

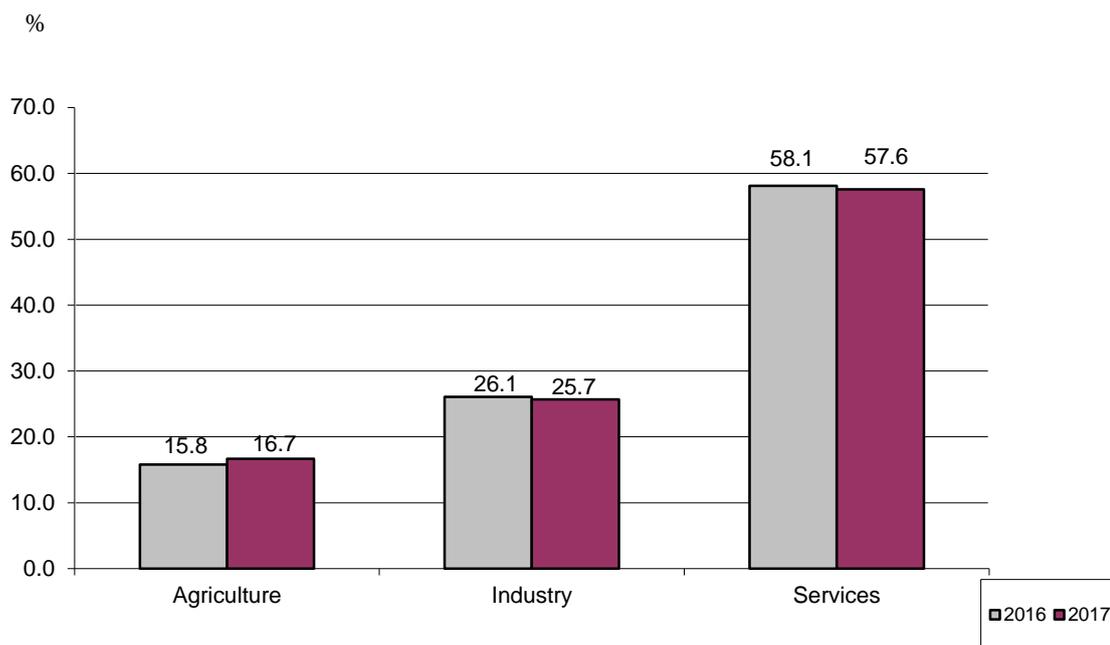


## LABOR PRODUCTIVITY, PERSONS EMPLOYED AND HOURS WORKED FOR THE FOURTH QUARTER OF 2017

According to the preliminary data, GDP per person employed increased by 0.7% in the fourth quarter of 2017 compared to the same quarter of the previous year.

The number of persons employed in the economy is 3 366.9 thousands and the total number of hours worked is 1 415.2 million. Compared with the same quarter of the previous year the structure of employment by economic sector in the fourth quarter of 2017 shows an increase in the relative share of the agricultural sector.

**Fig. 1. Structure of the persons employed by economic sector in the fourth quarter of 2016 and 2017**



GDP is 8 146.1 BGN per person employed and 19.4 BGN per hour worked.

Gross value added per person employed reserves its level and GVA per hour worked in real terms increased by 0.1% in the fourth quarter of 2017 compared to the corresponding quarter of the previous year.



GVA per person employed in industrial sector is 7 210.3 BGN and GVA per hour worked is 17.0 BGN according to the preliminary data for the fourth quarter of 2017. In service sector an average of 7 761.0 BGN Gross value added is produced by person employed or an average of 18.0 BGN GVA per hours worked. The lowest labor productivity is in agricultural sector - 1 267.2 BGN GVA per person employed and 3.4 BGN per hours 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 is published on the NSI website and INFOSTAT - quarterly and annual time series.



