in inventories, noting that their compilation follows international best practice. Currently, the SSC is compiling chain-linked time series of household consumption and government consumption, after which it will be possible to reconcile the quarterly estimates of GDP-P and GDP-E. On that stage, the SSC should identify the least reliable indicators and adjust them to achieve the balance between the quarterly estimates of GDP-P and GDP-E.
5. **To support the development of quarterly national accounts, the mission recommended a detailed action plan with the following priority recommendations:**

TABLE 1. Priority Recommendations

| Target Date | Priority Recommendation | Responsible Institutions |
|--------------|--|--------------------------|
| January 2025 | Analyze discrepancies between real growth rates of quarterly GDP-P in the chain-linked time series and currently published series, identify the main reasons and adjust data if necessary. | SSC |
| January 2025 | Compile the chain-linked time series of household consumption | SSC |
| March 2025 | Publish chain-linked time series of QGDP-P and QGDP-E estimates on the SSC website. | SSC |

6. **Further details on the priority recommendations and the related actions/milestones can be found in the action plan under Detailed Technical Assessment and Recommendations.**

Detailed Technical Assessment and Recommendations

| Priority | Action/Milestone | Target Completion Date |
|--|---|------------------------|
| Outcome: Quarterly GDP by production estimates is based on discrete source data | | |
| H | Analyze discrepancies between real growth rates of quarterly GDP-P in the chain-linked time series and currently published series, identify main reasons and adjust data if necessary. (October 2024) | January 2025 |
| H | Reconcile QGDP-P and QGDP-E estimates at the detailed level of products | February 2025 |
| H | Publish chain-linked time series of QGDP-P and QGDP-E on the SSC website | March 2025 |
| Outcome: Quarterly GDP by expenditure estimates are compiled and disseminated | | |
| H | Compile chain-linked volume measures of household consumption. | January 2025 |
| H | Compile chain-linked volume measures of government consumption. | January 2025 |

H – High

A. QUARTERLY GDP BY PRODUCTION

7. The SSC compiles and publishes QGDP-P at constant prices with the reference year 2005. However, the compilation method is based on extrapolation of volume indices with additional adjustments based on expert estimates. The currently published time series of quarterly GDP-P use the old version of NACE (NACE Rev.1.1) The published time series of quarterly GDP can be improved by implementing chain-linked time series that are compiled by using the benchmarking and annual overlap technique.

8. The SSC has been working for the past few years to implement discrete quarterly GDP in line with international best practice. For this purpose, a chain-linked time series of quarterly GDP data was compiled as recommended in the 2017 IMF Manual on Quarterly National Accounts. At this point, the experimental time series of discrete quarterly GDP-P is complete but not published yet.

9. The mission reviewed experimental time series of chain-linked QGDP-P. The experimental chain-linked series are available at the level of NACE Rev.2 sections starting from the first quarter of 2010. The mission noted that in certain economic activities at the two-digit level of NACE Rev.2, the quarterly structure of output needs to be adjusted through close cooperation with the SSC sectoral departments. During the mission, the experimental chain-linked series were compared to the currently published time series of quarterly GDP-P, which use the previous version of NACE (NACE Rev.1.1) and start from 2005. Due to the use of different classifications, it was not possible to compare the data with full accuracy. However, several key sections in the old and new classifications do not differ significantly. The comparison of real GDP growth rates revealed some discrepancies in some quarters. Table 2 shows the real growth rates of quarterly GDP in the currently published and chain-linked time series.

