

REVISION OF GROSS DOMESTIC PRODUCT IN 2019

On 30 August 2019, Statistics Estonia released a revised national accounts time series from 1995 onwards, with the following revisions made in the time series:

- In 1995–2018, accounting methodologies were updated in the context of Eurostat's gross national income (GNI) verification cycle. Depending on the topic, gross domestic product (GDP) and GNI increased or decreased. GDP was most affected by changes in the calculations of standing timber, own-account production of software and consumption of fixed capital.
- The methodology for disaggregation from annual to quarterly data was changed.
- As part of the regular revision, the 2015–2018 calculations were updated.
- As part of the annual revision, the national accounts for 2015 were revised according to the supply and use tables (SUT), and the accounts for 2017 according to the annual surveys of Statistics Estonia. The most important of these is the Structural Business Survey (SBS, or EKOMAR in Estonian). As a result of these revisions, the gross domestic product (GDP) for 2015 increased by 0.6% and for 2017 by 0.7%. Due to the revisions made based on the above-mentioned data sources, the 2016 and 2018 calculations had to be reviewed as well. 2018 is the basis for the 2019 calculations, so the Q1 2019 GDP figures released in May 2019 were also updated.
- The reference year was shifted from 2010 to 2015 in the process of chain linking the GDP figures.
- Some units were reclassified.
- Transactions for postal subsidies and conscripts' allowances were changed.
- For 1995–2013, mineral exploration and evaluation expenditures are considered as investments. Previously, these expenditures had been recognised as current expenditure.

Due to all these revisions, the annual GDP at current prices changed by 0.1% – to 2.8% in the period 1995–2018 (Table 1).

Table 1. GDP at current prices before and after revision, 1995–2018

	Before revision, million euros	After revision, million euros	Difference, %
1995	2 779.5	2 858.4	2.8
1997	3 649.3	3 675.5	0.7
1998	4 494.8	4 567.0	1.6
1999	5 378.7	5 427.5	0.9
2000	6 170.8	6 183.5	0.2
2001	6 976.4	6 992.2	0.2
2002	7 773.8	7 827.3	0.7
2003	8 708.9	8 747.6	0.4
2004	9 707.7	9 776.2	0.7
2005	11 262.3	11 336.5	0.7
2006	13 521.7	13 560.5	0.3
2007	16 246.4	16 398.7	0.9
2008	16 517.3	16 638.3	0.7
2009	14 145.9	14 211.8	0.5
2010	14 716.5	14 863.1	1.0
2011	16 667.6	16 829.2	1.0
2012	17 934.9	18 050.7	0.6
2013	18 932.3	19 033.4	0.5
2014	20 061.2	20 180.0	0.6
2015	20 652.0	20 782.2	0.6
2016	21 682.6	21 693.6	0.1
2017	23 615.1	23 775.8	0.7
2018	25 678.1	26 032.0	1.4

During the same period, the annual real GDP growth changed by -1.2 – to $+1.3$ percentage points (Chart 1) and the quarterly growth by -2.2 – to $+1.5$ percentage points (Table 2).

Figure 1. Real GDP growth compared to respective period of previous year, before and after revision, 1995–2018

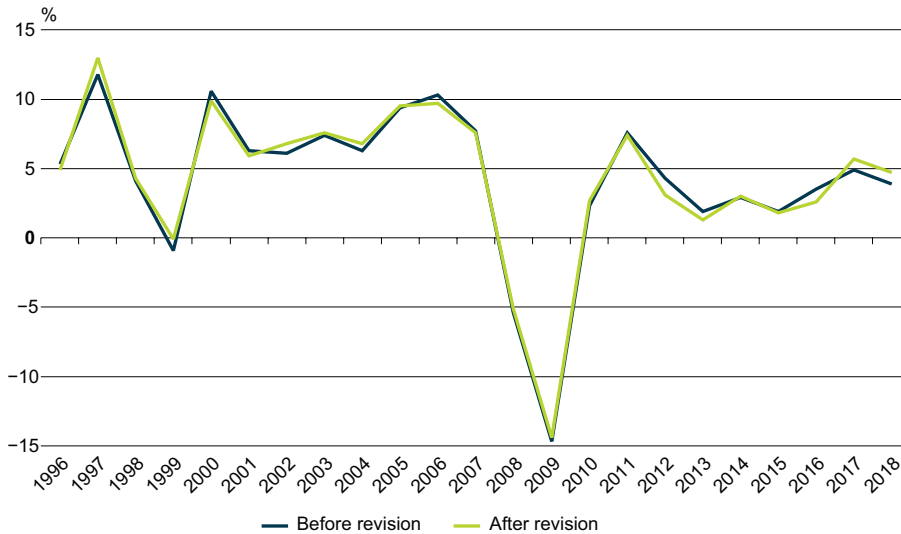


Table 2. Revised real GDP growth rate compared to same quarter of previous year and difference from previously published growth rate, 1st quarter 2015 – 1st quarter 2019

	2015		2016		2017		2018		2019	
	growth, %	difference, pp	growth, %	difference, pp	growth, %	difference, pp	growth, %	difference, pp	growth, %	difference, pp
Quarter 1	1.0	-0.9	4.8	1.0	5.7	0.8	4.7	1.4	5.0	0.5
Quarter 2	3.2	0.5	0.7	-1.5	7.3	1.5	4.5	0.6
Quarter 3	2.7	0.6	1.3	-2.2	4.4	0.4	4.7	0.7
Quarter 4	0.5	-0.6	4.0	-0.5	5.6	0.8	5.1	0.9
Annual	1.8	-0.1	2.6	-0.9	5.7	0.9	4.8	0.9

Next, a closer look at the methodological changes is provided.

I Notifications from the gross national income verification cycle

The EU budget is financed from own resources based on the gross national income (GNI). Therefore, the task of Eurostat is to monitor that the Member States' contributions to the EU budget would be correctly calculated on the basis of the GNI. If Eurostat finds that a Member State could modify the methodology for calculating the GNI, it submits a precept and requires improvement of the methodology. By 30 August 2019, Statistics Estonia had to make the following changes in the time series of the Estonian national accounts:

1. Improve the calculation of forestry: output of forestry products will be recorded as being produced continuously over the entire period of production. As a result of this change, the output of the non-financial corporations and households sector on the production side of GDP and the changes of inventories on the expenditure side changed. GDP changed as well. More information on the accounting methodology is available at [Calculating the net growth value of standing forest - Statistics Estonia](#). Table 3 describes the impact of changes in the calculation of standing timber on the time series of macro statistics.

Table 3. The impact of standing timber on GDP components, 1995–2018

	The output of non-financial enterprises	The output of households	Changes in inventories	The impact of GDP, %
1995	-16.8	-5.6	-22.5	-0.8
1996	-15.7	-5.4	-21.1	-0.6
1997	-8.0	-8.0	-16.0	-0.4
1998	-4.6	-6.5	-11.1	-0.2
1999	-8.5	-7.7	-16.2	-0.3
2000	-16.8	-10.3	-27.0	-0.4
2001	-40.5	-10.5	-51.0	-0.7
2002	-6.4	-8.5	-14.8	-0.2
2003	1.3	-12.7	-11.3	-0.1
2004	15.7	3.4	19.1	0.2
2005	15.9	7.7	23.6	0.2
2006	40.9	18.0	58.9	0.4
2007	98.8	52.2	151.0	0.9
2008	102.7	58.3	161.0	1.0
2009	30.6	18.7	49.4	0.3
2010	34.4	25.2	59.5	0.4
2011	26.6	23.0	49.6	0.3
2012	24.6	0.7	25.3	0.1
2013	30.7	-5.6	25.0	0.1
2014	39.7	-5.2	34.6	0.2
2015	30.0	9.3	39.4	0.2
2016	24.6	-3.9	20.7	0.1
2017	-13.1	-4.4	-17.5	-0.1
2018	27.6	-2.3	25.3	0.1

2. For the calculation of consumption of fixed capital, the lifetime of weapons systems was changed. Taking into account the practices of other European countries and after consulting with the Ministry of Defence, ten years are used instead of the previous five years. As a result, government consumption of fixed capital decreased and government output and final consumption expenditure declined. Therefore, GDP declined as well.

