



Munich Personal RePEc Archive

Public-private wage differences in the Western Balkan countries

Marko Vladislavljević and Edlira Narazani and Vojin
Golubović

Foundation for the Advancement of Economics (FREN) and
Institute of Economic Sciences, Belgrade, Albanian Centre for
Socio-Economic Research (ACSER), Tirana, Institute for Strategic
Studies and Prognoses, Podgorica

30 June 2017

Online at <https://mpra.ub.uni-muenchen.de/80739/>

MPRA Paper No. 80739, posted 13 August 2017 10:00 UTC

Public-private wage differences in the Western Balkan countries^{1 2}

Marko Vladislavljević³, Edlira Narazani⁴, Vojin Golubović⁵

Abstract

This paper investigates wage differences between the public and private sectors in the Western Balkan countries. As currently there are no micro data sets that are fully comparable across countries, we provide evidence based on the available macro-level data and results from recent micro-level research which typically focus on the individual countries. We find that in all Western Balkan countries the average wages in the public sector are higher than the wages in the private sector, but also that the high-skilled workers work more frequently in the public sector, therefore partially or fully "justifying" the wage differences. Around the beginning of 2010s, wage differences were lower in Montenegro, Albania and Kosovo, where when adjusted for the differences in workers characteristics they become insignificant. The differences were more prominent in Serbia, Macedonia and Bosnia and Herzegovina, where the differences in characteristic cannot explain the gap fully, and where the public sector wage premium is positive and significant. However, public private wage differences are still very volatile and under the impact of countries' political decisions. The differences in the size of the premium is discussed in the context of previously established correlates: differences in the total public sector size and private sector job security, as well as different size of the public sector wage premium at the different parts of the wage distribution. As public private wage gaps have important micro and macro level implications, their trends and mechanisms should be closely monitored and investigated in future research.

Keywords: Public private wage differences, Western Balkans.

JEL classification: J31, J45, J50.

¹ This document is a working version of the paper which is intended to be published as part of the upcoming book titled "Political Economy of Unemployment in the Western Balkans", edited by Mihail Arandarenko. This document and the upcoming book is part of the project "Strengthening the Labour Market Research Network – Toward the Understanding of the Political Economy of Unemployment in the Western Balkans", financed within the framework of Regional Research Promotion Programme in the Western Balkans (RRPP), which is run by the University of Friburg upon a mandate of the Swiss Agency for Development and Cooperation (SDC). The views expressed in this paper are those of the authors and do not necessarily represent the views of SDC and University of Friburg.

² The authors are grateful to Aleksandra Anić and Dragan Aleksić for their help on the data collection.

³ Foundation for the Advancement of Economics (FREN) and Institute of Economic Sciences, Belgrade.

⁴ Albanian Centre for Socio-Economic Research (ACSER), Tirana.

⁵ Institute for Strategic Studies and Prognoses, Podgorica.

1. Introduction

Wage differences between the public and private sector are important from both equity and efficiency perspective. While equity perspective is straightforward: wage difference between the sectors represent one of the components of the country's overall wage inequality, efficiency implications can be found on both micro and macro level. On the macro level high public sector wages have implications on GDP growth and the overall economic efficiency (European Commission, 2014), as well as on the external competitive position of country, especially in the case of small open economies (Đukić, 2009). From the micro perspective, unequal wages of workers in the public and private sectors can cause distortions on the labour market, especially if one takes into account that the public sector job often carries a higher degree of job security and work benefits (European Commission, 2014). Higher wages in the public sector, together with better working conditions, may lead to strong preferences for public sector jobs, which means that less skilled labour remains to work in the private sector. And vice versa, significantly higher wages in the private sector may lead to low favourability of the public sector employment and cause low quality of the public sector services (Giordano et al, 2011).

In many European countries, employees in the public sector have higher average wages than workers in the private sector (European Commission, 2014). This difference between the sectors can partially be explained by the fact that public sector, on average, employs higher share of high-skilled workers, therefore "justifying" portion of the differences in earnings (de Castro, 2013). However, these differences often cannot explain the entire gap. The studies which use micro-data sets to statistically control for the differences in individual and job characteristics, show that the public sector pays higher wages for the "same" work, i.e. that there is a positive *public sector wage premium*. This result, however is not uniform, as for some countries, the estimated public sector premium is negative, i.e. *ceteris paribus* wages in the private sector are higher (European Commission, 2014).

Negative public sector wage premium has been observed in many transition countries at the beginning of the transitions from socialistic to market economy. However, as the transition progressed, the advantage of the private sector was reduced, and for some countries the wages in the public sector became higher than the wages in the private sector (Laušev, 2014).

The wage differences between the public and private sector in the Western Balkan countries are relatively underinvestigated, except for Serbia. The literature review and new evidence we present in this paper indicate that the wages in Western Balkan countries are higher in the public than in the private sector, although the size of the gap differs significantly across countries. Currently, there is no paper presenting the comparable evidence from all Western Balkan countries on the public-private wage differences. The aim of this paper is to give an extensive overview of the recent research on the public-private wage differences in the Western Balkan region and to compare the size of the wage differences between the countries by using the available macro-level data.

The paper is structured as follows: after this introduction, the second part of the text deals with wage settings and institutional factors that determine the differences in the wages between the sectors, partially focusing on the experiences from the transition economies. In the third part we present and compare available data on the wages in the Public Administration, Education and Health sectors in the Western Balkan countries. In the fourth part we present the overview of the recent research dealing with public-private wage differences and public sector wage premium. The fifth part summarizes and discusses the results from parts two, three and four, while the sixth part concludes.

2. Wage settings and institutional factors determining the differences in wages

Unlike in the private sector, the wage setting in the public sector often includes political decisions (European Commission, 2014). Since public sector employers want to present themselves as good employers and since they are more heavily pressured by the unions, the wages for the low-skilled workers in the public sector are usually set at higher level than in the private sector. On the other hand, wages for the high-skilled workers are frequently set at lower level than in the private sector to avoid the image of high and unjustified spending of the government money (Giordano et al, 2011). As the low-wage workers make a larger share of workers than high-wage workers, the political decisions of this kind, on average, puts public wages at higher level than the private wages.

This line of argument is firmly supported by the research which shows that positive public sector premium is considerably higher at the lower parts of wage distribution, while lower or negative at higher wages. Similarly, if the premium is negative, i.e. if the wages are *ceteris paribus* higher in the private sector, the highest differences are found at the top of the wage distribution. The premium also typically varies across occupations and can be negative for some groups (usually high-skilled workers) while positive for others (usually low-skilled workers, IMF, 2016).

One of the reasons behind public sector wage premium could be the fact that public sector workers traditionally have higher levels of unionisation and their wages are more frequently set by collective bargaining. Theoretically, a higher degree of collective bargaining increases the wages as the workers have higher bargaining power. However, in a recent European Commission report (European Commission, 2014) public sector wage premium was estimated for 26 countries based on the SES (Structure of Earnings Survey) data from 2010 and its relationship with a number of institutional settings indicators was investigated. The country-level regression analysis showed that union density in public sector has no significant effect on the premium, confirming the previous result found by Giordano et al (2011). Furthermore, the same report shows that the rights of bargaining and association in the public sector are not related to the size

of the premium, disputing the advantage of collective bargaining over centralized government decisions as a model of wage setting in the public sector.

On the other hand, the same report finds that higher levels of the employment protection in the private sector are significantly related to higher levels of public sector wage premium (European Commission, 2014). Since employment protection legislation indicator measures the strictness of regulation on dismissals in the private sector, the authors interpret this result as evidence that in the countries where private sector job security is higher the government needs to pay higher wages to attract workers to the public sector.

Table 1: The OECD indicators on Employment Protection Legislation

<i>Country</i>	<i>Year</i>	<i>Protection of permanent workers against individual and collective dismissals</i>
Albania	2015	2.49
Bosnia-Herzegovina	2015	2.58
Kosovo	2014	2.08
Macedonia	2015	2.29
Montenegro	2013	2.88
Serbia	2015	2.23
<i>OECD average</i>	<i>2013¹</i>	<i>2.27</i>

¹ 2014 for Slovenia and United Kingdom, no data for Germany and Portugal.

Note: For all countries: scale from 0 (least restrictions) to 6 (most restrictions), last year available.

Source: OECD/IAB Employment Protection Database, 2013 update. For more information and full methodology (including weights), see: www.oecd.org/employment/protection

Table 1 compares the employment protection in six Western Balkan countries, according to OECD Employment Protection Legislation indicator. According to these data, the easiest dismissals of private sector workers are in Kosovo, and the level of protection is significantly lower than the OECD average. For Serbia and Macedonia, the employment protection is at the average OECD level, while in Albania, Bosnia and especially Montenegro, private sector employers face significant difficulties to dismiss their workers.

Finally, public sector size is found to correlate negatively with the public sector wage premium (European Commission, 2014). The authors suggest that this result indicates government's monopsonistic power, which enables its better bargaining position. Large public sector employer can set the public wages at lower level, therefore lowering the wage premium.

