

TWINNING CONTRACT

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

Ukraine



MISSION REPORT

on

Component 1.2- *Classifications in national accounts*

Activity 1.2.2 Estimates on production account and income generation

Activity 1.2.4 Assessment on tabular approach to exhaustiveness of data

Mission carried out by
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Version: Final

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List of Abbreviations

ToR	Terms of Reference
SSSU	State Statistics Service of Ukraine
SBS	Structural Business Statistics SBS
TAE	Tabular Approach to Exhaustiveness
ESA	European System of Accounts
SNA	System of National Accounts

Executive Summary

The objectives of the mission were the introduction of NACE rev.2 in the Ukrainian National Accounts and the use of Eurostat's Tabular Approach to Exhaustiveness (TAE).

The current situation regarding the conversion to NACE rev.2 was presented including the results of experimental conversions based on preliminary double coded data and employment. A complete double coded Structural Business Statistics (SBS) is expected by end 2012 and the feasibility of different conversion methodologies was discussed. Also other issues like change of base year for constant price estimates, introduction of ESA2010/SNA2008 and revision policy were touched upon.

It was recommended to keep the transformation to NACE rev. 2 as a step isolated from the three other major revisions expected within the next two years in order to ensure that GDP – as a result of the new NACE - is unchanged. The double coded SBS should be a benchmark to form the basis for conversion tables. Recommendations on the necessary steps in this process were formulated. For quarterly accounts the same principles should be applied, but possible differences in seasonal patterns should be considered.

Four major revisions are foreseen in the near future and no later than 2014. Different possible schedules for carrying out and publishing these revisions were lined up including advantages and disadvantages related to the different possibilities.

The TAE was introduced and the seven different adjustment types (N1-N7) for the non-observed economy and the three tables (table 1A, 2A and 3A) were discussed with a focus on the output approach. Adjustments for the non-observed economy are already extensive and amount to approximately 17 percent of GDP.

It was recommended that the tables are completed for GDP according to the output approach as a starting point. The already existing adjustments form a good basis for carrying out the TAE, and they will also be reflected in the tables.

The issue of illegal activity was also discussed and it is planned to implement estimates in the national accounts in 2014. It was recommended to make estimates for three types of illegal activities: prostitution; production and sale of drugs; smuggling of alcohol and tobacco.

1. General comments

This mission report 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 second mission to be devoted to National Accounts within Component I 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:

- The introduction of the new NACE rev2 in the Ukrainian National Accounts and
- The use of Eurostat's Tabular Approach to Exhaustiveness.

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

The views and observations stated in this report are those of the consultants and do not necessarily correspond to the views of EU, SSSU or Statistics Denmark.

2. Assessment and results

2.1 Transition from NACE rev1 to NACE rev2.

In connection with the discussion of conversion from old to new NACE a number of topics were discussed: The reclassification of enterprises and establishments from old to new NACE in the business register, double-coding of the SBS-statistics by old and new NACE, change of base year, data-revisions and revisions due to the new SNA 2008/ESA 2010 as well as possible time schedules for publishing of revised National Accounts figures as well as methodology for compilation of quarterly accounts consistent with revised annual accounts. Some related topics were also discussed, for instance provisional and final figures and revision policy.

The existing methods used in compilation of Ukrainian Input-Output tables were presented to the Danish Experts by the head and deputy head of the Ukrainian National Accounts section.

The present I-O tables are compiled in purchasers prices and have 38 industries based on NACE rev1. For the year 2002 an I-O table was compiled in basic prices with 60 industries. This was, however, only done for this specific year, and the transformation data into NACE rev2 based industries will have to be based on the 38-industries in the existing annual data.

At the moment the Ukrainian business register is in the process of being recoded from NACE rev1. to NACE rev2. The finalization of the recoded register is planned to be at the end of 2012. At the same time it is expected that a double-coded version of the SBS statistics, that is a statistics coded by old as well as new NACE codes, will be available. In the meantime the National Accounts section can obtain access to the part of the SBS-statistics that has already been double-coded, but the information will be more or less incomplete depending on the industries in question.

Experiments have already been carried out in which existing national accounts data has been converted from old to new NACE using conversion matrices based on double coded data on the various variables of the SBS-statistics or double coded employment. It turned out that the converted data from the different methods showed considerable differences. The results from using SBS-based conversions seemed more credible than those based on employment.