## Annex

**Table 1**

### GDP per person employed - current prices, BGN

(BGN)

year	Q1	Q2	Q3	Q4
2000	1837.3	1850.6	2320.8	2647.8
2001	2062.9	2145.0	2565.0	2801.1
2002	2304.6	2363.9	2797.7	3029.5
2003	2451.3	2485.6	2894.9	3112.7
2004	2687.4	2730.0	3183.6	3402.7
2005	2955.7	3047.9	3499.4	3829.3
2006	3158.6	3356.7	3943.0	4250.4
2007	3721.2	3852.2	4491.2	4945.9
2008	4076.4	4481.2	5062.7	5422.9
2009	4252.0	4695.4	5063.3	5466.3
2010	4332.9	4885.4	5376.1	6165.5
2011	5055.1	5604.4	6012.2	6236.2
2012 <sup>1</sup>	5064.3	5783.4	6215.7	6815.1
2013 <sup>1</sup>	5265.1	5682.7	6083.8	7007.2
2014 <sup>1</sup>	5097.2	5696.5	6366.9	7205.0
2015 <sup>1</sup>	5442.9	6207.1	6534.2	7539.1
2016 <sup>1</sup>	5799.1	6326.2	7067.1	8022.6
2017 <sup>1</sup>	5904.7	6672.2	7261.5	8146.1

**Table 2**

### GDP per hour worked - current prices, BGN

(BGN)

year	Q1	Q2	Q3	Q4
2000	4.5	4.4	5.9	6.3
2001	5.0	5.1	6.4	6.7
2002	5.7	5.6	6.9	7.3
2003	6.0	6.0	7.2	7.5
2004	6.5	6.5	7.9	8.0
2005	7.2	7.2	8.7	9.1
2006	7.7	8.0	9.8	10.1
2007	9.1	9.2	11.1	11.7
2008	9.6	10.4	12.2	12.7
2009	10.5	11.2	12.6	13.1



2010	10.7	11.7	13.4	14.7
2011	12.5	13.4	15.0	14.9
2012 <sup>1</sup>	12.5	13.8	15.5	16.2
2013 <sup>1</sup>	13.0	13.6	15.1	16.7
2014 <sup>1</sup>	12.6	13.6	15.8	17.1
2015 <sup>1</sup>	13.5	14.9	16.3	17.9
2016 <sup>1</sup>	14.3	15.2	17.6	19.1
2017 <sup>1</sup>	14.6	16.0	18.1	19.4

<sup>1</sup> Preliminary data.

**Table 3**

**Volume indices<sup>1</sup> of GDP per person employed, corresponding quarter of previous year = 100, (%)**

year	Q1	Q2	Q3	Q4
2000	.	.	.	.
2001	104.1	106.7	104.9	102.2
2002	106.3	105.9	105.4	105.2
2003	105.3	102.9	99.8	100.9
2004	101.7	103.9	104.7	104.6
2005	105.9	105.2	103.0	103.6
2006	100.9	104.2	104.3	103.8
2007	103.6	106.3	102.6	103.9
2008	104.1	105.3	103.9	101.5
2009	96.7	97.6	100.5	98.0
2010	101.1	107.9	103.3	108.5
2011	103.6	106.2	104.8	102.5
2012 <sup>2</sup>	103.8	102.5	102.0	102.4
2013 <sup>2</sup>	101.4	98.8	101.4	103.4
2014 <sup>2</sup>	99.9	101.2	100.1	102.4
2015 <sup>2</sup>	103.1	102.9	103.7	103.3
2016 <sup>2</sup>	103.2	102.9	104.0	103.7
2017 <sup>2</sup>	102.4	102.9	101.1	100.7



**Table 4**

**Volume indices<sup>1</sup> of GDP per hour worked, corresponding quarter of previous year = 100, (%)**

year	Q1	Q2	Q3	Q4
2000	.	.	.	.
2001	103.2	105.9	102.4	103.3
2002	108.2	106.1	104.2	104.5
2003	105.3	104.4	100.7	101.2
2004	100.6	102.1	104.0	102.2
2005	106.5	104.9	103.0	104.6
2006	100.9	104.5	104.8	104.1
2007	103.5	106.4	102.5	103.9
2008	100.8	102.9	101.3	100.2
2009	100.8	100.4	103.1	99.9
2010	101.3	108.0	103.4	108.3
2011	103.6	106.3	104.9	102.5
2012 <sup>2</sup>	103.7	102.5	102.0	102.2
2013 <sup>2</sup>	101.4	98.8	101.4	103.2
2014 <sup>2</sup>	99.9	101.3	100.2	102.4
2015 <sup>2</sup>	103.1	102.9	103.7	103.2
2016 <sup>2</sup>	103.1	103.1	104.1	103.7
2017 <sup>2</sup>	102.5	102.7	101.1	100.7

<sup>1</sup> The volume indices are calculated based on the values of the corresponding indicator at constant prices of 2010; for more information, see Price and Volume Measures (Methodological notes)

<sup>2</sup> Preliminary data.