instytut badań strukturalnych

IBS Policy Paper
From research to policy

Gender pay gap

HOW MUCH MORE DO MEN EARN THAN WOMEN?

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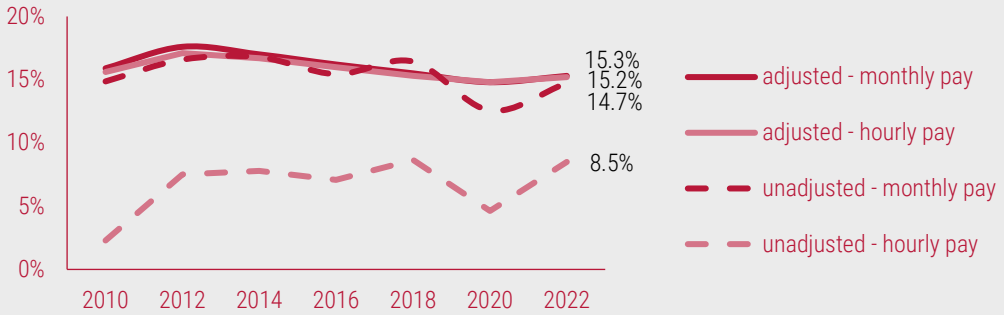
Problem: Despite regulations aimed at reducing gender inequality, significant disparities in the earnings of men and women persist in the labour market. These inequities are unjust and inefficient, hindering increased female participation in the workforce, which is critically needed from both economic and demographic perspectives.

Main message: Comparing men's and women's average earnings does not fully reflect the extent of pay inequality in Poland. The adjusted gender pay gap—accounting for differences in education, experience, and occupation—is substantially higher. It is particularly pronounced in the private sector, among individuals aged 35–44, and in male-dominated industries. Effectively implementing the pay transparency directive could help reduce pay inequality. Companies should start preparing for it now.

Key facts

- 2–9% – this is how much less per hour women earned than men in Poland from 2010 to 2022. This is referred to as the unadjusted gender pay gap, which reflects the difference in average earnings between men and women.
- 15–18% – this is how much less per hour women earned than men after accounting for key factors influencing wages. This is referred to as the adjusted gender pay gap, which is the focus of this analysis.
- 18% – that's the adjusted gender pay gap in the private sector, compared to 8% in the public sector.
- 5–25% – that's the adjusted gender pay gap across different industries, and 14–20% depending on the dominant tasks performed on the job.

The gender pay gap in Poland remains stable



Source: own calculation based on Statistics Poland data "Struktura wynagrodzeń według zawodów" (BSW)

The gender pay gap is one of the key indicators of gender inequality in the labour market. **It is most often presented as the difference in average wages between men and women (as a percentage of men's wages). We call this measure the unadjusted (or raw) gender pay gap.** According to Eurostat, it amounted to 8% in Poland, with 12% overall in the EU countries (2023).

The unadjusted gender pay gap is simple to calculate and understand; however, it does not consider differences in workers' education, experience, job positions, and other factors. These differences are, however, closely related to productivity and earnings. When we account for these variables, we arrive at an **adjusted gender pay gap** in hourly wages, which ranges from 12% to 21% (2010-2022), significantly exceeding the unadjusted wage gap.

How to calculate the gender pay gap?

Various methods are used to calculate the gender pay gap. In this study, we only present the adjusted pay gap estimates. For simplicity, we do not account for potential selection bias— that is, the fact that among women, those with better career prospects and higher salaries are more likely to work. Similar selection does not occur among men, whose overall employment is much higher. This may lead to an underestimation of gender wage inequality. Due to a lack of data, we do not include parenthood status, although we know it affects wages.

Table 1. The adjusted wage gap is 12-21%, significantly higher than the unadjusted gap of 7%

Control variables	OLS estimates of the adjusted pay gap	Ñopo estimates of the adjusted pay gap	% matched/compared (Ñopo)	
			Men	Women
Education, age	19.5%	20.8%	100%	100%
+ job experience	20.1%	20.8%	100%	99.8%
+ public/private sector	21.1%	20.8%	100%	99.6%
+ form of ownership and firm size	20.4%	19.7%	99.4%	97.5%
+ collective agreements and contract type	19.6%	19.1%	95.9%	91.8%
+ full-time and full-year	19.6%	19.2%	91.3%	88.2%
+ industry (NACE)	18.6%	18.4%	73.7%	64.5%
+ voivodeship	18.7%	19.0%	46.6%	38.2%
+ occupation (ISCO 1)	15.8%	17.0%	29.8%	21.3%
+ occupation (ISCO 2)	14.4%	14.0%	23.3%	15.2%
+ occupation (ISCO 3)	13.6%	12.2%	17.5%	12.0%

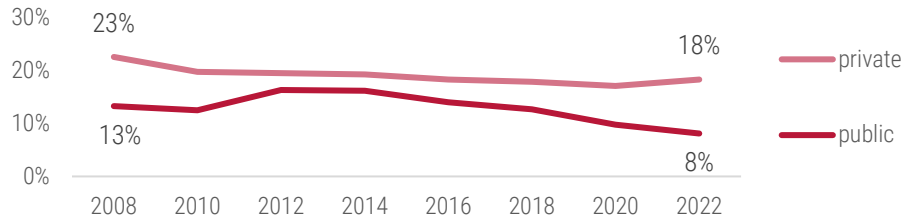
Source: own calculations on BSW data, 2010-2022. Note: Estimates based on OLS and the Ñopo (2008) decomposition method. The Ñopo method matches female and male workers based on a selected set of characteristics and compares their wages only within matched groups. The dependent variable is the logarithm of gross hourly wages, and the control variables are age, age squared, education level, and — depending on the row: job experience and tenure, sector, firm ownership, firm size and industry (NACE), voivodeship, collective agreements, type of contract, full-time work, working most of the year, and occupational group (one-, two-, or three-digit ISCO codes).

