Republic of Macedonia
State Statistical Office

Information

About revised national accounts data and implementation of the new methodology ESA 2010

1.Revision of data due to methodological improvements according to ESA 95 – History

The State Statistical Office has implemented the methodologies UN SNA 93 and ESA 95 since early 1990 when the first calculations were made with the transition from the concept of material production to the concept of national accounts. Since then, the SSO has been extremely dedicated to the implementation of international standards in order to make the national data comparable to all countries.

In these efforts there were several phases when data were prepared with limited disaggregation and some 1990 data incorporated the most important parts of the SNA 93 methodology with data sources that were available in the SSO and other administrative data sources, and by adapting the corresponding classifications that were available in the statistical system of the country.

Starting from 1997, the SSO significantly consolidated the available data and improved the methods of calculation. From that year a consistent series in terms of the categories of GDP has been produced.

Up to 2010 methodological improvements were made on an ongoing basis. The first major revision of the data series from 2003 to 2007 was made in 2010 with the implementation of the regulation or methodology of calculation of intermediate services indirectly measured in the financial sector and they were allocated by sectors of activity including the categories of expenditure aggregates of GDP. The calculation is based on data available from the National Bank on loans and credits by sectors, and the calculation method is recommended by the ESA 95 methodology. Part of the value of financial services indirectly measured in the expenditure components of GDP is included in the category imputed rent as intermediate consumption in the part of the loans used for dwellings and in the part of the value of final consumption of households-households as consumers. That revision was made for the period from 2003 up to now, which resulted in a break in the data series to 2003.

Another major change in 2010 for the series 2003-2007 was made in the calculation of imputed rents when a rate of return on equity of 2.5% was used in the calculation, which increased operating surplus in the household sector (owners of apartments) and thus the structure of this aggregate (value added, intermediate consumption, depreciation and operating surplus) became comparable with other countries.

These two changes had an influence on the increase in GDP for the years 2003-2007 on the already published data by about 2.8%. (These changes are included in the revision of the data series for 2000-2012 according to the ESA 95 concept.)

At the same time, the SSO is constantly working on improvement of the data sources and their integration into calculations of national accounts as well as on improvement of the methods for calculation of the non-observed economy.

Since 2009, the SSO has applied the experience and the recommended method for inclusion of non-observed economy from OECD and EUROSTAT. The data on the non-observed economy are always shown in regular publications on GDP. Because of the need for a detailed review of data sources and application of appropriate methods for calculation of non-observed economy and the availability of new data from the Public Revenue Office, the annual special questionnaire for state records, data from the surveys of SSO for the cost of labour and LFS, the SSO made a revision of the calculations of items for exhaustiveness for revenues in kind such as the use of official vehicles for personal needs, treatment of managers' expenses and expenses of boards as compensation of employees instead of expenses of business entities.

In the last revision in 2014, calculations for illegal economy were made in the SSO based on the recommended methods – (quantity multiply price) for the items cost of prostitution and drugs. The value of tips in restaurants, hair dresser and taxi drivers services that partly include consumption of non-residents are estimated . These calculations have implications on the output and intermediate consumption as well as on the operating surplus for industries that are producers of these services and households as producers and at the same time in household consumption.

One of the very important methods for calculation of the value of assets and for calculation of the depreciation not by accounting methodology but according to the methodology of the national accounts, the method of the permanent inventory(PIM) of fixed assets that was not applied in published data because the calculation of depreciation was based on statutory accounting depreciation rates and data from the annual reports of business units. The use of accounting data did not allow the value of the assets to be expressed by the so-called replacement cost or current market value. Because imputed rents are calculated by the so-called cost-method, the value of houses is particularly important for the calculation of operating surplus of the household sector. The value of the dwellings before the application of PIM method is calculated by the number of apartments according to the last census of population in 2002 when a methodological review was done. PIM method was used in preparation of the revised data and was applied in the calculation of the value of dwellings (by using stock of number and the area of dwellings), the average construction cost and ongoing investment in new flats based on data from the construction statistics in the SSO). By using this method, calculation of the value of roads and part of machinery and equipment was done as well. The service life of assets was calculated in accordance with the recommended duration in the countries in the region and by evaluation of experts in the country. The new calculation has implication on the calculation of rents according to the user cost method due to the new value of the dwellings. The value of the depreciation in the government sector increased mainly because of the calculation of the value or depreciation of roads and means of transport in this sector. Also, in the production

for own use, the so-called Mark Up - profit factor is calculated in order to use the same way of valuation as for the basic price production. By using the new calculation the value and the stock of assets and the value of investments have been changed.