Table 2 presents three different indicators of the public sector size in the Western Balkan countries and compares it to the average OECD level. The share of the public sector wage employment is the largest in Kosovo, closely followed by Montenegro, Bosnia and Herzegovina, and Serbia. In all four countries the share of the public sector workers is slightly below one third, significantly higher than the OECD average. In Macedonia, the share of public sector workers is on average OECD level, while the share is the lowest in Albania.

On the other hand, in all the countries the public sector wage bill is higher than in the OECD average, compared to both total government expenditure and countries' GDP. The lowest public

sector wage bill is in Macedonia, followed by Albania, Serbia and Montenegro, while the highest wage bill is in Kosovo and Bosnia and Herzegovina.

Table 2: Public sector size indicators in the Western Balkans

Country	Share of the public sector employment ^a	Share of public sector wage bill in total government expenditure ^c	Share of public sector wage bill in the GDP ^c
Albania	16.6%	24.2%	6.9%
Bosnia & Herzegovina	30.2%	27.5%	10.6%
Kosovo	32.6%	28.0%	8.0%
Macedonia	22.4%	18.6%	5.9%
Montenegro	30.4%	26.9%	9.3%
Serbia	28.4%	24.7%	9.8%
<i>OECD average</i>	<i>22.0%^b</i>	<i>14.7%</i>	<i>5.4%</i>

^a Source: ILOSTAT Database (Source: National LFS, 2015, except for Albania: LFS 2013⁶), except for Montenegro: Own calculation based on Montenegro LFS 2015 and Tax Administration data⁷.

^b Simple average of the shares in OECD countries (not available for Germany and Portugal).

^c Source: World bank, Average, for available years between 2002 and 2012⁸, Own calculation for Kosovo (based on the Kosovo Ministry of Finance data) and Montenegro (based on Statistical Office (MONSTAT) data).

2.1. Public sector wage premium in transition countries

Laušev (2014) gives an excellent overview on public-private wage gap research in the transition countries using different data sources from the period from 1992 to 2004. The main conclusion of this study is that the public sector wages were significantly lower than in the private sector at the beginning of the transition, but that this advantage of the private sector disappears when the country reaches the maturity of economic transition. In addition, for some countries, at the end of the transition, public sector premium becomes positive, indicating a convergence between trends in developed countries and countries in transition.

The reasons for lower wages in the public sector at the beginning of the transition are numerous. Firstly, in the initial stage of economic transition, the countries' budgets are under control due to the significant fiscal and inflationary pressures, while the impact of the trade unions in the public sector on wages is relatively low. Additionally, lower wages in the public

⁶ The definition of employed workers used by ILOSTAT database: "The employed comprise of all working age persons who, during a specified brief period, were in the following categories: a) paid employment (whether at work or with a job but not at work); or b) self-employment (whether at work or with an enterprise but not at work). Public sector employment covers employment in the government sector plus employment in publicly-owned resident enterprises and companies, operating at central, state (or regional) and local levels of government."

⁷ In Montenegro LFS, the number of the employed in NGO sector cannot be separated from the central or local government workers in LFS, so we used the Tax Administration data on the number of the NGO sector workers to attenuate the total number of the employees in this group.

⁸ <http://www.worldbank.org/en/topic/governance/brief/size-of-the-public-sector-government-wage-bill-and-employment>

sector are due to public enterprises' reconstruction and privatisation, which at its beginnings "shifts" high wage earners from public to private sector, as the most successful firms were usually privatized first (Laušev, 2014). Furthermore, private sector wages were higher due to lower job security and lack of other benefits in the private sector, but also due to private sector employers desire to motivate their employees for efforts that are essential when starting an enterprise.

However, as noted earlier, after the country reaches a more mature stage of transition, public sector premium, although negative at the beginning of the transition, approaches zero or becomes positive. This trend is due to the weakening of the mechanisms that made the private wages higher: the fiscal and inflationary pressures become less prominent, less successful firms from the public sector become privatized, and the job security in the private sector rises. Therefore as the transition mechanism are being replaced by market economy mechanisms described in the previous section, the public sector wage premium goes from negative to zero or positive values.

3. Public administration, education and health sectors wages

Public-private wage differences can be investigated using the macro or micro level data (Laušev, 2014). Macro level data are usually publicly available for many years, however they usually contain no other information on workers (education, occupation etc) and therefore do not allow more detailed analysis, or the estimation of the public sector wage premium. On the other hand, micro level data usually have this information, but the data are available for limited number of years.

In this chapter we present the analysis of the macro-level data we collected for the Western Balkan countries, while in the next chapter we present the review of the micro-level research which dealt with public sector wage premium.

As macro-level data for the Western Balkan countries are not available for the whole public sector in the next part of the text we analyze the trends of the wages in three NACE (rev 2) activity sectors: Public Administration and Defence; Compulsory Social Security (sector O), Education (sector P) and Human Health and Social Work Activities (sector Q). These activity sectors represent the so-called "state" sector, characterised by a very high share of public sector workers (usually over 90%)⁹. We focus on these three sectors as the wages for other sectors in the available data are not possible to separate from the wages of the private sector workers from the same sector.

We compare the sector wages in the countries, expressed as the ratio of the average sector wages to the countries' overall average wage. The data are collected from the official websites

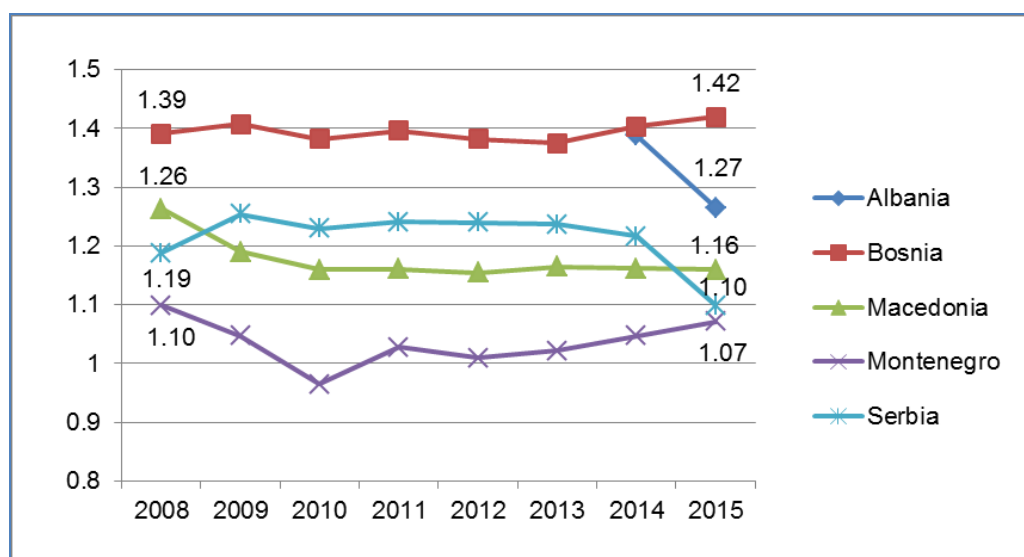
⁹ For example, according to the 2013 Survey on Income and Living Conditions from Serbia the workers from these sectors are in about 95% of the cases employed by public sector employer.

from the national statistical offices and the available statistical reports. Beside comparing the data between the Western Balkan countries, we also compare them to other European countries, for which the data on average sector wages is available¹⁰. We first present the available data for Albania¹¹, Bosnia, Macedonia, Montenegro, and Serbia, and then separately the data for Kosovo, as they are not comparable with the statistics from other countries¹².

Public Administration and Defence; Compulsory Social Security

The ratio of wages in the public administration sector to average wage is the highest in Bosnia and Herzegovina and Albania (Figure 1). The ratios for these countries are also higher than in all the European countries for which this data is available (Figure A1). The ratio for Bosnia and Herzegovina was relatively stable throughout the period and stood at about 1.4, indicating that the wages in this sector were by about 40% higher than the average wage. On the other hand, the ratio for Albania for 2015 stood at 1.27, a decrease from 1.4 in 2014.

Figure 1: Ratio between the average wage in the public administration and average wage, Western Balkan countries, 2008-2015



Source: National statistical offices.

¹⁰ The source for these data is EUROSTAT's – Structure of Earnings Survey for 2014.

¹¹ In 2008-2013 period, for Albania, average wages were measured via Structural business survey which excluded the information on the public wages, while the data on the activity sectors (Public administration, Education and Health) included only the data from the public sector. Therefore they are not comparable to other wages. In 2014 the definition changed, and the data became comparable with other countries.

¹² Similarly, for Kosovo the data on average wages are from the Structural business survey, which included only the information on private sector wages.

