

## **TWINNING CONTRACT**

# **Development of new statistical methodologies and indicators in selected areas of statistics in line with EU statistical standards**

## **Ukraine**



## **MISSION REPORT**

**on**


### **Classifications in National Accounts**

#### **Component no 1.2.1 Assessment on production accounts and income generation**

Mission carried out by Søren Larsen and Timmi Graversen

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		 <b>STATISTICS DENMARK</b>

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## Table of contents

Executive Summary .....	<b>Error! Bookmark not defined.</b>
1. General comments .....	4
2. Assessment and results .....	4
3. Conclusions and recommendations .....	5
Annex 1. Terms of Reference .....	8
Annex 2. Persons met .....	15

## List of Abbreviations

ToR	Terms of Reference
SSSU	State Statistics Service of Ukraine
INE	Statistical Office of Spain

## 1. General comments

This missionreport was prepared within the Twinning Project „Development of new statistical methodologies and indicators in selected areas of statistics in line with EU statistical standards”. It was the first mission to be devoted to “Classification in national accounts” within Component 1.2 of the project. The mission was aimed at defining a strategic plan forming the base of the further implementation of the project in this statistical area.

The concrete objectives of the mission were:

- To assess the possibility of the national accounts to compile the production accounts and income generation by NACE Rev. 2.
- To get an overview of the methods used for estimation of the various series of the accounts for production and income generation with the aim to make recommendations on the need for changes to the current situation.

- *presentation of the objectives of the mission*
- *where necessary reference to other parts of the project / to other missions*
- *where necessary background information*

The consultants would like to express their thanks to all officials and individuals met for the kind support and valuable information which he/she received during the stay in Ukraine, and which highly facilitated the work of the consultant.

This views and observations stated in this report are those of the consultant and do not necessarily correspond to the views of EU,SSSU or Statistics Denmark / Statistics Finland/ Statistics Lithuania / Central Statistical Bureau of Latvia / Statistical Office of the Slovak Republic / INE / Statistics Sweden.

## 2. Assessment and results

The KVED2010 is a fully consistent Ukrainian version of the NACE rev. 2 which was adopted as a national standard for classification in 2010. A national version of CPA 2.0 (SKP2011) is also available. A national version of PRODCOM is still in progress and a conversion key between foreign trade (HS) and SKP2011 still needs to be developed. The plan for conversion of the different statistical products to KVED2010 is still in progress.

The Business Register is not yet completely recoded with NACE rev. 2. The remaining part is planned to be coded during 2012 – this will be planned in detail during a mission component in February. The business register plans to maintain double-coding with NACE rev. 1.1 and 2. Large, medium size and some of the small enterprises in the Business Register corresponding to the Structural Business Statistics is double-coded with NACE rev. 1.1 and NACE rev. 2 from 2010.

Conversion matrices from NACE 1.1 to NACE 2 have been made for turnover, employment and number of enterprises. The initiated work with matrices also for other variables relevant for National Accounts is in progress. This includes variables like intermediate consumption of materials, compensation of employees, depreciation, and other costs than materials for intermediate consumption (mainly purchase of services). The matrices have been adjusted for sale of goods purchased for resale and is based on the Business register information for large, medium and some small enterprises.

The Structural Business Statistics for 2012 will be collected based on NACE rev. 2 in 2013 and the contents of the questionnaire is improved and will change fundamentally from previous years resulting in a break in the time-series. This break will have to be solved in the National Accounts.

The basic composition and idea in the National Accounts calculation system should be kept the same.

The present series of Annual National Accounts are available as input-output tables for the period 2000-2010 in current prices for 38 NACE ver. 1.1 industries. National Accounts data is available in prices of the previous year for 15 industries for the same period. For recent years the IO-tables are available in both current and previous year's prices for the production account. Some years are also available at the 60 industry level. For Quarterly Accounts consistent time-series are available at 12 NACE ver. 1.1 industries for the period 2000q1-2011q3 at current and constant 2000-prices. The Regional Accounts are available for production account for 15 industries and 27 regions at current and prices of the previous year for the period 2005-2010. Regional household sector accounts for disposable income and consumption are also available. Regional accounts are also available on a quarterly basis.

