Highlight 2. What determines wage levels and dynamics in Serbia?

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Introduction

Over the past few years there has been a growing interest of various economic actors in terms of the need to monitor wage trends and, accordingly, to implement sustainable wage policies that would prevent economy stagnation or its running hot and to ensure fair distribution of labour income. The International Labour Organisation in its latest *Global Wage Report* (ILO, 2017) identified several reasons for explaining this fact. First, they represent the major source of income for most households, and consequently have a huge influence on people's living standards. Thus, for example, in developed economies wages usually represent about 70 to 80 per cent of total income for households with at least one member of working age. In developing countries, the contribution of wages to household total income is smaller ranging from 50 to 60 per cent, where self-employment income, including income from agriculture, comprises a larger share of household income in these countries than in developed countries (ILO, 2015). Second, wages, with exchange rates and interest rates, represent the most important price in an economy that affects medium- and long-term economic growth. In the medium-term, wages have a key influence on balancing between supply and demand, and consequently affect macroeconomic stability, that is external deficit and inflation. In the long-term, wages of employees, which represent a cost of enterprise, strongly affect the international competitiveness of an economy, and thus its growth. In the modern world, most markets are globalized, so input prices which are used in production are more or less uniform. Labour markets, however, with the exception of the European Union, are still deeply divided by state borders[3], making wages to significantly vary among countries. In this regard, the international competitiveness of a given economy depends critically on wages. In political terms, the share of wages in the gross domestic product (GDP), and wage inequality, are important topics which economic growth depends on, but also social stability of the society. Excessive inequality in income from labour and capital, as well as wage inequality, can lead to weaker social cohesion, increased political polarization, aggravating conflicts in society, thus threatening economic growth.

During most of the post-crisis period, wage growth at the global level could be mainly explained by relatively strong wage growth in developing countries in Asia (notably in China where wages grew at 10.5 per cent annually over the last decade). Looking at the regional level, in 2016 compared to 2015, real average wages grow in Central and Western Asia (3.4 per cent) and Africa (2 per cent), while they declined in Latin America (1.3 per cent) and East Europe (5.2 per cent). After a long period of stagnation, wages saw growth in developed countries as well over the last few years. For example, at the regional level, real wage growth rose in Northern America (to 2.2 per cent), Northern, Eastern and Western Europe (to 1.5 per cent) (ILO, 2017). Large difference in real wage growth rates in the post-crisis period reflect the difference in the pace of economic recovery, different alignment between wages and productivity in the pre-crisis period, as well as difference between supply and demand in the labour market.

Given the aforementioned, that is the importance of wage as one of the major sources of income for citizens and as a factor which influence the economic competitiveness, the analysis in this *"Osvrt"* (Highlight) will focus on the wage and its determinants in Serbia. The analysis will provide insight into nominal and real average wage trends of workers in Serbia in the period from 2001 to 2017, and a comparison between wage levels in Serbia to those in Central and Eastern European countries for 2017. This *"Osvrt"* will analyse the correlation between average wages and labour productivity, which will enable us to perceive how much the average Serbian earns and how productive he is. The final section of this *"Osvrt"* is dedicated to analysing problems resulting from significant and long-term deviation of wages from the level determined by productivity.

Wage dynamics in Serbia and comparison with other countries

Various social actors, from leading politicians to trade union representatives, often announce or demand a significant wage increase in Serbia. Over the last few years top government officials have announced that the average wage in Serbia would reach 500 euros next year. At the same time, constant pressures of trade union associations to increase wages by 10 per cent or more per year have not abated. In light of the above, examining wage trends in Serbia becomes important.

