
Gender wage inequalities in Serbia

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Introduction

- The **unadjusted Gender Pay Gap (GPG)** gives an overall picture of gender inequalities in terms of earnings.
- The **overall GPG** figure does not take into account differences in individual characteristics of employed men and women, nor can it give an indication of the incidence and level of discrimination or segregation in the labour market.
- It is an important, internationally comparable indicator.

$$\left[\left[\begin{array}{c} \text{Hourly} \\ \text{earnings} \\ \text{of men} \end{array} \begin{array}{c} \text{♂} \end{array} - \begin{array}{c} \text{Hourly} \\ \text{earnings} \\ \text{of women} \end{array} \begin{array}{c} \text{♀} \end{array} \right] \div \begin{array}{c} \text{Hourly} \\ \text{earnings} \\ \text{of men} \end{array} \begin{array}{c} \text{♂} \end{array} \right] \times 100 = \text{Gender pay gap}$$

Pilot SES 2014

- The data are obtained from the four-yearly **Structure of Earnings Survey (SES)**, which was first implemented, as a pilot project, in the Republic of Serbia in 2015, and the data refer to 2014.
- The SES represents a rich employer-employee data set, which provides the possibility of obtaining the distribution of employees' earnings, as well as the calculation of median earnings.
- The GPG and the percentage of low-wage earners were also calculated.
- The survey refers to enterprises with at least 10 employees in the areas of economic activities defined by NACE Rev. 2 sections B to S excluding O.
- The survey was conducted on a two-stage stratified random sample. The units of the first stage were enterprises, and the units of the second stage were employees.

Detailed information on pilot SES 2014 can be found on the following link:
<http://pod2.stat.gov.rs/ObjavljenePublikacije/G2017/pdfE/G20176005.pdf>

Distribution of earnings

- Data on monthly and hourly earnings refer to October 2014.
- The median monthly wage is 15% lower than the average (on the whole dataset).
- In order to exclude the influence of outliers on the average earnings, we decided to exclude employees with hourly earnings lower than the 1st percentile (123.51 RSD) and those who earned wages higher than the 99th percentile (1264.85 RSD) of hourly earnings.