During the mission the feasibility of different methods for transformation of the existing industry groups was discussed in further detail. It was stressed that different methods may be the preferred choices for different industries. To the extent that the actual double coding of specific units is known this knowledge should preferably be used in the conversion. On the other hand the residuals, that is, the values for those units for which we do not know the coding according to NACE rev2, the splitting of old industries into new will have to be based on assumptions and estimates.

The fact that a complete double-coded version of the SBS cannot be expected before the end of 2012 implies that all transformation exercises one may wish to perform at an earlier time will have to rely on assumptions and estimations. The results will probably be less accurate than those that can be obtained when a fully double-coded version of the SBS is available. Such inaccuracies can never be completely avoided and a trade-off between timeliness and accurateness always exists. It seems, however, that at this moment small units are still poorly represented in the part of the business register that has already been double coded.

It was assumed that before the end of 2014 the National Accounts should be published in a version that has undergone major revisions that include the transition to NACE rev2 as well as change to a new reference year for constant price calculations, revisions due to appearance of new source data, correction of known errors and the introduction of definitional changes according to SNA2008/ESA2010. One could choose to publish revised time-series each year to make sure that new data are

disclosed as fast as possible. Users may want to have the best possible figures at any time. On the other hand frequent major revisions may unnecessarily confuse the users.

2.2 Eurostat's tabular approach to exhaustiveness (TAE)

Eurostat's Tabular approach (TAE) to exhaustiveness was introduced and the seven different types of exhaustiveness adjustments (N1-N7) were discussed in detail. Also the three tables (Table 1, Table 2 and Table 3) of the tabular exercise were discussed with a focus on the output approach. There was also a first discussion on how to classify the already existing adjustments according to N1-N7. The methodology of the tabular approach is described in Eurostat's guidelines to the tabular approach from 2005.

Extensive, structured and well described adjustments are already in place, and they account for approximately 17 per cent of GDP. Overall it seems that the already existing adjustments for the non-observed economy will form a good starting point for using the TAE. The plan of the Statistical Service of Ukraine (SSSU) is to continue work on the TAE until the introduction of SNA2008.

The issue of illegal activities was also discussed. It is planned to start making experimental estimates of illegal activities this year and to implement estimates in 2014. In the EU, it has been agreed to make estimates for prostitution, sale and production of drugs, smuggling of alcohol and tobacco. The methodology used is prices times volumes.

3. Conclusions and recommendations

3.1 Recommendations on industry conversions

It was strongly recommended by the Danish experts that the transformation from NACE rev1 to NACE rev2 is performed as a step that is kept separate from other types of major revisions, for instance change of reference year for prices, revision due to new source data, correction of known errors or definitional changes made necessary by the new SNA08/ESA10.

A double coded version of all industry-totals (output, input, changes in inventories, GFCF, wages and salaries, employment etc.) should be produced based on primary statistics for at least one benchmark year. Based on the benchmark data it is possible to produce a conversion table that can be used to split data by old NACE for other years into the new NACE rev2 based industries in those cases where double coded data is unavailable for these years.

It was proposed to compile the double coded file through the following steps:

- All units that are already double coded in the SBS should be separated from the units that are only coded by NACE rev1. The latter part will need to be coded by NACE rev2 using other methods depending on the industry.
- The residual, units that are not already double-coded:
 - If information is available for individual big enterprises/ establishments they should preferably be coded manually by NACE rev2.
 - Otherwise: Choose an appropriate method to distribute the residual values for each industry, for instance:
 - in proportion with the same variable in small double coded units within the industry.
 - in proportion with output in small double coded units
 - in proportion with wages and salaries or employment in small double coded units.
 - As one of the above mentioned variables, but based on all double coded units within the industry.
- Specific cases of double coding:

- Agriculture, horticulture etc: SBS cannot be used to redistribute all industries. Other calculations can be needed.
- Service industries: Some industries are probably poorly covered by SBS and will need to be redistributed in other ways. In most cases, however, they may just need to be renamed according to NACE rev2 based on common sense.

When new industries receive insignificant contributions from old industries that are mostly classified to other NACE ver2 industries, such reclassifications should be reconsidered. They will often represent corrections of errors that are typically irrelevant for earlier years and could in most cases preferably be ignored.

