



# REPUBLIC OF KAZAKHSTAN

## TECHNICAL ASSISTANCE REPORT—NATIONAL ACCOUNTS STATISTICS MISSION

December 2023

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# TECHNICAL ASSISTANCE REPORT

## REPUBLIC OF KAZAKHSTAN

Report on National Accounts  
Mission, February 20–March 3, 2023

**DECEMBER 2023**

**PREPARED BY**

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## Acronyms

<i>2008 SNA</i>	<i>2008 System of National Accounts</i>
BNS	Bureau of National Statistics under the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan
CCAMTAC	Caucasus, Central Asia, and Mongolia Regional Capacity Development Center
COICOP	Classification of Individual Consumption According to Purpose
CPI	Consumer Price Index
GDPE	GDP by Expenditure
GDPP	GDP by Production
GFCF	Gross Fixed Capital Formation
GVA	Gross Value Added
HFCE	Household Final Consumption Expenditure
NAD	National Accounts Department
NACE Rev.2	European Classification of Economic Activities
NOE	Non-observed Economy
NPISH	Non-profit Institutions Serving Households
PPI	Producer Price Index
TA	Technical Assistance

# Summary of Mission Outcomes and Priority Recommendations

**1. A technical assistance (TA) mission of the Caucasus, Central Asia, and Mongolia Regional Capacity Development Center (CCAMTAC) visited Astana during February 20 – March 3, 2023.** The mission assisted the Bureau of National Statistics (BNS) under the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan in developing quarterly national accounts. The main tasks of the mission were to: (i) assist the BNS with the development of quarterly GDP by expenditure (GDPE) on a discrete basis; (ii) review the existing quarterly estimates of GDP by production (GDPP) (iii) Review the existing methods for the compilation of the non-observed economy (NOE) and provide recommendations for further improvement.

**2. The mission assisted the BNS with the development of quarterly GDPE estimates on a discrete basis.** The mission and BNS staff compiled five working files. Four of these files include the quarterly compilation of the following GDPE components:

- Household Final Consumption Expenditure (HFCE) and non-profit institutions serving households (NPISH).
- General Government final consumption expenditure.
- Gross fixed capital formation (GFCF) and changes in inventories.
- Exports and imports of goods and services.

In each of these files, quarterly data on GDPE components were benchmarked with the annual estimates. Price indices were also collected at the average prices of the previous year.

**3. During the mission, BNS staff compiled chain-linked time series for each GDPE component by applying the annual overlap technique.** Eventually, the fifth file combines and summarizes the GDPE components compiled in the previous four files, resulting in aggregated discrete quarterly GDPE estimates.

**4. Real GDPE growth rates for cumulative periods that were compiled from the discrete quarterly data significantly differ from the cumulative growth rates currently published on the website.** Also, the nominal level of GDPE is slightly higher than the published estimates. These differences were caused by several adjustments made as part of the implementation of the *2008 System of National Accounts (2008 SNA)*<sup>1</sup>.

**5. The mission recommended that the BNS improves the compilation of several indicators such as cultivated biological assets, military expenditures, and price indices for deflating certain types of changes in inventories.** After resolving these issues, it will be possible to reconcile the quarterly estimates of GDPP and GDPE and improve NOE compilation.

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<sup>1</sup> Each sectoral department of the BNS provides values and volume indices of output to the national accounts department. Implicit deflators can be very different from the producer price indices published on the website. Given that there is an ongoing project to improve PPIs, the compilation of chain-linked time series starts with volume indices compared to the previous quarter, as these reflect the quarterly structure. Next, benchmarking and chain-linking via the annual overlap technique are carried out using implicit deflators instead of the official price indices; the same approach is used to compile quarterly GDPE components. This somewhat inverted approach ensures consistency with the annual volume growth rates.

6. To support the development of national accounts, the mission recommended a detailed action plan with the following priority recommendations:

**TABLE 1.** Priority Recommendations

Target Date	Priority Recommendation*	Responsible Institutions	Status of Implementation as of August 2023
<b>April 2023</b>	Compile FISIM separately for national and foreign currency.	<b>BNS</b>	<b>Complete</b>
<b>April 2023</b>	Exclude the part of FISIM that is intended for household consumption from intermediate consumption.	<b>BNS</b>	<b>Complete</b>
<b>October 2023</b>	Compile time series of volume indices.	<b>BNS</b>	<b>Ongoing</b>