If we look at the time period from 2001 to 2017, it is observable that nominal average net wage growth (net

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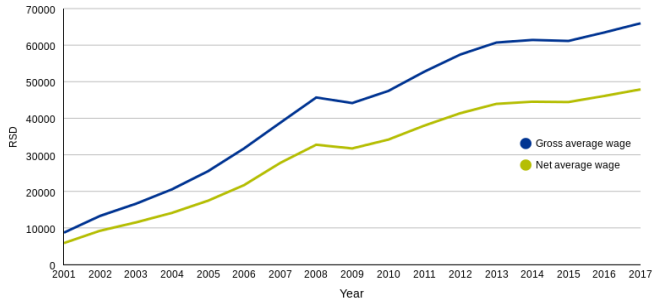
3 Progress in the sectors of telecommunications and information technologies has led to the formation of global market in some segments of the labour market, even without physical migration of workers from one country to another. This is, however, the exception rather than the rule. Hence, there is still an assessment that labour markets are strongly divided by state borders.

wage is the amount after deduction of taxes and contributions from gross wage) was constant according to data from the National Statistical Office. The average monthly net wage ranged from RSD 5,840 in 2001 to RSD 47,888 in 2017. That is, the net wage earned by an average worker in Serbia in 2017 was higher than in 2001 as much as 8 times4. Until 2008, the average net wage in Serbia rose from RSD 6,000 to RSD 33,000 due to real growth and relatively high inflation. After that, from 2008 to 2017, the average net wage increased from about RSD 33,000 to about 48,000.

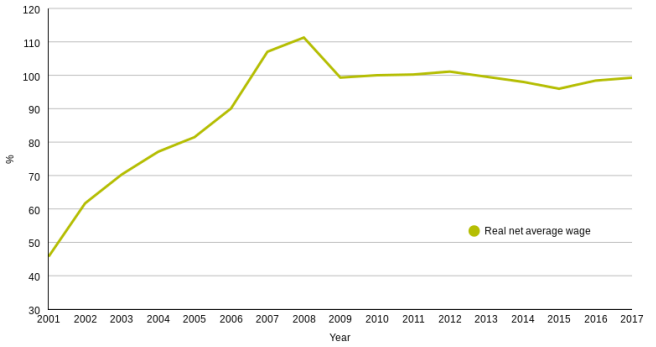
Graph 1. Gross and net average wage trends in Serbia from 2001 to 2017



Source: Based on data from the Statistical Office of the Republic of Serbia

However, changes in real terms of the purchasing power of average wages can only be analysed on the basis of real wages (removing inflation from nominal wages). Although average wages account for just over 50 per cent of the total income of average three-member household in Serbia, their trend is an approximate indicator of the overall living standard trend. The reason is that changes in other sources of income (e.g. pensions, social aid, etc.) are strongly correlated to changes in average wages. After eliminating inflation, real average net wages in the last 17 years grew just over 2 times, which is significantly less than their nominal growth. Graph 2 shows two significantly different periods in real average wage trends in Serbia over the last 17 years. In the pre-crisis period, from 2001 to 2008, net average real wage growth rose cumulatively by 143 per cent, or 11.8 per cent annually on average. In the crisis and post-crisis period[5], from 2009 and 2017, net real average wage growth stagnated, as they rose cumulatively by less than 1 per cent, or 0.07 per cent annually on average.

Graph 2. Index of real average net wage trend in Serbia from 2001 to 2017 (base indices, 2010=100)



Note: see footnote 4.
Source: Based on data from the Statistical Office of the Republic of Serbia

While real wages roughly reflect living standard trends of citizens, wages in euros show both trends, citizens' living standard and international competitiveness of the Serbian economy. In the period from 2001 to 2017, average net wages in euros increased almost 4 times, twice their real growth. Wages in euros reflect not only real wage trends, but also the Dinar real exchange rate trends. In times which record real appreciation of the Dinar, wages in euros grow faster than real wages, while in periods which record real depreciation of the Dinar, wages in euros grow more slowly than real wage growth. Significant real appreciation of the dinar from 2001 to 2002 and from 2005 to 2008 particularly affected the faster growth of wages in euros compared to real wage growth. Changes in average net wages in euros show a similar pattern as changes in real average net wage growth, with the difference that changes in wages in euros are more intensive (as they are also affected by changes in the Dinar real exchange rate). In the pre-crises period, from 2001 to 2008, wages in euros rose by as much as 3.8 times, which is significantly higher than real growth in the same period (slightly more than 2 times). In the crisis and post-crisis period, from 2009 to 2017, average net wages in euros rose by about 20 per cent, while in the same period real wage growth stagnated. These differences are also noticeable in the latest period. For example, in the last year, real wage growth rose by 0.9 per cent, while wages in euros increased by 8.3 per cent.

