

### 3. Labour Market

According to Labour Force Survey (LFS), strong positive trends continued on the labour market in the third quarter of 2016. In the third quarter, unemployment declined by 14% year-on-year, total employment increased by 7.2%, while formal employment grew by 3.8% year-on-year. As a result of these trends, the unemployment rate dropped to 13.8%, which is close to a historical minimum, while the employment rate reached 46.8%, a historical maximum. Trends in overall employment and unemployment again significantly deviate from other macroeconomic and fiscal trends, which makes us question their credibility. However, even if the stated data were correct, they would indicate that during the last four years, including this one, Serbia's economic competitiveness has considerably deteriorated due to a decline in productivity – which is in discord with the strong growth of exports in this period?! So, for example, the significantly faster growth of employment than growth of GDP, indicated by LFS, resulted in a decline of productivity by as much as 15% over the last four years, i.e. a decline of 4.4% over the last year. Sectoral structure of the growth of employment which is dominated by an enormous growth of informal employment, especially in the sector of agriculture, adds to the suspicion regarding the reliability of LFS data. Seasonally adjusted net wages grew nominally by 3% and by 2% in real terms year-on-year. Trends of real wages are in line with the trends of economic activity, but in a big discord with the trends of productivity stemming from the LFS data on employment.

#### Employment

*Basic labour market indicators show significant improvements...*

*Unemployment rate is close to a historical minimum...*

*Total employment is again increasing much faster than the growth of GDP...*

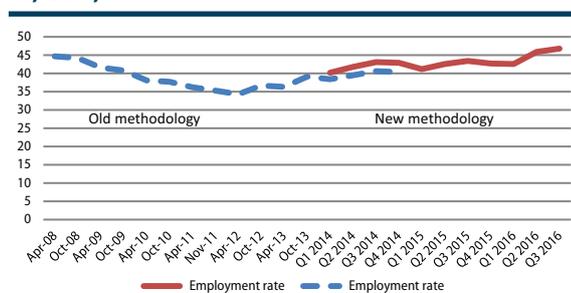
*Employment rate reached its maximum since the application of LFS...*

*Growth of informal employment was as high as 19.8%, while formal employment grew by 3.8%.*

According to LFS data, Q3 of this year recorded significant improvements in the labour market. Unemployment rate in the third quarter was 13.8%, which is only half a percentage point above the lowest value recorded in April 2008. Also, employment rate reached its highest value of 46.8%<sup>1</sup> since the Labour Force Survey started being conducted.

Compared to the same period last year, the total number of employees in the third quarter increased by 7.2% (growth by around 190 thousand). The result of that is the increase of employment rate from 43.4% in the third quarter of last year to 46.8% in the third quarter of this year. According to LFS, growth of the employment rate this year is the continuation of a four-year trend, according to which the total number of employees between the second quarter of 2012 and third quarter of 2016<sup>2</sup> increased by around 650 thousand, while the employment rate increased by 36%?! Graph G3-1 shows the trends of the employment rate according to LFS in the period 2008-2016, with fully comparable date for the period 2008-2014 and 2014-2016.

**Graph G3-1 Trends of the Employment Rate, %, 15+,**



Source: LFS, SORS

Compared to the same quarter of the previous year, formal employment increased by 3.8% in the third quarter of 2016, while informal employment increased by 19.8%. Although formal employment this year grew by around 1 percentage point faster than GDP, the deviation is too moderate to be explained by combatting of the grey economy or by the expected statistical errors that occur in surveys such as LFS. However, growth of informal employment is enormous, it dramatically deviates from other macroeconomic trends and cannot be explained by

1 Due to a change in methodology, data on employment and unemployment before and after 2014 are not completely comparable. However, based on the 2014 data, for which there is data according to the old and the new methodology, it can be estimated that the change in methodology has not had any significant effect on the estimates of the employment and unemployment rates.

2 Similar results are achieved by comparing the second quarter of this year with the second quarter of 2012 – increase in the number of employees in this case is around 600 thousand, while increase in the employment rate is 34%.

usual statistical errors. Besides, the strong growth of informal employment, according to LFS, leads to a high growth of total employment – as high as 7.2%, which is 2.8 times faster than the growth of GDP. According to LFS data, informal employment rate has been continually increasing during the first three quarters of 2016. In Q3 2016, informal employment rate was 24.1%, which means that almost every fourth worker in Serbia is informally employed. Even though the strong growth of informal employment could be explained to a lesser extent by an increase in share of temporary jobs on the labour market, most of the growth is still not in line with other macroeconomic data, which is why we question the credibility of this data.

