

REVISION OF GROSS DOMESTIC PRODUCT IN 2023

On 17 August 2023, Statistics Estonia published revised national accounts figures. As part of the revision, the time series for the period 2019–2022 was updated. This was a regular revision based on the latest data sources.

In the revision, the following were taken into account:

- supply and use tables compiled for 2019;
- enterprises' complex calendar year report (EKOMAR) of 2021;
- changes and specifications made in other sources (balance of payments, balance sheets, etc.).

Overall, the revision had a negative impact on gross domestic product (GDP). The use of EKOMAR data for 2021 had the biggest impact. As a result, the GDP for 2021 at current prices decreased by 0.9%. The impact of the supply and use tables led to a 0.7% increase in the GDP for 2019. While the supply and use tables influenced the source data for 2020, the GDP as a whole still decreased by 0.1%. The GDP for 2022 was adjusted downward by 0.5%. Compared with previous GDP revisions, the changes in the annual figures were modest.

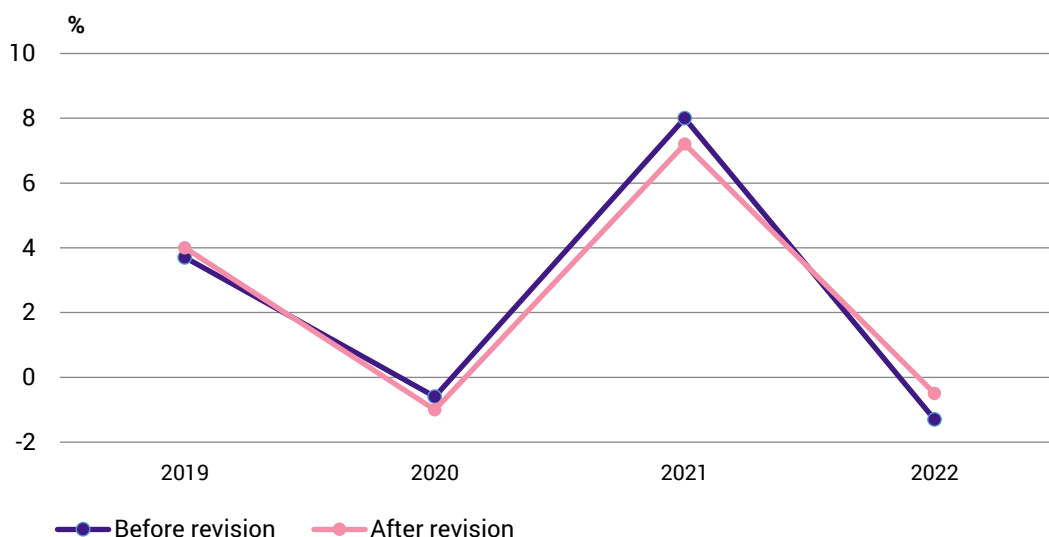
In the revised time series, the change in GDP at current prices was in the range –0.9% to +0.7% (Table 1).

Table 1. GDP at current prices before and after revision, 2019–2022

	Before revision, million euros	After revision, million euros	Difference, %
2019	27 764.7	27 951.0	0.7
2020	27 465.0	27 430.0	–0.1
2021	31 444.9	31 169.0	–0.9
2022	36 181.4	36 011.1	–0.5

The GDP revision also impacted real growth. The adjustments to 2019 and 2021 data were also reflected in the growth figures of these years, and also impacted the indicators for the following years in the opposite direction. The increased GDP in 2019 slightly boosted the real growth in 2019 and reduced the real growth in 2020. The decreased GDP in 2021 had the opposite effect. After adjustments, GDP real growth changed by –0.8 to +0.8 percentage points in the revised period (Figure 1).