Known issues make it desirable to make revisions to the historic NA time-series. Among other things this includes new data-sources for Balance of Payment and FISIM calculated for the use side.

The National Accounts compilations are based on a very large number of data-sources which mostly are received in paper format. This makes it very resource and time consuming to make any kind of detailed recalculation of the historic data-series. It is recommended that all back-casting is based on the existing time-series in NA and that detailed recalculations only are made as exceptions in specific and well-defined areas. It is noted that especially conversion of GFCF and capital stock will be a major challenge because of the complicated interconnectivity of concepts.

### **3. Conclusions and recommendations**

A list with an overview of major sources for each industry in the NACE rev. 1.1 60-industry groupings in the base year will be a helpful tool in the coming work on conversion. A corresponding list of deflation methods for each industry will also be useful.

The question of calculation of goods for processing should be investigated further including the treatment in source statistics.

The conversion from NACE rev.1.1 to NACE rev.2 will in itself only have effect on those parts of National Accounts which is specified by industries and products and should not have effect on other dimensions or the totals i.e. GDP. To avoid confusion it is highly recommended that in the working processes this conversion should be separated from the revisions caused by source data revisions and revisions caused by methodological changes from transmission to SNA 2008.

If revisions to source data are necessary make them after conversion to enable separation of effects and limit additional work on institutional sectors, financial accounts and other parts of national accounts not affected by conversion of industries.

It is recommended to finalize the conversion of a base year for the final annual accounts before conversion of QNA and RNA. Conversion of QNA and RNA should be based on the final annual accounts and be consistent with these.

There is no obvious solution to the question of which base year to choose for the conversion. Focusing on the quality of source-statistics the Business Register will be fully converted for the year 2012 making it an obvious base year for conversion and later use of the tabular approach to test for exhaustiveness of the NA-system. On the other hand this would mean that conversion could take place during 2013-14 which may be too late. On the other hand important part of the business register and the Structural Business Statistics is converted for 2010. It will be possible to use 2010 as a base year – but will probably imply loss of quality compared to using 2012. It may, however, be investigated further whether the present double coded business register has a coverage that is sufficient for the conversion of the classification of non-SBS enterprises within specific industries.

The System of National Accounts is highly interconnected with numerous identities and logical connections between concepts in the final results. To ensure a sufficient quality of the results requires both time and resources. It is furthermore important to perform the different tasks of the conversion process in an expedient and well-planned order. It is important to be aware of the fact that trying to meet too ambitious plans in terms of timeliness creates a risk of making mistakes that in the long run can turn out to be counterproductive.

#### ***Plan for main activities in conversion process***

1. Convert the production and generation of income account for the base year (2010 or 2012) on the most detailed level possible.
2. Convert production and generation of income account in current prices and the production account for prices of the previous year back to 2000. Make sure that totals are unchanged.
3. Convert the quarterly accounts based on the base-year production and generation of income account and ensure time consistency to the annual results.
4. Convert the time-series for the regional accounts. Make sure that totals for regions are unchanged.
5. Establish procedures to convert source-statistics from NACE 2.0 back to NACE ver.1.1 for the year 2012 and forward to be able to continue the current production of National Accounts based on NACE ver. 1.1 while the conversion project is in progress in National Accounts.

Revisions caused by source-data revisions, methodology changes and tabular approach should be applied after the conversion process has been finalized.

#### ***Coming missions***

Next activity will be a visit in DK in June.

Generally more emphasis should be on the NACE conversion in the coming missions.

Tabular approach is most important regarding non-observed economy and will be most relevant for processes done in the National Accounts after the conversion to NACE Rev. 2.