7. 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	Status of Implementation as of August 2023
<b>Outcome: Quarterly GDP estimates are based on discrete source data</b>			
H	Compile FISIM separately for national and foreign currency.	April 2023	Complete
H	Exclude the part of FISIM that is intended for household consumption from intermediate consumption.	April 2023	Complete
H	Update estimates of cultivated biological resources.	February 2024	Ongoing
H	Compile quarterly SUT at the section level of NACE Rev.2 for the quarters with large statistical discrepancy between GDPP and GDPE.	September 2023	Ongoing
H	Estimate quarterly military expenditures and include them in GFCF.	February 2024	Ongoing
H	Identify the least reliable indicators and adjust them to reduce the statistical discrepancy.	October 2023	Ongoing
H	Compile time series of volume indices	October 2023	Ongoing
H	Adjust data on exports and imports of goods to ensure compliance with the balance of payments data.	November 2023	Ongoing
M	Develop additional data sources on final consumption expenditure of NPISH and update the existing estimates	November 2023	Ongoing
M	Develop specific questionnaires to observe corporations that provide other financial services.	December 2023	Ongoing
H	Remove the "other inventories" column from the survey questionnaire.	December 2023	Ongoing
H	Replace the column "goods for trade" with "goods for resale" in the survey questionnaire.	December 2023	Ongoing

H – High; M – Medium

## A. QUARTERLY GDP BY EXPENDITURE

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**8. The mission assisted BNS staff with the compilation of discrete quarterly estimates of GDPE.** Five Excel files were created during the mission. Four of them include components of GDPE, while the fifth file aggregates these components into total GDP.

**9. The data sources for compiling some components of quarterly GDPE are incomplete.** To compile GFCF, detailed data on cultivated biological assets and military expenditures is required. These data are currently being processed and will be added to the compilation framework by the end of 2023. At this stage, the aggregated quarterly GDP estimates are therefore not considered final, and their reconciliation with quarterly GDPE is still premature.

### Household Consumption

**10. During the mission, the compilation of discrete quarterly estimates of HFCE was carried out. Quarterly data on HFCE at current prices are available since 2010.** However, a very large increase in 2011 compared to 2010 lacked economic justification. Therefore, it was decided that the annual HFCE of 2010 should be adjusted according to the average annual growth rate in the following years.

**11. At the next stage, benchmarking of the annual and quarterly HFCE was carried out.** The compilation was performed at the two-digit level of the Classification of Individual Consumption by Purpose (COICOP). As a result of aggregating two-digit codes, the total HFCE at current prices was obtained.

**12. The consumer price index (CPI) was used to compile HFCE at the average prices of the previous year.** HFCE was also compiled at the annual average prices of the current year, after which it was possible to compile the chain-linked time series using the annual overlap method. The chain-linked time series were compiled at the two-digit level of COICOP and then aggregated to the total HFCE.

**13. The final consumption of NPISH was compiled in a separate worksheet of the same file.** Considering that quarterly data sources are very limited, expert estimates were used in the compilation. The main assumption made is that the final consumption of NPISH equals 1.1 percent of GDP at current prices. The relevant CPI was used to compile chain-linked time series of this indicator.

### Gross Fixed Capital Formation

**14. GFCF was divided into several categories and quarterly chained volume estimates were compiled using the annual overlap method.** These categories include dwellings and other buildings, machinery and equipment, intellectual property products including research and development, cultivated biological resources, and military expenditures.

**15. Annual and quarterly data on construction of dwellings and other buildings are available from regular surveys.** After benchmarking, the sum of the quarterly nominal data was matched to the annual nominal data. Deflation was carried out through the producer price index (PPI) of the construction industry.

**16. The compilation of GFCF for machinery and equipment at current prices was carried out by applying the data on domestic output and imports.** Imported machinery and equipment make up the largest part of this component. Accordingly, during the deflation of domestic output, the PPI was used, while the deflation of imported machinery and equipment was carried out by applying the import price index.

**17. During the compilation process, it was revealed that the data sources required for the compilation of some GDPE components are not reliable.** This mainly refers to research and development and military expenditure. The data on research and development are taken first from the corresponding expenses of the government budget and from regular business surveys on the other hand. However, these data show unstable changes and a downward trend in investments made by the private sector in research and development, which may be due to a decrease in the response rate in regular surveys or methodological changes in regular surveys. Data on military expenditures are not available.

**18. Data on cultivated biological resources may be clarified by the end of 2023. Current data do not include the cost of raising cattle.** After the implementation of this methodological change, this value at current prices will be increased to some extent. Agricultural PPI is used for deflating the cultivated biological resources.

### Changes in Inventories

**19. Changes in inventories are compiled together with the GFCF components in a separate worksheet.** During the compilation of changes in inventories, the BNS uses a method that is consistent with international best practice. According to this approach, stock values at the beginning and end of the quarter are compiled at the average quarterly prices. In the next step, changes in inventories at current prices is compiled as the difference between the opening and closing stocks expressed in average quarterly prices. This method excludes holding gains/losses from changes in inventories to ensure compliance with the *2008 SNA*.