When all values belonging to the residual have been distributed by NACE rev2 industries the data should be merged into a single double coded file for the benchmark year. This file will show how each variable of each old industry is split into parts belonging to new industries.

A double coded file can be aggregated to form a file with the new classification. It can, however, also be aggregated into a file with the old classification that can be compared with the original data as a control on the accuracy of the calculations. The method ensures that the total of each variable is not changed and that GDP is unaffected by the redistribution of values between industries.

As mentioned above the double coded file for the benchmark year can be used as the default conversion table when data for other years is transformed into double coded data. It must, however, be underlined that to the extent that double coded data can be found for these actual years such data should be preferred to compilations based on relations from the benchmark year.

3.2 Constant prices and NACE rev2:

The existing constant price figures can be transformed into NACE rev2 industries by a procedure that is in most respects similar to the conversion of current-price data.

- Where old industries are split up into parts belonging to different NACE rev2 industries for which there is no reason to assume differences in price levels, the double coded data in current prices can be used as conversion table for the NACE rev1 based figures.
- If, however, the parts that are transferred to different industries ought to be deflated using significantly different price indices, it will be appropriate to deflate the current-price data before it is used as conversion table for the old constant-price figures.
- Using the current price data – deflated or not – only as a conversion table will ensure, that no main aggregates are changed as result of the reclassifications. GDP is not changed!

3.3 Quarterly accounts and NACE rev2:

As with the annual accounts, the transformation from old to new NACE can preferably be made a separate step to avoid confusion with other types of revisions. The general principle would be to split the existing quarterly figures by old NACE into those parts that belong to different NACE rev2 based industries, that is, to produce a double coded version of each quarter that can be aggregated to a version with new industries.

- The default solution will be to use the double-coded version of the annual figures for the same year as basis for the conversion table. This method is feasible when there are no significant known differences in the seasonal patterns for those new industries that receive parts of the old industry.
- If specific industries are split up into parts each of which has a seasonality that depends heavily on for instance the weather in the actual year, it will probably be necessary to do some manual calculations.

3.4 Types of revisions:

It is important to distinguish between major revisions and the revisions that take place, when provisional figures are replaced by better estimates during the period until the National Accounts figures are considered final. The latter are the result of the fact that it usually takes up to two years until all statistical sources used in the compilation of National Accounts are gathered and processed. In the meantime provisional estimates of National Accounts figures must utilize source data that is available at the moment. When source data is used in an optimal way the National Accounts estimates will change over time as long as emerging source data is used to improve calculations. Thus it is a mistake to see absence of such revisions as a sign of quality.

Revisions of preliminary figures are carried out annually or even quarterly and will usually only affect recent figures. Major revisions will typically be carried out with longer intervals and will change the time series for long periods. Conversion from NACE ver1 to NACE ver2 is only one of the major revisions that will be needed in the near future. Others are:

- Change in reference (base-) year for constant price values
- Revision of data (correction of known errors, introduction of new source data)
- Revisions caused by transition from old to new SNA/ESA (definitional changes)

Each type of major revision should preferably be treated as a separate step, but published figures can include results from two or more of these steps.

3.5 Schedule for publication of major revisions:

Possible schedules for publication were discussed. It was assumed that the above mentioned major revisions are expected to be finished in time to be published before the end of 2014.

Arguments in favour of frequent major revisions:

- Published figures can be misleading, if they are allowed to contain significant known errors.
- Comparison with other countries is made difficult when published figures do not follow up to data standards.
- During the transition period from the moment a revision is carried out until it is published, it is necessary to compile an old and a revised version of National Accounts.

Arguments in favour of few major revisions:

- Revisions are usually unpopular among users who will need to replace whole series of data with new figures after each major revision.
- Typically each revision means that published tables need to be given new formats.

A number of possible schedules for publication were discussed. :

Three published major revisions:

- 2012: New base year for constant prices
- 2013: Introduction of NACE ver2
- 2014: Data-revision. Introduction of the new SNA/ESA

Consequences:

- The NACE rev2 revision would need to be based on preliminary and incomplete versions of double coded primary statistics as the double coding of the business register is not available before the end of 2013.
- Users will have to face major revisions during three consecutive years.