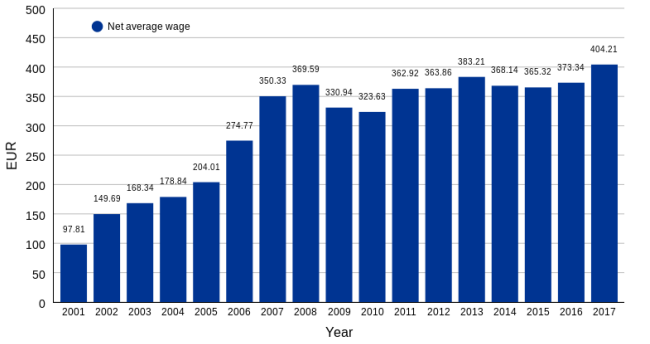
What is the position of the average Serbian compared to an average citizen living in a Central or Eastern European country, based on his wage earned? Among countries in this region in 2017, the highest average monthly net wage was recorded in Germany, in the amount of 2,270 euros, while the lowest average monthly net wage was recorded in Albania. With the exception of Germany, the top 5 countries in this region based on average net wage are Slovenia (1,074 euros), Estonia (945

4 When comparing wages in the pre-crisis period (before 2009) with wages in the post-crisis period (after 2009) it should be kept in mind that from January 2009 wages paid to employees working for sole-traders have been included in calculation of wages and salaries, which reduced average wages by 8-9 per cent.

5 When analyzing real average net wage trends by periods, the change in 2009 compared to 2008 was "skipped", as it is mostly due to the change in the methodology of calculating wages.

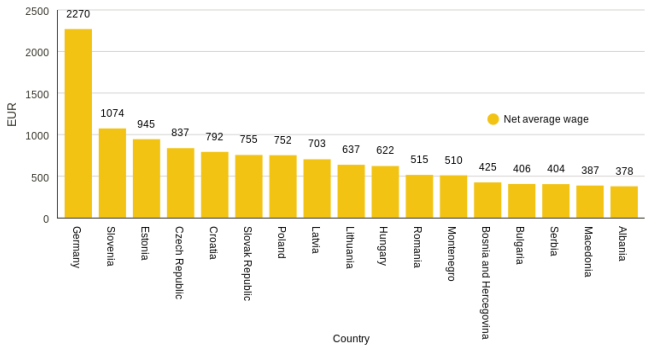
euros), Czech Republic (837 euros), Croatia (792 euros) and Slovakia (755 euros). In the middle of this list are Poland (752 euros), Latvia (703 euros), Lithuania (637 euros), Hungary (622 euros) and Romania (515 euros). With the exception of Albania, the bottom 5 countries are Montenegro (510 euros), Bosnia and Herzegovina (425 euros), Bulgaria (406 euros), Serbia (404 euros) and Macedonia (387 euros). In terms of this indicator, Serbia is at the very bottom of the list among the Central and Eastern European countries for 2017. Compared to Serbia, the only countries in which the average citizen earned a lower wage last year were Macedonia and Albania. It is observable that the Serbian citizen, based on his average wage, falls significantly behind inhabitants of other countries in this region.

Graph 3. Changes in average net wages in euros in Serbia from 2001 to 2017



Source: Data from the Statistical Office of the Republic of Serbia and the National Bank of Serbia

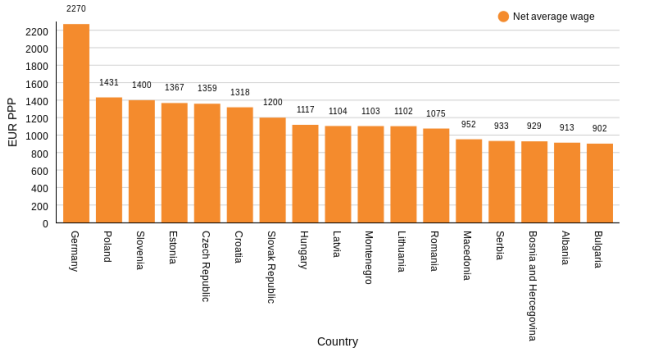
Graph 4. Average net wages in euros in the Central and Eastern European countries in 2017