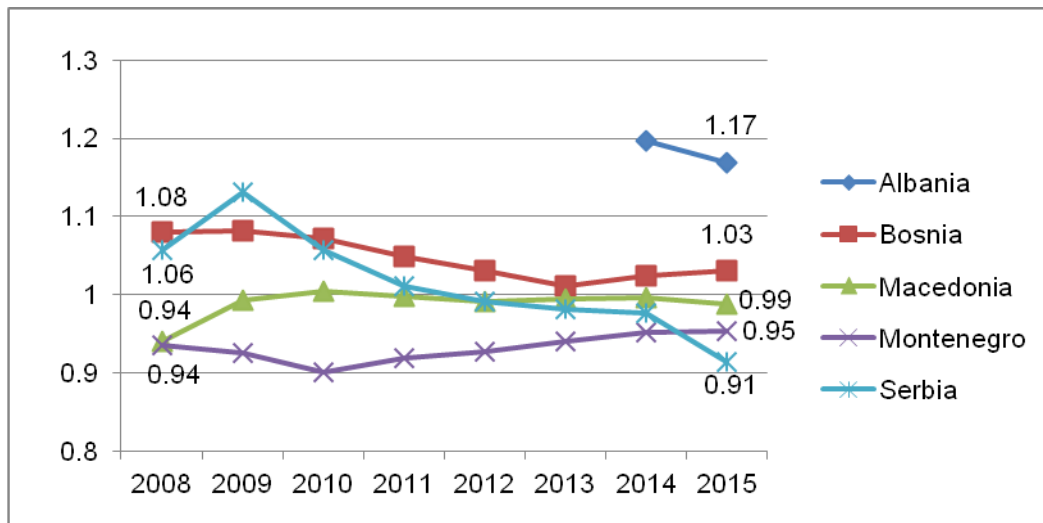
The ratios for Macedonia and Serbia are moderate, compared to both the region (Figure 1) and other European countries for which the data are available (Figure A1). In Macedonia, public administration wages are by 16% higher than the average wages in the country, with a rather stable trend after a drop from initial ratio of 1.26. In Serbia, public administration wages were up to 2014 at a relatively high level, more than 20% higher than the average wage, however, this percentage dropped to 10% in 2015 due to fiscal consolidation measures which included the cut in the public wages.

The ratio of public administration wages to average wage, throughout the period, was the lowest in Montenegro. Although starting with 10% advantage, the public administration wages decreased relatively to the level of country's average wage. In the last few years, however, the trend reversed, and the ratio increased. However, the ratio for Montenegro is still the lowest in the region and one of the lowest in Europe.

Education

Figure 2 presents the ratios of wages in the education sectors of the Western Balkan countries compared to the countries' average wages. Among the Western Balkan countries the ratio is the highest for Albania, where the wages in education sector are by about 20% higher than the average wage, which makes Albania one of the countries with the highest ratios in Europe (Figure A2).

Figure 2: Ratio between the average wage in the education and average wage, Western Balkan countries, 2008-2015



Source: National statistical offices.

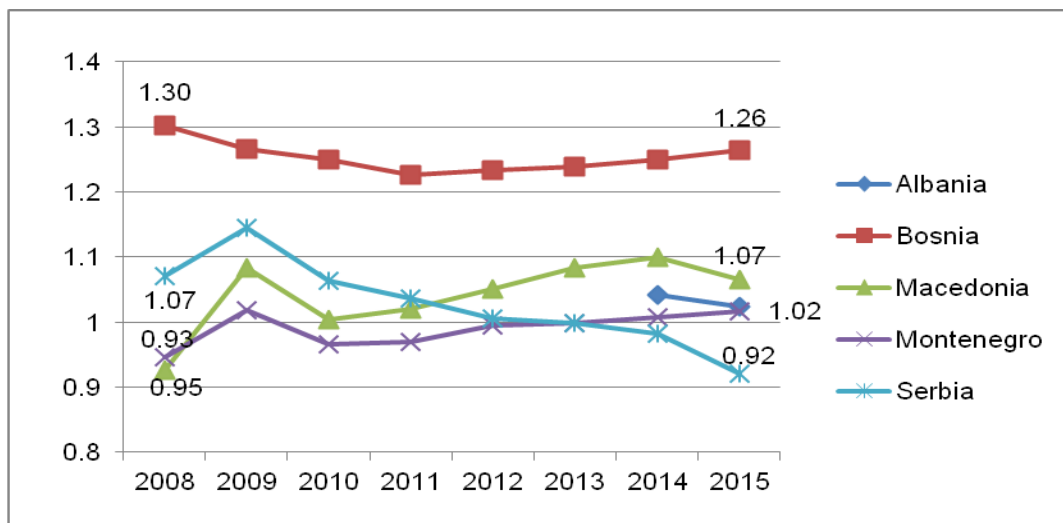
Except for Albania, the wages in the region are at the level of the average wages in the country, which is the result found for the majority of the European countries where this information is available (Figure A2). The countries, however, differ in the general trends of the wages in recent years. In Serbia, the wages in the education sector are on a long-term decrease trend, from 12% above average in 2009, to 5% below average in 2014, further surging to a 9% below average due to already described fiscal consolidation measures, which puts ratio for Serbia among the lowest in Europe (Figure A2).

In Bosnia and Herzegovina, Macedonia and Montenegro, the wage trends are much more stable. In Bosnia, the wages in the education sector are slightly above average, in Macedonia at average, while in Montenegro, similarly to the trends in the public administration sectors, the ratio is the lowest, but on slight rise in recent years, reaching the 95% in 2015. In all countries average wages in education are lower than the wages in the public administration, which is also the case for the majority European countries analyzed.

Human Health and Social Work Activities

Similarly to the Public Administration sector, the ratio of wages in the health sector and the average wage is the highest in Bosnia and Herzegovina. The health sector wages in this country are about 25% higher than the average wages, clearly separating Bosnia and Herzegovina from other countries in the region (Figure 3), but also from other European countries for which the data are available (Figure A3).

Figure 3: Ratio between the average wage in the health sector and average wage, Western Balkan countries, 2008-2015



Source: National statistical offices.

The ratio for Macedonia for 2014 is slightly higher than in the other countries in the region and European countries. Although starting with wages below the average, recent increase puts wages in the health sector in Macedonia about 10% above average.

For Serbia, Montenegro and Albania, the wages in Health sector are at about the countries average wages, the result which was also frequently found in European countries. The wages in the health sector of Serbia and Montenegro had similar trends as the wages in the education sector. The wages in Serbia started from the above average level (higher by 7%), but with a had a decreasing trend which brought them on the level with the average wages, with a final surge after the introduction of the fiscal consolidation measures, to 8% below average level, one of the lowest in Europe (Figure 3 and A3).

In Montenegro the wages started from below average (by 5%), but with an increasing trend, which led them to the above average level (by 2%) at the end of the period. Finally the wages in Albania health sector are slightly above country average wage, which makes them the only country in which the wages in the health sector has lower wages compared to both public administration and education sectors.

Trends for Kosovo

As already mentioned, we comment on Kosovo wages separately from other countries since the available data are not fully comparable. This is due to the fact that the data on average wages are collected from the Structural business survey, which includes only the information on private sector wages.

For the public administration sector, the wages for Kosovo are available only separately for two sectors which according to NACE (rev 2) classification belong to sector O: General public sector services and Public Order and Security. Table 3 shows the wages in both sectors started the period below the average wages (earning about 12 and 20% lower wages on average), and that throughout the period wages increased and now stand at level 37% higher than the average private wages. The large growth of the ratio is due the fact that the wages in these sectors doubled in 6 years, while private sector average wage grow at lower pace.

Table 3: Ratio between the average wage in different activities within the public sectors, compared to the average wages in the private sector in Kosovo, 2008-2014

	2008	2009	2010	2011	2012	2013	2014
General Services	0.88	1.22	1.31	1.30	1.25	1.16	1.37
Public Order and Security	0.80	1.05	1.16	1.28	1.22	1.23	1.38
Education	0.85	0.97	0.96	1.12	0.99	0.93	1.17
Health	0.61	0.94	1.24	1.16	1.12	1.19	1.32

Source: Kosovo in figures (Kosova në shifra) 2008-2014, Ministry of Public Administration

Similarly, the wages in the education and health sectors started of below the average wage in the private sector (by 15% and 39% respectively), but with a sharp increase, especially in the health sector, they reached the levels significantly above the average private wages (by 17% and 32% respectively).

4. Public-private wage differences and public sector wage premium

In the previous chapter, we analysed, in detail, the wages of three important activity sectors within the public sector: public administration, education and health, which constitute the public sector in narrow state, or the state sector. We focused on these sectors as the workers in these sectors are almost exclusively employed by a public employer.

We now turn our attention again to the whole public sector which beside the "state" sector, also includes public enterprises. As we have no comparable data for all countries that would include the whole public sector, we review the existing literature and empirical evidence to assess the overall public-private wage gap and the public sector wage premium. Before presenting the review, we introduce the main concepts that will be used.