Monthly earnings by gender, October 2014

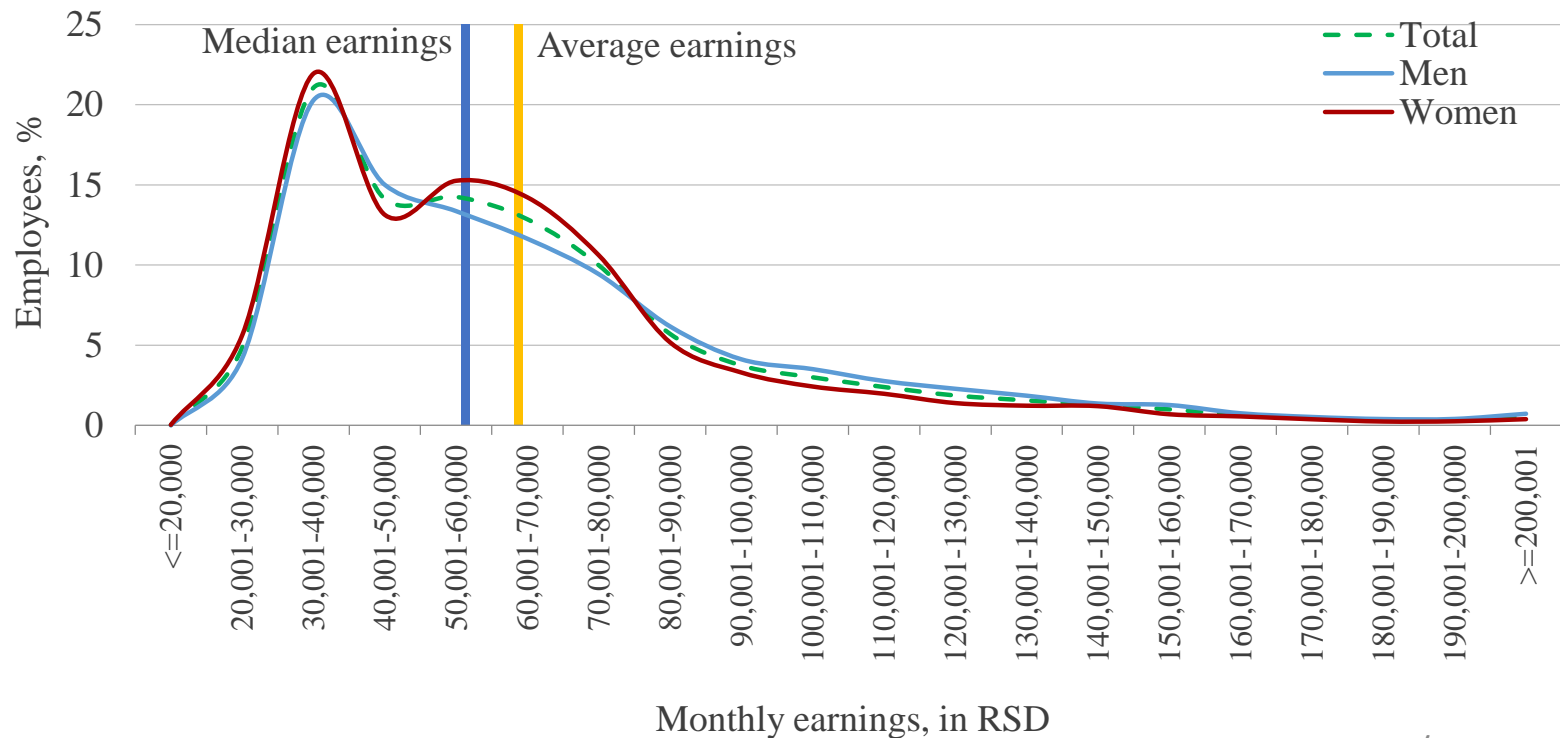
RSD

	The whole dataset		Dataset without outliers	
	Average earnings	Median earnings	Average earnings	Median earnings
Total	67,309	57,002	65,006	57,004
Men	70,537	58,006	67,355	57,825
Women	63,651	56,057	62,354	56,211

Distribution of earnings

- Density distribution function for women's earnings is above the function for men in almost all of the first seven earnings intervals (earnings below 80,000 RSD), which means that percentually there are more women with lower and medium earnings, while the opposite can be said for earnings above 80,000 RSD.

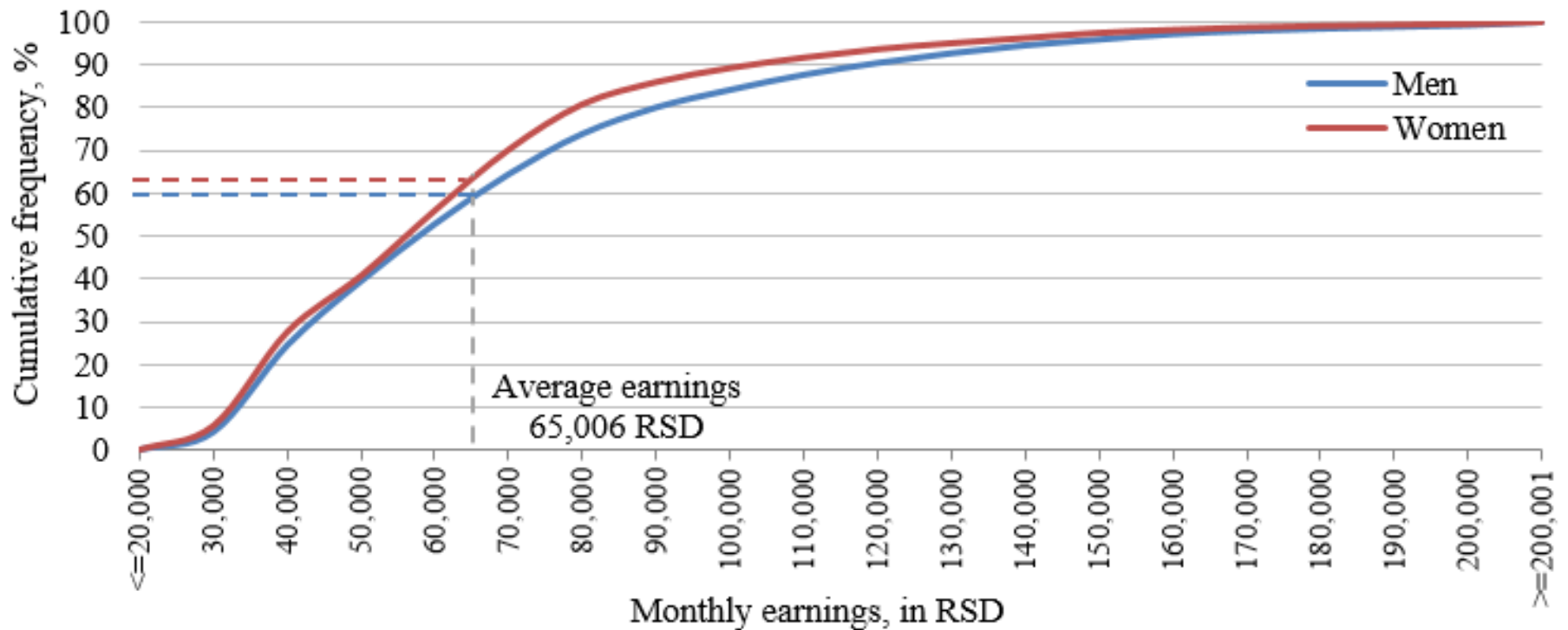
Distribution of monthly earnings of employees by gender, October 2014



Distribution of earnings

- **63%** of female employees earn wages below the average, while this is the case for **59%** of male employees.