Table 4. The impact of weapon systems on GDP components, 2000–2018

Year	The change of CFC, million euros	The impact on GDP, %
2000	-2.7	0.0
2001	-1.1	0.0
2002	-1.5	0.0
2003	-3.5	0.0
2004	-5.7	-0.1
2005	-4.5	0.0
2006	-5.2	0.0
2007	-6.9	0.0
2008	-9.2	-0.1
2009	-12.1	-0.1
2010	-14.4	-0.1
2011	-8.9	-0.1
2012	-10.0	-0.1
2013	-4.7	0.0
2014	-1.6	0.0
2015	-0.4	0.0
2016	-8.2	0.0
2017	-13.1	-0.1
2018	-19.5	-0.1

3. In addition to labour costs, other intermediate consumption expenditures related to software development like management costs, training, personnel management, office requisites, electricity, rent, etc. were included in the calculation of own-account software production. The current calculations were also revised. The Structure of Earnings Survey conducted by Statistics Estonia every four years and the Structural Business Statistics (EKOMAR) were used as the main data sources.

Table 5. Output of own-account software before and after revision, 1995–2018
Million euros

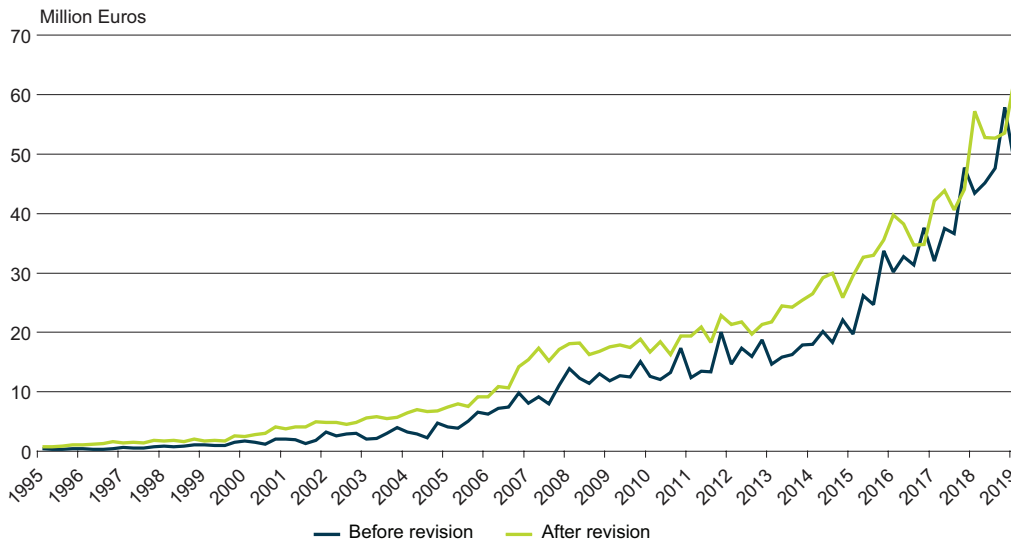
Year	Before revision	After revision	Difference, %
1995	1.4	3.5	150.0
1996	1.4	5.3	278.6
1997	2.3	6.1	165.2
1998	3.6	7.0	94.4
1999	4.6	7.8	69.6
2000	6.3	12.4	96.8
2001	7.0	17.0	142.9
2002	11.8	18.9	60.2
2003	11.2	22.6	101.8
2004	13.0	27.1	108.5
2005	19.7	32.0	62.4
2006	30.6	45.1	47.4
2007	36.3	65.0	79.1
2008	50.5	69.5	37.6
2009	52.2	71.8	37.5
2010	55.3	70.7	27.8
2011	58.9	81.3	38.0
2012	66.6	84.1	26.3
2013	64.5	95.8	48.5
2014	78.6	111.5	41.9
2015	104.4	130.6	25.1
2016	131.9	147.6	11.9
2017	153.8	170.6	10.9
2018	194.0	216.2	11.4

As a result of the revision of current calculations and the addition of other intermediate consumption expenditures, own-account software production was added to non-profit institutions serving household (NPISH) sector and the previous breakdown by activities was completely changed.

Table 6. Output of own-account software before and after revision, 1995–2018

Million euros

Activity	Before revision				After revision				
	Non-financial corporations	Financial corporations	General government	Total	Non-financial corporations	Financial corporations	General government	NPISH	Total
Agriculture, forestry and fishing	0.3	0.0	0.0	0.3	0.8	0.0	0.0	0.0	0.8
Mining and quarrying	0.4	0.0	0.0	0.4	0.8	0.0	0.0	0.0	0.8
Manufacturing	5.2	0.0	0.0	5.2	9.8	0.0	0.0	0.0	9.8
Electricity, gas, steam and air conditioning supply	2.7	0.0	0.0	2.7	5.7	0.0	0.0	0.0	5.7
Water supply; sewerage, waste management and remediation activities	0.3	0.0	0.0	0.3	1.4	0.0	0.0	0.0	1.4
Construction	2.1	0.0	0.0	2.1	0.6	0.0	0.0	0.0	0.6
Wholesale and retail trade; repair of motor vehicles and motorcycles	12.9	0.0	0.0	12.9	7.0	0.0	0.0	0.0	7.0
Transportation and storage	6.6	0.0	0.2	6.7	5.8	0.0	0.4	0.0	6.2
Accommodation and food service activities	0.9	0.0	0.0	0.9	1.1	0.0	0.0	0.0	1.1
Information and communication	45.0	0.0	0.3	45.3	43.9	0.0	0.8	0.0	44.7
Financial and insurance activities	0.0	24.7	0.0	24.7	0.0	26.9	0.0	0.0	26.9
Real estate activities	0.5	0.0	0.0	0.5	0.4	0.0	0.3	0.0	0.6
Professional, scientific and technical activities	4.5	0.0	0.1	4.6	10.4	0.0	2.0	0.0	12.3
Administrative and support service activities	1.6	0.0	0.0	1.6	2.3	0.0	0.0	0.0	2.3
Public administration and defence; compulsory social security	0.0	0.0	16.0	16.0	0.0	0.0	20.1	0.0	20.1
Education	0.2	0.0	3.3	3.5	0.1	0.0	4.0	0.0	4.1
Human health and social work activities	0.6	0.0	2.7	3.3	0.2	0.0	1.0	0.0	1.2
Arts, entertainment and recreation	0.2	0.0	0.7	0.9	0.3	0.0	0.4	0.1	0.7
Other service activities	0.2	0.0	0.0	0.2	1.0	0.0	0.0	0.3	1.3
TOTAL	83.9	24.7	23.3	131.9	91.4	26.9	28.8	0.4	147.6

Figure 2. The output of own-account software before and after revision, 1st quarter 1995 – 1st quarter 2019

4. Research and development calculations include additional investments in fixed assets used in research and development. In addition, the time series were also reviewed and the estimates were revised. Changes have been made to whole time series since 1995.

The methodology for the capitalisation of own-account research and development was evaluated during the GNI verification mission. Suggestions were made to recheck the composition of assets used for the production of own-account R&D. An analysis of institutions engaged in own-account R&D showed the need to adjust the estimate of assets used in the production of R&D. This correction does not directly affect the most recent years, as seen below.