Regardless of the estimation method or the set of control variables included, the adjusted gender pay gap in hourly wages remains within the 18-21% range. The gap narrows to approximately 12-17% when occupational groups are accounted for (Table 1). This is significantly higher than the unadjusted pay gap, which averages 7% over the same period. When all key wage-determining characteristics—such as education, labour market experience, occupation, and sector—are controlled for, the analysis effectively compares peers with the same education and experience, working in the same occupation and sector. Even then, the gender pay gap is 12-14%, depending on the estimation method.

The gender pay gap varies by workplace characteristics: sector, industry, and occupation

Women earn about 8% less than men in the public sector and 18% less in the private sector (Figure 1). The gap between sectors has been growing since 2012. At the same time, employment in the public sector is declining (-11 p.p. between 2010 and 2022), which will translate into a higher wage gap overall.

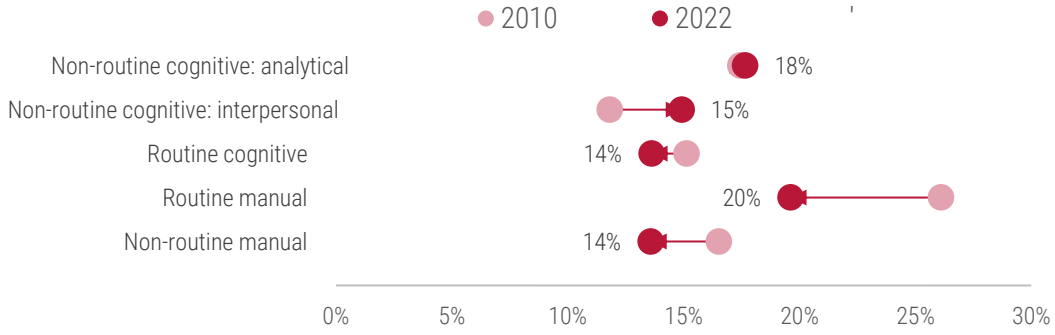
Figure 1. The adjusted gender pay gap in the private sector is 10 p.p. higher than in the public sector



Note: Adjusted gender pay gap estimates based on OLS as in Table 1, occupation is controlled at the one-digit ISCO code level.

In male-dominated industries (where the share of men in employment is greater than 60%), the wage gap is larger on average than in female-dominated or gender-balanced industries. Women earn less than men, especially in mining, information and communication, finance, and manufacturing (by more than 20%). The smallest gender gap is in education (4.5%). Mining is also the most male-dominated industry, and education is the second most female-dominated (after the health industry).

Figure 2. In highly skilled occupations, the adjusted gender pay gap amounts to 15-18%



Note: Adjusted gender pay gap estimates as for Figure 1.

The adjusted pay gap is lowest (approximately 14%, Figure 2) in occupations predominantly based on routine cognitive and non-routine manual tasks. It remains highest (around 20%) in occupations involving routine manual work, although this gap has narrowed significantly since 2010. In contrast, occupations such as managerial and professional roles (e.g. architects, doctors, engineers) that typically require high levels of education and performing non-routine cognitive tasks, continue to exhibit persistent wage gaps. At the same time, these occupations are expected to grow in importance.

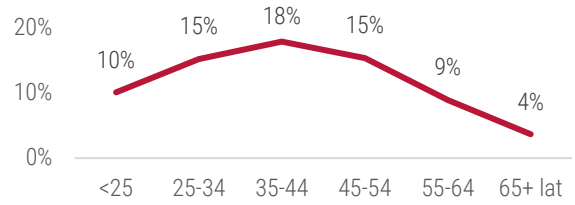
The gender pay gap also varies across age and earnings distribution

The wage gap peaks around the age of 35-44 (Figure 3). It is the smallest among workers aged 55 and above; however, women in this age group have significantly lower employment rates (25% versus 44% for men), suggesting that those who remain in the labour market may be positively selected based on earnings potential, thereby lowering the observed wage gap. In contrast, the largest gender pay gap occurs during the

period when women are most likely to become mothers and take care of children. This pattern is consistent with the so-called *motherhood penalty*, referring to the observed decline in women's wages following childbirth.

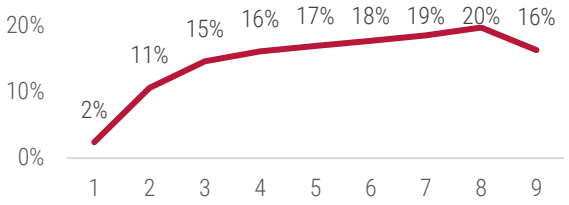
The wage gap is particularly high among those earning above the median, but not among the highest earners (Figure 4). It is lowest among those with the lowest wages, which is related to minimum wage regulations.

Figure 3. The adjusted wage gap is highest among those aged 35-44



OLS estimates, variables as for Figure 1.

Figure 4. The adjusted wage gap is highest for the 8th wage decile (2022)



Quantile regression estimates, variables as for Figure 1.

References

https://ibs.org.pl/en/publications/gender-pay-gap-how-much-more-do-men-earn-than-women/

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