Cumulative distribution of monthly earnings of employees by gender, October 2014

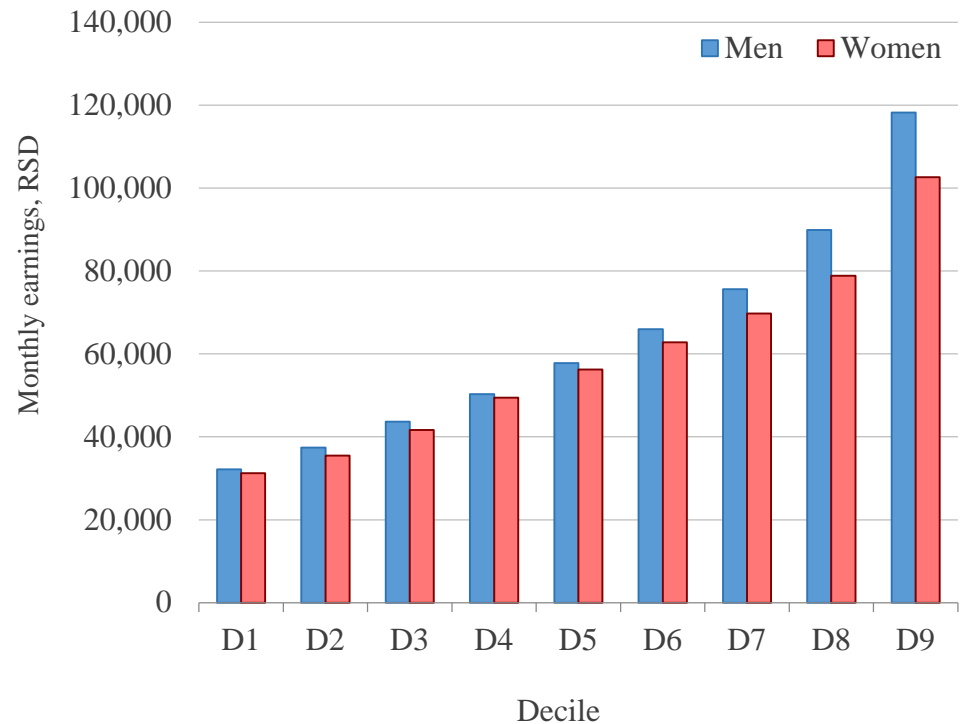


Distribution of earnings

Distribution of monthly earnings by gender, October 2014

RSD

Decile	Total	Men	Women
1 st decile (D1)	31,573	32,198	31,196
2 nd decile (D2)	36,512	37,442	35,514
3 rd decile (D3)	42,701	43,659	41,678
4 th decile (D4)	49,965	50,333	49,414
5 th decile (D5)	57,004	57,825	56,211
6 th decile (D6)	64,401	65,950	62,770
7 th decile (D7)	72,419	75,643	69,788
8 th decile (D8)	84,772	89,902	78,838
9 th decile (D9)	112,017	118,242	102,605