Figure 1. GDP real growth compared with same period of previous year, before and after revision, 2019–2022



The changes in quarterly growth data show that the revision most affected 2021 estimates. The growth in the 1st quarter of 2021 was adjusted upward by 2.6 percentage points, while the growth rates for the 3rd and 4th quarters were adjusted downward by 2.3 and 2.6 percentage points, respectively. A larger revision was also made in the third quarter of 2022 where the GDP growth was revised upward by 2.4 percentage points. In the other revised periods, the change in GDP real growth after revision was marginal, from -0.6 to +0.6 percentage points (Table 2).

Table 2. Revised GDP real growth (compared with same quarter of previous year) and difference from previously published growth rate, 1st quarter 2019 – 4th quarter 2022

	2019		2020		2021		2022	
	Growth, %	Difference, pp	Growth, %	Difference, pp	Growth, %	Difference, pp	Growth, %	Difference, pp
1st quarter	4.3	0.2	0.7	-0.6	5.1	2.6	3.1	0.2
2nd quarter	2.9	0.6	-5.7	0	13.4	-0.5	0.2	0.5
3rd quarter	5.3	0.4	-0.1	-0.5	6.2	-2.3	-0.5	2.4
4th quarter	3.7	0.0	1.2	-0.5	4.8	-2.6	-4.2	0
Annual	4.0	0.3	-1	-0.4	7.2	-0.8	-0.5	0.8

Regular revision

2019 figures

Supply and use tables are a framework of tables in which supply and use are balanced. As a result of the compilation of these tables, the value added of the total economy increased by 0.7 % in 2019 compared with what was previously published (see Table 3).

GDP was most affected by the 6.2% increase in the value added of wholesale and retail trade. The value added of transportation and storage also increased significantly, by 3.8%. The most marked decrease in value added occurred in real estate activities (-2.1%), information and communication (-2.9%), and financial and insurance activities (-4.1%).

On the consumption side, domestic demand increased by 0.9%. The main contributor was gross fixed capital formation which increased by 531.7 million euros. The decrease in changes of inventories, which were adjusted downward by 347.4 million euros, had a balancing effect. There were no major revisions to the other components.

Table 3. Impact of balancing of supply and use tables on GDP components, 2019

Sector	Impact on component, million euros	Impact on component, %
Non-financial corporations	222.5	1.3
Financial corporations	-46.6	-4.2
General government	9.5	0.2
Households	0.8	0.0
NPISH	0.2	0.1
Value added, total	186.3	0.8
Net indirect taxes	0.0	0.0
GDP	186.3	0.7
Household final consumption expenditure	36.9	0.3
General government final consumption expenditure	8.0	0.1
NPISH final consumption expenditure	0.3	0.1
Gross fixed capital formation and valuables	531.7	7.5
Changes of inventories	-347.4	-195.1
Domestic demand	229.6	0.9
Exports of goods and services	-9.1	0.0

Imports of goods and services	-30.2	-0.2
Statistical discrepancy	-64.3	..

2020 figures

The calculations for year 2020 were also revised, as the calculations for 2019 serve as the basis for 2020 indicators. As a result of the revision, the value added of the total economy decreased by 35 million euros (-0.1%) and domestic demand by 445.8 million euros (-1.6%) (see Table 4).

Value added grew the most in wholesale and retail trade (3.5%), transportation and storage (2.6%) and construction (1.5%). The biggest downward adjustments were made to the value added of information and communication (-3.7%), professional, scientific and technical activities (-3.8%), water supply, sewerage, waste management and remediation activities (-15.1%), and real estate activities (-1.2%).

Gross fixed capital formation decreased by 388.6 million euros. Imports were adjusted upward by 132.7 million euros.

Table 4. Impact of regular revision on GDP components, 2020

Sector	Impact on component, million euros	Impact on component, %
Non-financial corporations	-42.2	-0.3
Financial corporations	-3.4	-0.3
General government	11.2	0.3
Households	-0.8	0.0
NPISH	0.2	0.1
Value added, total	-35.0	-0.1
Net indirect taxes	0.0	0.0
GDP	-35.0	-0.1
Household final consumption expenditure	-2.5	0.0
General government final consumption expenditure	14.1	0.2
NPISH final consumption expenditure	-0.1	0.0
Gross fixed capital formation and valuables	-388.6	-4.5
Changes of inventories	-68.8	-171.8
Domestic demand	-445.8	-1.6
Exports of goods and services	-41.5	-0.2
Imports of goods and services	132.7	0.7
Statistical discrepancy	584.9	..