Public-private wage gap represents a simple difference in mean hourly wages in the public and private sectors, expressed as a percentage of hourly wages in the private sector. As previously explained, the gap in the wages between the public and private sector can partially be explained by differences in the labour market characteristics of workers in the public and private sectors, such as education, occupation, etc. Therefore this gap is called the *unadjusted public-private wage gap*, since it does not account for the differences in the workers characteristics.

When, by the means of regression analysis, these differences are statistically controlled for, the gap represents the differences in wages between the sectors for the "same" job, i.e. for the job with the same characteristics researcher is able to control for. This gap is then called *adjusted public-private wage gap*, or the *public sector wage premium*. The same premium can be estimated via widely-used Blinder-Oaxaca decomposition methods¹³ which result in the same estimates.

According to the recent study that analyses the wages from 86 countries over the course of three decades (IMF, 2016), the wages in the public sector are on average higher than in the private sector, for comparably skilled workers by 10.1%. Furthermore, the analysis shows that, on average, public sector wage premium is higher for the emerging markets (11.7% on average) and developing countries (12.8%) than for the advanced economies (5.4%). The study further indicates that the premium is higher for women than for men (8.6 vs. 6.3%), and higher for the low-skilled workers than for the high-skilled workers (7.6 vs. 1.6%), therefore indicating that

¹³ For more details on the Blinder-Oaxaca wage decomposition see Avlijaš et al, 2013.

the public sector wages are more compressed the wages in the private sector. These effects are particularly strong in the low-income developing countries (IMF, 2016).

According to the European Commission report (European Commission, 2014), the wages in the European Union's public sectors are, *ceteris paribus*, higher than in the private sector. Using the data from 2010 Structure of Earnings Survey (SES) the public sector wage premium in European Union¹⁴ is estimated at 3.6%, with significant differences by countries. Roughly divided, while in the countries of Western and Southern Europe¹⁵, there is a positive public sector wage premium, in the countries of Central, Eastern and Northern Europe¹⁶ wages for the "same" work are higher in the private sector. The highest premium was estimated for Ireland (21.2%), Cyprus (20.9%) and Luxemburg (20.4%), while the lowest premium, i.e. the highest public sector wage penalties were found in Hungary (16.3%), Estonia (15.1%) and Denmark (14.0%). Furthermore, contrary to the findings from the IMF report (IMF, 2016) the premium is higher for men than for women, but in accordance with previous research the premium is the highest for the workers with low education, while for the workers with tertiary level of education it is negative.

Similar results were obtained in a study which uses Survey on Income and Living Conditions (EU-SILC) from the period 2004 - 2007 (Giordano et al, 2011). The results show that on average, the wages in the public sector in the countries of Western and Southern Europe¹⁷ were, *ceteris paribus* higher than in the private sector. The estimated coefficients range from about 5% in Belgium and France to about 21% in Portugal and Greece and 25% in Spain.

The size and even the sign of the estimated coefficient strongly depend on the data analysed and methodology applied. For example, public sector wage premium in France, based on Structure of Earning Survey for 2006 is estimated at -7.5%, indicating public sector penalties (European Commission, 2014). For the same country the premium based on the 2004-2007 Survey in Income and Living Conditions data is estimated at 5.4%. Therefore the meta-comparability of the results from different studies should be done with a lot of caution.

4.1. Comparative studies in the Western Balkan countries

The comparative research on the public-private wage differences in the region is almost non-existing. To the best of our knowledge there is no comprehensive research that compares the public-private wage differences across all WB countries. In this part of the text we quote extensively the research done by Shehaj et al. (2015) on Albania and Kosovo and Avlijaš et al.

¹⁴ EU-27, without Sweden.

¹⁵ *Western Europe*: Austria, Belgium, Germany, Ireland, Luxembourg and Slovenia; *Southern Europe*: Cyprus, Spain, Greece, Italy and Portugal; but also in Poland, which belongs to the group of eastern Europe countries.

¹⁶ *Eastern and Central Europe*: Bulgaria, the Czech Republic, Estonia, Hungary, Latvia and Slovakia; *Northern Europe*: Finland and Denmark; but also France, which belongs to the group of Western European countries. In all other countries: Lithuania, Netherlands, Romania, UK and Malta the premium was insignificant.

¹⁷ Austria, Belgium, Germany, Spain, France, Greece, Ireland, Italy, Portugal and Slovenia.

(2013) on Serbia, Montenegro and Macedonia, which provide some comparable data on the public sector wage premiums in these countries.

The only study which deals with public sector wage premium and compares them for at least two countries in the WB is unpublished work by Shehaj et al. (2015) on Albania and Kosovo. In this paper Shehaj and her associate estimate public-private wage differential in Kosovo and Albania based on the data from the Kosovan Household Budget Survey (HBS), 2011 and the Albanian Living Standard Measurement Survey (LSMS), 2012. While their estimations cover both men and women in the Albanian sample, in case of Kosovo they are limited only to men, given the very modest participation of women in the Kosovan labour market.

We present the results of the Oaxaca decomposition from Shehaj et al (2015), in Table 4. In Kosovo, the average male wages in public sector are higher than in the private sector by 21%. They also find that if there were no differences in characteristics¹⁸ between the sectors, the difference wages would be significantly lower. They estimate public sector wage premium at statistically insignificant level of 2%.

Table 4: Public-private sector wage gap in Albania (2012) and Kosovo (2011)

	Unadjusted pay gap		Adjusted pay gap (public sector wage premium)	
	Women	Men	Women	Men
Albania	0.305	0.155	<i>0.044</i>	<i>0.043</i>
Kosovo	-	0.210	-	<i>0.020</i>

Note: The number in italic represent the insignificant differences.

Source: Authors' calculations based on Shehaj et al (2015)

Furthermore, quantile regressions estimates for Kosovo indicate differences in the decomposition of the unadjusted gap at different parts of the wage distribution. At the lower parts of the distribution unadjusted gap cannot be explained by differences in characteristics and is mainly accounted by differences in returns. The public sector wage premium is therefore positive, indicating higher ceteris-paribus wages in the public sector and estimated at about 17%. On the other hand, at the mid and high wage levels, unadjusted gap is mainly due to better labour market characteristics of the public sector employees. The estimated public sector wage premium is insignificant at the middle, and negative at the top of the wage distribution, where it estimated at about 30%, indicating significantly higher wages in the private sector.

The empirical evidence for Albania (covering both men and women) indicate that the wages in the public sector are about 15.5% higher than in the private sector in case of men and most of this wage differential comes due to the differences in the labour market characteristics of the

¹⁸ In estimating the adjusted gap this research controls for age, marital status, education, working experience (Albania only) region, education-region interaction, occupation and selection effects.

employees. When these characteristics are controlled for, public sector wage premium is estimated at 4.3% and is statistically insignificant. The wage gap is higher for women, at 30.5%, and explained by the differences in characteristics of the employees in the two sectors while the returns to characteristics are statistically equal for both groups. Therefore, similarly to men, the estimated public sector wage premium is statistically insignificant at 4.4%.

Exploring the wage differential along its distribution, the quantile regression decomposition indicates that for both women and men, the wage differential is attributable to better characteristics of the employees of the public sector in every decile. The results also show that the public sector wage premium is significant at the lowest deciles of the distribution, at about 20%, while at the middle and the highest deciles the premium is insignificant.

Avlijaš et al (2013) use LFS data from 2008 to 2011 for Serbia, Macedonia and Montenegro to estimate the gender pay gap in these countries, using the comparable methodology and datasets. Although the research does not investigate public-private wage differences, the data published enable the analysis of differences between the public and private wages. The results of the re-analysed data are presented in the table 5.

In Serbia and Macedonia, for both genders, the wages in the 2008 - 2011 period were considerably higher in the public sector than in the private sector. The difference in wages was larger for women, whose average wage is higher if they work in the public sector by 42.2% and 46.3% in Serbia and Macedonia respectively. For men this difference is slightly lower, at 34.5% and 32.6% in Serbia and Macedonia respectively¹⁹.

Table 5: Public-private sector wage gap in Serbia, Macedonia and Montenegro, 2008-2011.

	Unadjusted pay gap		Adjusted pay gap (public sector wage premium)		
	Women	Men	Women	Men	Total
Macedonia	0.463	0.326	0.164	0.129	0.157
Montenegro	0.17	<i>0.02</i>	0.062	<i>-0.011</i>	<i>0.017</i>
Serbia	0.422	0.345	0.204	0.147	0.193

Note: The number in italic represent the insignificant differences.

Source: Authors' calculations based on Avlijaš et al (2013).

For both countries (and both genders) the gap decreases significantly when other labour market characteristics are controlled for²⁰ (such as education, working experience, occupation, etc), due to the fact that public sector workers have better labour market characteristics. The

¹⁹ There are no information on the average overall wages in the public and private sector. Therefore it is only possible to compare the unadjusted gap by gender. On the other hand, the wage equations, from which the adjusted pay gap is calculated, are available for the whole sample and for the genders separately.