Distribution of earnings

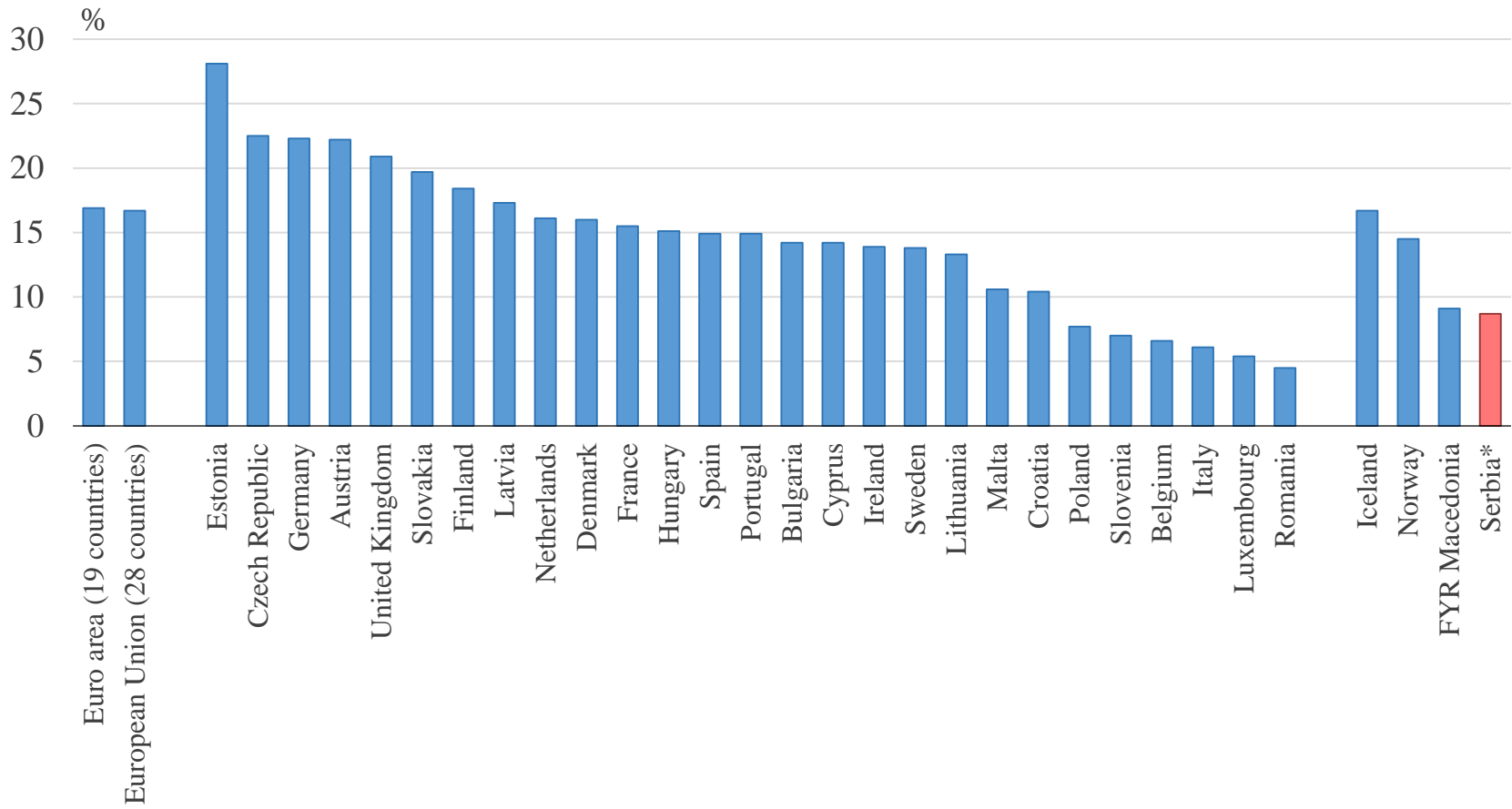
- Observed by decile groups, the difference between earnings of men and women increases, which also indicates that men are better paid than women. The value of the ninth decile (D9) for women amounts to 102,605 RSD, which is 13% lower than the value of D9 for men (118,242 RSD).
- The ratio of the ninth and first decile (D9/D1) for women is **3.3**, which means that the earnings of the highest paid female employees (from the ninth decile group) are about three times higher than the earnings of the lowest paid female employees (from the first decile group).
- This interdecile ratio D9/D1 for men is higher and amounts to **3.7**.

Gender pay gap

- The GPG, calculated on the basis of the whole dataset (without exclusion of outliers) from the pilot survey for 2014, is **8.7%** and indicates that women are paid 8.7% less than men, i.e. that the average hourly earnings of women are 91.3% of the average hourly earnings of men.
- Differences in earnings by gender may occur as a result of a different structure of employed men and women by sections of activities, type of ownership, occupation, education, age and other characteristics.
- After exclusion of outliers, GPG has decreased by 2.4 percentage points and amounted to **6.3%**.