Source: Based on data of Eurostat and national statistical offices

When comparing wages in different countries, it is important to keep in mind that average prices vary among these countries. There is a particular rule indicating that average prices in developed countries are higher than those in less developed countries – these differences are due primarily to higher prices of non-tradable goods (such as public utilities, health services, educational services, etc.). It is therefore necessary for wages in euro in all countries to be expressed in the purchasing power parity of the euro (PPP/EUR), which essentially means to assume that prices in all countries are the same. Graph 5 shows wages expressed in the purchasing power of the euro, with the assumption that prices in all countries are equal to those in Germany.

Graph 5. Average net wages in PPP/EUR in the Central and Eastern European countries in 2017



Source: Based on data from Eurostat and national statistical offices

As expected, using PPP/EUR reduces differences in average net wage levels among the Central and Eastern Europe countries. However, these differences remain relatively high and reflect differences in the level of development of these countries, i.e., differences in productivity level. Thus, for example, despite the fact that this difference has been halved, the purchasing power of average net wages in Serbia is 2.4 times lower than it is in Germany or 1.5 times lower in Slovenia.

Why are wages low in Serbia?

Where do these major differences between average wages among different countries originate? Why did the average German have 2.4 times and the average Slovenian 1.5 times more purchasing power[6] than the average Serbian in 2017? What determines average wage levels in a country? To answer these questions: the average productivity level is the basic determinant of average wages in a given country, i.e., differences among countries in terms of their productivity are reflected as differences in terms of average wage levels. It should be noted that the productivity level in the sector of tradable goods and services (such as industry, agriculture, tourism, etc.) is the key factor affecting wages in a country. That is, productivity growth[7] in the tradable goods sector contributes to average wage growth rise in a country. Average wages in the sector of non-tradable goods and services (such as trade, health, education, security,

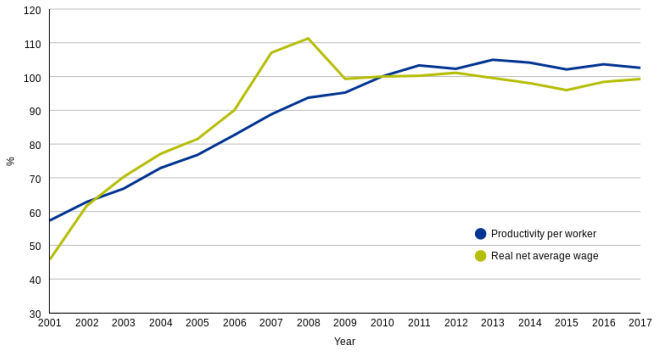
6 Please note that nominal average wage in Germany is 5.6 times higher, and in Slovenia, it is 2.7 times higher.

7 Productivity growth depends mainly on the increase of the value of physical and human capital per worker. The amount of physical capital per worker is determined by investment rate, while the amount of human capital per worker depends on improving coverage and quality of education, introduction of incentives for learning through work, etc.

public administration, etc.) reflect average wage growth trends in the tradable goods sector. Lagging behind other countries in terms of productivity in the sector of tradable goods and services is characteristic of Serbia.

Graph 6 shows trends in average real net wages and labour productivity[8] in the period from 2001 to 2017. For the entire period, average net wage growth was similar to productivity growth. Productivity, like real wages, grew sharply in the pre-crisis period, while its growth in the post-crisis period became considerably slower. However, some differences can be noted – real wage growth was faster than productivity growth until 2008, and real wage growth was slightly slower after that. Real wage growth slower than productivity growth after 2008 can be described as the return of real wages to a sustainable level, determined by productivity.