Table 7. Change in assets used for own-account R&D, 2010–2016

Million euros

	2010	2011	2012	2013	2014	2015	2016
Non-financial corporations	31.9	134.6	19.11	32.26	-4.39	–	–
Financial corporations	1.1	0.5	1.82	2.02	–	–	–
General government	13.3	0.6	1.04	1.1	–	–	–
NPISH	0.0	0.0	0.03	0.01	–	–	–

The estimate of own-account R&D has also been affected by general changes in the methodology of consumption of fixed capital. As a result, the assets used in the production of R&D are now being depreciated by a more detailed model, which differentiates between institutional sectors and asset classes. Until now, a uniform 10 year service life was used for all assets in all sectors. From now on, there are 5 asset classes in 4 sectors (there is no own-account R&D for households):

- Buildings;
- Machinery and equipment
 - Computers;
- Immaterial assets;
- Other assets.

Although the increase in the level of assets involves an increase in CFC, a more detailed approach to service lives pushes CFC more into future and hence, lowers it in previous years. This is largely the result of significantly longer service lives for buildings.

Table 8. Change in the CFC of assets used for own-account R&D, 2010–2016

Million euros

	2010	2011	2012	2013	2014	2015	2016
Non-financial corporations	8.1	4.7	3.43	3.47	-38.86	-22.98	-12.18
Financial corporations	-0.4	0.5	0.6	0.94	-0.24	-0.15	-0.1
General government	5.6	-7.9	-12.48	-15.22	-14.7	-11.83	-6.49
NPISH	0.1	0.0	0.01	0.05	0.05	0.06	0.05

Along with other revisions and corrections to the R&D data, the total changes to own-account R&D time series are as follows:

Table 9. Change in own-account R&D to be capitalised, 2010–2016

Million euros

	2010	2011	2012	2013	2014	2015	2016
Non-financial corporations	-2.8	4.1	-1.33	-5.17	1.31	6	4.83
Financial corporations	0.3	2.5	1.23	1.23	-0.15	1.3	1.23
General government	-2.6	2.4	-6.32	-6.54	-5.59	1.48	1.69
NPISH	-0.1	-1.8	0	0.03	0.14	0.25	0.29

5. Terminal costs, i.e. large costs associated with disposal, e.g. decommissioning costs of nuclear power stations or clean-up costs of landfill sites, are recognised as gross fixed capital formation. Also, estimates for construction carried out by non-financial corporations on large-scale closures of their own facilities were added.

In Estonia, three different types of decommissioning costs can be identified: the closing of mines, clean up of landfills and large single time decommissioning projects like the closing of Kohtla-Järve and Kiviõli semi-coke mountains.

Until now, the decommissioning costs were recorded as either intermediate consumption or as gross fixed capital formation of buildings other than dwellings. The recording of decommissioning costs as a separate asset under gross fixed capital formation had an impact on the non-financial enterprises' and the general government sector output, intermediate consumption, gross fixed capital formation and gross fixed capital consumption and the general government final consumption expenditure.

Table 10. The decommissioning costs, 1995–2018

Million euros

Year	Non-financial corporations	General government	TOTAL	Impact on GDP, %
1995	0.00	0.00	0.00	0.00
1996	0.0	0.00	0.00	0.0
1997	0.0	0.00	0.00	0.0
1998	0.0	0.00	0.00	0.0
1999	0.2	0.00	0.17	0.0
2000	0.6	0.00	0.55	0.0
2001	8.0	0.8	8.83	0.01
2002	4.8	6.0	10.74	0.07
2003	4.3	2.4	6.73	0.03
2004	3.3	0.8	4.03	0.01
2005	3.0	5.6	8.61	0.04
2006	5.0	1.8	6.88	0.01
2007	3.7	0.6	4.31	0.00
2008	4.7	1.6	6.28	0.01
2009	2.7	0.4	3.06	0.00
2010	1.0	1.2	2.16	0.01
2011	0.9	25.9	26.76	0.14
2012	4.2	9.3	13.44	0.05
2013	3.7	8.4	12.10	0.04
2014	1.9	5.5	7.37	0.03
2015	2.0	2.2	4.25	0.01
2016	2.0	0.0	1.95	0.00
2017	2.6	0.0	2.58	0.00
2018	1.9	0.0	1.89	0.00

In 2009–2010, the Ministry of the Environment created a special purpose fund from the grants received from the ISPA (*Instrument for Structural Policies for Pre-Accession*) Cohesion Fund for conservation of landfills. In 2014–2015, these funds were used by the Environmental Investment Centre to close down landfills. Therefore, it was decided that these sums ought to be recorded as D.92 rather than D.74. There is no effect on GDP.

Table 11. Conservation of landfills

Million euros

	2009	2010	2011	2012	2013	2014	2015
Current international cooperation from EU foreign aid (receivables)			-17.0	-8.1	-11.6	-4.3	0.0
Investment grants from EU foreign aid (receivables)	-21.6	-6.9	17.0	8.1	11.6	4.3	0.0
GDP	-21.6	-6.9	0.0	0.0	0.0	0.0	0.0

6. For the calculation of indirect financial intermediation services (FISIM), the reference rate is calculated only based on interbank deposit rates, not based on deposit and loan interests. As a result, Fisim numbers changed from 2008 onwards.

Table 12. Fisim changes, 2008–2018

Million euros

	Before revision		After revision		Difference, %	
	Output	Intermediate consumption	Output	Intermediate consumption	Output	Intermediate consumption
2008	538.2	297.9	522.3	283.9	-3.0	-4.7
2009	351.6	190.6	354.8	199.1	0.9	4.5
2010	383.8	243.0	496.2	384.8	29.3	58.4
2011	430.5	266.7	515.6	384.6	19.8	44.2
2012	397.3	252.8	478.1	373.9	20.3	47.9
2013	393.0	259.9	452.3	358.6	15.1	38.0
2014	430.0	284.5	487.8	385.9	13.4	35.6
2015	433.7	255.8	490.9	363.2	13.2	42.0
2016	470.5	293.3	502.6	359.3	6.8	22.5
2017	510.6	317.7	533.8	356.9	4.5	12.3
2018	555.1	335.0	575.9	371.4	3.7	10.9

7. The calculation of life insurance premium supplements has been improved. The review of calculations and methodology showed that in the case of life insurance policies where the investment risk is borne by the policyholders, the relevant technical reserves have not been taken into account. The purpose of the technical reserves is to cover the underwriting liabilities to policyholders. Therefore, the methodology for calculating life insurance premium supplements was changed. In addition, the time series of life insurance were revised and changes were made.

As a result, in the production side of GDP, the output of financial corporations and intermediate consumption expenditure changed.

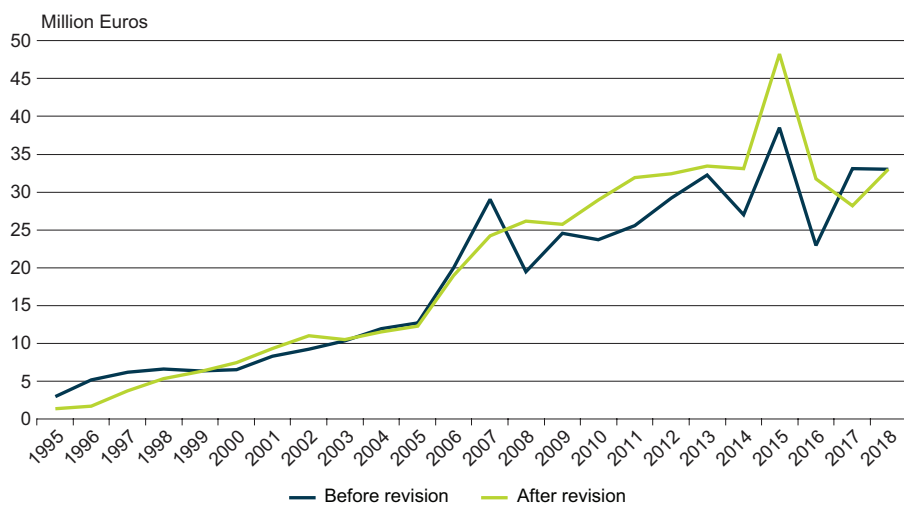
The impact of the changes on the time series is shown in table 13.

