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საქართველოსთვის
The European Union for Georgia

TWINNING

GEOSTAT
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STATISTICS
DENMARK

Twinning Project

Contract: GE 16 ENI ST 06 18

Strengthening the Capacity of the Georgian Statistical System

Component 2: *"Enhancing Methodological Soundness in the National Accounts in line with EU standards"*

Sub-component 2.5: "Seasonally adjusted quarterly time series of National Accounts"

MISSION REPORT

Activity: 2.5.A (RS) "Introduction to current situation and initial preparation of methods and publication"

Mission carried out by
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1. General comments

This mission report was prepared within the EU Twinning Project "Strengthening the Capacity of Georgian Statistical System". This was the first mission within the sub-component 2.5: " Seasonally adjusted quarterly time series of National Accounts" and was mainly devoted to introduction to current situation of seasonal adjustment and other specific issues related to quarterly national accounts.

The purposes of the mission were:

- To discuss the below mentioned subjects:
  - ➢ specifics of seasonal adjustment with reference to methodological manuals
  - ➢ seasonal adjustment programs used in practice
  - ➢ practical procedures and methods used by the Czech Statistical Office
  - ➢ specific issues related to quarterly national accounts: disaggregation level, benchmarking, negative output of insurance companies

The consultants would like to express their gratitude to all officials and individuals met for the kind support and valuable information which they received during the session and which highly facilitated the work of the consultant.

The views and observations stated in this report are those of the consultants and do not necessarily correspond to the views of the European Union, Geostat, Statistics Denmark, or other statistical institutions involved in the implementation of the project.

2. Assessment and results

During the remote session, the consultants outlined the basic seasonal adjustment procedures used in the Czech Republic. The method used is TRAMO/SEATS which consists of two parts:

TRAMO does **pre-adjustment** (incl. calendar adjustment)

SEATS does **decomposition** of the series into components (seasonal adjustment)

Software tool used is JDEMETRA+, developed by Eurostat and OECD, contains also the X-12-ARIMA method.

Some QNA aggregates are affected by the structure and composition of calendar. Calendar effects typically include: the different number of working days in a quarter, the composition of individual days in a week, the leap year effect, moving holidays (Easter). **Calendar adjustment** aims at obtaining a series whose values are independent of calendar effects. These effects, if not properly corrected for, can cause a misspecification of the model for seasonal adjustment – that is why calendar adjustment is carried out prior to seasonal adjustment. The adjustment is made at the most **detailed** level available (two-digit level). The regression approach with ARIMA-based error modelling is applied for all corrected time series. Only time series for which the calendar effect is statistically significant and explainable from the economic point of view are corrected. **GDP** is obtained **indirectly** from the side of resources which is considered to be more accurate. Discrepancies between GDP and sums of expenditure components are allocated to changes in inventories.

Seasonal adjustment is carried out by the second part of the method (SEATS). The adjustment is made at a **higher** level of aggregation than the calendar adjustment. A higher level of aggregation usually leads to **more stable seasonal factors**. Seasonal adjustment is made separately for current prices and constant prices (after chain-linking). Adjusted deflators are derived implicitly.

Seasonally adjusted quarterly data are made consistent to the respective non-seasonally adjusted annual data for practical reasons. The references are either raw annual values when calendar adjustment is not made or calendar adjusted annual values when correction of calendar effects is made. Time consistency is ensured by the Cholette-Dagum regression-based method. The general objective of the method is to **preserve** as much as possible the **short-term movements** in the seasonally adjusted data under the restrictions provided by the annual data.

GDP is seasonally adjusted **directly**. Discrepancies between GDP and sums of its components according to three computation methods (expenditure, output and income) are allocated in a specific way for each method without affecting GDP. On the expenditure side, discrepancies are allocated proportional to individual components. Distribution among taxes on products is applied on the output side. On the income side, discrepancies are allocated to gross operating surplus and mixed income.

3. Conclusions and follow up

To create a framework for seasonal adjustment, it is necessary to focus primarily on the tasks listed in the table. In the next step we can discuss variants of individual models of seasonal adjustment and options for ensuring accounting and time consistency. Following the fulfillment of the tasks, we would propose an optimal framework for seasonal adjustment.

Actions needed for moving forward:

Action	Deadline	Responsible person
complete the form of unadjusted quarterly time series, including chained-linked constant prices TS	Before next activity	
indicate those time series that contain the effect of calendar days and adjust those for this effect	Before next activity	
apply seasonal adjustment to time series at a higher degree of aggregation	Before next activity	
prepare a framework to ensure time consistency	Before next activity	

Annex 1. Terms of Reference

EU Twinning Project GE 16 ENI ST 06 18

14th October 2020

Component 2: Enhancing methodological soundness in the National Accounts in line with the EU standards

Sub-component 2.5: Seasonally adjusted quarterly time series of National Accounts

Mandatory results and benchmarks for sub-component 2.5:
- Seasonally adjusted quarterly time series of National Accounts disseminated

Indicators of Achievement (baseline and targets):
- Availability of seasonally adjusted Quarterly National Accounts (QNA) according to SNA08 as a statistical product
    - **Baseline:** 2019 – Seasonally adjusted QNA are available but not according to SNA08
    - **Target:** May 2021 – Seasonally adjusted QNA according to SNA08

Activity 2.5.A (RS) "Introduction to current situation and initial preparation of methods and publication"

1. Purpose of the activity

Initial evaluation, preparation and sharing of experiences of approaches of seasonal adjustment methods and quarterly publications
- Introduction to current situation of seasonal adjustment of national accounts in GEOSTAT
- Introduction and presentation of the present publications and plans for future publications
- Discussion of – and introduction to – the Annual Overlap Method
- Preparation of the work plan/roadmap for the sub-component

2. Expected output of the activity
- Current situation is introduced
- Present and future publications introduced
- Annual Overlap Method has been introduced and discussed
- Mission report written
- ToR for next mission prepared
- Work plan/road map for compiling and dissemination of quarterly national accounts data is discussed.

Annex 2. Persons met

Geostat
Mr. Levan Karsaulidze, Head of National Accounts Department
Ms. Tinatin Papiashvili, Head of Quarterly Accounts Division
Mr. Irakli Kartvelishvili, Chief Specialist, Quarterly Accounts Division
Mr. Alika Bitsadze, Senior Specialist, Quarterly Accounts Division
Ms. Venera Tsertsvadze, Specialist, Quarterly Accounts Division
Ms. Natia Merebashvili, Senior Specialist, Annual Accounts Division

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