



## Forwarding Armenian Statistics Through Twinning

AM09/ENP-PCA/TP/04

# MISSION REPORT on EXHAUSTIVENESS OF GDP ESTIMATES

## Activity C.5 Implementation Assistance

Mission carried out by

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 <b>STATISTICS DENMARK</b>		
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## List of Abbreviations

ESA-2010	European System of Accounting
GDP	Gross Domestic Product
NSS RA	National Statistical Service of RA
SNA93	System of National Accounts 1993 (UN)
SNA2010	System of National Accounts 2010 (UN)
MS	Member State
BC	Beneficiary Country

## 1. General Comments

The main objectives of the study visit were introduction to the Danish national accounts system as an example of a “Comprehensive and developed national accounts system”; discussion of 1B, 2B and 3B draft tables (GDP from the expenditure side) that were prepared by the BC experts and sent to the MS experts before the study visit by e-mail together with relevant comments; as well as possible developments of exhaustiveness adjustments.

The following topics were discussed:

- The different elements of the Danish national accounts system
- Danish supply use tables
- Danish quarterly national accounts, methodology and data sources
- The current status of Components C Improvement of the Exhaustiveness of GDP of the Twinning project based on Statistics Denmark’s approaches
- Methodology on estimation of illegal activity
- Calculation of owner occupied dwellings
- Benefits in kind
- Seasonal adjustments, presentation of Demetra+ software
- Debriefing and roadmap.

The BC Experts would like to express their gratitude to all officials and individuals met for the kind support and valuable information, which was received during the stay in Denmark, and which highly facilitated the work.

## 2. Assessment and Results

On the first day of the study visit, Ms Charlotte Hansen of Statistics Denmark’s International Consulting division welcomed the group and introduced the historical background of Statistics Denmark with its developments, current organisational structure, as well as the main responsibilities of the structural units.

Later Mr Ole Berner, the head of National Accounts division joined the meeting and presented the structure of Economic Statistics Department (National Accounts, Government Finance, Prices and Consumption, Economic Models) with its functions.

Some experts from Statistics Denmark National Accounts division made presentations on different topics according to the programme of the week that was specified together with the terms of reference for the study visit.

Mr Timmi Graversen introduced Danish quarterly national accounts with the necessary data sources for compilation of those accounts, as well as the publication schedule.

Mr Søren Larsen introduced supply use tables with separate components and 2350 product types.

Mr Brian Sudel introduced the calculation method for owner occupied dwellings.

Ms Kathrine Lindeskov introduced the calculation method of benefits in kind with its types and data sources.

Ms Annette Thomsen and Ms Maria Nilsson introduced illegal activity types and their estimation methods. Some methodological issues related to the implementation of ESA 2010 were also discussed during the study visit.

The Demetra+ software for seasonal adjustments was introduced with relevant clarifications by Mr. Henrik Bulow Hansen.

Tables 1B, 2B and 3B of the tabular approach non-exhaustiveness were introduced by the experts from Macroeconomic Indicators and National Accounts of NSS RA.

Danish experts presented the methodology used for improving N6 adjustments.

There were also discussions on illegal activities estimations: e.g. narcotics and trafficking.

The mission results were summarized and the roadmap for the future works was discussed with Ole Berner and Annette Thomsen and NSS RA experts.

Fruitful discussions took place on used methodology and classification in the tables for the exhaustiveness adjustments based on the prepared tables 1B, 2B and 3B.

### **N2 Illegal producer**

The adjustment estimations for non-exhaustiveness N2 type were discussed with Danish experts during study visit in June 2012 in Denmark. MS experts presented several methods for estimating three activities defined as illegal by Eurostat: narcotics, prostitution and smuggling.

### **Tables 1B, 2B and 3B**

**Table 1B.** According to the prior agreement, the non-exhaustiveness tables 1B, 2B and 3B from the expenditure side were compiled. The 1B table from the expenditure side with non-exhaustiveness types (N1, N3, N4, N6, N7) was presented with reference to the data sources and evaluation methods.

**Table 2B.** Non exhaustiveness nominal values and their specific weights in GDP were shown in table 2B from the expenditure side.