#### ***Next mission***

We suggest August 2012 combined with the planned mission on tabular approach.

Action	Deadline	Responsible person

## **Annex1.Terms of Reference**

### ***Component 1.2: Classifications in national accounts***

#### ***Activity 1.2.1 Assessment on production accounts and income generation***

##### **Background**

Statistics Denmark is, in partnership with Statistics Finland, Statistics Lithuania, Statistical Office of the Slovak Republic, Statistical Office of Spain, and Statistics Sweden; leading the EU-Twinning project on “Development of New Statistical Methodologies and Indicators in Selected Areas of statistics in line with EU statistical standards” in Ukraine. The beneficiary is the State Statistics Service of Ukraine.

This activity is the first activity within component 1.2 Classification in national accounts. The objective for this component is to give recommendations for compilation of Ukraine’s national accounts harmonised to NACE Rev.2 and to get European statistical standard ‘Eurostat’s Tabular Approach to Exhaustiveness’ introduced.

This activity will contribute to the above-mentioned objective and to the benchmarks set out in the contract:

- improved knowledge and practical skills of SSSU experts on national accounts

##### **Purpose of the mission**

The mission is an assessment mission where the primary task is to

- Assess the possibility of the national accounts to compile the production accounts and income generation by NACE Rev. 2.
- Recommendations regarding the methods to making estimations for indicators of production account and income generation and the needed changes to the current situation.

##### **Expected Results**

- An assessment on production accounts and income generation
- An evaluation of the work plan set out in the contract and suggestions for changes in view of the findings and conclusions

##### **Activities**

A tentative schedule for the mission is:

23 of January 2012- coordination of the subcomponents which touch upon the implementation of NACE (1.2, 1.3, 1.4 and 1.5).

23-27 of January 2012- Meetings in the framework of the Activity 1.2.1 (see the mission agenda for more details).

##### **Tasks to be done by SSSU to facilitate the mission**

The meetings will be attended by head of divisions and deputy head of division, which are directly involved in the activity.

##### **Consultant and counterpart**

The mission will be carried out jointly by:



TimmiGraversen(DK), Deputy Head of Division, DST, trg@dst.dk  
Søren Henri Larsen(DK), Senior Adviser,DST, shl@dst.dk

The BC counterpart will be:

NIKITINA Irina, Director of Macroeconomic Statistics Department, Room 631, tel. 289-53-63, extension 60-49, e-mail: I.Nikitina@ukrstat.gov.ua

MOSKVIN Oleksiy, Deputy Director of Macroeconomic Statistics Department, Room 622, tel. 235-51-82, extension 64-69, e-mail: O.Moskvin@ukrstat.gov.ua

#### BC participants for the activities on 23 of January 2012

##### Comp. 1.2

I.M. Nikitina – Director of Macroeconomic Statistics Department  
O.O. Moskvina – Deputy Director of Department  
R. A. Starovoitenko – Head of Unit for GDP Short-Term Calculations  
N. M. Smishlyaeva – Head of Regional Accounts Unit  
T. P. Nahaichuk – Deputy Head of Annual National Accounts Unit

##### Comp. 1.3

AllaVarnidis – Deputy Director of Department – Head of Statistical Classifications Unit  
Anton Tovchenko – Head of Unit for Mathematic Methods of Statistical Data Processing and Analysis  
OlenaTimofeeva – Chief Specialist-Economist of Unit for Generation of Populations to Conduct Statistical Observations

##### Comp. 1.4

I. M. Zhuk - Director of Department;  
M. S. Kuznetsova - Deputy Director of Department;  
O. M. Kolpakova – Deputy Director of Department – Head of Unit

##### Comp. 1.5

Lyudmila Ovdenko  
Miroslava Sobko  
Maria Girsu  
Natalia Postolyuk

#### **Timing**

The mission will be carried out during 23-27 January in Kyiv.