**Total employment in agriculture is growing...**

**Considerable number of informally employed in agriculture...**

The number of employed in the agriculture sector<sup>3</sup> recorded a year-on-year growth of 19.6% in the second quarter and 17.2% in the third. The increase in the number of the employed in agriculture was realised in both formal and informal sector. In the third quarter, the number of employees in the formal sector increased by almost 22 thousand, while the number of informal employees increased by 78 thousand, i.e. by 10.2% and 21.4% year-on-year, respectively. The share of employees in the agriculture sector<sup>4</sup> was reduced from 19.9% in 2014 to 18.9%, which is the average of 2016.

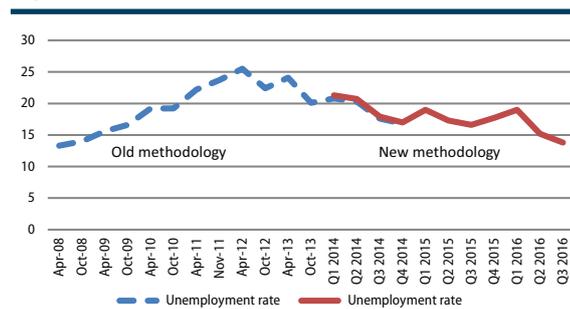
The year-on-year real growth rate of Gross Value Added (GVA) in agriculture, forestry and fishery has been positive during the first three quarters of 2016. Agriculture was the business activity that recorded the highest growth rate of 10.9% in the third quarter. It should also be noted that production year 2015/16 was marked by very favourable agro-meteorological conditions<sup>5</sup>, which certainly contributed to the growth of GVA. Modest year-on-year growth of seasonally adjusted real net wages in agriculture, in the period Q1-Q3 2016, of 0.2, 2.8 and 0.6%, respectively compared to the large growth of added value in agriculture was the result of the fact that most of those employed in agriculture are informally employed as unpaid helping members of the household.

**According to LFS, unemployment rate is close to a historical minimum...**

According to LFS, the unemployment rate in the third quarter of this year dropped by 2.8 percentage points compared to the same period of the previous year. After the stated reduction, the unemployment rate is 13.8%, which is by only 0.5 percentage points higher than the minimum recorded at the beginning of 2008. According to LFS, the unemployment rate has been declining for the past four years and its cumulative decline in that period is as much as 45%!<sup>6</sup> During

**Cumulative decline in the unemployment rate between the second quarter of 2012 and the third quarter of 2016 was as much as 45%?**

**Graph G3-2 Trends in the Unemployment Rate, %, 15+**



Source: LFS, SORS

the same period, Serbia's GDP (at constant prices 2010) increased by 14.5%, which would imply a high decline in productivity. Although part of the improvement on the labour market could be explained by the increase in the number of those working temporary jobs, it is our estimate that big mistakes have been made over the last few years in measuring labour market trends, which is why the entire 2008-2016 data set should be reconstructed<sup>6</sup>. Graph G3-2 shows trends in the unemployment rate according to the old and the new methodology, in the period 2008-2014 and 2014-2016.

<sup>3</sup> Agricultural business activity includes the sector of Agriculture, Forestry and Fishery and part of the sector of Household as an Employer relating to agricultural jobs.

<sup>4</sup> Sector of agriculture includes agriculture, forestry and fishery.

<sup>5</sup> Hydrometeorological Service of the Republic of Serbia, Department of Applied Climatology and Agro-meteorology, Agro-meteorological conditions in 2015/2016 on the territory of the Republic of Serbia.

<sup>6</sup> In the previous issues of the Quarterly Monitor, we have exposed evidence of errors in measuring trends on the labour market.

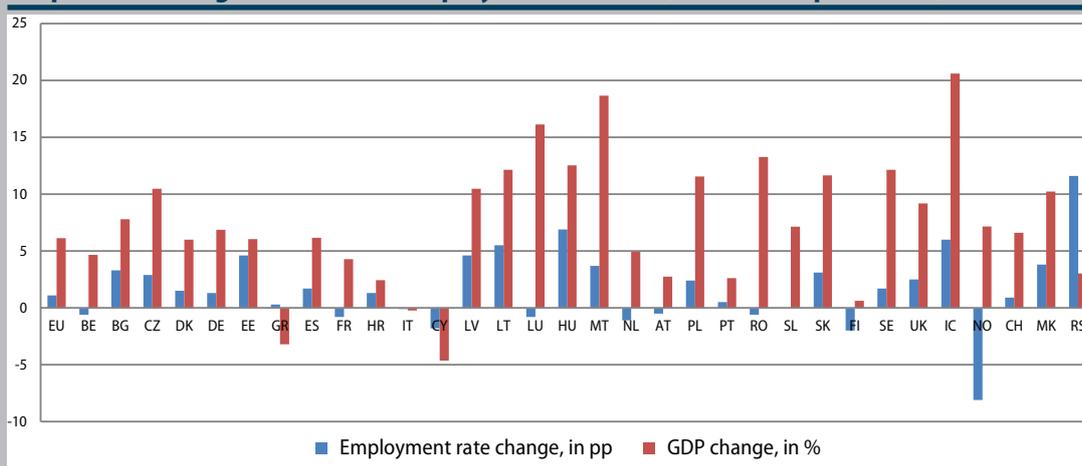
### Box 1. Trends in Employment and GDP in Serbia and European Countries