Table 13. Changes in non-life insurance, 1995–2018

Million euros

	Before revision		After revision		Difference, %	
	Output	Intermediate consumption	Output	Intermediate consumption	Output	Intermediate consumption
1995	3.4	1.6	3.4	1.6	0.0	0.0
1996	5.0	2.4	5.0	2.4	0.0	0.0
1997	6.3	4.0	6.3	4.0	0.0	0.0
1998	6.6	4.5	6.6	4.5	0.0	0.0
1999	6.4	3.4	6.6	3.4	3.6	0.0
2000	8.6	4.2	7.6	3.7	-11.8	-11.3
2001	8.4	4.9	9.4	5.1	12.3	4.9
2002	9.8	5.0	11.3	5.0	14.4	0.0
2003	10.5	4.8	10.6	4.8	1.4	0.0
2004	12.2	6.0	11.8	6.0	-3.1	0.0
2005	12.8	5.8	12.4	5.8	-3.2	0.0
2006	20.5	6.0	19.5	6.0	-4.8	0.0
2007	24.5	10.5	26.8	10.5	9.4	0.0
2008	24.3	19.7	26.9	14.5	10.5	-26.4
2009	22.6	12.8	26.3	12.7	16.0	-0.9
2010	24.4	9.9	29.7	9.9	21.6	0.0
2011	25.6	9.7	31.7	9.7	23.9	0.0
2012	29.8	9.9	33.0	9.9	10.8	0.0
2013	32.9	9.9	34.3	9.9	4.1	0.0
2014	28.1	8.6	34.4	8.6	22.5	0.0
2015	40.2	3.2	49.7	3.2	23.7	0.0
2016	24.9	2.6	33.7	2.6	35.4	0.0
2017	28.5	3.8	30.1	3.6	5.5	-5.2
2018	42.0	4.1	43.9	3.7	4.5	-8.1

On the GDP expenditure side, households' final consumption expenditures changed.

Chart 3. Households' life insurance expenditures, 1995–2018

8. VAT fraud

Statistics Estonia (SE) was asked to include in the estimation of output the adjustment for uncollected VAT due to bankruptcy. Until now, these amounts of VAT were not taken into account on the production side of GDP, but were included on the expenditure side.

In addition, SE reviewed the methodology for calculating the value of tax evasion with complicity based on the recently revised proposal of the GNI Committee to update the Commission Decision on VAT fraud. The changes were made to 2010–2014 data. The earlier years did not change and it is difficult to point out the effect of this change on later years. The results of both improvements are shown in columns 1 and 2 of the table below. Total impact on GNI is provided in column 3.

Table 14. The impact of implementing the new VAT fraud methodology on GNI estimates

Year	Adjustment for non-collected VAT due to bankruptcy, %	Review of the value of VAT evasion with complicity, %	Impact on GNI, %
2010	0.2	-0.1	0.0
2011	0.2	-0.1	0.0
2012	0.2	-0.1	0.1
2013	0.2	0.1	0.3
2014	0.2	0.0	0.2

9. Transport equipment service life

In the CFC calculation, the lifetime of the vehicles was updated, taking into account the practices of other European countries and enterprises' information. Changes were made to the time series from 2014. As a result, CFC of non-financial corporations and general government decreased. Therefore, GDP decreased as well.

Table 15. Impact of changes in transport equipment service lives on CFC, 2014–2018

Million euros

	Before revision		After revision		Difference	
	Non-financial corporations	General government	Non-financial corporations	General government	Non-financial corporations	General government
2014	98.1	29.3	60.1	7.0	-38.0	-22.3
2015	98.5	34.5	57.7	13.3	-40.8	-21.2
2016	99.2	37.8	61.1	14.9	-38.1	-22.8
2017	109.2	38.0	69.8	15.6	-39.4	-22.5
2018	110.4	37.5	76.0	15.9	-34.4	-21.6

II Changes in the consumption of fixed capital

Statistics Estonia changed calculations for consumption of fixed capital (CFC).

The simplified Perpetual Inventory Method (PIM) used in Statistics Estonia for calculating the consumption of fixed capital was reviewed and compared to the recommendations of the OECD manual for measuring capital and the practices of the statistical offices of other countries (mainly Statistics Finland and the Central Statistical Bureau of Latvia). The assumptions about the service lives and capital stocks were revaluated using the time series of gross fixed capital formation published by Statistics Estonia and the latest available data on capital stocks. The following data sources were used for estimating the capital stocks: the annual financial statements of enterprises, the survey "Economic indicators of agricultural, forestry and fishing enterprises", the Structural Business Survey "EKOMAR", the survey "Financial statistics of financial service activities and activities auxiliary to financial services", the Public Sector Financial Statements System, the survey "Non-profit institutions" and the population and housing census.

The consumption functions were not changed and as before, the geometric depreciation method is used for assets with a short service life and the linear depreciation method for assets with a long service life. The PIM used by Statistics Estonia used a retirement pattern, which assumed that the risk of discard remains constant through the lifetime of the asset. This assumption is implausible as fixed assets are by definition expected to be used in production for more than one year and retirements in the first years after installation are unlikely (especially for assets with long service lives). The OECD manual "Measuring Capital" recommends using a bell-shaped retirement function instead of a linear one. A new retirement function based on the Weibull frequency function was chosen.