Two published major revisions:

- 2013: New base year for constant prices. Introduction of NACE ver2
- 2014: Data-revision. Introduction of the new SNA/ESA

Consequences:

- The NACE rev2 revision would still need to be based on preliminary and incomplete versions of double coded primary statistics as the double coding of the business register is not available before the end of 2013.

- Users will face major revisions during two consecutive years.

Two published major revisions, alternative:

- 2013: New base year for constant prices. Introduction of NACE ver2 in combination with data-revision
- 2014: Introduction of the new SNA/ESA

Consequences:

- The NACE rev2 revision still needs to be based on incomplete versions of double coded primary statistics.
- Users will face two major revisions during the coming years.

Only one published major revision:

- 2014: New base year for constant prices, Introduction of NACE ver.2, Data-revision, Introduction of the new SNA/ESA

Consequences:

- If double coding of the business register is finished according to schedule and if primary statistics are available in double coded form early in 2012 it should be possible to use all new information in the general revision. Otherwise techniques for utilization of incomplete data will still be needed.
- A longer delay before users will get access the new data.
- Users will be spared the repetitive major revisions.
- In the second half of 2014 the workload on the National Accounts staff may become excessive.
- Require detailed planning for the four different steps and a disciplined working process.

3.6 On the strategy for publishing of statistics by NACE rev2:

It is in practice impossible to convert all statistics at the same time. As National Accounts depend on data from other statistical sources, primary statistics must be converted before it can be used in the calculation of converted National Accounts. Within the EU countries National Accounts figures were converted to new NACE some years later than primary statistics. A similar procedure will probably be feasible in Ukraine.

It can be important that users are informed in good time about the conversion strategy and the times at which published statistics within each area is planned to change to the new NACE.

3.7 The last step: Introduction of SNA08/ ESA10.

A brief discussion took place on the introduction of the new SNA. Data needed for this exercise is still not fully available. Specifically it has been difficult to obtain adequate and reliable information for calculation of FISIM and output of the Central Bank. If revised data are to be published as planned in 2014 it is necessary that the source data is available in time to be used in the calculations well ahead of the deadline!

3.8 Recommendations related to the TAE

Due to the fact that the already existing adjustments are well structured and well described, it is possible to translate them into the framework of the TAE using Eurostat's guidelines. When completing the tables, it is recommended:

- That the tables in the TAE are completed for GDP according to the output approach as a starting point because data sources used for the output approach are more uniform than data sources used for the expenditure approach.
- That an extra column, column "4b adjustments needed and already in place", is inserted in order to document the existing adjustments.

- For illegal activity, it is recommended that experimental estimates are made for prostitution, production and sale of drugs, smuggling of alcohol and tobacco. The methodology used is prices times volumes. The three types of illegal activity are the agreed on at EU-level. If other types of illegal activity are relevant they should be considered included as well.

Actions needed for preparing the next mission.

Action	Deadline	Responsible person
Preliminary tables for TAE (output approach) to be sent to MS-experts	2 weeks before next mission	BC-experts
Preliminary estimates for illegal activity to be sent to MS-experts	2 weeks before next mission	BC-experts
Possible contact via e-mail regarding TAE	If necessary	BC-experts and MS-experts

4. Preliminary dates and items for the next mission

The next mission will take place from 17-22 March 2013 (preliminary dates) and the following items will be discussed:

- Continue the work on the conversion to Nace rev. 2, in particular the conversion to the Structural business statistics (SBS)
- Continue the work on the Tabular Approach to Exhaustiveness (TAE)
- Discussion of preliminary illegal activity estimates
- Transition to SNA2008 (in particular FISIM, Central Bank output and reclassification of the financial sector. In addition other major issues like R&D, military, reinsurance and goods for processing.
- Publication issues related to the new manual, in particular how to present the conceptual changes to users.

Annex 1. Terms of Reference

for a short-term mission to the State Statistics Service of Ukraine on

Component 1.2: Classifications in national accounts

Activity 1.2.2 Estimates for production accounts and income generation

Activity 1.2.4 Assessment on tabular approach to exhaustiveness of data

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 third and fourth activity within component 1.2 Classification in national accounts. The objective for this component is to:

- Outline a plan for transition from NACE rev.1 to NACE rev.2 in the Ukrainian National Accounts
- Assess the feasibility for implementation of Eurostat’s Tabular Approach to Exhaustiveness in Ukraine’s National Accounts.