Based on numerous macroeconomic research, it is well known that there is a relatively high positive correlation between GDP trends and employment rates, which means that during the periods when GDP is growing, the employment rate is growing and vice versa. Growth of employment in times of economic growth is usually lower than the growth of GDP, because most of the GDP growth is the result of growth in productivity, which stems out of technical progress. Contrary to that, in times of recession, the employment rate declines at a slower rate than GDP. Also, most often the changes in GDP precede the changes on the labour market, which means that GDP starts to grow before the employment rate starts to rise. In times when the economy is coming out of a recession, as was the case in the period 2012-2016, GDP starts to grow first, while employment stagnates or grows much more slowly.

The following two graphs (G3-3 & G3-4) show the cumulative growth of GDP in the period Q2 2012-Q2 2016 and changes in the employment rate in the same period for EU countries, Serbia, Macedonia, Norway and Switzerland. Change in GDP is bigger than the change in the employment rate in almost all countries (red pillars are higher than blue ones). For example, in all 28 EU member states in the last four years, GDP grew on average by 6.1%, while the employment rate grew by 1.1 percentage points.

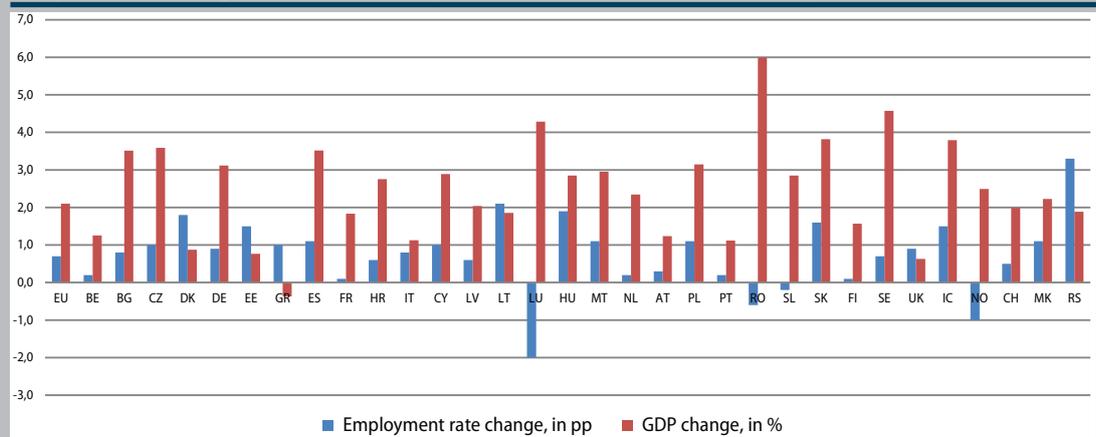
Out of the observed 32 European countries, in only three countries (Serbia, Greece and Cyprus), the GDP and employment rate trends deviate from general tendencies. Deviations in case of Cyprus and Greece are moderate and can be explained by employment rates declining less than GDP during a recession. In Greece, the decline of GDP was 3.2%, while the employment rate increased by 0.3 pp. In Cyprus, both GDP and the employment rate decreased, but GDP decreased by 4.6%, while the employment rate decreased by 1.8 pp. Serbia is quite different in size and direction of deviation in the changes of employment rate and GDP compared to all other European countries. In Serbia, the cumulative growth of GDP in the observed period was 3%, while the employment rate increased by as much as 11.6 pp. The direction and intensity of deviation in the changes of GDP and the employment rate in Serbia during the last four years compared to other European countries is so large that it adds to the suspicion of the reliability of LFS data on labour market trends. Again, we stress that if the data on employment trends in Serbia were correct, the productivity in Serbia in the last four years would have significantly declined, which is almost certainly not the case.