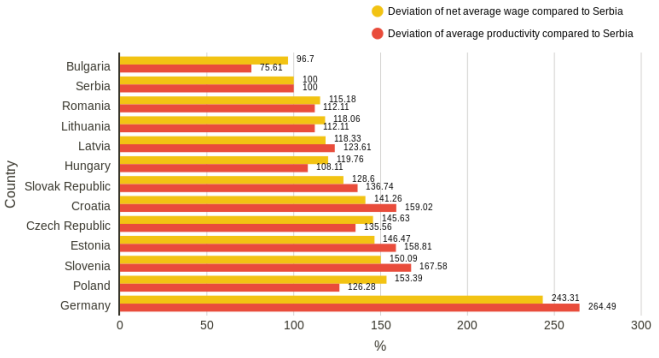
Graph 6. Indices of real average net wages and productivity per worker in Serbia from 2001 to 2017 (base indices, 2010=100)



Source: Based on data from the Statistical Office of the Republic of Serbia

Comparison of labour productivity among Central and Eastern European countries provides valid evidence of a link between average productivity level and average wage level. Ratios were calculated by comparing productivity per worker/wage in a particular country with productivity per worker/wage in Serbia. If the resulting value for given country is greater than 100, this means that average productivity/average net wage in that country is higher than it is in Serbia. These calculations confirm the importance of productivity for average wage. In 2017, in all observed countries where average net wage expressed in euro with equal purchasing power was higher than the wage in Serbia, productivity per worker was also greater than productivity recorded in Serbia. Thus, for example, the average worker in Germany received an average net wage 2.4 times higher than the one received by the average worker in Serbia expressed in PPP/EUR, but the average German was 2.7 times more productive than the average Serbian. Furthermore, the average Slovenian earned (net) 1.5 times more than the average Serbian, but was 1.7 times more productive at the same time. It is notable that for almost all countries in the region, the deviation in relation to the average net wage in Serbia is very similar to the deviation in relation to average productivity in Serbia.

Graph 7. Deviation of average net wage in PPP/EUR and average productivity per worker in the Central and Eastern European countries compared to Serbia in 2017



Note: Data on productivity per work relates to 2016
Source: Based on data from Eurostat and national statistical offices

Consequences of the deviation of wage levels from productivity levels

Real wages positively and strongly correlate to productivity, and consequently the changes in average productivity in a country determine the trend for fluctuation of average real wages. However, what happens when there is a larger and longer-lasting gap between wages and productivity?

In small open economies, if average wage growth is faster than average productivity growth, this is usually firstly reflected in increased foreign trade deficit, followed by increased external debt. An increase in external deficit is the result of the impact of excessive wage growth on aggregate demand growth, which in turn leads to an increase in import, weakening of international competitiveness of the economy, causing slower growth of export. Given that wages make up a large share of the gross domestic product, if they grow faster than productivity, this reduces available investment funds, resulting in stagnation, or even a decline in investment. A low level of investment leads to slow growth of capital per worker, which is why productivity growth in turn is slow, and this reflects back on the slow growth of real wages, and therefore the overall citizens' living standard in the future. Overall, if wages grow faster than pro-

8 Productivity per worker was calculated as the ratio of gross domestic product at constant prices to registered employment. Methodologically, it would be more correct to use total employment according to the *Labor Force Survey,* but we think that data on total employment is extremely unreliable and that such obtained results obtained would not be relevant, as we have already written in several previous issues of the *Quarterly Monitor of Economic Policies and Trends in Serbia.*

ductivity in the present, this will undermine real wage growth in the future.

If average wage growth is slower than productivity growth, deflationary pressures will be present in given country, as aggregate demand in such circumstances will be low, and this will slow down economic growth and increase unemployment rates. Additionally, in this case, economic inequality among the population will be pronounced, and this can cause escalated social conflicts, which can have a negative effect on economic growth.

Therefore, significant and long-term discrepancy between average real wage and labour productivity in a country, irrespective of the direction, will have negative consequences on macroeconomic stability, economic growth and overall social stability.