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

- estimations of indicators for production account and income generation made according to NACE Rev.2;
- account and income generation for the period 2001-2010 at actual and constant prices made according to NACE Rev.2;

Purpose of the mission

1. Presenting of Input-Output Tables by the State Statistics Service of Ukraine input information, processing of indicators, compilation of Input-Output Tables in consumer prices, its conversion to basic prices, obtaining data of the first and the second quadrants in constant prices for the double deflation method, prospective of the transfer to NACE Rev.2.)

2. Discussing methodological approaches to NACE Rev.2 transfer and the backcasting practice (examination of the preliminary calculations for production accounts and generation of Ukraine’s income in 2010, identifying a suitable methodology of making final calculations for annual data).

3. Discussing methodological approaches to NACE Rev.2 transfer for quarterly calculations (a production account and income generation indicator, compiling retrospective times series for quarterly data).

4. Presenting the methodology of tabular approach to data exhaustiveness (Eurostat’s tabular approach to exhaustiveness) (Methodological provisions, data sources, its use in national accounts for estimating non-observable economy, applying the tabular approach in GDP estimation methods on production, incomes and final use).

Expected Results

- Recommendations on how to transform the existing national accounts data from the NACE rev.1 industry classification to NACE rev.2.
- Recommendations on the use of Eurostats Tabular Approach to Exhaustiveness.

Activities

A tentative schedule for the mission is:

MISSION PROGRAMME

Component I

Activity 1.2.2 “Estimates for production accounts and income generation”

Activity 1.2.4 ‘Assessment on tabular approach to exhaustiveness of data’

Experts: Ms. Annette Thomsen and Mr. Soren Henri Larsen

Date: 20-23/08/2012

	Morning	Afternoon
Sunday 19/08/2012		20:55 Arrival to Kyiv Transfer from the airport arranged with Vitaliy (+380933203140) Reservation in the Hotel Rus: Ms Thomsen: # 181049 Mr Larsen: # 677197
Monday 20/08/2012	10:00-11:00 Discussing the mission programme and tasks 11:00-13:00 Presenting the methods applied to Input-Output Tables by the State Statistics Service of Ukraine Address: 3 Shota Rustaveli Str., room 412	14.30-17:00 Discussing methodological approaches to NACE Rev.2 transfer and the backcasting practice (examination of the preliminary calculations for production accounts and generation of Ukraine’s income in 2010, identifying a suitable methodology for making final calculations for annual data). Address: 3 Shota Rustaveli Str., room 412
Tuesday 21/08/2012	10:00-13:00 Continuation Address: 3 Shota Rustaveli Str., room 412	14.30-17:00 Continuation Participants: Address: 3 Shota Rustaveli Str., room 412
Wednesday 22/08/2012	10:00-12:00 Discussing methodological approaches to NACE Rev.2 transfer for quarterly calculations (a production account and income generation indicator, compiling retrospective time series for quarterly data).	14.30-17:00 Continuation Address: 3 Shota Rustaveli Str., room 412

	12:00-13:00 Presenting the methodology of tabular approach to data exhaustiveness (Eurostat's tabular approach to exhaustiveness) (Methodological provisions, data sources, its use in national accounts for estimating non-observable economy, applying the tabular approach in GDP estimation methods on production, incomes and final use). Address: 3 Shota Rustaveli Str., room 412	
Thursday 23/08/2012	10:00-13:00 Continuation Address: 3 Shota Rustaveli Str., room 412	14.30-16:00 Continuation 16:00-17:00 Conclusions of the mission Address: 3 Shota Rustaveli Str., room 412
Friday 24/08/2012	08:50 Departure from Kiev Transfer to the airport arranged with Vitaliy (+380933203140)	

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:

Annette Thomsen (DK), Deputy Head of Division, ath@dst.dk

Søren Henri Larsen(DK), Senior Adviser, DST, shl@dst.dk

The BC counterpart will be:

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

Timing

The mission will be carried out during 20-24 August in Kyiv.

Report

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

Annex 2. Persons met

SSSU:

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