**Graph G3-3 Changes in GDP and Employment Rate in Q2 2016 compared to Q2 2012**



Note: Employment rate 15+, GDP reference year 2010  
 Source: Eurostat and SORS

Trends in employment rates and GDP growth rates over the last year in Serbia again deviated from the tendencies in all other European countries. If we observe the change in GDP and the employment rate in the last year, we see that only Serbia and Greece have a bigger change in the employment rate in relation to the change in GDP. Employment rate increased by 1 pp, while GDP decreased by 0.4% in Greece. In Serbia, employment rate increased by 3.3 pp, while GDP increased by 1.9%.

**Graph G3-4 Change in GDP and Employment Rate in Q2 2016 compared to Q2 2015**

Note: Employment rate 15+, GDP reference year 2010

Source: Eurostat and SORS

Note: Data on the employment rate in Q3 2016 is still not available for most EU countries. Country abbreviations are as follows: Belgium (BE), Bulgaria (BG), The Czech Republic (CZ), Denmark (DK), Germany (DE), Estonia (EE), Greece (GR), Spain (ES), France (FR), Croatia (HR), Italy (IT), Cyprus (CY), Latvia (LV), Lithuania (LT), Luxemburg (LU), Hungary (HU), Malta (MT), The Netherlands (NL), Austria (AT), Poland (PL), Portugal (PT), Rumania (RO), Slovenia (SL), Slovakia (SL), Finland (FI), Sweden (SE), United Kingdom (UK), Iceland (IC), Norway (NO), Switzerland (CH), Macedonia (MK), Serbia (RS)

## Productivity

Table T3-1 shows the trend of Gross Value Added, number of employees (according to LFS) and work productivity over the current and the previous year. Data shows total values (first part) and excluding agricultural activities (second part). We see that the year-on-year change in productivity, calculated as a ratio of GVA and the number of employees, is negative in the second and third quarter of 2016. This is the result of a faster growth of employment in relation to the growth of GVA. Also, the rate of productivity decline is higher if we exclude agriculture. If the decline in productivity were real, it would imply a need to reduce the real value of wages in order to preserve the international competitiveness of Serbia's economy. However, in Serbia wages are growing in real terms by around 2% annually (see the section on Wages), while exports are growing at an annual rate of around 10%, which implies that there was no deterioration in the economy's competitiveness. The probable explanation for this apparent paradox is that the data on labour market trends is not reliable.

**Table T3-1 Trends in GVA, Number of Employees and Productivity, 2015-2016**

	2015				2016			Change 2016/2015		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q1	Q2	Q3
<b>Total</b>										
GVA (in mil RSD)	601023.5	654013.6	676144.3	692467.9	626950.8	666591.9	696683.7	4.3%	1.9%	3.0%
Number of employed (in 000)	2504.1	2587.8	2623.9	2580.8	2570.7	2761.5	2814.0	2.7%	6.7%	7.2%
Productivity (in RSD)	240015.77	252729.58	257686.76	268315.21	243883.3	241387.62	247577.72	1.6%	-4.5%	-3.9%
<b>Without agriculture</b>										
GVA (in mil RSD)	551734.7	597756.8	602569.1	623087.8	574138.9	608074.3	615080.5	4.1%	1.7%	2.1%
Number of employed (in 000)	2019.4	2095	2107.2	2076.6	2103.7	2239.1	2265.8	4.2%	6.9%	7.5%
Productivity (in RSD)	273217.14	285325.44	285957.24	300051.91	272918.62	271570.85	271462.84	-0.1%	-4.8%	-5.1%