Gender pay gap

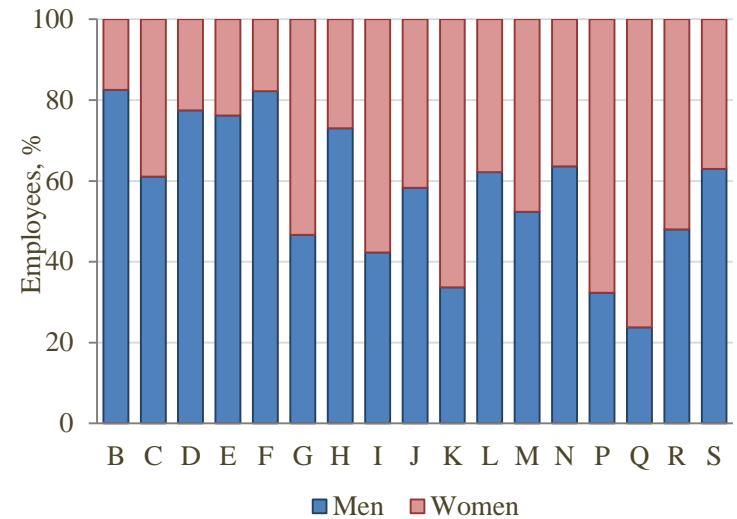
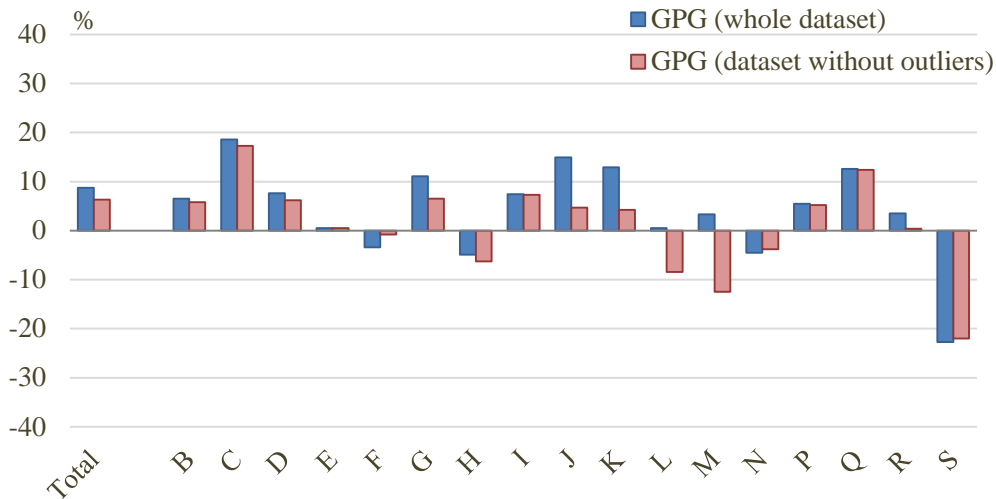
Gender pay gap, international comparison, 2014



* The GPG for Serbia was not published on Eurostat website.

Source: Eurostat (http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=earn_gr_gpgr2&lang=en, 2 March 2017).

