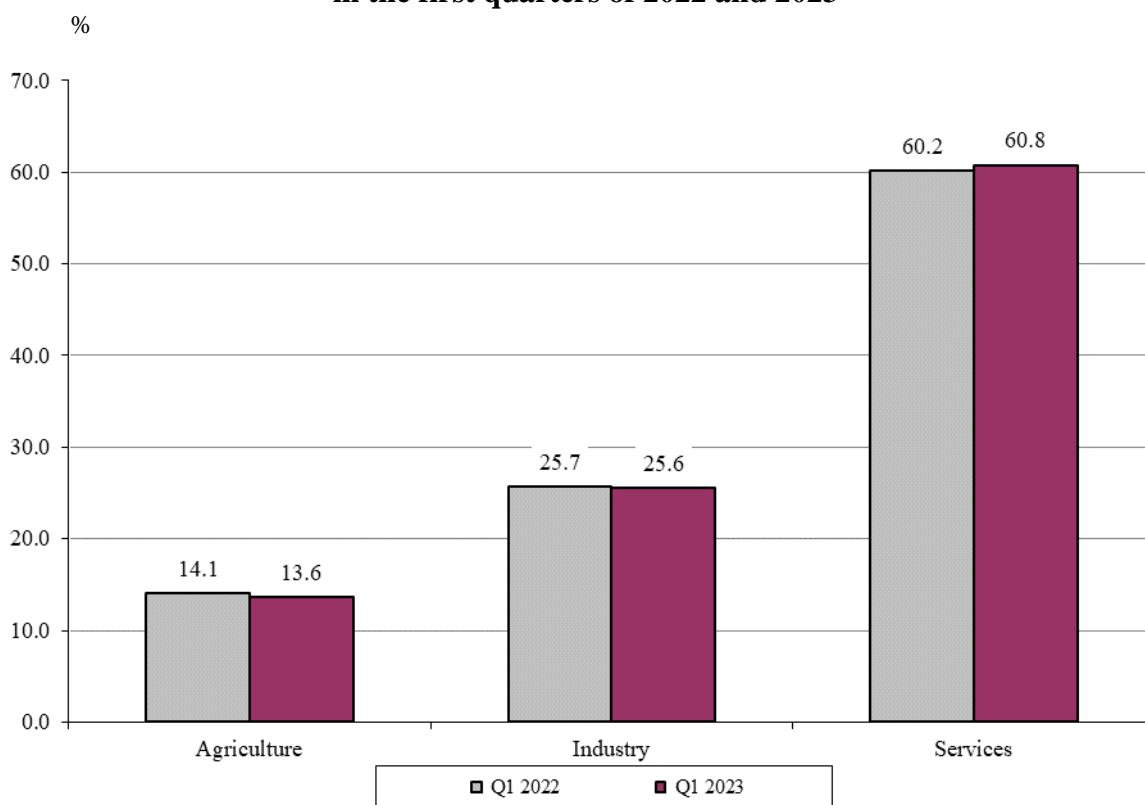


## LABOR PRODUCTIVITY, PERSONS EMPLOYED AND HOURS WORKED FOR THE FIRST QUARTER OF 2023

According to the preliminary data, GDP per person employed increased in real terms by 0.3% in the first quarter of 2023 compared to the first quarter of 2022.

The number of persons employed in the economy is 3 428.0 thousands and the total number of hours worked is 1 438.4 million. Compared to the first quarter of 2022, the structure of employment by economic sector in the first quarter of 2023 shows an increase in the relative share of service sector and a decrease in agriculture sector and industry.

**Figure 1. Structure of the persons employed by economic sector  
in the first quarters of 2022 and 2023**



GDP per person employed is 11 660.0 BGN and GDP per hour worked is 27.8 BGN.

Gross value added per person employed increased in real terms by 0.8% in the first quarter of 2023 compared to the first quarter of 2022. GVA per hour worked decrease in real terms by 1.9%.

GVA per person employed in industrial sector is 13 659.2 BGN and GVA per hour worked is 31.0 BGN according to the preliminary data for the first quarter of 2023. In service sector an average of 9 307.4 BGN Gross value added is produced by person employed or an average of 21.3 BGN GVA per hour worked. The lowest labor productivity is in agricultural sector - 1 898.1 BGN GVA per person employed and 6.3 BGN per hour worked.