²⁰ In estimating the adjusted gap this research controls for gender, education, working experience, settlement, region, occupation, sector of activity, and type of contract (permanent vs. temporary).

public sector wage premium was estimated at 19.3% for Serbia and 15.7% for Macedonia. The premium, for both countries is higher for women than for men, although the differences in the premiums are lower than the differences in the unadjusted gaps.

In Montenegro, for the same period, women on average have 17% higher wages in the public than in the private sectors, while for the men there were no significant differences in the wages between the sectors. After controlling for other labour market characteristics, the gap for women lowers to 6.2%, while for men it remains insignificant. Overall, estimated public sector wage premium in Montenegro, unlike in Serbia and Macedonia is insignificant.

4.2. Studies covering one country

As already mentioned, among the Western Balkan countries the public-private wage differences are most researched for Serbia, with a number paper published covering the period from the mid 1990s to early 2010s (Jovanovic and Lokshin, 2003; Krstić, Litchfield and Reilly, 2007; Lausev, 2012; Vladislavljević and Jovančević, 2016). Beside the Shehaj et al. (2015) paper, Veneziani (2010) and Agolli et al. (2010) also investigate the public-private wage differences in Albania. For Macedonia there are no papers investigating the public sector wage premium, but in the number of papers which investigate the gender wage inequality the data on the public-private wage differences can be obtained (Angel-Urdinola, 2008; Blunch, 2010; Petreski et al, 2014), while Djukić (2009) analyzes the public and private wages for Bosnia and Hercegovina. For Montenegro and Kosovo, beside the comparative research mentioned in the previous section we found no other research. In the next part of the text we present these research by country.

Serbia

Jovanovic and Lokshin (2003) use data from Yugoslav²¹ Labour Force Survey (LFS) from 2000, which includes respondents from both Serbia²² and Montenegro. They found a negative public sector wage premium of 9.4% for men and 4% for women. Although the wage premium was not estimated separately for Serbia and Montenegro, the results suggest that the size of the premium was about the same for both states²³. According to the authors, higher wages in the

²¹ Following the breakup of Socialist Federal Republic of Yugoslavia (SFRY), two out of six constituent states Serbia and Montenegro established a Federal Republic of Yugoslavia (FRY) in 1992. The country was replaced by the confederation called Serbia and Montenegro in 2003, while from 2006, Serbia and Montenegro exist as independent countries. Therefore the LFS from 2000, used in this analysis, included about 13% of the Montenegro respondents. The share was approximately equal across genders and sectors.

²² Kosovo was a part of both SFRY and FRY as a part of Serbia, but proclaimed independence in 2008. However, even before 2008 Kosovo Albanians did not participate in the official surveys since mid 1990s onwards including the 2000 Yugoslav LFS.

²³ Although the interaction was not empirically tested it seems that there are no differences between the Republics. For both sectors, the coefficient for the regional dummy variable for working in Montenegro was positive and

private sector can be (partially) attributed to higher non-wage benefits and job security in the public sector, as opposed to low security and non-existing benefits in the private sector, which was largely informal. Therefore, simplifying the conclusions, the wage differential depended on the sectoral decision of the workers between the higher wages and job insecurity in the private, and lower wages and job security in the public sector²⁴ (Jovanovic and Lokshin, 2003).

Krstić, Litchfield and Reilly (2007), investigate the wage inequality among men in Serbia by analysing the data from several waves of the Labour Force Survey²⁵ between 1996 and 2003. They show that, the negative premium of the public sector decreased from 28.5% to only 8%, and that it partially can be contributed to minimum wage reform (which decreased the overall inequality), but also a formalization of the part of the private sector after the initial years of the economic reform. Furthermore, the decrease of the gap could be due to the higher share of the private sector employees, which increased significantly, from 6.4% to 24.7%.

Laušev (2012) uses the LFS data from 2004 to 2008 and finds that for the workers with low or medium level of education the public sector wage premium, went from zero (insignificant) in 2004 to positive in 2008. On the other hand, for workers with high levels of education, although slightly increasing, it remained statistically insignificant in the entire period. In addition, the research indicates that the wages in the public sector are much more compressed than the wages in the private sector.

A recent paper (Vladislavljević and Jovančević, 2016) based on SILC (Survey on Income and Living Conditions) from 2013, estimates the difference in the hourly wages between the sectors at 33.4% in the favour of the public sector²⁶. When this difference is controlled for other relevant labour market characteristics, public sector wage premium is estimated at 17.2%. Furthermore, the estimated value of the premium varies significantly across the wage distribution: the premium is the highest for the lowest wages (25.1% at first decile of the wage distribution), while it decreases linearly as the wages increase, reaching its minimum at the top of the distribution (10.5% at the ninth decile). Additionally, average premium is higher for men (20.6%) than for women (10.6%).

Finally, Vladislavljević (2017) uses the Labour Force Survey data to estimate the effects of the fiscal consolidation measures on the public sector wage premium in Serbia. The public sector wage premium decreased from 17.4 to 11.4%, as a consequence of the fiscal consolidation measures. This research further explores the fact that the public sector is made of two distinct parts: state-owned enterprises and state sector (which includes public administration, education and health). Arguably, the wage setting procedure in these two parts of the public sector is different, as the wages in the publicly owned companies could be more connected with the

approximately equal for both sectors, indicating that the wages in Montenegro were *ceteris paribus* higher in both sectors in equal amounts.

²⁴ It should be noted that the share of the private sector workers in 2000 was about 14.4% and that it included, according to authors mainly the informal employment. Much of the employees in the private sector were newly employed as the share of private sector workers increased from 7.7% in 1995.

²⁵ Excluding the participants from Kosovo and Montenegro.

²⁶ The sample for this research does not include workers from the informal employment.

results of the companies. The research shows that workers in both state-owned enterprises and state sector enjoy a wage premium, when compared to the private sector workers, and that the premium is (significantly) higher for the workers in the state-owned enterprises. The research further shows that premium decrease was lower for the state-owned enterprises, therefore widening the gap between the subsectors of the public sector.

To summarize, Serbia is the only country for which the research on the public sector wage premium exists since the mid-1990s. The results (Jovanović and Lokšin, 2003; Krstić et al, 2007; Laušev, 2012; Vladislavljević and Jovančević, 2016, Vladislavljević 2017) indicate that the public sector premium went through the trend already observed in many of the transition countries (Laušev, 2014): at first the wages in the public sector were, *ceteris paribus*, lower than in the private sector (in 1995), but then as the transition unfolded, the differences between the sectors were lowered (beginning of the 2000s) and then diminished and turning towards higher wages in public sector (mid-2000s). Most recent results show that the wages, *ceteris paribus* are significantly higher in the public sector (in 2010s). This trend is somewhat reversed as the government imposed the fiscal consolidation measures in 2014, which resulted in significant drop of public sector wages in 2015.

According to Arandarenko (2011), during the 2000s, public sector wages in Serbia grew faster than other wages in the country. This growth was motivated by the fact that before this period public wages were on a relatively low level (especially in education and health). However, this growth, although motivated with “good intentions”, has led to an exaggerated increase of the public wages which can be assessed as and fiscally irresponsible (Arandarenko 2011, p. 46). Furthermore, these trends could be explained by low job security of the private sector in the 1990s which were compensated by higher wages in this sector (Jovanović and Lokšin, 2003). As the private sector was formalized, and the job security in the private sector increased, the wage advantage of the private sector was lost (Krstić et al, 2007). The increase of minimum wage further decreased the overall, but also the sector wage inequality (Krstić et al, 2007).

Albania

Veneziani (2010) uses two waves of the ALSMS (2002 and 2005) and finds that the public sector employees receive lower wages most likely because of their limited productivity. The most peculiar result regards individuals employed in agriculture, the reference category for industry affiliation, enjoying higher wages compared to any other industry controlled for. While this is an almost unique result it might be due to Albania still lagging behind several neighbouring South Eastern Europe and developing economies.

Agolli et al. (2010) use LFS 2009 data to study the comparability level between public and private sector shows that public sector reward more than private sector at low deciles but that public-private wage differences diminish for higher level of education.

Macedonia

Angel-Urdinola (2008) uses the 2006 LFS data for Macedonia to estimate the gender pay gap in Macedonia. Although the primary focus of the research is not on the public-private wage gap, the paper reports the average hourly wages in the non-private and private sectors in Macedonia. The data suggests that the wages were higher in the non-private sector by 11%. Data disaggregated by gender suggest that the male hourly wages were higher in the private sector (by 6.4%; 73.9 MKD in private vs. 70.5 MKD in non-private sector), while female were considerably higher in the non-private sector (by 39.4%; 73.9 MKD in private vs. 70.5 MKD in non-private sector).