Gender pay gap

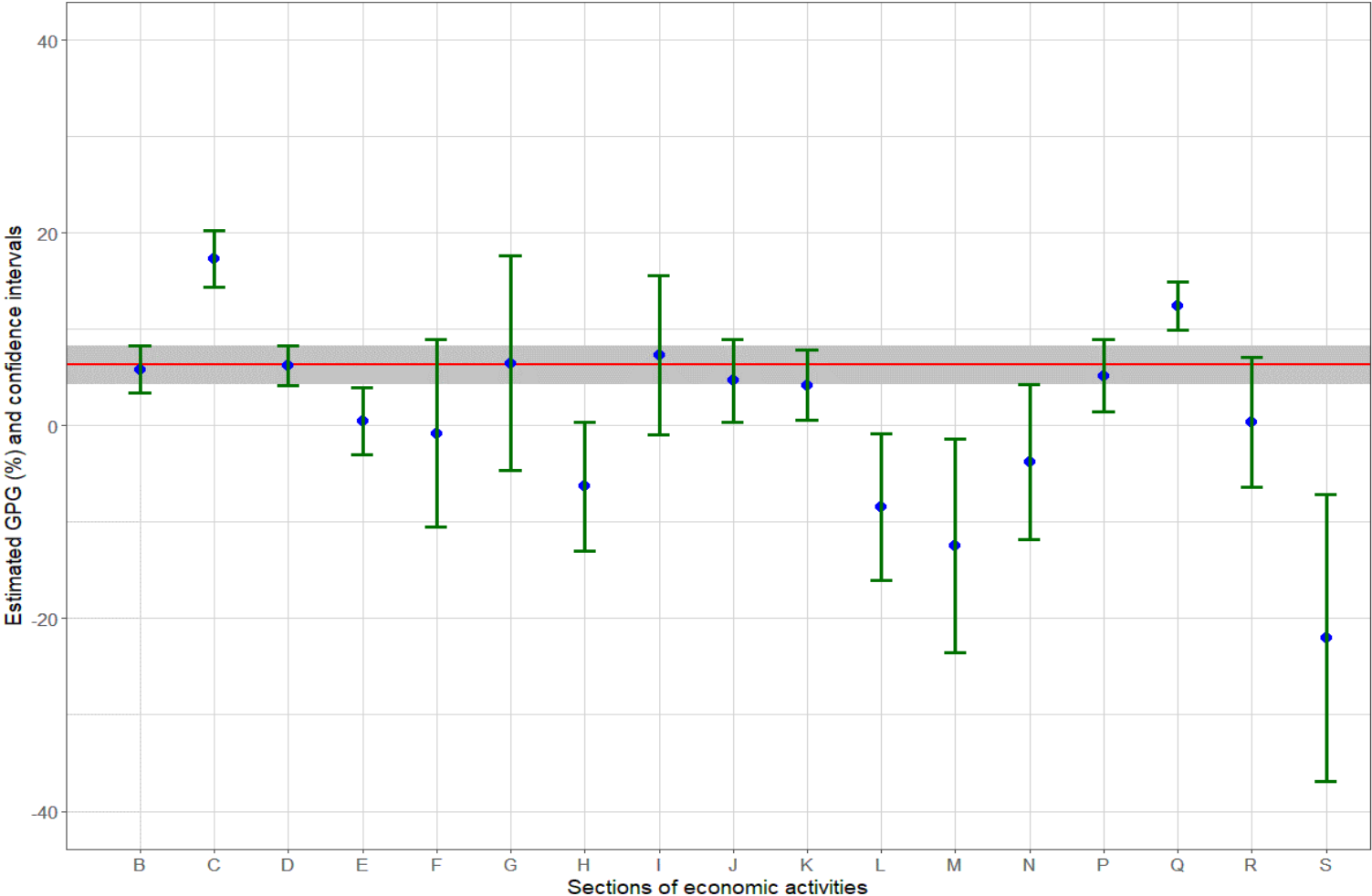


- The GPG in construction (F) is negative, which means that women, on average, are better paid than men. But this is supported by the fact that only 18% of employees in this section are women and that they are highly educated, while a lot of men work in lower paid jobs.
- The GPG in manufacturing (C), has not significantly changed in comparison with the gap obtained by the whole dataset. This means that in manufacturing there is a relatively equal percentage of employees with extremely high or low earnings who are excluded from the dataset. This is still the highest difference in earnings in favour of men among all sections observed in this survey.