## Methodological Notes

1. Labour productivity is a compound economic indicator that compares the achieved result (created product) with the input labour factor when performing an economic activity on a given economic territory for a given period.
2. The main elements of labour productivity are indicators that measure the result of the underlying economic activity (numerator) and indicators for input labour in the production process (denominator).
3. At national level the result of production activity is measured with the Gross domestic product (GDP) and the Gross value added (GVA), created by all sectors of the national economy. GDP is the main indicator in the system of national economic accounts (ESA 2010) and it represents the final result of the production activity of all resident production units. The link between GDP and GVA is defined by the method of valuating the end product. GDP is valued at market prices including taxes on products and imports, net of subsidies on products. GVA measures the result of production activity using basic prices before taxation, including subsidies on products.
4. For the purposes of international comparisons of labour productivity between national economies the GDP per person employed (hour worked) is used: see <http://ec.europa.eu/eurostat> - General Economic Background. Labour productivity per person employed.
5. GVA per person employed (hour worked) is an indicator that is applicable for calculation of labour productivity on both national level and the level of the production activity.
6. The use of this indicator in national practice is in compliance with the specific methodological range of the sector 'Renting and operating of own or leased real estate' - activity type 68.2 of KID - 2008 - GVA includes an estimate of the imputed rent on real estates used by the owners which in Bulgaria has a dominating share - close to 90% of the population lives in their own houses. The value added from imputed rent of own real estate is classified entirely as operating surplus in the compilation of 'Generation of income' account and is not directly related to labour participation. Because of this, the value added due to imputed housing rent has to be excluded when calculating labour productivity both for the services sector and for the economy as a whole.
7. The labour production factor in the labour productivity indicator is measured by the number of person employed in resident production units of the national economy and the time that they were employed - hours worked.
8. The measurement of number of persons employed and hours worked is according to the definitions and concepts of ESA 2010 as they are applied in estimation of the indicators for economic activities.
9. When comparing the data with the results of the labor force survey it is necessary to consider differences in definitions and methodological characteristics. The main conceptual differences are:
  - Object of the Labour Force Survey is the permanent population of the country, including temporary workers abroad, while the employment data in the ESA 2010 are defined in terms of resident production units that can hire labor both from the country and abroad;
  - Persons on temporary military service are part of the employees under the ESA 2010, but not recorded by the Labour Force Survey.



10. The preferred indicator for the assessment of the labor factor in the composition of the labor productivity is man hours worked - this indicator represents more accurately actual work input in the production process - the Eurostat website - <http://ec.europa.eu/eurostat>.
11. Comparison of indicators of labor productivity over time requires the elimination of the influence of prices in the value of indicators for the results from the economic activity. For this purpose, GDP and GVA of the current period are presented at constant prices of the base period.
12. Data for labor productivity are published on the NSI website and INFOSTAT - quarterly and annual time series.

Annex

Table 1

GDP per person employed - current prices, BGN

Year	First quarter	Second quarter	Third quarter	Fourth quarter
2017	6172.3	6885.5	7525.7	8575.6
2018	6447.7	7414.0	8280.6	9108.5
2019	7341.6	8215.8	8675.8	9872.4
2020	7575.8	7968.5	9152.0	10272.0
2021	8565.3	9202.3	10435.5	11983.2
2022 <sup>1</sup>	10014.8	11030.8	12152.0	14028.8
2023 <sup>1</sup>	11660.0			

Table 2

GDP per hour worked - current prices, BGN

Year	First quarter	Second quarter	Third quarter	Fourth quarter
2017	15.3	16.5	18.8	20.4
2018	15.9	17.7	20.6	21.7
2019	18.1	19.7	21.6	23.5
2020	18.7	20.6	22.8	25.0
2021	21.1	23.1	26.2	28.7
2022 <sup>1</sup>	24.5	27.6	30.9	33.6
2023 <sup>1</sup>	27.8			

Table 3

GDP per person employed - volume index<sup>2</sup> compared to the corresponding quarter of previous year,  
%

Year	First quarter	Second quarter	Third quarter	Fourth quarter
2017	101.6	101.9	100.5	100.0
2018	101.5	102.4	103.9	103.3
2019	105.0	104.1	103.3	102.6
2020	100.5	94.2	100.6	98.1
2021	106.3	107.0	106.5	108.9
2022 <sup>1</sup>	102.7	102.6	101.7	101.7
2023 <sup>1</sup>	100.3			



**Table 4**  
**GDP per hour worked - volume index<sup>2</sup> compared to the corresponding quarter of previous year, %**

<b>Year</b>	<b>First quarter</b>	<b>Second quarter</b>	<b>Third quarter</b>	<b>Fourth quarter</b>
<b>2017</b>	101.7	101.7	100.6	100.1
<b>2018</b>	101.4	102.3	103.8	103.3
<b>2019</b>	104.8	104.1	103.2	102.6
<b>2020</b>	100.3	101.9	100.5	100.4
<b>2021</b>	106.3	103.7	107.5	107.3
<b>2022<sup>1</sup></b>	102.1	102.3	102.8	101.5
<b>2023<sup>1</sup></b>	97.7			

<sup>1</sup> Preliminary data.

<sup>2</sup> The volume indices are calculated based on the values of the corresponding indicator at constant prices of 2015.