**20. Even though the compilation method follows best international practice, changes in inventories still contain some outliers.** The main reason for this is the lower quality of data sources. The mission analyzed the structure of questionnaire for collecting data on changes in inventories. The questionnaire covers five categories of changes in inventories:

- Finished goods
- Commodities
- Materials and supplies
- Work in progress
- Other inventories

The *2008 SNA* provides only four categories of stocks:

- Finished goods
- Goods for resale
- Materials and supplies
- Work-in-progress

**21. The mission noted that apart from these four types of stocks, no other types of stocks are defined according to the international methodology (*2008 SNA*).** It is therefore unclear what types of other inventories are covered by the survey questionnaire, which regularly shows a large amount. BNS staff noted that other inventories may include, for example, uniforms for workers. The mission noted that if the uniform is very expensive it can be classified as a fixed asset and classified accordingly. In most cases, uniforms are not expensive and should be classified as intermediate consumption and included in the changes of materials and supplies. The concept of "other inventories" leads to parts of these four *2008 SNA* categories of stocks being included in "other inventories" which reduces the quality of the data. The mission therefore recommended that "other inventories" be removed from the questionnaire.

**22. The mission noticed that even those enterprises with main activities other than trade have significant changes in inventories of goods for resale.** Some activities may have trading as a secondary activity, but this should not exceed the output of its main activity. In Kazakhstan, there are many cases when the stocks of goods for resale exceed the stocks of finished goods for the main activity by multiple amounts. This is because in the questionnaire, instead of "goods for resale," stocks of "goods for trade" are written. Consequently, accountants of many enterprises think that the sale of goods of their own production is "trade" and stocks of goods of their own production are included in the stocks of "goods for resale" instead of "finished goods." This results in an overestimation of inventories of goods for resale and an underestimation of inventories of finished goods. To eliminate this, the BNS should change the name of this category in the questionnaire and instead of "inventories of goods for trade " it should be named "inventories of goods for resale."

### Government Final Consumption

**23. During the mission, general government final consumption was compiled in a separate file, which contains two separate worksheets for chain-linked time series of individual and collective consumption.** The main source of data is the economic and functional classification of the general government budget. The wage index and CPI were used to compile estimates at the previous year's prices.

**24. The mission compared the chain-linked time series of collective consumption with the output of public administration compiled by the production approach.** Significant inconsistencies in some periods have been identified, and after appropriate adjustments, these discrepancies were reduced.

### Exports and Imports of Goods and Services

**25. Foreign trade data was processed in one file, which contains separate worksheets for compiling chain-linked time series of exports of goods, imports of goods, exports of services and imports of services.** Data on foreign trade at current prices are obtained from the balance of payments, and export and import price indices were used to compile exports and imports at the previous year's prices.

**26. Various price indices were applied to deflate exports and imports of services.** Initially, the detailed structures of exports and imports of goods were compiled from the detailed data of the balance of payments. Then the appropriate price index was selected for individual services. PPIs or wage indices were mainly used for deflation of exports of services. To deflate imports of services, the main importer countries were determined, and their weighted CPI on tourism related services was used to deflate imports of services, which predominantly relate to tourism.

**27. The Central Bank of Kazakhstan has recently revised the time series of exports and imports of goods in the balance of payments.** The new time series are compiled by considering improved accounting of foreign trade transactions. Therefore, the BNS should adjust the exports and imports of goods to ensure the compliance with the balance of payments.

### Aggregation of Final Expenditure Categories to Compile GDP.

**28. In the fifth file, expenditure components from the previous four files were aggregated to compile GDPE.** Final expenditure components were collected at current prices, average prices of the current year, and average prices of the previous year. Then the chain-linked time series of GDPE were compiled by applying the annual overlap technique.

**29. The mission compared quarterly estimates of GDPE and GDPP. At this point, the differences are quite significant.** In some quarters, the discrepancy exceeds five percent of GDP.

This is partly because some components of GDPE are still to be adjusted. On the other hand, quarterly GDPP is also subject to revision, as volume indices for output of some industries are being revised.

**30. The mission noted that due to insufficient quality of data sources, significant discrepancies may exist between quarterly estimates of GDPP and GDPE.** Therefore, it is important to compile supply and use tables (SUT) for each quarter with large discrepancies to compare resources and uses by each industry, identify less reliable indicators and reduce the statistical discrepancy. The next mission, in April 2023, will help the BNS to compile the preliminary quarterly SUT at the section level European Classification of Economic Activities (NACE Rev.2).