Similarly, Blunch (2010) uses the data from 2009 UNDP Social Exclusion Survey to estimate the gender pay gap in a selected countries from Eastern Europe and Central Asia, among which are Serbia and Macedonia. The results from the OLS regression analysis suggest that while the public sector wage premium in Serbia is insignificant, in Macedonia it is positive at 8.5% for men and 12.9% for women.

Petreski et al (2014) also investigate the effects of selection bias on gender pay gap in Macedonia using the 2010 Survey of Income and Labour Conditions (SILC). In their start-point OLS wage equation the estimated coefficient for the public sector indicates a large 27.5% public sector wage premium.

Therefore, all the research on the public sector wage premium in Macedonia (including the above estimation based on Avlijaš et al, 2013), indicate a large public sector wage premium in Macedonia, which ranges from about 10% (Blunch, 2010) to 27.5% (Petreski et al, 2014).

Bosnia and Herzegovina

Studies with special focus on public-private pay gap in Bosnia and Herzegovina are very rare and the estimation of the public sector wage premium does not exist. However, during recent years the issue of public-private sector wage differential is discussed through different policy analysis and papers, which indicate significantly larger wages in the public sector and negative consequences on the labour market and the economy as whole.

Djukic (2009) investigates the impact of growth of wages in Bosnia and Herzegovina's public sector on the economy. He expresses the opinion that the growth of the public wages during the 2006-2008 period of 10% or more per year is not sustainable, and that it has unfavourable impact on trade and private sector wages. The author shows that the public/private wage differential in 2008 in Bosnia and Herzegovina was the highest among all countries he uses in the sample (12 European countries including Croatia, Serbia and Slovenia) and estimated at 55%.

A group of researchers from Centre for research and studies (GEA) reports that in 2011 the average wage in the public administration sector was, almost double higher than average wage in manufacturing industry (2011). The analysis indicates that politics of far higher wages in the

public sector reduces the competitiveness of the economic sector in terms of recruitment of quality staff.

Similar conclusions were drawn in the World Bank study on Public expenditure and institutional review (World bank, 2012) which underlines the problem of high salaries and benefits in the public administration. The report indicates that public-private sector wage differentials in Bosnia and Herzegovina make multiple injuries to the domestic economy through the fiscal burden and rapid increase in the deficit. Additionally, the public sector, as the largest employer through its wage policy (based on the availability of public revenue and political cycles, not on market principles) prevents the development of a healthy bargaining between employers and trade unions in the private sector.

5. Summary of the results and discussion

In this part of the text we summarize the results of the analysis from section 3 and literature review from section 4 to gain a clearer view of the public-private wage differences in Western Balkan countries. The results are summarised in Table 6. While the wages in the public sector are on average higher than in the private sector in all countries, there are large differences between them in the size and the characteristics of the public-private wage gap.

In Table 6, beside the data on the wage differences between the sectors, we add the data on public sector wage size and private sector job security (from Tables 1 and 2), which were previously established as correlates of the public sector wage premiums (European Commission, 2014, Giordano et al, 2011). Public sector premium is expected to be larger for the countries with high employment protection in private sector (via higher pressure on the public employer to give higher wages) and countries with small public sector (via smaller monopsonic power of the state to lower wages).

Among the Western Balkan countries wage differences between the public and private sector are the lowest in Montenegro. According to our re-analysis of the data from Avlijaš et al. (2013) the unadjusted gap for Montenegro is the lowest among the Western Balkan countries (Table 6), while the ratio of sector to average wages is low for public administration and education and moderate for health sector. Furthermore, the unadjusted gap between the sectors can fully be explained by better labour market characteristics of the public sector workers, so the adjusted gap is insignificant. However, it should be noted that in recent years the public sector wages in Montenegro seem to be on an increasing trend, as indicated by the analysis in section 3, converging to higher public wages in other countries. Low premium in Montenegro is in line with expected large public sector size in the country, but not in line with high employment protection in the private sector (Table 6). The latter could be due strong orientation of the private sector in Montenegro towards tourism and therefore lower the probability of transition from one sector to another, therefore lowering the impact of the private sector job security.

Table 6: The summary of the results on the public-private wage differences and its possible determinants

	Private sector employment protection	Public sector size	Public wage bill	Ratio of sector to average wage (2014) ^a			Unadjusted wage gap ^b	Public sector wage premium
				Public administration	Education	Health		
Albania	2.49	16.6%	6.9%	High	High	Moderate	30.5% women 15.5% men	4.4% women 4.3% men insignificant
Bosnia & Herzegovina	2.58	30.2%	10.6%	Highest	Moderate	Highest	55% total	
Kosovo	2.08	32.6%	8.0%	High	Moderate	High	21%, men	2%, men insignificant
Macedonia	2.29	22.4%	5.9%	Moderate	Moderate	Moderate	46.3% women 32.6% men	16.4% women 12.9% men 15.7% total
Montenegro	2.88	30.4%	9.3%	Low	Low	Moderate	17% women 2% men (insig)	6% women -1.7% men (insig) 1.7% total (insig)
Serbia	2.23	28.4%	9.8%	High / Moderate	Moderate / Low	Moderate / Low	42.2% women 34.5% men	20.4% women 14.7% men 19.3% total
OECD / EU Average	2.27	22.0%	5.4%	-	-	-		2.9% women (insig) 4.3% men 3.6% (EU)

Notes: ^a High/Moderate/Low compared to European countries (Figures A1, A2 and A3 in Appendix). ^b Data for Serbia, Montenegro and Macedonia refer to 2008-2011 averages (Avlijaš et al., 2013), data for Albania and Kosovo to 2012 and 2011 respectively (Shehaj et al 2015), for Bosnia to 2008 (Đukić, 2009).

The wage differential for Albania and Kosovo is somewhat higher than for Montenegro but lower than for other countries. Shehaj et al. (2015) show that in Albania and Kosovo the public sector wages are on average higher than the wages in the private sector. Our analysis from the section 3, shows that the wages are particularly high in Albania's public administration and education sector, while in Kosovo they are very high in public administration and health sector. However, as indicated by Shehaj et al. (2015), these differences are mainly due to higher shares of skilled workers in these countries' public sectors. In other words, when we control for the differences in labour market characteristics, the adjusted gap in these countries, similarly to Montenegro, is insignificant. The analysis of the wages for Kosovo from section 3 also showed that the public sector wages increased very rapidly between 2008 and 2014, with wages almost double higher in public administration, education and health sectors.

The low premium in Kosovo is in line with the expectations, given large public sector and low private sector job security (Table 6). On the other hand, for Albania we find the opposite: public sector is small, as this is the only country for which the share of the public sector employment is lower than the OECD average, while the private sector employment protection is high (Table 6). The low premium for Albania therefore could be viewed as consequence of a political decision to keep public sector wages at lower level (possibly motivated to decrease the country's large public debt), which disables the impact of the above mentioned mechanisms on the public sector wage premium.

In Serbia and Macedonia, according to the data from Avlijaš et al. (2013) the difference in average wages between the public and private sectors is larger than in Kosovo or Albania (according to Shehaj et al., 2015). However, our analysis from section 3 does not confirm this conclusion, since the ratio of wages in the public administration, education and health sectors to average wages in Serbia and Macedonia is lower than in Kosovo or Albania. This discrepancy is partially due to the fact that micro and macro level analysis refer to different periods²⁷, and a recent public sector wage increase in Kosovo and decreasing or stagnating for Serbia and Macedonia. Furthermore, while the micro data include the whole public sector employment, the macro level data do include the data on state-owned enterprises.

On the other hand, unlike for Montenegro, Kosovo or Albania, in Serbia and Macedonia, the differences in labour market characteristics cannot explain the differences in average wages between the sectors. According to data from Avlijaš et al. (2013), the public sector wage premium is positive and estimated at 19.3 and 15.7% for Serbia and Macedonia respectively. The premium level is very high compared the public sector wage premiums in other countries (European Commission, 2014; Giordano et al, 2011). High public sector wage premium in these countries has been found in other similar more recent research (e.g. Vladislavljević and Jovančević, 2016; Vladislavljević 2017; Petreski et al., 2014).

²⁷ Avlijaš et al., 2013 and Shehaj et al., 2015 refer to 2008-2011 average and 2011 respectively, while our results from section 3 are based on 2014 data.

High premium in Macedonia and Serbia is not in line with moderate private sector employment protection (Table 6). Instead of decreasing the premium, private sector employment protection in these two countries, together with the premium, represents a part of the persisting labour market duality between the public and private sectors, in which the latter has both higher job security and higher wages. On the other hand, high premium in Macedonia is expected having in mind relatively small public sector size, while Serbia has both large premium and large public sector. However, after a recent fiscal consolidation measures were introduced, the premium dropped to a more moderate level (Vladisavljević, 2017), while our analysis from section 3 shows that these measures have put education and health sector to especially hard position, as their ratio of sector to average wages became one of the lowest in Europe.