Source: SORS, LFS for employment, SNR for GVA

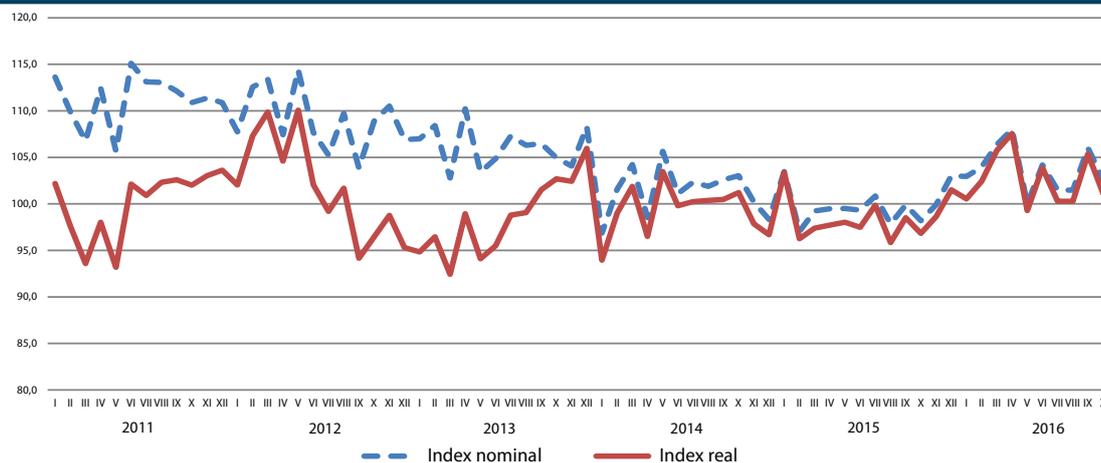
## Wages

*Average wages are increasing both in real and nominal terms...*

*Average wage will probably continue to grow in 2017...*

Trend in growth of wages in the third quarter continued, but at a declining rate. Seasonally adjusted net wages increased nominally by 3% and by 2% in real terms, year-on-year. Graph G3-5 shows trends in the index of nominal and real wages in the period 2011-2016. As a result of the low inflation rate since the end of 2013, the indices of nominal and real wages are not significantly different.

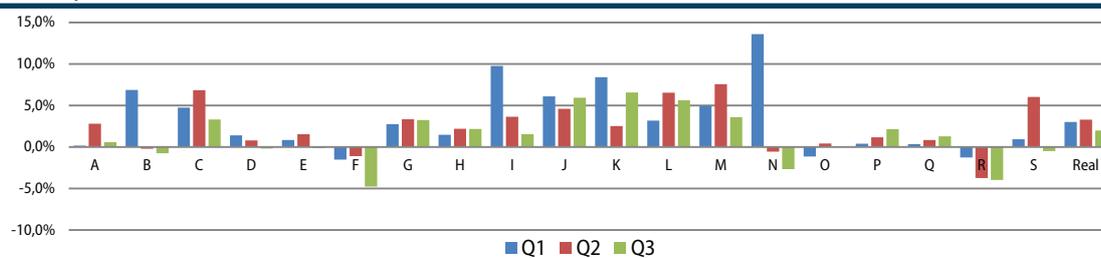
**Graph G3-5 Nominal and Real Wages Indices, 2011-2016**



Note: Same month previous year = 100  
Source: SORS

We expect average wages to grow during 2017. Minimal net wage per hour as of January 2017 will be 130 RSD<sup>7</sup>, which is a 7.4% growth compared to 2016<sup>8</sup>. Observed by business activities, most of the activities recorded a growth of seasonally adjusted net wages in Q3 2016 compared to the same quarter of the previous year (Graph G3-6).

**Graph G3-6 Year-on-Year Growth Rates of Seasonally Adjusted Net Wages by Business Activity, Q1-Q3 2016**



Source: Author's calculations using SORS data  
Note:

A – Agriculture, Forestry and Fishery; B – Mining; C – Processing Industry; D – Electricity, Gas, Steam and Air-conditioning Supply; E – Water Supply; Wastewater Management, Controlling the Process of Waste Disposal and similar activities; F – Construction; G – Wholesale and Retail; Repair of Motor Vehicles and Motorcycles; H – Transportation and Storage; I – Accommodation and Food Services; J – Communications and Information; K – Financial and Insurance Activities; L – Real-estate Activities; M – Professional, Scientific and Technical Activities; N – Administrative and Auxiliary Services; O – Public Administration and Defence; Mandatory Social Insurance; P – Education; Q – Healthcare and Social Protection; R – Art, Entertainment and Recreation; S – Other Services.  
Business activities without a seasonal component in their wages are not seasonally adjusted: D, E, P

The highest growth of wages was recorded in Financial and Insurance Activities – 6.6%, which is a higher growth than that of GVA of 4.2%. Next are the Communications and Information Activities with a 5.9% growth of wages, followed by the Real-estate sector with 5.6% growth. The real-estate sector recorded a 0.4% year-on-year growth of GVA. Growth of wages in the processing industry was 3.3%. The processing industry in October 2016 realised a year-on-year growth of 2.9% compared to the same month of the previous year. Growth of wages in education and healthcare was 2.1% and 1.3%, respectively, while wages in the public administration remained unchanged compared to the same quarter of the previous year.

<sup>7</sup> The decision was published in the "Official Gazette of the Republic of Serbia" no. 77/2016.

<sup>8</sup> Minimal net wages per hour in 2016 was 121 RSD according to the "Official Gazette of the Republic of Serbia" no. 79/2015.