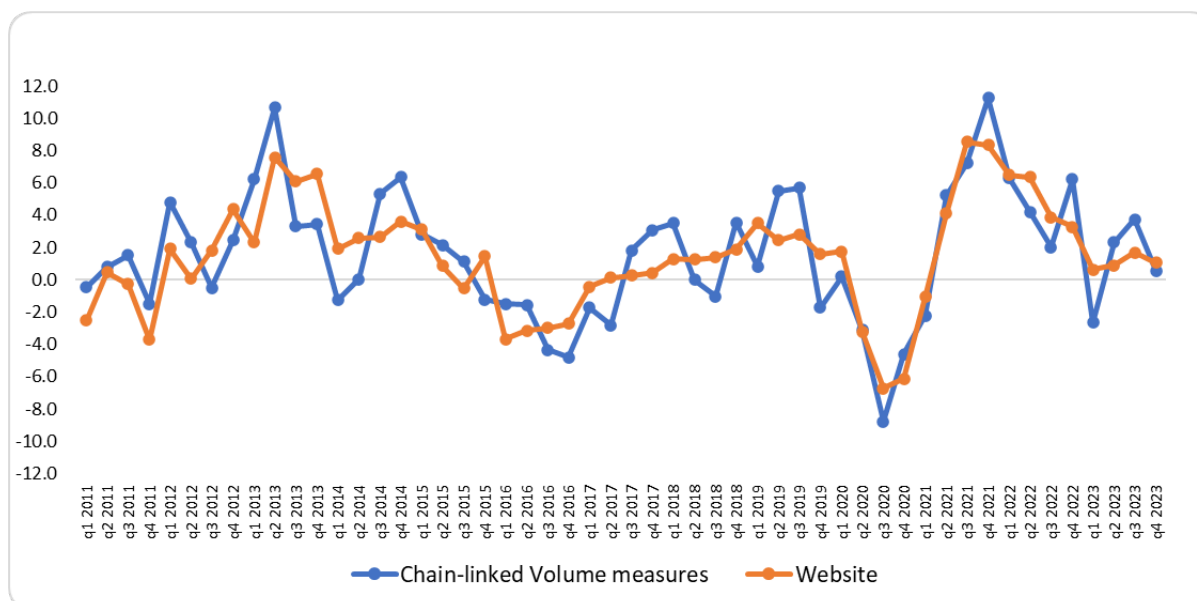
TABLE 2. Real Growth Rates of Quarterly GDP-P, Year-on-Year, Percent

| Quarter | Chain-linked volume measures | Published | Difference in percentage points |
|---------|------------------------------|-----------|---------------------------------|
| q1 2011 | -0.5 | -2.5 | 2.0 |
| q2 2011 | 0.8 | 0.5 | 0.3 |
| q3 2011 | 1.5 | -0.3 | 1.8 |
| q4 2011 | -1.5 | -3.7 | 2.2 |
| q1 2012 | 4.8 | 1.9 | 2.9 |
| q2 2012 | 2.3 | 0.0 | 2.3 |
| q3 2012 | -0.5 | 1.8 | -2.3 |
| q4 2012 | 2.5 | 4.4 | -1.9 |
| q1 2013 | 6.2 | 2.3 | 3.9 |
| q2 2013 | 10.7 | 7.6 | 3.1 |
| q3 2013 | 3.3 | 6.1 | -2.8 |
| q4 2013 | 3.4 | 6.6 | -3.1 |
| q1 2014 | -1.3 | 1.9 | -3.2 |
| q2 2014 | 0.0 | 2.6 | -2.6 |
| q3 2014 | 5.3 | 2.7 | 2.7 |
| q4 2014 | 6.4 | 3.6 | 2.7 |
| q1 2015 | 2.8 | 3.1 | -0.3 |
| q2 2015 | 2.2 | 0.9 | 1.3 |
| q3 2015 | 1.1 | -0.5 | 1.6 |
| q4 2015 | -1.2 | 1.4 | -2.7 |
| q1 2016 | -1.5 | -3.7 | 2.2 |
| q2 2016 | -1.6 | -3.2 | 1.6 |
| q3 2016 | -4.3 | -3.0 | -1.4 |
| q4 2016 | -4.8 | -2.7 | -2.1 |
| q1 2017 | -1.7 | -0.4 | -1.3 |
| q2 2017 | -2.8 | 0.1 | -3.0 |
| q3 2017 | 1.8 | 0.2 | 1.6 |
| q4 2017 | 3.1 | 0.4 | 2.7 |
| q1 2018 | 3.5 | 1.3 | 2.2 |
| q2 2018 | 0.0 | 1.3 | -1.3 |
| q3 2018 | -1.0 | 1.4 | -2.4 |
| q4 2018 | 3.5 | 1.9 | 1.6 |
| q1 2019 | 0.8 | 3.5 | -2.7 |
| q2 2019 | 5.5 | 2.4 | 3.1 |
| q3 2019 | 5.7 | 2.8 | 2.9 |
| q4 2019 | -1.7 | 1.6 | -3.3 |
| q1 2020 | 0.2 | 1.8 | -1.6 |
| q2 2020 | -3.1 | -3.2 | 0.1 |
| q3 2020 | -8.8 | -6.7 | -2.1 |
| q4 2020 | -4.6 | -6.1 | 1.5 |
| q1 2021 | -2.2 | -1.1 | -1.1 |
| q2 2021 | 5.2 | 4.1 | 1.1 |
| q3 2021 | 7.2 | 8.5 | -1.3 |
| q4 2021 | 11.3 | 8.4 | 2.9 |
| q1 2022 | 6.3 | 6.5 | -0.2 |
| q2 2022 | 4.2 | 6.4 | -2.2 |
| q3 2022 | 2.0 | 3.9 | -1.9 |
| q4 2022 | 6.2 | 3.3 | 3.0 |
| q1 2023 | -2.6 | 0.6 | -3.3 |
| q2 2023 | 2.3 | 0.9 | 1.4 |
| q3 2023 | 3.7 | 1.7 | 2.0 |

| Quarter | Chain-linked volume measures | Published | Difference in percentage points |
|---------|------------------------------|-----------|---------------------------------|
| q4 2023 | 0.6 | 1.1 | -0.5 |

10. The mission noted that after analyzing these differences by each NACE Rev.2 section and adjusting data (if necessary) the time series will be ready for publication. Graph 1. shows the discrepancy in the quarterly growth rates of real GDP between the chain-linked time series and published quarterly GDP-P.