#### **Report**

A final report from the mission should be made available not later than two weeks after the termination of the mission.

#### **Extra information**

**Introduction of, into practice of national accounts of Ukraine compilation, the revised version of standard international classification of economic activities - KVED 2010.**

#### **Current status**

At present when compiling the national accounts of Ukraine (accounts of income generation) KVED-2005 (Ukrainian version of NACE Rev.1.1) is being used. KVED-2010 classification (Ukrainian version of NACE Rev.2) was adopted and will be applied since 2012. The enterprises of non-financial corporations sector are being recoded in the Statistical Register. On the results of recoding the conversion matrices will be generated using the following indicators: number of enterprises, sale of products, number of employed people.

## **Problem**

Transition of national accounts from NACE classification (Rev.1.1) to NACE (Rev.2).

## **Issues**

1. Preparing the transition of national accounts for compilation of accounts of income generation into the new version of KVED 2010.
2. Determining the level of detailing the data by economic activities and institutional sectors of economy.
3. Required changes in sources of available information, areas to improve the input data.
4. Requirements to conversion matrices. Criteria for selection of matrices.
5. Requirements to sectoral statistics. Required dynamic series of indicators of sectoral statistics with double coding.
6. Influence of introduction of new method of outsourcing reflection on sectoral indicators, which are used by national accounts.
7. Selection of basic year when introducing the new classification of activities.
8. Methodology of retrospective calculation of indicators of income generation.
9. Depth of retro calculations.
10. Formats of publications of retrospective series of income generation account indicators in actual and constant prices.
11. Dealing with users.

## **List of literature and methodology to be translated under Twinning Project**

Eurostat's Tabular Approach to Exhaustiveness Guidelines 2005

## **Section from GLOBAL ASSESSMENT GUIDANCE QUESTIONNAIRE FOR SSCU(required by TimmiGravesen as description of the current situation)**

### **4.3. Macroeconomic statistics**

#### *4.3.1. National accounts*

#### *4.3.3. Financial accounts*

### **4.3.1, 4.3.3**

#### **1. Administrative information**

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National accounts, financial accounts

- The national legal framework (to be specified, if they are defined by other laws, except statistical)

- Resolution of the Cabinet of Ministers of 28 December 1992 № 727 "About introduction of

system of national accounts."

- Disposal of the Cabinet of Ministers on 9 August 2001 № 341-p "On measures to improve the work of the national accounts."
- Joint Order of 25 September 2001 № 385/216/442 "On creation of an interagency working group on national accounts statistics of Ukraine."
- Order of Cabinet of Ministers of 25 July 2002 № 413-r "On approval of the concept of the SNA".
- Resolution of the Cabinet of Ministers of Ukraine of April 7, 2003 № 475 "On approval of the Program Development System of National Accounts for the period until 2010."
- Disposal of the Cabinet of Ministers on November 5, 2008. № 1413-r "On the approval of the Strategy of Development of State Statistics for the period until 2012."

- The authority responsible for collecting, processing and dissemination of data

State Statistics Committee of Ukraine

## **2. Compliance with international guidelines and European standards**

**- Concepts, definitions and coverage (if applicable, mention use of international standards)**

Methodological basis for the national accounts is SNS'93, ESA'95.

National accounts include preparation: accounts of goods and services, production, primary distribution of income, secondary distribution of income, using income, savings, tables "input-output", as well as experimental balance sheets.

GDP calculations are carried out by three methods: the production side, for categories of income for the components used, which ensures maximum accuracy of calculations. GDP estimates are made at current and constant prices using chain indices. Also made seasonal adjustments using the program DEMETRA (version 2.04), using the method TRAMO / SEATS.

Function of tables "input-output" are detailed examination of trade flows and operations with the products in the domestic economy and with other countries.

Information and a detailed description of the content and structure of National Accounts of Ukraine is represented at the official website of SSC.