Since 2005, the SSO has greatly improved the quality of data in supply use tables thus allowing users to have an analytical table of supply of domestic and imported production and distribution of intermediate consumption. By working on these tables in the calculation of national accounts data some of data from the production and expenditure method were improved as well as data for calculation of the aggregates by constant prices.

By using supply and use tables improvements are made due to the balancing process, which resulted in consistency between gross production and the expenditure side of the GDP.

The revised data series also includes revised data on exports and imports by BOP made until the main revision according to IMF's Manual BMP6.

Work on the application of better quality data in the calculation of data at constant prices was also the subject of the revised data.

2 Change in NKD(NACE Rev. 2)

Data on value added from 1997-2008 were published according to the classification of activities NACE Rev 1. Since 2009, data have been published by NACE Rev.2, which was a break in the series. The opinion in the SSO was that this change should be made along with the major revision which was prepared in 2014, so now the series from 2000 to 2012 is shown by NACE Rev. 2.

In terms of content levels of the classification of activities are expanded. Aggregation of data for national accounts under the new programme for transmission and publication is:

A*3-aggregation - Agriculture, Forestry, Manufacturing, gas and water supply, construction and services

A*10 at the level of letter - section of NACE Rev. 2

A*21 - NACE Rev. 2 division

A*38 - NACE Rev. 2 division

A*64 - NACE REV 2division

A*88 - NACE REV 2 division

In order to ensure continuity of the data series in the SSO a new calculation of 2000-2008 data by activities has been done, such as the source data for -2008 is used as benchmark. (Series under ESA 2010 contains data according to NACE Rev. 2). The implications of the change from one classification to another are reflected in value added, intermediate consumption and output by activities and in the number of employees.

3 Sector accounts

Full implementation of the national accounts methodology involves calculation of transactions between institutional sectors of the economy - sector of non-financial corporations, financial corporations, general government sector, the household sector and non-profit institutions serving households. Data presentation by sectors also shows borrowing or lending in any sector. This calculation of data by sectors had an impact on the data on the whole economy and the disposable income, saving, net lending, but above all on the structure of the economy by institutional sectors.

Data by sectors have been prepared according to ESA 95 for the period 2008-2012.

4 Implementation of ESA 2010

The need for change in the ESA 1995 methodology emerged from the need to measure the new technological and economic phenomena based on the change of the economic environment and the development of services which become increasingly important in the economies of countries.

The ESA 2010 methodology was adopted by the European Parliament regulation published in June 26, 2013 and its implementation is from 2014.

Several areas for changes in the methodology of national accounts have been identified that will be of benefit for users, but from the point of view of the SSO and statistical institutions it means change not only in the methods of calculation but also in the efforts to provide adequate or additional data.

Changes in ESA 2010

The changes in the new ESA can be characterised as changes that have an impact on GDP and changes that complement and further explain the definitions and categories in national accounts. The more important changes refer to:

- Presentation of expenditures for research and development as investment i.e. fixed assets in the balance sheets in the part of intellectual property

- Costs for purchasing military equipment, which according to ESA 95 were treated as costs of intermediate consumption are shown as investments in fixed assets.

- The list of financial assets with financial derivatives is expanded.

- Changes in presentation of pension obligations

- Presentation of the value of goods sent for further processing on a net basis.

- Changes in sectorisation of institutional sectors of the financial sector and specially created state enterprises abroad.

Implementation of ESA 2010 in the SSO

The State Statistical Office, wanting to ensure comparability of data with other countries and declaring harmonisation as the biggest priority, prepared an Action Plan in 2013 together with the National Bank and the Ministry of Finance in order to determine the steps in the implementation of the ESA 2010.