Gender pay gap

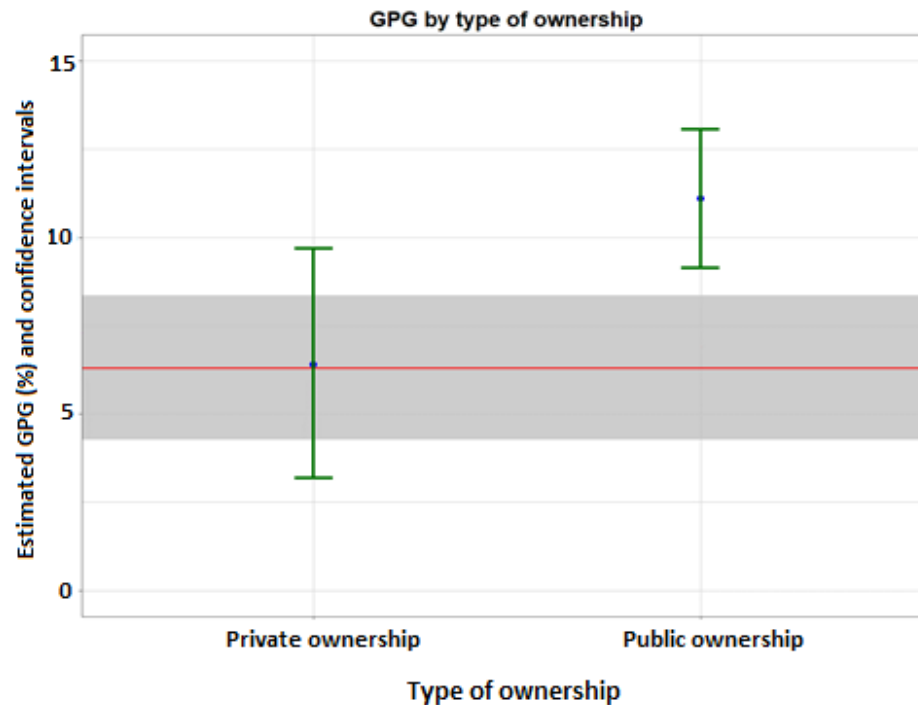


GPG by sections of economic activities



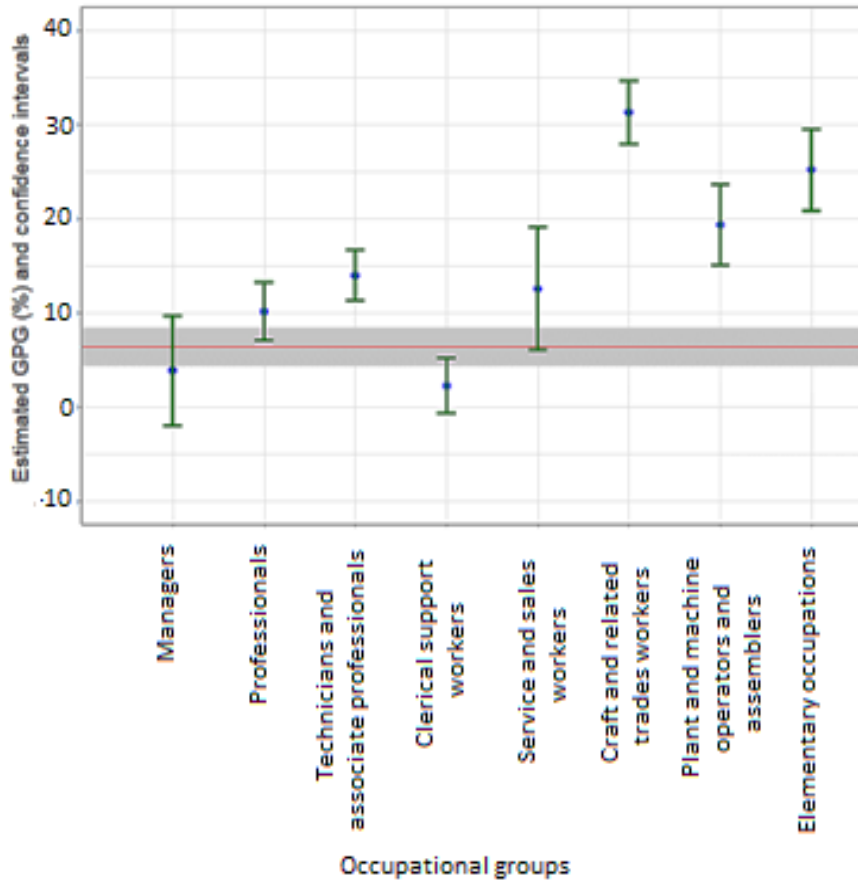
Gender pay gap

- The GPG in enterprises in public ownership is far greater than in the privately owned enterprises (**11.1%**, i.e. **6.4%**, respectively), which means that, in the public sector, women earn 11.1% less than men, while the situation in the private sector, in terms of the relation between women's and men's earnings, is much better, where women earn 6.4% less than men (close to the value of the overall GPG).