Also, Goskomstat, since 2004, conducts annual payments financial account for financial instruments and institutional sectors. In May this year were published experimental calculations of balance of financial and nonfinancial assets and liabilities.

**- Nomenclature / classification / breakdown by sector**

Indicators of national accounts developed using these classifications:

- Classification of Economic Activities (NACE).
- Classification of individual consumption purposes (KISTS).
- Classification of institutional sectors of the economy (CISE).
- Classification of the Functions of Government (COFOG).
- Classification of the purposes of non-profit institutions serving households (COPNI).
- classification of non-financial and financial assets.
- Classification of transactions and other flows.

National Accounts of Ukraine include non-financial corporations sector, household, government and nonprofit sector organizations, which serve households.

### **- Periodicity and timeliness**

The first quarterly assessment is the assessment of changes in real GDP, which is calculated and published for 45 days after the reporting period.

90 days after the quarter publish provisional national accounts estimates of Ukraine, in particular, GDP and GNI.

The final annual estimate of GDP, annual Ukrainian national accounts developed on the basis of the full array of annual statistical surveys, administrative data, and the results of balancing the "input-output" - in December following the reporting year, the balance sheets of assets and liabilities - in May following the reporting year.

March 31 following the reporting year publish a quarterly refined estimate, which is formed by taking into account the proportions and relations of the final estimate of last year and refined balance of payments data.

At the level of quarters final assessment - March 30, the second for the reporting year.

Publication dates are indicated on the official website of SSC in terms of graphics update of web-site.

Currently, SSC works to reduce the period of quarterly estimates of GDP from 45 to 30 days, from 90 to 70 days. Also, since 2011, will be held quarterly accounts for institutional sectors (120 day after the reference quarter).

### **3. The collection, processing and dissemination**

- Resource implications (cost, number of staff officers at the regional and central level, the Main Interregional Department of Statistics in Kiev, the central office)

In the national accounts for the staffing strength of 39 people in central office and 21,57 at the regional level, the Main Interregional Department of Statistics in Kiev 0.

### **- Input and procedure validation / editing**

For the calculation of national accounting figures using a wide range of data of state statistical observations that are available at the time of settlement, settlements unobserved economecalculations (NOE). Also apply administrative information, which comes from the State Tax Service, the State Commission for Regulation of Financial Services Markets, National Bank, Ministry of Finance, Pension Fund, the StateEmploymentCenter, the Social Insurance Fund from the temporary loss of efficiency, the Social Insurance Fund from Accident and occupational diseases.

Information statistical surveys and administrative data, which are used to determine the national accounts, may contain errors. In addition, methods of expert evaluation, which is used to determine individual national accounts, statisticalinformationaboutthe observationsthat do not may also give rise to deviations. However, the quality of national accounts is continuously monitored during the process of calculation, because the possible data inconsistencies and errors can be detected and corrected. In the national accounts use these basic procedures to achieve consistency of performance:

- Verification of statistical data observations, which are used to the compilation of national accounts, sectoral departments;
- The compilation of national accounts data are amenable to primary cross-checking in terms of completeness;
- Comparison of the sources of primary data that is used in the compilation of national

accounts and the results of the national accounts, with additional data from other sources;

**- Data processing, including validation of output data**

- Checking the results of the national accounts using "input-output" tables;  
 - Verification of national accounts data using the compilation of institutional sectors of the economy. In applying the calculation of GDP for the methods of production, elements of income and categories of final use, as well as the financial account balance must be achieved. Given the importance of national accounts for the formation of financial and economic policies, they regularly give in to international audit by the IMF experts, the World Bank and other international organizations.