Table 16. CFC before and after revision, 1995-2018

Million euros

	Before revision						Before revision					
	Non-financial corporations	Financial corporations	General government	Households	NPISH	Total	Non-financial corporations	Financial corporations	General government	Households	NPISH	Total
1995	144.9	22.8	159.8	88.8	1.3	417.6	193.7	11.5	141.0	149.7	1.5	497.4
1996	173.4	24.4	148.2	129.3	1.7	477.0	228.8	17.3	144.8	184.7	1.7	577.3
1997	217.2	27.2	133.4	177.4	1.6	556.9	280.2	22.6	137.1	216.8	1.9	658.5
1998	267.0	29.5	108.5	213.7	1.8	620.4	332.3	26.8	135.5	227.6	2.1	724.3
1999	308.4	26.3	107.1	233.5	2.1	677.3	394.9	30.1	143.1	242.2	2.4	812.7
2000	368.9	32.4	109.6	245.8	2.3	758.9	473.7	32.2	150.0	243.7	2.8	902.4
2001	411.2	34.5	122.3	271.1	2.9	842.1	567.4	32.6	162.9	273.4	3.3	1 039.7
2002	494.1	32.6	135.4	284.9	3.6	950.5	639.5	31.8	178.8	288.1	4.1	1 142.3
2003	607.4	30.3	151.8	302.3	5.5	1 097.3	737.2	28.4	188.4	305.8	5.8	1 265.7
2004	727.8	26.2	179.2	334.3	5.7	1 273.3	861.0	26.8	212.1	337.3	7.0	1 444.3
2005	844.2	26.6	204.5	367.4	5.8	1 448.4	983.6	26.9	244.6	369.3	7.2	1 631.6
2006	1 009.0	29.7	248.8	440.7	6.5	1 734.7	1 158.3	28.8	285.3	438.9	8.1	1 919.4
2007	1 216.3	33.7	308.2	530.3	8.0	2 096.6	1 357.5	31.7	343.2	520.5	9.9	2 262.7
2008	1 358.5	34.2	364.2	548.7	8.9	2 314.6	1 503.4	34.0	395.2	537.7	11.3	2 481.6
2009	1 422.4	35.5	394.7	520.7	9.8	2 383.0	1 539.4	35.6	417.2	515.1	12.1	2 519.4
2010	1 432.6	37.2	416.7	493.7	11.0	2 391.1	1 541.8	37.2	440.9	491.7	12.9	2 524.4
2011	1 500.2	40.7	430.9	485.7	12.2	2 469.8	1 612.8	40.1	490.8	484.1	14.0	2 641.7
2012	1 670.4	48.5	482.8	492.0	13.6	2 707.3	1 763.7	45.9	520.3	501.2	15.3	2 846.4
2013	1 850.8	51.4	541.6	513.8	15.3	2 972.9	1 942.7	49.5	582.0	527.3	17.0	3 118.5
2014	1 980.5	51.9	602.1	496.2	16.0	3 146.7	1 999.4	52.0	614.9	534.1	17.8	3 218.2
2015	2 066.3	53.7	651.3	504.6	16.5	3 292.4	2 147.8	58.0	668.1	543.9	19.2	3 437.0
2016	2 267.0	51.8	672.2	505.4	16.6	3 513.0	2 186.7	59.6	677.6	546.0	19.5	3 489.4
2017	2 334.3	58.0	714.4	521.5	16.8	3 645.0	2 310.9	62.1	716.0	575.6	19.7	3 684.3
2018	2 477.0	71.9	760.9	559.5	17.5	3 886.8	2 453.2	66.8	767.4	621.9	20.6	3 929.9

III Delivery service subsidies

Since 1995, delivery service subsidies have been recorded as D.31. After analysing the data it was concluded that the subsidies paid are annually fixed amounts, which are not related to an actual number of deliveries. As a result, it was decided that delivery service subsidies ought to be recorded as D.39. As a result, P.1 decreased and D.21 increased. However, there is no effect on GDP.

The time series of delivery service subsidies is the following:

Table 17. Delivery service subsidies, 1995–2017

Period	Output of non-financial corporations, million euros	Net taxes on products, million euros	Impact on GDP, %
1995	0.6	-0.6	0.0
1996	0.8	-0.8	0.0
1997	0.8	-0.8	0.0
1998	1.0	-1.0	0.0
1999	1.0	-1.0	0.0
2000	1.0	-1.0	0.0
2001	1.0	-1.0	0.0
2002	1.0	-1.0	0.0
2003	1.0	-1.0	0.0
2004	1.0	-1.0	0.0
2005	1.0	-1.0	0.0
2006	1.0	-1.0	0.0
2007	1.3	-1.3	0.0
2008	1.3	-1.3	0.0
2009	1.3	-1.3	0.0
2010	1.3	-1.3	0.0
2011	1.4	-1.4	0.0
2012	1.3	-1.3	0.0
2013	1.4	-1.4	0.0
2014	1.3	-1.3	0.0
2015	1.3	-1.3	0.0
2016	1.3	-1.3	0.0
2017	1.3	-1.3	0.0

IV Conscript allowances

Starting from 2004, the general government output, value added and final consumption expenditure are increased due to the reclassification of conscript allowances from D.623 “Social assistance benefits in cash” to D.11 “Wages and salaries”.

Conscripts are paid a monthly allowance from the day they arrive at the conscript service unit until the completion of the conscript service. The allowance is paid based on the conscript’s rank. . In 1995–2003, the payments were recognised as “Salary”. Therefore, in the period 2004–2015, value added of general government sector and final consumption expenditure changed.

Table 18. Revisions of GDP related to reclassification of conscript allowances, 2004–2017

Million euros

	Conscript allowances
2004	0.8
2005	0.9
2006	0.9
2007	3.2
2008	3.1
2009	3.0
2010	2.8
2011	3.3
2012	3.3
2013	3.4
2014	3.5
2015	3.8
2016	3.8
2017	4.0

V Reclassification of companies

During a major revision in 2019, 6 units were reclassified into the government sector. 5 units were moved to general government sector since 2016 and one unit from 2017.

Previously, one unit was in the non-financial enterprises sector, one in the financial enterprises sector and the remaining 4 in the NPISH sector.

One unit was moved from the non-financial enterprises sector into the government sector because subsidies paid to the unit were reclassified from subsidies on products (D.31) to other subsidies on production (D.39). The subsidies are not linked to the quantity of products or services sold and are therefore other subsidies on production, according to the ESA2010 methodology.

Entities are also tested using the market test (50% criterion). If the unit does not pass the test, i.e. if the revenue from sales does not cover more than 50% of the cost of production over a number of years, then it is a non-market unit, which has to be classified in the general government sector. In order to test the 50% criterion, one has to find the ratio between sales revenue and production costs. Sales revenue may include services, based on sales invoices, and subsidies on products. Therefore, based on the 50% criterion, this unit is a non-market producer in its current state. Accordingly, the company is classified in the general government sector.

A unit from the financial enterprises sector was classified in the general government sector according to the ESA2010 rules, which determine whether the unit is controlled by general government or not. Control over a financial or non-financial corporation is defined as the ability to determine general corporate policy, for example, by choosing appropriate directors if necessary.

General government secures control over a corporation because of special legislation, decree or regulation, which empowers the government to determine corporate policy. Several indicators are used to decide whether a corporation is controlled by government. These indicators include the control of the board or governing body with the appointment and removal of key personnel, special regulations and ownership of the majority of the voting interest. Since government has control over the unit's board and governing body with the right to appoint and remove all the members, the unit is 100% owned by the government, the unit is operating under special regulations and acts as an executor of government tasks, it should be classified in the government sector.

In addition, the unit is acting as a captive financial institution under government control. Regarding the financial risks, government will bear the negative risks of underperformed profitability. Since the unit is only holding the assets but is not taking risks, it is not a financial institution and should be classified in the government sector starting from 2017.

When compiling government financial statistics, additional instructions prepared and published by Eurostat should be followed. The main manual is called "Manual of Government Deficit and Debt" (MGDD). In 2018, Eurostat started to compile a new edition, which included updated rules regarding the classification of specific non-profit institutions serving households. Changes were induced by several cases in different countries that concerned specific non-profit institutions (i.e. tourism information offices, sports associations, approve housing bodies etc.). One of the changes was due to the requirement that non-profit institutions that collect compulsory payments have to be classified in the government sector. According to the rules of ESA2010, compulsory payments are treated as taxes, which in turn are levied by general government.

Since 4 units collect compulsory payments that are necessary to work in a specific profession, these payments are treated as taxes and therefore, these units are classified in the general government sector.

Table 19. The impact of reclassification of companies, 2016–2018

The impact on GDP, %	
2016	-0.01
2017	0.06
2018	0.06

VI Benchmarking

Statistics Estonia replaced the disaggregation methodology from annual to quarterly data.

Thus far, national accounts used the pro rata method to adjust quarterly time series after the revision of annual estimates.

In the case of pro rata method, the quarterly estimates are calculated using the ratios of the quarterly time series in respect to the unrevised annual time series. Unfortunately, this produces an issue known as the step problem, which causes the entire impact of the annual revision to show up in the growth rates of the first quarters. Obviously, this changes the interpretation of the time series.

If we consider the consistency in the trend of the time series through various revisions as our target, then we need a more complex approach to benchmarking. National accounts have chosen the proportional Denton-Cholette method to achieve this. This distributes the revisions in annual estimates across all quarters and hence avoids the issue with the growth rates in first quarters.