In the case of Serbia, real wages growth was much faster than productivity growth until 2008, which contributed to the increase in external deficit, the growth of external debt, and maintaining inflation at a relatively high level. Due to relatively high income from privatization and an abundant supply of cheap capital on the global market, investments were high, but consisted mostly of foreign funds. After the beginning of the global financial crisis, due to high inflation and depreciation of the Dinar, wages were reduced to realistic levels, determined by the level of productivity. The return of wages to the real level and the return of wages in euros to sustainable levels, after the economic crisis began, contributed to reduced external deficit, but also to the stabilization of inflation at a low level. The high wage growth in euros in 2017, as a result of the excessive appreciation of the dinar, is one of the factors which contributed to the re-growth of the external deficit after a year-long fall (see Chapter *Balance of Payments and Foreign Trade*). Based on the comparison of wages in Serbia with wages in the region, expressed in PPP/EUR, and on the basis of trends in foreign trade balance, inflation and other indicators, it can be estimated that wages in Serbia between 2016 and 2017 were close to the level which corresponds to the level of productivity. Therefore, in the future, wage growth should be accompanied by productivity growth.

Certainly, productivity is not the only determinant of wages. Wage earned by an average citizen of a country depends on a number of other economic and political factors (from the supply and demand ratio in the labour market to the state wage policy). The state policy on wages must primarily support long-term sustainable economic growth, as only this type of growth is the basis for a continuously sustainable wage growth. This, in turn, means that wages should basically match productivity. When wage growth is slower than productivity growth, states need to support trade unions and accelerate their growth, and when wage growth is faster than productivity growth, governments should thwart this growth.

Conclusion

The average net wage in Serbia in from 2001 to 2017 nominally increased by as much as 8 times. The net wage earned by the average citizen of Serbia during this time period grew annually, on average, at a rate of 13 per cent. Two periods are discernible in the fluctuation of this indicator in Serbia: (1) the period until 2008, when the average net wage grew rapidly due to real growth and relatively high inflation from around RSD 6,000 to about RSD 33,000; (2) the period from 2008 to 2017, when the average net wage slowly grew from around RSD 33,000 to around RSD 48,000.

When inflation is accounted for in the analysis, it can be observed that real average net wages in the last 17 years increased only slightly more than 2 times, which is significantly less than nominal growth. Like nominal net wage trends, for real net wages in Serbia there are two distinct periods: (1) the period from 2001 to 2008, in which real wages grew 11.8 per cent annually, on average; (2) the period from 2009 to 2017, in which real wages stagnated, due to growth being only 0.07 per cent annually, on average.

Expressed in euros, the wage earned by a Serbian citizen, on average in 2017, only slightly exceeded 400 euros. From 2001 to 2017, the average net salary in euros increased almost 4 times, which amounts to double the real growth. Faster wage growth in euros than real wage growth was primarily driven by the real appreciation of the Dinar. The wage trend was such that in 2001 the average net wage was approximately EUR 100 and kept rising nominally until 2008, when it reached the level of about EUR 370. In the period which followed, there were no significant oscillations of the average net wage, expressed in euros, and it ranged between EUR 360 and EUR 400 from 2011 to 2017.

A comparative analysis shows that Serbia was positioned at the very bottom of the list of average net wages among countries of the Central and Eastern European region in 2017. The only countries in which the average citizen earned a lower wage than the one in Serbia last year were Macedonia and Albania. How much Serbia lags behind countries of the Central and Eastern European region in terms of the average net wage is best illustrated by the fact that in 2017 the average German earned 5.5, and the average Slovenian 2.6 times more than the average Serbian. When this analysis incorporates the fact that average prices in different countries vary, i.e. when average net wages are expressed in PPP/

EUR, differences between countries of Central and Eastern Europe get smaller. Nevertheless, despite this reduction in difference, they remain relatively high.

Finally, it has been shown that the average productivity is the main determinant of the average wage in a country. Observing the period from 2001 to 2017, it can be noted that average net wage growth in Serbia was similar to productivity growth. Productivity, similar to real wage, rose sharply in the pre-crisis period, and after the crisis began, its growth was considerably slower. However, certain differences are also noticeable. Thus, real wages growth was faster compared to productivity grow until 2008, and real wages growth was slightly slower after that. Also, it has been demonstrated that differences in average wages earned among Central and Eastern European countries can be explained by differences in average productivity. In other words, it can be concluded that relatively low wages of average Serbian population reflects their relatively low productivity.

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