2021 figures

For 2021, the dataset of quarterly data sources used so far was replaced by information from annual questionnaires. The main added sources were the following questionnaires:

- EKOMAR;
- Financial statistics of agricultural, forestry and fishing enterprises;
- Research and development (in enterprises);
- Research and development;
- Financial service activities and activities auxiliary to financial services;
- Insurance;
- Energy;
- Manufactured goods;
- Non-profit institutions.

These sources were supplemented with information from the annual reports of enterprises in the commercial register, and datasets of the Estonian Tax and Customs Board. Annual reports had a profound impact on the structure of the post-pandemic economy. While the GDP revision was less than 1%, there were significant adjustments to the distribution of value added between economic activities.

As a result of the revised data, GDP decreased by 0.9%. The biggest increase occurred in the value added of real estate activities (6.9%), manufacturing (3.4%), wholesale and retail trade (3.8%), and electricity, gas, steam and air conditioning supply (11.9%). The most significant decrease occurred in the value added of information and communication (–19.4%). There was also a significant fall in the value added of water supply, sewerage, waste management and remediation activities (–36.5%), and administrative and support service activities (–6.8%).

Domestic demand was adjusted upward by 523.3 million euros. This was mainly due to the 2.6% rise in private consumption. There were also significant adjustments to foreign trade as exports increased by 1.6% and imports by 2.4% (see Table 5).

Table 5. Impact of regular revision on GDP components, 2021

Sector	Impact on component, million euros	Impact on component, %
Non-financial corporations	–538.6	–2.7
Financial corporations	0.1	0.0
General government	4.7	0.1
Households	288.8	15.3
NPISH	0.1	0.0
Value added, total	–245.0	–0.9
Net indirect taxes	–31.0	–0.8
GDP	–275.9	–0.9
Household final consumption expenditure	373.0	2.6
General government final consumption expenditure	5.5	0.1
NPISH final consumption expenditure	11.2	2.2
Gross fixed capital formation and valuables	14.2	0.2
Changes of inventories	119.4	25.6
Domestic demand	523.3	1.7
Exports of goods and services	398.7	1.6
Imports of goods and services	596.7	2.4
Statistical discrepancy	–601.3	..