**- Policy and practice of revisions**

The current practice of drafting and revision of national accounts

Estimates of National Accounts	Lines	Frequency calculation
Operational	quarterly	on the 45th day after the reporting quarter
Provisional	quarterly	on the 90th day after the reporting quarter
Accounts by institutional sectors and subsectors of the economy	quarter	on the 120th day after the reporting quarter
Adjusted	quarterly	on March 31 following the reporting year
Final figures for consolidated accounts; accounts by institutional sectors and subsectors of the economy, expense of the rest of the world	annual	on December 30 following the reporting year
Input-output in the prices of consumers'	annual	December 30 following the reporting year
Final	quarterly	March for the second reporting year
Input-output at basic prices	annual	on April 30 the second for tax year
Balances sheets	annual	May 30 the second for tax year

In addition, every 5-10 years, usually with substantial revisions of time series of national accounts, related to changes in methodology, classification, or the base year. The last time such recalculations SSC made in late 2009 with the introduction of a new base in 2007. The following revisions of time series data is planned to implement in connection with the introduction of the new classification of economic activities (NACE -2010) and the introduction of an updated international methodology for CHP-2008.

**- Dissemination (forms of dissemination and punctuality)**

The schedule and timing of future publications posted on the official website of the SSC in Publications / Statistics macroeconomic indicators / Catalogue of statistical publications  
- Statistical Bulletin on National Accounts of Ukraine for 2010"

Number of pages. - 30

Timeframe of the publication: December 2010

- Statistical Compendium "National Accounts of Ukraine for 2009" Number of pages. - 220

Timeframe of the publication: February 2011

- Statistical Compendium "Incomes and expenditures of the population for the year 2009 by region of Ukraine"

Number of pages. - 85

Timeframe of the publication: April 2011

- Statistical Compendium "A table of "input-output" in Ukraine in 2009 in the prices of consumers'

Number of pages. - 50

Timeframe of the publication: February 2011

- Statistical Compendium "A table of "input-output" of Ukraine for 2009 at basic prices"

Number of pages. - 60

Timeframe of the publication: May 2011

- Statistical Compendium "Gross regional product for the 2001-2009 Year"

Number of pages. - 150

Timeframe of the publication: May 2011 roku

- Statistical Compendium "Quarterly estimates of Gross Domestic Product of Ukraine for 2001-2010 years"

Number of pages. - 180

Timeframe of the publication: August 2011

All information regarding the national accounts is available on the official website of SSC ([www.ukrstat.gov.ua](http://www.ukrstat.gov.ua)) in sections:

- Statistical information / National Accounts Statistics;
- Quick-release/ national accounts;
- Publications / Statistics macroeconomic indicators;
- methodology and reporting documentation / Methodological Guidelines on Statistics / National Accounts Statistics.

#### **- The availability of documentation (methodologies) and metadata**

All information regarding the national accounts, such as current data, Quick-releases, annual data, methodological information is available on the official website of SSC ([www.ukrstat.gov.ua](http://www.ukrstat.gov.ua))

#### **4. The main problems and further development**

The main purpose of evaluation is to assess the level of compliance with international and European standards and requirements.

Prime among them is the introduction of a new methodology for calculating imputed payment of financial intermediaries (FISIM); introduction of the new edition of NACE- 2010, as well as the tabular approach completeness of data from Eurostat. Future work will focus on implementation of the SNA - 2008. Also will work to further develop and improve the balance of financial and nonfinancial assets and liabilities.

## **Annex 2. Persons met**

### SSSU:

O. O. Moskvina – Deputy Director of Department

R. A. Starovoitenko – Head of Unit for GDP Short-term Settlements

N. M. Smishlyayeva – Head of Regional Accounts Unit

S. A. Dukhnevich – Head of Annual National Accounts Unit

T. P. Nahaichuk – Deputy Head of Unit for Annual National Accounts

A. V. Varnidis – Deputy Director of Statistical Methodology Department

A. V. Tovchenko – Head of Unit for Mathematical Processing and Analysis of Statistical Data

Directors and experts of sectoral statistics departments

### RTA Team:

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