Chart 4. Growth of output of manufacturing industry compared to previous period

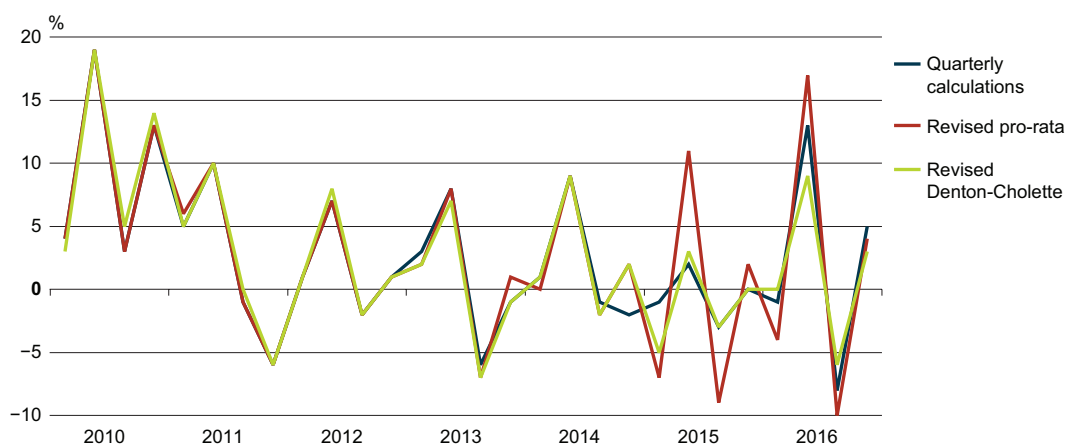
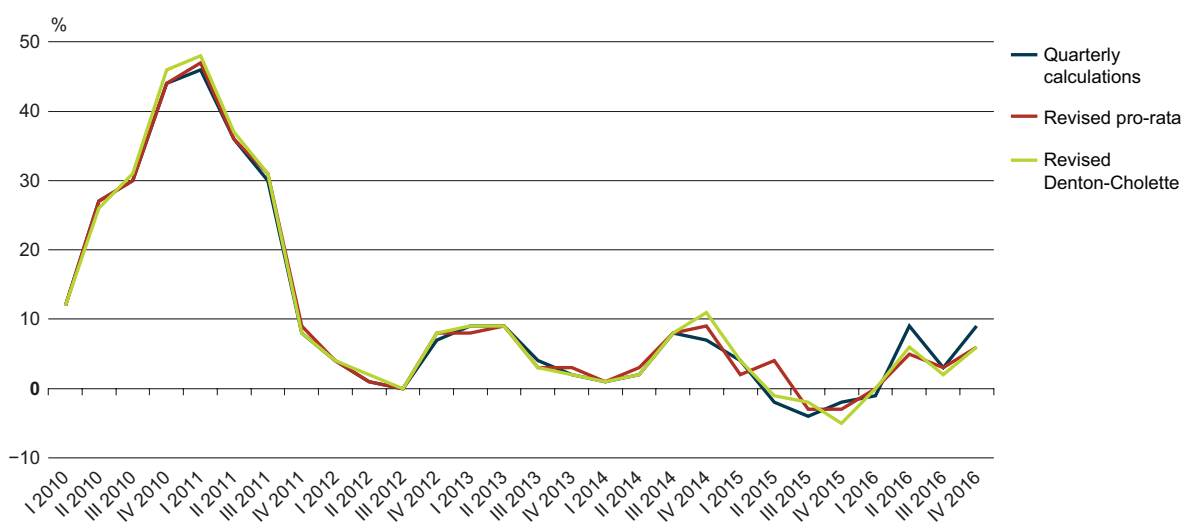


Chart 5. Growth of output of manufacturing industry compared to the same period of previous year



VII Consolidation of entities

According to the definition used in the European Union, an enterprise is an organizational entity producing goods or services and consisting of one legal entity or a group of legal entities belonging to a group. The company is independent in making its decisions, especially with regard to the provision of working capital, and performs one or more activities in one or more locations.

In Estonia, an enterprise consists of one or more companies (limited company, private limited company, limited partnership, general partnership, commercial association) or a branch of a foreign company. A self-employed person is also an enterprise according to the definition of statistical unit.

An enterprise may consist of several legal entities in the following cases:

- where legal entities belonging to the same group operate exclusively for the benefit of other legal persons belonging to the same group for commercial or administrative purposes and their products / services are not market-oriented (vertical integration).

Such activities are treated as ancillary activities of the legal person and for the purpose of economic analysis, are merged into an enterprise.

- when a business is organised in such a way that for one group several legal entities are registered with the same activity (horizontal integration).

In such cases there are usually intra-group sales and a change of production factors (e.g. labour).

The purpose of setting up statistical (multi-legal) enterprises is to combine production factors (e.g. labour) divided into different legal units, to remove internal turnover in order to produce meaningful and correct statistics as well as to optimise the administrative burden of related entities.

In the official statistics, the data of legal entities belonging to the statistical enterprise are consolidated. By consolidating the data of legal entities for the taxation or similar purposes, the actual economic situation is better assessed.

Corresponding changes were also made to the national account time series. As a result, GDP did not change. However, the output and intermediate consumption decreased. The changes in output and intermediate consumption of different economic activities were equal and thus had no impact on GDP.

Table 20. The impact of consolidation of units on non-financial enterprises, 1995–2016

Period	The change of output, million euros	The change of intermediate consumption, million euros	The change of output, %	The change of intermediate consumption, %
1995	0.0	0.0	0.0	0.0
1996	0.0	0.0	0.0	0.0
1997	-1.0	-1.0	0.0	0.0
1998	-5.0	-5.0	-0.1	-0.1
1999	-4.0	-4.0	0.0	-0.1
2000	-12.0	-12.0	-0.1	-0.2
2001	-16.0	-16.0	-0.1	-0.2
2002	-21.0	-21.0	-0.2	-0.3
2003	-21.0	-21.0	-0.1	-0.2
2004	-30.0	-30.0	-0.2	-0.3
2005	-29.0	-29.0	-0.2	-0.3
2006	-37.0	-37.0	-0.2	-0.3
2007	-46.0	-46.0	-0.2	-0.3
2008	-48.0	-48.0	-0.2	-0.3
2009	-48.0	-48.0	-0.2	-0.4
2010	-46.0	-46.0	-0.2	-0.3
2011	-49.0	-49.0	-0.2	-0.3
2012	-49.0	-49.0	-0.2	-0.3
2013	-52.0	-52.0	-0.2	-0.3
2014	-55.0	-55.0	-0.2	-0.3
2015	-57.0	-57.0	-0.2	-0.3
2016	-65.1	-65.1	-0.2	-0.3

VIII Transfer of the reference year from 2010 to 2015

In addition to the above-mentioned revisions, the reference year for the GDP calculated with the chain-linking method was transferred from 2010 to 2015. The transition to the new reference year changed the chain-linked indices and the chain-linked values, but the GDP and the growth of its components remained the same as in the previous reference year (2010).

The transfer of the reference year was mainly due to the non-additivity of components, which is characteristic of the chain-linking method. It means that the sum total of individual chain-linked values is not equal to the same aggregate value. Additivity is possible only in the reference year and in the subsequent year. The farther from the reference year, the greater the non-additivity. The reason for this is that chain-linked values are found by separately chain linking the aggregate as well as each component.

IX Notional units as owners of land/buildings

In 2018, statistics on notional units as owners of land/buildings were improved from 2014 onwards. In 2019, the previous time series for 2009–2013 were also updated.