**Table 3 B.** Non-exhaustiveness summary data with absolute values and their specific weights in GDP.

## **N6 Data misreporting by the producer**

Based on the discussions on improving the N6 adjustments, it was agreed to study and use the methodology used in Statistics Denmark and to calculate N6 estimates by economic activity types based on the output volume of one employee in formal sector adjusted by the worked hours rate in formal and informal sectors.

## **N7 Statistical deficiencies in the data**

The MS experts recommended to make adjustments for tips. One of the methods for adjustments could be adding some percentage to the output of hotels and restaurants. The BC experts will study and make calculations based on the expert judgement.

The Demetra+ software used for seasonal adjustments was introduced.

## **3. Conclusions and recommendations**

The tables 1B, 2B and 3B had been compiled before the study visit. In addition to it a document describing the tables was made. The discussions were made on the basis of these tables between MS and BC experts.

The MS experts made recommendations related to the estimations of the N6 non-exhaustiveness type. Particularly, it was suggested to take the volume of output of one employee and adjust by hours worked in the formal and informal sector.

Owner occupied dwellings are currently classified as informal activity adjustments as well as non exhaustiveness adjustments. With the purpose to be comparable with other countries, it was recommended to classify this activity as formal. This will not affect the GDP, but the informal sector share will decrease. The Danish colleagues introduced the Danish calculation methodology where several data sources are used. Firstly, the dwelling register that contains information on building with its date, quality, geographic location, size, number of rooms, etc. is used. There is also information about ownership-type (own, belonging to community, rented). Based on the above mentioned indicators, 200 stratas were specified for each of which average rent is calculated, and the data is then collected by a sample survey.

As had been agreed, illegal activities and the data sources and methodology used in Denmark were discussed.

Currently no adjustments are made for N2 illegal activities in the Republic of Armenia. It is necessary to study the relevant data sources and methodology for these estimations. At the first stage it is possible to consider one of or three types: prostitution, narcotics, smuggling.

It was recommended by the MS experts to make pilot calculations by using reports made by different institutions of RA on prostitution, narcotics and smuggling for presentation to international organizations as well as the information published from administrative register. It is possible to make pilot calculations, thus it is not obligatory to include them in current GDP calculations. It will become possible future.

N7: Currently, no adjustments are made for tips in restaurants and hotels. It was recommended to study all possible data sources for tips estimations and make pilot calculations by using labour force survey results.

### 3. Actions before next activity (C.4)

The purpose of the C.4 activity is to carry out the relevant work for improving the adjustments for half of the N non-exhaustiveness types, as well as to finish the compilation of the B tables (GDP from the expenditure side)

#### **Discussions related to non exhaustiveness issues**

##### *N2 Illegal activity*

The first estimates for at least one activity type will be discussed.

##### *N6 Data misreporting by the producer*

Discussion based on the possible adjustments by using hours worked as well as intermediate consumption in case of non reported output.

##### *N7 Statistical deficiencies in the data*

Discussion of the first estimates for tips in hotels and restaurants based on the expert judgement.

**Benefits in kind:** Discussion on the correct interpretation of the Social Package in national accounts provided to state employees by the government in 2012.

**Tabular approach:** Discussion and final preparation of B tables of non exhaustiveness types in tabular approach (GDP from the expenditure side).

Discussions related to the implementation of SNA 2008.

#### **Actions to be taken before next activity (the C.4 mission):**

##### *Illegal activities*

- MS experts will send to BC experts tables with calculations of illegal activities no later than 06/07/2012.
- BC experts will consider existing and the most common illegal activity types in Armenia.
- BC experts will study the data sources and make estimations for at least one illegal activity type.
- BC experts should send the data and first estimates to MS experts at least one week before the mission.

##### *Data misreporting by the producer*

- BC experts should consider for which sectors the N6 adjustment the hours worked methodology is applicable.
- BC experts should make the first draft estimations for N6 adjustments by using hours worked methodology and send them to MS experts at least one week before the next mission.
- BC experts should consider how to calculate intermediate consumption in case of non-reported output.
- BC experts should come up with the methodology for estimation of tips in restaurants and hotels.

*Benefits in kind*

- BC experts should send a brief description of the Social package provided to state employees by the government to the MS experts no later than 10/08/2012.