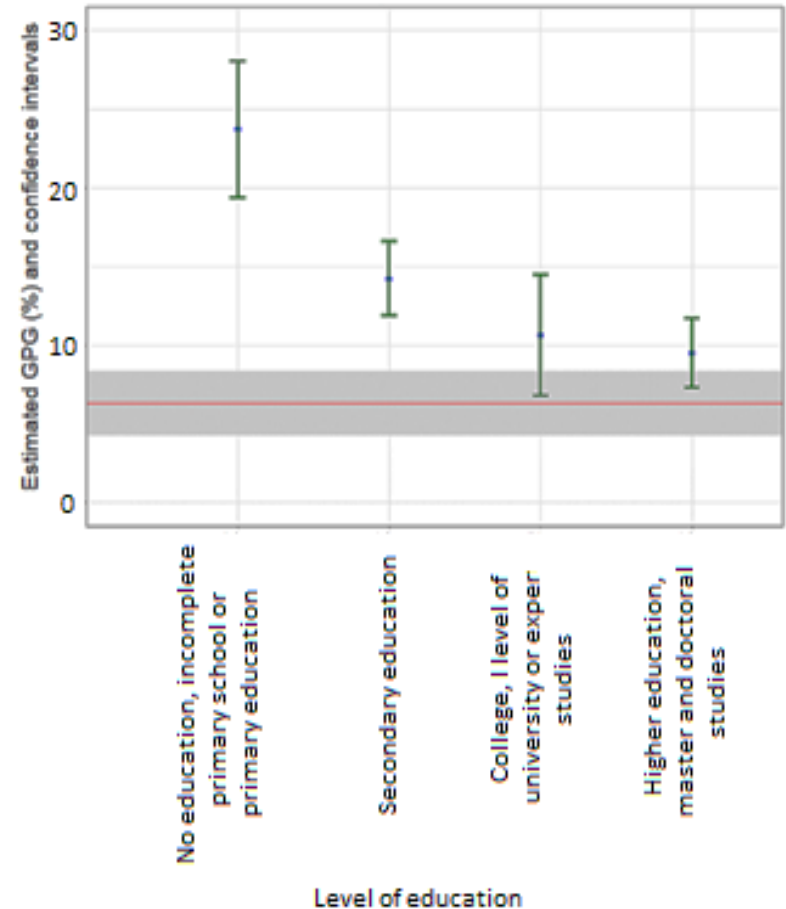


Gender pay gap

GPG by occupational groups

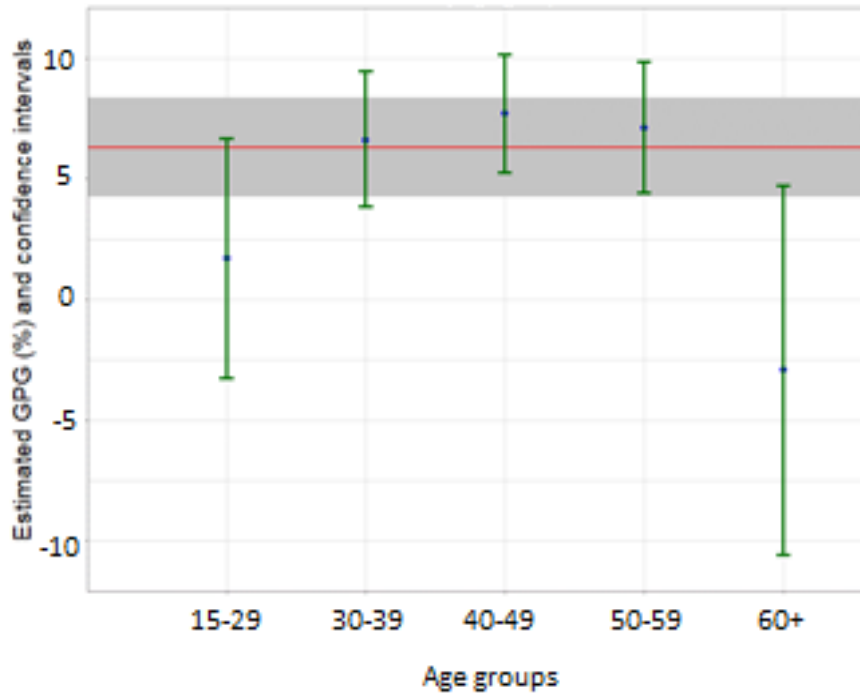


GPG by level of education

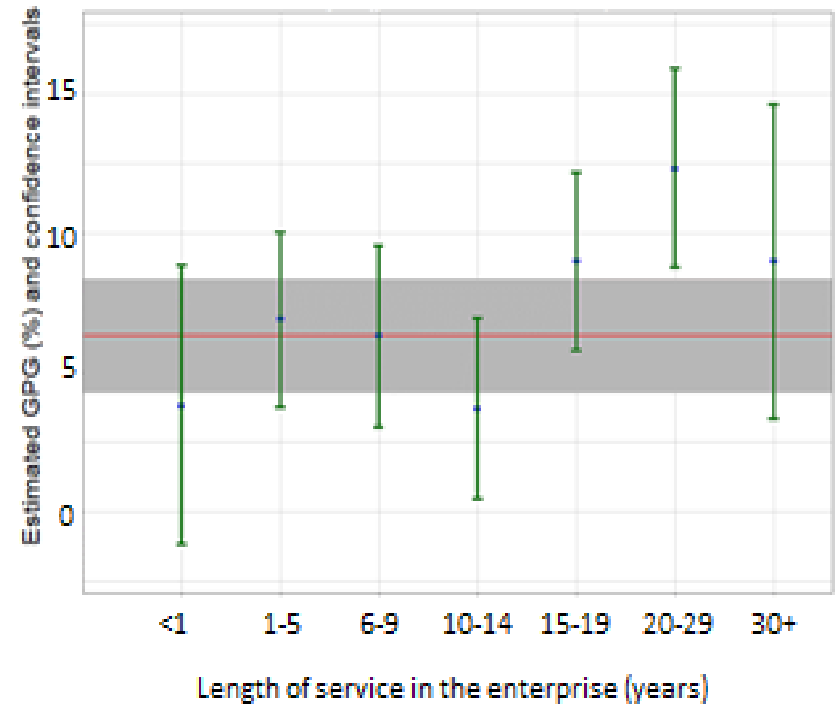


Gender pay gap

GPG by age groups



GPG by length of service in the enterprise



Conclusion

- Some other analysis could be done on SES data, such as **decomposition of the GPG** on explained and unexplained part (adjusted GPG).
- Calculation of **adjusted GPG** could probably show a clearer picture of real wage gap between women and men, and can be used as a better approximation of possible discrimination on the labour market.
- The adjusted GPG can be obtained after applying certain econometric methods. But also some **limitation of SES** should be taken into account, such as a potential self-selection problem (because SES only includes individuals in paid employment) and a potential sample selection problem (because employees in small firms, in agriculture and the self-employed are not included in the survey).

Conclusion

- Compared with other EU countries, the results of SES show that Serbia is among countries with the lowest GPG, which can suggest that in Serbia there is a relatively high level of gender equality when it comes to earnings. However, the reality is probably somewhat different.
- According to the publication *Gender Pay Gap in the Western Balkan Countries: Evidence from Serbia, Montenegro and Macedonia (2013)*, authors suggest that the lower unadjusted GPG can be the result of **low female labour market participation and generally their better qualifications compared to men**.
- It can also be added that in Serbia there is a **large number of informal employees (mostly women)**.
- Also, a **relatively high tax wedge and the lack of progressivity in wage taxation** may encourage cash-in-hand work, where employers try to avoid paying taxes and contributions on earnings. But, all this cannot be recorded by this survey.



Thank you for your attention!