According to the general rules of the national accounts (ESA 2010), notional units are defined as non-resident units in their capacity as owners of land and/or buildings on the economic territory, but only in respect of transactions affecting such land or buildings (ESA 2010, 2.29).

Previously, if a non-resident owner of a dwelling in Estonia was using the dwelling or renting it to a resident of Estonia, it was recorded under rentals in the household sector. Because of the changes, all these transactions are now recorded in the non-financial enterprises sector and the GDP remained the same.

In the case of real estate activities, output, intermediate consumption, value added, consumption of fixed capital and operating surplus remained the same, but the distribution of these transactions between households and non-financial corporations changed.

Table 21. Impact of notional units as owners of land/buildings on the output of dwellings, 2009–2013

	Non-financial corporations	Households	Total
2009	19.9	-19.9	0.0
2010	24.6	-24.6	0.0
2011	32.7	-32.7	0.0
2012	40.4	-40.4	0.0
2013	50.8	-50.8	0.0

Statistics on Estonian residents as owners of real estate abroad were improved by imputed rentals (for the use of dwellings) added to travel services. As a result of the change, imports of services increased.

In the GDP components compiled by the expenditure method, the distribution of household final consumption expenditure by residents and non-residents was specified; the exports and imports of services were also changed. The imputed rentals of non-residents had not been previously included in the calculations, and therefore the exports of services changed.

X Mineral exploration and evaluation expenditures

Mineral exploration and evaluation is the value of expenditure on exploration for mineral resources and subsequent evaluation of the discoveries made. These expenditures include pre-licence costs, licence and acquisition costs, appraisal costs and the costs of actual test drilling and boring, as well as the costs of surveys, transportation, etc., incurred to make it possible to carry out the tests. So far, these expenditures were recorded under current expenditure, but now they are considered as fixed assets. Thus, there was a change in the following components: consumption of fixed capital, intermediate consumption of the non-financial enterprises sector; intermediate consumption and final consumption expenditure of the government sector.

In 2016, the expenditures on mineral exploration and evaluation for 2014 and onwards were removed from current expenditures and recorded under gross fixed capital formation. In 2019, the earlier time series were revised during the next major revision.

Table 22 shows the impact of the changes on GDP by production approach.

Table 22. The impact of capitalisation of mineral exploration and evaluation expenditures on GDP, 1995–2013

Million euros

	Output	Intermediate consumption	GDP
1995	0.00	-0.01	0.01
1996	0.01	-0.01	0.01
1997	0.53	-0.07	0.59
1998	0.24	-0.08	0.32
1999	0.61	-0.08	0.70
2000	-0.07	-0.08	0.01
2001	-0.08	-0.09	0.01
2002	-0.09	-0.11	0.02
2003	-0.11	-0.13	0.02
2004	-0.11	-0.13	0.02
2005	-0.14	-0.22	0.08
2006	-0.17	-0.20	0.03
2007	-0.11	-0.23	0.12
2008	-0.13	-0.38	0.25
2009	-0.15	-0.38	0.23
2010	-0.23	-0.33	0.10
2011	-0.29	-0.44	0.16
2012	-0.14	-0.21	0.07
2013	0.00	-0.24	0.24

In Table 23, the investments of mineral exploration and evaluation and consumption of fixed capital are presented.

Table 23. Mineral exploration and evaluation expenditures, 1995–2013

Million euros

	GFCF		CFC	
	Non-financial corporations	General government	Non-financial corporations	Non-financial corporations
1995	0.008	0.001	0.009	0.000
1996	0.008	0.001	0.010	0.000
1997	0.052	0.004	0.011	0.000
1998	0.062	0.005	0.013	0.001
1999	0.066	0.005	0.015	0.001
2000	0.062	0.005	0.017	0.001
2001	0.070	0.006	0.020	0.001
2002	0.083	0.007	0.022	0.001
2003	0.100	0.008	0.026	0.001
2004	0.096	0.008	0.030	0.001
2005	0.128	0.014	0.034	0.002
2006	0.191	0.013	0.044	0.002
2007	0.247	0.015	0.055	0.002
2008	0.246	0.024	0.061	0.003
2009	0.196	0.024	0.064	0.003
2010	0.158	0.021	0.067	0.004
2011	2.812	0.443	1.160	0.068
2012	3.223	0.215	1.285	0.075
2013	3.258	0.238	1.360	0.080

XI New data sources

In 2019, MOSS (Mini One Stop Shop) declaration as a new source of data was introduced in accounting of exports and imports of services from 2013 onwards. MOSS is a special scheme for imposing value added tax on electronic communications and electronically supplied services. The declaration is available for persons liable to value added tax (VAT) who are providing digital services to persons not liable to account for VAT established in other European Union Member States. MOSS enables the supplier to declare and pay VAT in its country of location, so it does not have to register VAT liability in the country of the consumer.

Due to the introduction of MOSS-declaration as a new data source, exports and imports of information services increased. The differences before and after revisions for the years 2015–2018 also contain changes due to regular revisions.

Table 24. Impact of MOSS-declaration as a new data source on the exports and imports of information services, 2013–2018

	Before revision, million euros						After revision, million euros						Difference, %					
	2013	2014	2015	2016	2017	2018	2013	2014	2015	2016	2017	2018	2013	2014	2015	2016	2017	2018
Exports of information services	21.2	58.0	25.8	37.0	22.3	26.7	23.7	60.0	28.5	39.5	26.6	33.1	11.8	3.5	10.5	6.7	19.2	24.1
Imports of information services	20.9	20.9	21.3	21.1	27.2	65.6	34.0	58.2	40.0	45.3	54.2	65.7	62.6	37.3	87.7	114.8	99.2	0.1

In 2015–2018, MOSS data were added to D.74 receivables and payables. During these transitional years, the Member States that collected value added tax were allowed to keep some of the amounts collected to cover the expenditures. The percentage of revenues allowed to keep was 30% in 2015–2016 and 15% in 2016–2017. The effect on GDP was negative; however, it remained between 0.4 and 0.8 million euros.

Table 25. MOSS, 2015-2018

Million euros

	2015	2016	2017	2018
Current international cooperation receivables	0.26	0.51	0.28	0.41
Current international cooperation payables	0.80	1.32	0.69	-0.94
GDP	-0.54	-0.81	-0.41	-0.53

XII Other changes

Additionally, non-life insurance calculations were revised. As a result, both output and intermediate consumption changed.

Table 26. The changes in output of non-life insurance, 1995–2018

	Before revision, million euros	After revision, million euros	Difference, %
1995	26.6	26.6	0.0
1997	35.6	35.6	0.0
1998	39.7	39.7	0.0
1999	33.5	33.5	0.0
2000	45.1	41.1	-8.9
2001	45.0	38.7	-14.0
2002	48.4	43.1	-11.1
2003	57.1	51.6	-9.5
2004	70.9	57.5	-18.9
2005	86.7	80.4	-7.2
2006	92.9	72.7	-21.8
2007	114.0	98.7	-13.4
2008	147.1	102.4	-30.4
2009	154.5	122.1	-20.9
2010	105.8	120.5	13.9
2011	84.1	100.4	19.4
2012	78.3	87.6	11.9
2013	106.5	109.5	2.8
2014	113.4	100.1	-11.7
2015	117.1	90.8	-22.5
2016	120.1	102.2	-14.9
2017	126.2	97.6	-22.6
2018	142.2	122.4	-13.9

XIII The impact of all changes based on the year 2014

Since changes in all developments were introduced into the supply and use tables (SUT) for 2014, it is possible to estimate for the given period which changes affected GDP the most. In total, GDP increased 0.6%. GDP was most affected by changes in the value of growing timber, own-account software production and CFC. All these changes increased GDP about 0.2% each. Methodological improvement of FiSIM increased GDP by 0.1%. At the same time, changes in the calculation of research and development had a negative impact on GDP. As a result, GDP decreased by 0.1%. The impact of all other changes on GDP remained below 0.1%.