Public-private wage difference in Bosnia and Herzegovina seems to be the highest in the region, as the unadjusted gap was estimated at 55% in 2008 (Djukić, 2009). This result is confirmed by our macro-level analysis which indicates that the ratio between the wages in the public administration and health sectors in Bosnia are by far the highest in the region and higher than in all European countries for which the comparable data are available. Although there are no micro-level based research estimating the public sector wage premium, given the size of the unadjusted gap it is highly likely that the premium is positive and very high. Large wages in the public sector, jointed with the large public employment point towards the conclusion that the high wages are the consequence of the political decisions, rather than the regular institutional mechanisms. The combination of the high public sector employment and wages puts a wage bill at 10.6% (Table 6), which is a level not sustainable on the long-term.

The micro-level research also suggest that, similarly to results for other European countries and in line with theoretical explanations, the public sector wage premiums in Kosovo, Albania and Serbia differ across the wage distribution (Shehaj et al., 2015, Vladisavljević, 2017). Similarly to Western economies, low-skilled workers in all three economies also enjoy higher wages than their private sector counterparts. These differences are estimated at about 17, 20 and 25 percent for Kosovo, Albania and Serbia respectively, indicating relatively low between country variation in premium at lower parts of the wage distribution²⁸. On the other hand, at higher parts of the wage distribution, countries differ as the premium is positive for Serbia (about 10%), insignificant for Albania and negative for Kosovo (going even to 30%)²⁹. This indicates that one of the reasons behind the differences between the countries could be in the different setting of the highest wages in the public sector.

²⁸ Previous research suggested that this effect is due to public and union pressure on public sector employers, maybe coupled with lower adherence of the private sector employers to minimum wage rules. This ideas have been suggested, but not empirically tested in recent research (Shehaj et al (2015)).

²⁹ These differences could be overestimated due to differences in the methodologies applied in Shehaj et al. (2015) and Vladisavljević (2017). Also it they could be attenuated after fiscal consolidation measures in Serbia and recent growth of public sector wages in Kosovo, documented in Section 3.

6. Conclusions

This paper aimed to research the differences in wages between the public and private sectors in the Western Balkan countries. Unlike for the EU, the topic is largely underinvestigated in the Western Balkans (except for Serbia), with no systematic comparison between the countries in the region, nor to the EU countries. We attempted to fill this gap by extensive overview of the empirical research which provides estimates of the public sector wage premium. We also analysed the comparable official macro-level data on wages, focusing on the three sectors which constitute a large majority of the public sector employees: public administration, education and health sector.

The wages in the public sector in the Western Balkan countries are, as in the majority of the EU countries (European Commission, 2014) higher, than in the private sector. Furthermore, in all Western Balkan countries, similarly to the majority of the EU countries (European Commission, 2014) public sector attracts higher share of high-skilled workers, and therefore in all the countries part of the difference in wages can be explained by the differences in labour market characteristics.

On the other hand, Western Balkan countries differ in the size of the public sector wage premium. While in Albania, Kosovo and Montenegro public and private sectors, on average, pay equal wages for the same work, in Bosnia and Herzegovina, Macedonia and Serbia, public sector offers significantly higher wages for workers with same working characteristics, on average. The size of the premium in Macedonia and Serbia is among the highest in Europe, while although there are no estimates for Bosnia and Herzegovina, the premium is at least equal or higher than in Macedonia and Serbia. Therefore, in Bosnia and Herzegovina, Macedonia and Serbia, by paying *ceteris paribus* higher wages, the public sector creates distortions on the labour market, especially since the work in the public sector in these countries often carries a higher degree of job security and better working conditions in general. However, the wage gaps between the public and the private sector are still very volatile, as the gap in Montenegro and especially in Kosovo has been on an increasing trend (in favour of public wages), and for Serbia on a decreasing trend since the beginning of 2010s.

Previous research for EU countries suggests that high public sector wage premium can be linked with high employment protection in the private sector (European Commission, 2014). In the Western Balkans, the only two countries which comply with this rule are Kosovo (low premium – low protection, for which the public sector wages recently grew substantially), and Bosnia and Herzegovina (high premium – high protection). For other countries, high levels of private employment protection coincide with insignificant premiums (Albania and Montenegro), while low/moderate level of employment protection coincide with high premiums (Serbia and Macedonia). Unexpected pattern for the majority of the countries can be explained by the strong labour market duality of public and private sectors (Arandarenko, 2011), which implies low

possibility of the transitions between the sectors, and therefore lowers the potential impact of the increased private sector job security on the wages in the public sector.

Previous research for EU countries suggests that high public sector wage premium can be linked with high employment protection in the private sector (European Commission, 2014). In the Western Balkans, the only two countries which comply with this rule are Kosovo (low premium – low protection, for which the public sector wages recently grew substantially), and Bosnia and Herzegovina (high premium – high protection). For other countries, high levels of private employment protection coincide with insignificant premiums (Albania and Montenegro), while low/moderate level of employment protection coincide with high premiums (Serbia and Macedonia). Unexpected pattern for the majority of the countries can be explained by the strong labour market duality of public and private sectors (Arandarenko, 2011), which implies low possibility of the transitions between the sectors, and therefore lowers the potential impact of the increased private sector job security on the wages in the public sector.

The same research (European Commission, 2014) suggested that large public sector size, via monopsonistic power of the state to lower wages, linked with the low premium. The link could also be due to limited funds available to transition countries, closely monitored by the IMF and other organisations, to fund their public sectors. In the Western Balkans, this rule applies to Kosovo and Montenegro, with low premium and large public sector, Macedonia with high premium and small public sector, and in some extent to Serbia, in which, after the fiscal consolidation, both premium and public sector size are moderate. On the other hand, low premium and low public sector size in Albania is probably a consequence of political decisions caused by the need to reduce public debt. Political decisions, but motivated by the desire to keep the social peace, are probably behind high wages and large public sector in Bosnia and Herzegovina.

The micro-research for Albania, Kosovo (Shehaj et al, 2015), and Serbia (Vladisavljević and Jovančević, 2016) suggest that the public sector wage premium is higher than average at lower levels of the wage distribution, indicating that in all the countries low-skilled workers are in better position in public than in private sector, a result found in a number of other countries. On the other hand, these countries differ in the size and sign of premium at higher levels of wage distribution: in Serbia, the premium is positive, in Albania insignificant, and in Kosovo negative. Therefore, the overall premium trends could be the result of the mechanisms of the wage formation in the upper part of the wage distribution. Giordano et al (2011) suggest that the high-skilled workers wages are lower in public sector than in the private sector, to avoid the image of high and unjustified spending of the government money. Therefore, the control of public sector employers to spend the money rationally, as well as other non-economic factors could be behind the differences in the public sector wage premium.

Furthermore, the distinction between state sector (public administration, education and health) and state-owned enterprises could cast additional light on mechanisms that are behind the differences in public sector wage premiums in the country. In Serbia, wages in the state-owned enterprises are *ceteris paribus* higher than in the state sector, therefore indicating that the larger

part of the premium is due to state-owned enterprises (Vladislavljević, 2017). The country differences in this type of gap can also influence the size of the public sector wage premium.

Finally, the estimated size of the public-private wage differences in the transition countries might be underestimated, since some of the public sector companies are still going through the phase of reconstruction and some of them are recovering from bankruptcy. The employees in these companies usually have lower wages, which artificially decreases the wages in the public sector and decreases the estimated level of the public sector wage premium.

The reliability of conclusions and hypothesis presented here should be further explored in a research that would investigate public private wage differences for all Western Balkan countries using the same methodology and comparable data sets. Further research should also focus on the mechanisms behind the differences in the size of the public sector wage premium and their comparison with other European countries.

References

Agolli, M, Ymeri, S.& Jorgoni, E. (2010): A study on the comparability level between the public and private sector, Revista 10 <http://www.dap.gov.al/publikime/botime>

Angel-Urdinola, D. F. (2008). Can the Introduction of a Minimum Wage in FYR Macedonia decrease the gender wage gap?. World Bank Policy Research Working Paper Series,

Arandarenko, M. (2011). Tržište rada u Srbiji: trendovi, institucije, politike. Ekonomski Fakultet Univerzitet u Beogradu.

Avlijaš, S., Ivanović, N., Vladislavljević, M., & Vujić, S. (2013). Gender pay gap in the Western Balkan countries: evidence from Serbia, Montenegro and Macedonia. FREN-Foundation for the Advancement of Economics.

Blunch, N. H. (2010). The gender earnings gap revisited: A comparative study for Serbia and five countries in eastern Europe and central Asia. Unpublished working paper, Institute for the Study of Labor, Bonn.

de Castro, F., Salto, M., & Steiner, H. (2013), The gap between public and private wages: new evidence for the EU (No. 508). Directorate General Economic and Financial Affairs (DG ECFIN), European Commission.

Djukic, O. (2009) Wages in the B&H Public Sector: Hurting the Economy?, GEA, (https://www.researchgate.net/publication/280227508_Wages_in_the_BH_Public_Sector_Hurting_the_Economy)

European Commission (2014), Government wages and labour market outcomes. EUROPEAN ECONOMY, Occasional Papers 190.