2022 figures

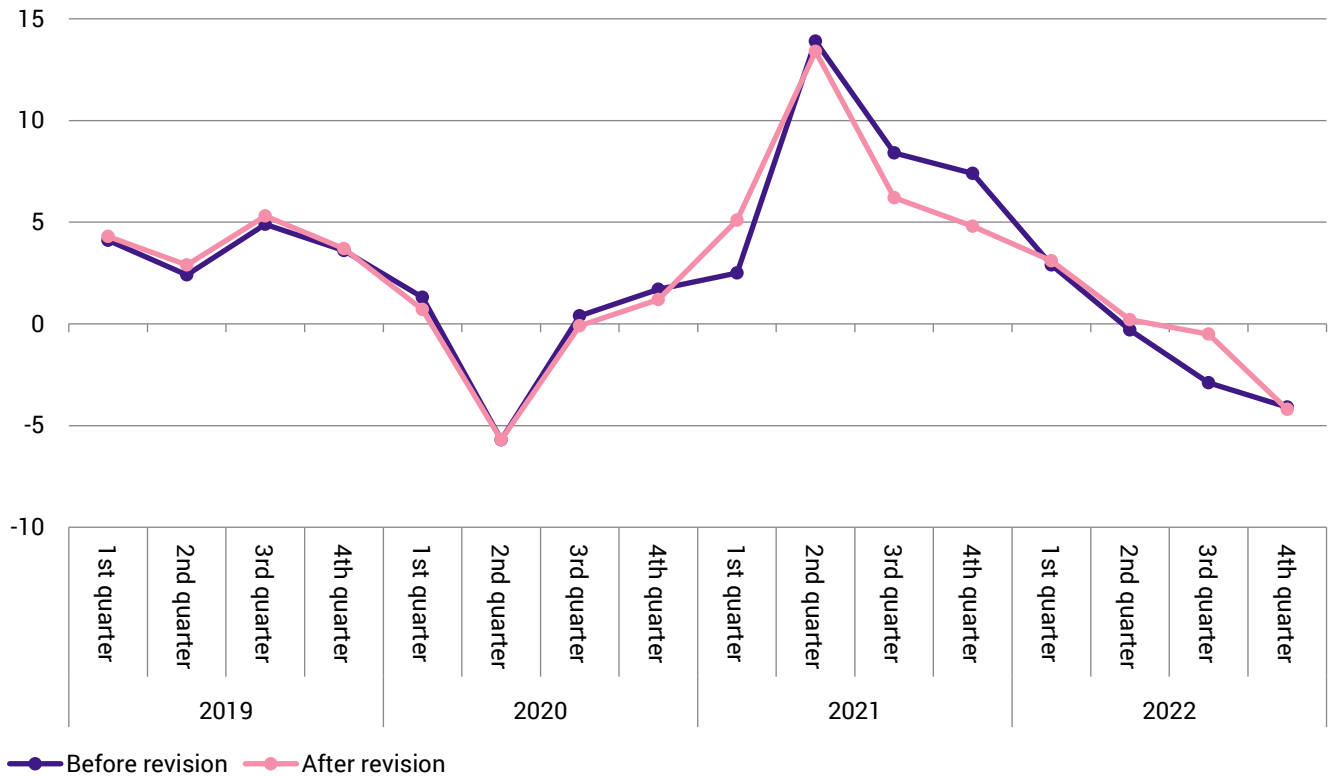
The introduction of annual data sources in 2021 calculations also affected the basis for 2022 calculations. As a result, the GDP in 2022 decreased by 0.5%. The changes in value added were due to revisions to previous year's data. The exception was an increase of 7.4% in the value added of professional, scientific and technical activities – its value added in 2021 decreased by 2.3%.

Domestic demand increased by 1.5%. The change was mainly due to investments being adjusted upward by 748.7 million euros. This was offset by the downward adjustment of changes of inventories (–634.5 million euros). Private consumption increased by 409.4 million euros. Revisions to foreign demand were below 0.2%.

Table 6. Impact of regular revision on GDP components, 2022

Sector	Impact on component, million euros	Impact on component, %
Non-financial corporations	-334.1	-1.5
Financial corporations	1.2	0.1
General government	2.3	0.0
Households	289.5	12.9
NPISH	1.8	0.5
Value added, total	-39.4	-0.1
Net indirect taxes	-130.9	-3.0
GDP	-170.3	-0.5
Household final consumption expenditure	409.4	2.3
General government final consumption expenditure	19.4	0.3
NPISH final consumption expenditure	12.2	2.1
Gross fixed capital formation and valuables	748.7	8.2
Changes of inventories	-634.5	-35.6
Domestic demand	555.1	1.5
Exports of goods and services	-16.7	-0.1
Imports of goods and services	-53.5	-0.2
Statistical discrepancy	-762.2	..

Figure 2. GDP real growth compared with same period of previous year, before and after revision, 1st quarter 2019 – 4th quarter 2022



Overall, the introduction of 2019 supply and use tables decreased the GDP estimate for 2019 and for the following year. Major adjustments during the revision resulted from the new data sources used for 2021 figures. The estimates for 2022 were also significantly revised. The revision did not change the overall trends of the economy, but the structure of the economy in recent years was revised. As the main change, the contribution of the information and communication activity to the economy in the last few years was adjusted downward. The adjustments to 2021 figures also led to revisions in quarterly GDP data (see Figure 2).