*Recommended Actions:*

- Update estimates of cultivated biological resources.
- Estimate quarterly military expenditures and include them in GFCF.
- Develop additional data sources on final consumption expenditure of NPISH and update the existing estimates.
- Remove the "other inventories" column from the survey questionnaire.
- Replace the column "goods for trade" with "goods for resale" in the survey questionnaire.
- Adjust data on exports and imports of goods to ensure compliance with the balance of payments data.
- Compile quarterly SUT at the section level of NACE Rev.2 for the quarters with large statistical discrepancy between GDPP and GDPE.
- Identify the least reliable indicators and adjust them to reduce the statistical discrepancy.

## B. QUARTERLY GDP BY PRODUCTION

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**31. After the October 2022 TA mission, the BNS made some progress in improving the quality of volume indices.** Indices of industrial production have already been compiled in the form of a time series. Other BNS departments are also planning to implement this recommendation, the essence of which is that the volume indices for the previous month and the corresponding month of the previous year should be consistent when displayed in the form of a time series.

**32. During the mission, a meeting was held with the BNS deputy director and the representatives of the BNS sectoral departments.** During the meeting, the mission presented a practical example of compiling volume indices as a time series and highlighted the advantages of this method compared to the current practice of the BNS, according to which volume indices are calculated independently for different periods, which ultimately produces mutually exclusive outcomes.

**33. BNS staff fully agreed with the mission's view and noted that the volume indices compiled by the new method will be available in a few months.** The mission and NAD staff noted that it is very important to get this information before the second half of 2023, as discrete quarterly GDP is already scheduled to be released at that time.

**34. The Mission and NAD staff discussed the compilation of financial services.** This section covers financial intermediation services indirectly measured (FISIM) and other financial services. Compilation of FISIM is carried out in accordance with the 2008 SNA standards. The SNA interest rate is calculated as the weighted average of interest rates on the total deposits and loans. The average quarterly stocks of deposits and loans are used as weights.

**35. FISIM is compiled by types of loans and deposits for each institutional sector of the economy.** The mission observed that the interest rates on loans and deposits issued in national and foreign currencies differ significantly. Therefore, it is better if the BNS applies two SNA interest rates when compiling FISIM, one of which will be for loans and deposits issued in national currency, and the other for loans and deposits issued in foreign currency.

**36. At the next stage, FISIM is divided by GDP end-use categories, which includes FISIM for intermediate consumption, final consumption, exports and imports.** FISIM intended for intermediate consumption is distributed according to individual economic activities, and FISIM for final consumption is added to the HFCE. The mission observed that when apportioning intermediate consumption of FISIM by activity, FISIM for final consumption was added to the total amount. The mission explained that FISIM for final consumption is added to HFCE and should not be subtracted from the output of individual activities. As a result of this change, the gross value added (GVA) of financial services will be increased significantly.

**37. The mission and NAD staff also discussed the compilation of GVA in other financial services. These services include:**

- Micro financial organizations
- Investment funds
- Credit unions
- Brokers
- Pawnshops and other money lenders

These organizations are not covered by the statistical surveys for the purpose of collecting statistical information. Therefore, the compilation of quarterly national accounts depends on the quarterly and annual information they publish on the website. This information is usually generalized and not always sufficient for accuracy of national accounts estimates. However, using certain assumptions, it is possible to approximate quarterly output and GVA.

**38. The mission and NAD staff reviewed the available data on each of these organizations and developed assumptions to estimate GVA from this information.** The mission highlighted the importance of additional data sources that could improve the quality of these estimates. It would be better if the BNS would start a regular survey of these organizations with statistical questionnaires specially designed for them, considering the needs of national accounts compilers. The mission can assist the BNS in developing these questionnaires.

*Recommended Actions:*

- Compile time series of volume indices.
- Compile FISIM separately for national and foreign currency.
- Exclude the part of FISIM that is intended for HFCE from intermediate consumption.
- Develop specific questionnaires to observe corporations that provide other financial services.

## C. OFFICIALS MET DURING THE MISSION

Name	Institution	Position
Mr. Zhandos Shaimardanov	BNS	Head of BNS
Mr. Zhasser Jarkinbayev	BNS	Deputy Head of BNS
Mr. Aset Nakipbekov	BNS	Director of National Accounts Department (NAD)
Ms. Assel Torgautova	BNS	Deputy Director of NAD

<b>Name</b>	<b>Institution</b>	<b>Position</b>
<b>Ms. Alina Beisebekova</b>	BNS	Head of Division, NAD
<b>Ms. Togzhan Bekturova</b>	BNS	Head of Division, NAD
<b>Ms. Zaure Zhunussova</b>	BNS	Chief expert, NAD
<b>Mr. Gabiden Torebekov</b>	BNS	Chief expert, NAD
<b>Ms. Aigerim Isabekova</b>	BNS	Chief expert, NAD
<b>Ms. Indira Baimuratova</b>	BNS	Chief expert, NAD
<b>Ms. Zhanna Suleymenova</b>	BNS	Chief expert, NAD