Giordano, R., Depalo, D., Pereira, M. C., Eugène, B., Papapetrou, E., Pérez García, J. J. & Roter, M. (2011), The public sector pay gap in a selection of Euro area countries (No. 1406). European Central Bank.

IMF, International Monetary Fund (2016), Managing government compensation and employment - institutions, policies, and reform challenges, IMF Policy papers

Krstić, G., Litchfield, J., & Reilly, B. (2007). An anatomy of male labour market earnings inequality in Serbia, 1996–2003. *Economic systems*, 31(1), 97-114.

Laušev, J. (2012), Public sector pay gap in Serbia during large-scale privatisation, by educational qualification. *Economic annals*, Volume LVII, No. 192: 7–24.

Laušev, J. (2014), What has 20 years of public–private pay gap literature told us? Eastern European transitioning vs. Developed economies. *Journal of Economic Surveys*. Vol. 28, No. 3: 516–550.

Lokshin, M. M., & Jovanovic, B. (2003). Wage differentials and state- private sector employment choice in Yugoslavia. *Economics of Transition*, 11(3), 463-491.

Mojsoska-Blazevski, N., Petreski, M., & Petreska, D. (2013). Increasing labour market activity of poor and female: Let’s make work pay in Macedonia.

Shehaj, E, Loxha, A. & Pula, E. (2015): The public-private sector wage gap in Kosovo and Albania: an empirical perspective, GDN RCC 2015.

Veneziani, M. (2010): AN EVALUATION OF WAGE INEQUALITY IN ALBANIA, mimeo

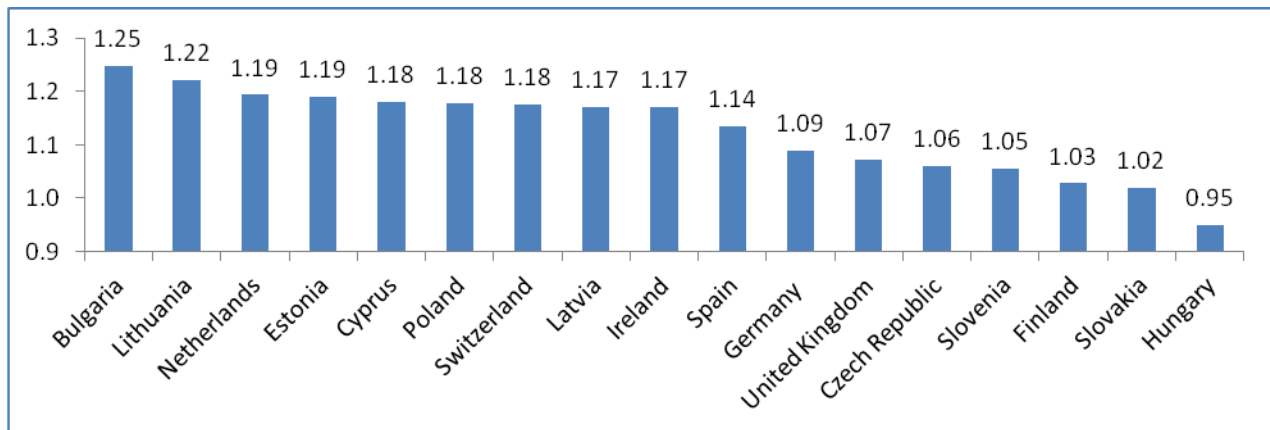
Vladislavljević, M and Jovančević, D. (2016): Public sector wage premium in Serbia : evidence from SILC data. In: Beslać, et al (ed.), *Serbian road to the EU: finance, insurance and monetary policy*. Chicago: Bar Code Graphics, Inc.; Belgrade: Faculty of Business Economics and Entrepreneurship (BEE), 192-210.

Vladislavljević, M. (2017): Public sector wage premium and fiscal consolidation in Serbia. Conference Economic Policy for Smart, Inclusive and Sustainable Growth, 15-17 June 2017, Faculty of Economics - University of Belgrade, Belgrade, 34-35.

World Bank (2012) Bosnia and Herzegovina Challenges and Directions for Reform A Public Expenditure and Institutional Review, WB report No. 66253-BA

Appendix

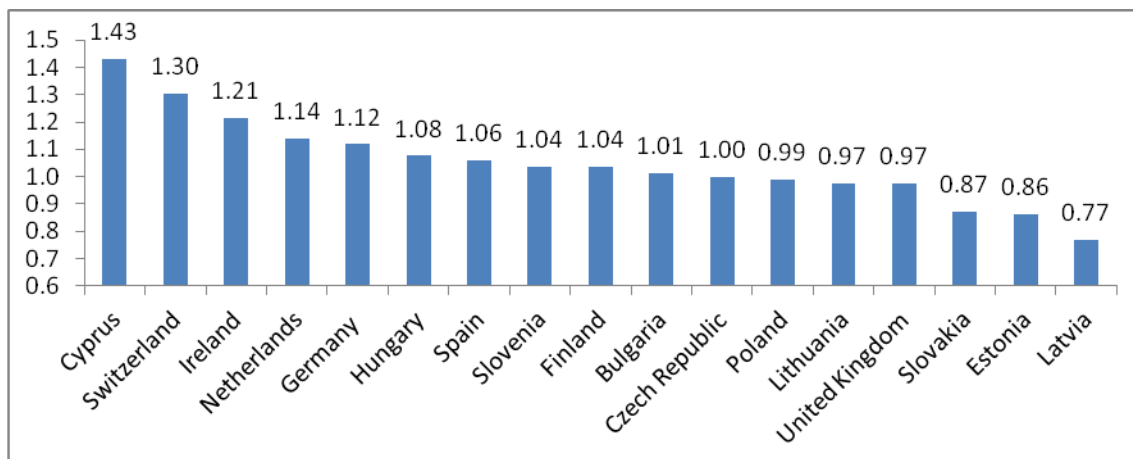
Figure A1: Ratio between the average wage in public administration sector and average wage, European countries (info available), 2014



Source: EUROSTAT – Structure of Earnings Survey.

Note: Ratio calculated compared to the average wage of sectors B to S (except agriculture and activities of households as employers and extra-territorial organizations and bodies).

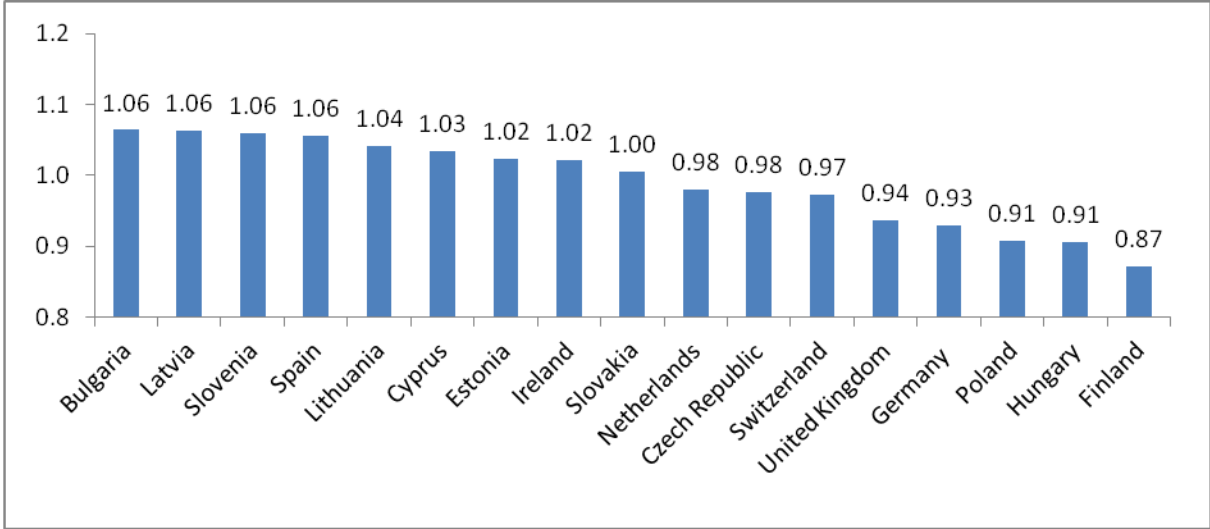
Figure A2: Ratio between the average wage in education sector and average wage, European countries (info available), 2014



Source: EUROSTAT – Structure of Earnings Survey.

Note: Ratio calculated compared to the average wage of sectors B to S (except agriculture and activities of households as employers and extra-territorial organizations and bodies).

Figure A3: Ratio between the average wage in health sector and average wage, European countries (info available), 2014



Source: EUROSTAT – Structure of Earnings Survey.

Note: Ratio calculated compared to the average wage of sectors B to S (except agriculture and activities of households as employers and extra-territorial organizations and bodies).