GRAPH 1. Real Growth Rates of Quarterly GDP, y-o-y Percent



11. The next stage would be reconciliation of QGDP-P and QGDP-E estimates. This will improve the overall quality of national accounts estimates and reduce the statistical discrepancy. The QGDP-P estimates were compiled earlier, but once the QGDP-E estimates are ready they can be compared at the detailed level of products and adjusted to ensure balance between supply and use. The mission and NAD staff discussed resource constraints at this stage and concluded that one year is a reasonable timeframe to reconcile the QGDP_P and QGDP_E and disseminate the final estimates.

Recommended Actions:

- Analyze discrepancies between real growth rates of quarterly GDP-P in the chain-linked time series and currently published series, identify main reasons and adjust data if necessary. (October 2024)
- Reconcile QGDP-P and QGDP-E estimates at the detailed level of products. (February 2025)
- Publish chain-linked time series of QGDP-P and QGDP-E estimates on the SSC website. (March 2025)

B. QUARTERLY GDP BY EXPENDITURE

12. In the last two years the SSC has made good progress in compiling GDP-E. Following the request of the Ministry of Economy the SSC divided household consumption into durable and non-durable goods at the most detailed level of Classification of Individual Consumption by Purpose (COICOP).

13. Following the request of the Ministry of Economy the SSC divided the gross capital formation on an annual and quarterly basis, as well according to the SNA 2008 by types of fixed assets starting from 2015: GFCF in construction (broken down by dwellings, other buildings, and structures), machinery and equipment (broken down by transport equipment, ICT equipment, other machinery, and equipment), cultivated biological resources, intellectual property products (broken down by research and development, computer software and databases), and GFCF in other products.

14. The compilation of volume measures of imports and exports of goods and services has also been improved. The SSC compiles exports and imports of goods based on customs data, which are classified according to the Harmonized System (HS). Compilation at constant prices is done at an aggregated level by deflation using imports and exports price indices (XMPI) produced by the Price Statistics Departments (PSD). The quality of export and import price indices (XMPI) has been improved through CCAMTAC TA. Quarterly merchandise export data have been developed with a breakdown of oil and non-oil goods.

15. During the mission, NAD staff prepared the 2019 and 2020 imports and exports of goods at current prices according to BEC. A correspondence table between the six-digit level of HS 2017 and BEC was used to convert the foreign trade data. These data reflect the impact of the COVID-19 pandemic on end-use categories. The analysis of monthly foreign trade data classified according to BEC is also useful, as its results can be used in forecasting economic performance. Therefore, the mission recommended that the SSC provides the MOE with the monthly imports and exports of goods data at current prices classified by BEC.

16. The mission reviewed the compilation of chain-linked volume measures of quarterly GDP-E. The quarterly time series of GDP-E has the reference year 2015. The mission noted that the compilation of volume measures for exports of services, imports of services and changes in inventories follows best international practice. Changes in inventories have been compiled according to the 2008 SNA by types of inventories: materials and supplies (except military inventories), work-in-progress, finished goods, and goods for resale. Currently, the SSC is compiling chain-linked time series of household consumption and government consumption, after which it will be possible to reconcile the quarterly estimates of GDP-P and GDP-E. On that stage, the SSC should identify the least reliable indicators and adjust them to achieve the balance between the quarterly estimates of GDP-P and GDP-E. In this regard, a follow-up CCAMTAC TA mission may be conducted in December 2024, which will assist the SSC in preparing the final time series of quarterly GDP for publication.

Recommended Actions:

- Compile chain-linked volume measures of household consumption.
- Compile chain-linked volume measures of government consumption.

C. OFFICIALS MET DURING THE MISSION

| Name | Institution | Position |
|-----------------------|-------------|--------------------|
| Mr. Nuru Suleymanov | SSC | Head of NAD |
| Ms. Alida Alpashayeva | SSC | Deputy head of NAD |
| Ms. Parvin Huseynova | SSC | Chief advisor, NAD |
| Ms. Sevinj Huseynova | SSC | Chief advisor, NAD |
| Ms. Fidan Guluzade | SSC | Chief advisor, NAD |