The table below shows the effect of the recalculations on GDP components.

Table 27. Impact of recalculation of time series on GDP components, 2014

Sector	Impact on component, million euros	Impact on component, %
Non-financial corporations	20.9	0.2
Financial corporations	79.2	12.5
General government	21.8	0.8
Households	-6.1	-0.4
NPISH	1.8	1.1
Value added, total	117.5	0.7
Net indirect taxes	1.3	0.0
GDP	118.8	0.6
Household final consumption expenditure	55.9	0.6
General government final consumption expenditure	20.7	0.5
NPISH final consumption expenditure	-0.8	-0.2
Gross fixed capital formation and valuables	22.2	0.4
Changes of inventories	34.6	15.0
Domestic demand	132.6	0.7
Exports of goods and services	2.0	0.0
Imports of goods and services	15.8	0.1
Statistical discrepancy	0.0	..

XIV Regular revision of national accounts time series

2015 estimates

Supply and use tables (SUT) is a framework of tables where supply and demand are balanced. As a result of compiling these tables and the combination of changes described above, the real GDP growth decreased by 0.1 percentage points. In 2015, value added of total economy increased by 0.7% compared to the previously published estimate.

The GDP change was affected the most by a 12.1% increase in the value added of financial and insurance activities and 4.3% increase in the value added of transport. At the same time, value added of trade and professional, scientific and technical activities decreased significantly (-2.5% and -7%, respectively). Like total value added, domestic demand also increased as a result of the revision. Domestic demand increased by 108.2 million euros (+0.5% compared to the previously published estimate). Among the components of the GDP compiled by the expenditure method, investments were changed the most by the revision: increase by 3.8% as a result of a thorough checking of data. Final consumption expenditures were increased by 99.3 million euros compared to the initially published estimates. At the same time, changes in inventories were revised significantly, resulting in a decrease of 177 million euros compared to the initially published estimates.

Table 28. Impact of balancing of SUT on GDP components, 2015

Sector	Impact on component, million euros	Impact on component, %
Non-financial corporations	-4.7	0.0
Financial corporations	83.9	12.1
General government	20.7	0.7
Households	24.2	1.7
NPISH	2.7	1.5
Value added, total	126.9	0.7
Net taxes on products	3.3	0.1
GDP	130.2	0.6
Household final consumption expenditure	86.0	0.8
General government final consumption expenditure	18.5	0.4
NPISH final consumption expenditure	-5.2	-1.5
Gross fixed capital formation and valuables	185.8	3.8
Changes in inventories	-177.0	-63.7
Domestic demand	108.2	0.5
Exports of goods and services	2.7	0.0
Imports of goods and services	18.7	0.1
Statistical discrepancy	38.1	..

2016 estimates

As 2015 is the base year for the calculation of the 2016 accounts, the accounts for 2016 were also revised. As a result of the changes, real growth of the GDP decreased by 0.9 percentage points. In current prices, the value added of total economy decreased by 10.4 million euros (0.1%) and domestic demand increased by 179 million euros (0.9%).

Table 29. Impact of regular revision on GDP components, 2016

Sector	Impact on component, million euros	Impact on component, %
Non-financial corporations	-76.0	-0.6
Financial corporations	26.7	3.8
General government	12.3	0.4
Households	25.0	1.8
NPISH	1.5	0.8
Value added, total	-10.4	-0.1
Net taxes on products	21.4	0.7
GDP	11.0	0.1
Household final consumption expenditure	91.7	0.9
General government final consumption expenditure	19.8	0.5
NPISH final consumption expenditure	-0.8	-0.2
Gross fixed capital formation and valuables	75.6	1.5
Changes in inventories	-7.4	-1.6
Domestic demand	179.0	0.9
Exports of goods and services	-23.1	-0.1
Imports of goods and services	11.6	0.1
Statistical discrepancy	-133.2	..

2017 estimates

In the calculations of the 2017 estimates, the initial data from the quarterly data sources used so far was exchanged for the information received from annual questionnaires. The most important questionnaires are: SBS; annual economic indicators of agricultural, forestry and fishing enterprises; research and development activities (of enterprises); research and development activities; financial intermediation and auxiliary services; insurance; energy; industrial production; non-profit institutions. In addition, annual reports of enterprises in the Commercial Register and datasets of the Tax and Customs Board were used.

The annual data and other methodological changes showed that the Estonian economy was doing much better than estimated according to the quarterly data sources. According to the quarterly datasets, real GDP growth in 2017 was initially estimated at 4.9%, whereas according to the annual information, it was 5.7%. The value added of total economy increased by 0.7%, mainly due to higher value added in the household sector.

Like GDP, domestic demand of total economy was also increased. According to the quarterly data sources, the preliminary annual increase in domestic demand at real prices in 2017 was 4.2%, but according to the annual data, the change was 4.5%. The introduction of the above-listed data sources and methodological changes led to an increase in domestic demand at current prices by 14% due to increase in investments, in household and general government final consumption expenditure and in changes in inventories.

Table 30. Impact of regular revision on GDP components, 2017

Sector	Impact on component, million euros	Impact on component, %
Non-financial corporations	20.3	0.1
Financial corporations	39.6	5.1
General government	13.8	0.4
Households	63.4	4.3
NPISH	2.8	1.3
Value added, total	140.0	0.7
Net taxes on products	20.8	0.7
GDP	160.7	0.7
Household final consumption expenditure	117.8	1.0
General government final consumption expenditure	33.8	0.7
NPISH final consumption expenditure	-1.1	-0.3
Gross fixed capital formation and valuables	129.2	2.2
Changes in inventories	35.6	9.3
Domestic demand	315.3	1.4
Exports of goods and services	26.4	0.1
Imports of goods and services	84.3	0.5
Statistical discrepancy	-96.6	..

2018 estimates

2017 is the base year for the calculation of the 2018 accounts. As annual data sources were introduced instead of quarterly data sources for the calculation of the year 2017, the numbers for 2018 also changed. In addition, other changes affecting the whole time series had a significant effect also on the 2018 figures. As a result of this revision, the annual change in real GDP increased by 0.9 percentage points, while the total value added increased by 333.8 million euros. The value added generated by agriculture, real estate activities and information and communication increased significantly in 2018, while the value added generated by construction and professional, scientific and technical activities decreased notably. Similarly to GDP, domestic demand also increased, mainly due to increased investments and household final consumption expenditure.

Table 31. Impact of regular revision on GDP components, 2018

Sector	Impact on component, million euros	Impact on component, %
Non-financial corporations	196.0	1.2
Financial corporations	28.3	3.2
General government	24.5	0.7
Households	80.9	5.2
NPISH	4.1	1.8
Value added, total	333.8	1.5
Net indirect taxes	20.2	0.6
GDP	353.9	1.4
Household final consumption expenditure	121.9	1.0
General government final consumption expenditure	58.8	1.2
NPISH final consumption expenditure	-1.6	-0.4
Gross fixed capital formation and valuables	78.4	1.3
Changes of inventories	-187.9	-23.4
Domestic demand	69.6	0.3
Exports of goods and services	-22.8	-0.1
Imports of goods and services	-1.1	0.0
Statistical discrepancy	305.9	..

Chart 6 shows the GDP growth rates at current prices before and after revisions made in 2019.

Chart 6. GDP growth at current prices compared to the corresponding period of the previous year, before and after revision, 1st quarter 1995 – 1st quarter 2019



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30 August 2019