The preparation of the document started from the available data that were already collected (administrative or by survey), the need and scope of collecting additional data for some of the new changes and the available human resources for implementation of the changes.

Two significant changes have been implemented in the SSO according to the level of their impact on GDP and according to the available data.

Research and development

The treatment of expenditures for R&D as investment or as fixed assets is a very important methodological change. From the point of view of accounting rules, the definitions on when research and development expenditures should be treated as fixed assets are very rigid (according to ESA 2010 a fixed asset is defined as asset whose service life is more than one year and the value of the asset is not determined, which is not the case with ESA 95 according to which the fixed asset is defined as asset that has a value of 500 euros according to prices from 1995).

Also, in the available accounting data, companies' expenditures for research and development are treated as expenses and they can not simply be reclassified as investments. This is particularly difficult in the case of research and development for its own use. The costs of experts and the assets invested in research for own needs are not allocated in specific business units of companies and it is difficult to separate the costs for this purpose without additional data. The SSO conducts a survey on research and development " Annual report on scientific research and development activity " under the recommended Frascati Manual of OECD.

This survey provides data on the costs for research and the incomes of research institutions. These basic data are used for producing output for research and development - investment. The implication of the treatment of expenditures for research and development as investment is in the decrease of intermediate consumption for that part of the production companies and part of individual consumption in the general government sector.

For calculation of the depreciation of this item the PIM method and a service life of about 10 years are used. Depreciation calculated in the general government sector has an impact because output of that sector is calculated as the sum of costs.

Treatment of military equipment

According to ESA 95 cost for military equipment were considered as costs, and only costs for armaments transport means and infrastructure that can serve for civil purposes were treated as investments.

According to the new methodology ESA 2010, the cost for purchase of military equipment are treated as investments and properly recorded in the assets of the institution as assets or stock. In order to make the calculation according to the PIM method of this kind of assets, the SSO provided appropriate official data from various sources and made calculation of depreciation with average service life of assets of about 10-15 years.

The part of depreciation is calculated in output of the government sector

Change in the balance of payments data

The IMF's Balance of Payments Manual BPM6 is implemented by the National Bank and it is in the context of the change according to ESA 2010.

New data on exports and imports of goods and services from NBRM are integrated into the data series according to ESA 2010.

By integrating these data, consistency of data is achieved for the calculation of GDP and the sector accounts transactions according to SNA 2008 and ESA 2010, especially in the methodological changes in the principle of ownership where according to IMF's Manual BPM6 it is considered that the goods for further processing there is no transfer of ownership and only the value of services is included in production services for goods in other property in the frame of component services.

Effects of the applied revision

GDP, revised data, ESA 95 and ESA 2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP, published data, ESA 95,in mil.denars	236 389	233 841	243 970	258 369	272 462	295 052	320 059	364 989	411 728	410 734	434 112	459 789	458 621
GDP, revised data, ESA 95in mil.denars	246 370	246 447	255 069	266 330	278 681	306 351	332 618	369 989	412 792	411 810	435 033	461 698	464 067
% of change compared to the publiseh data	4.2	5.4	4.5	3.1	2.3	3.8	3.9	1.4	0.3	0.3	0.2	0.4	1.2
GDP, revised data, ESA 2010,in mil.denars	248 646	252 393	258 581	268 694	280 786	308 447	334 840	372 889	414 890	414 622	437 296	464 186	466 703
% of change compared to ESA 95 revised data	0.9	2.4	1.4	0.9	0.8	0.7	0.7	0.8	0.5	0.7	0.5	0.5	0.6

Volume indices

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
GDP, published data, ESA 95	95.5	100.9	102.8	104.6	104.4	105.0	106.1	105.0	99.1	102.9	102.8	99.6
GDP, revised data, ESA 95	95.5	100.9	102.8	104.6	104.4	105.3	106.5	105.9	99.6	103.3	102.3	99.8
GDP, revised data, ESA 2010	96.9	101.5	102.2	104.7	104.7	105.1	106.5	105.5	99.6	103.4	102.3	99.5