*Tabular approach. Tables B of non exhaustiveness types*

- BC experts should continue developing the B tables and send the updated versions to MS experts at least one week before the mission.

*Issues related to the implementation of SNA 2008*

- BC experts should send questions related to the implementation of SNA 2008 no later than 2 weeks before the mission.

**Preliminary activity plan after mission C 4**

*Further work on the improvement of estimations*

BC experts should send improved estimates to MS experts no later than 10/11/12.

MS experts should send their comments on the tables to BC experts no later than 20/11/12/.

*Revision policy, and implementation of new estimates in National Accounts of RA*

This topic should be discussed when it will be foreseen to publish revised national accounts of RA.:



## Annex 1 Terms of Reference

Component A	Quality Management
Component B	Business Register, Structural Business Survey, and Respondent Burden
<b>Component C</b>	<b><i>Improvement of the Exhaustiveness of GDP</i></b>
Component D	Agricultural Census
Component E	Harmonized Consumer Price Index
Component F	ICT Society

### ***Activity C.5 Study visit: An example of a fully developed national accounts system***

#### **1. Purpose of activity**

The purpose of the activity is to present the BC Experts to the complete system of the Danish national accounts.

#### **2. Expected output of the activity**

The expected output of the activity is presentation and discussion on:

- The different elements of Danish national accounts system;
- The supply-use tables;
- The relationship between yearly and quarterly accounts;
- Co-operation with other divisions
- Seasonal adjustments
- An update on the present status of the GDP exhaustiveness component of the Twinning Project – focus on Statistics Denmark’s way of handling project relevant topics:
  - Illegal activities
  - Owner-occupied dwellings
  - Benefits in kind
  - Use of LFS
- Possible adjustments of road map and discussion of the next steps.

The output from the study visit will be documented in a study visit report to be produced by the study visit participants.

#### **3. Study visit participants (preliminary):**

Ms Lusya Khachatryan, Head of National Accounts and Macroeconomic Indicators Division;  
Ms Nadezhda Astvatsurova, Main Specialist of National Accounts and Macroeconomic Indicators Division

Ms Susanna Khachatryan, Main Specialist of National Accounts and Macroeconomic Indicators Division

Ms Diana Gasoyan, RTA Assistant and Interpreter

#### **From Statistics Denmark (preliminary):**

Mr Lars Thygesen, Mr Jesper Ellemose Jensen, Mr Ole Berner, Ms Annette Thomsen, Ms Maria Nilsson, Mr Timmi Graversen, Mr Søren Larsen, Mr Brian Südel, Ms Kathrine Lindeskov Johansen, Mr Henrik Bülow-Hansen.

#### 4. Meeting Programme for BC Experts (draft)

11 June 2012 (Monday) – 15 June 2012 (Friday)

Time	Purpose / detail	
11 June, 10:00	Welcome - introduction to Statistics Denmark and to the programme of the week	International Consulting
11 June, 13:00	Introduction to the Danish national accounts.	Mr Ole Berner
11 June, 14.45	Quarterly national accounts including data sources	Mr Timmi Graversen
12 June, 9:30	Supply-use tables including data sources	Mr Søren Larsen
12 June, 13:00	Owner occupied dwellings	Mr Brian Südel
	Benefits in kind	Ms Kathrine Lindeskov & Mr Brian Südel
13 June, 9:30	Illegal activities & Methodological Changes related to introduction of ENS2010.	Ms Annette Thomsen Ms Maria Nilsson
13 June, 12:30	Co-operation between National Accounts and Price Statistics Divisions.	International Consulting
14 June, 10:00	Assistance with seasonal adjustment.	Mr Henrik Bülow-Hansen
14 June, 13:00	Status and recent progress – presentation by BC Experts. Discussion of LFS and tables 1B, 2B and 3B of the tabular approach.	Ms Annette Thomsen & Ms Maria Nilsson
14 June, 16:00	Social event	
15 June, 10:00	Roadmap and other issues	Mr Ole Berner & Ms Annette Thomsen
15 June, 13:00	Debriefing and evaluation of the study visit	International Consulting

*Lunch every day in Statistics Denmark's canteen.*