

What if she earns more? Gender pay gap within couples

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1 Introduction

The gender wage inequality is a persistent finding that has been reported for numerous economies worldwide. Blau and Kahn (2018) provide an extensive review of literature of the topic, pointing to changes in the size of the wage inequality and its sources. In the existing literature, the wage gap has been analyzed from various perspectives, e.g. by looking at country average wage gap, by looking at wage gaps by education level of men and women, or by examining wage gaps within firms. Yet, surprisingly little is known about pay gaps between men and women living together and constituting a household. The analysis of the wage gaps within couples is an interesting topic, because it resembles men's and women's relative contribution to household disposable resources. In our paper, we aim to add to the literature in two ways. First, we uncover the size of the raw and adjusted within couple pay gaps, answering the question how would the pay gaps change were women paid for their characteristics in the same way as men are. The comparison of the raw and adjusted gaps within couples is helpful for understanding couple formation, i.e. whether as suggested by assortative matching theory for the marriage market, man and woman forming a couple are alike each other (positive matching) or not (negative matching). Second, we shed light on the link between gender pay inequality and gender inequality in household work. In particular, we verify the hypothesis whether women who outearn their partners tend to compensate for this breach of social / gender norms by spending more time on domestic work (Bertrand et al. 2015).

2 Data and methods

We use data from the Generations and Gender Programme. Currently our analysis is based on data for Poland only, but we are extending it to Germany, Czech Republic, Italy and Russia. This will allow us to add a third contribution, namely a cross-country

perspective, in which we would examine international differences in cultural values and gender norms that are also likely to influence within couple pay inequality. We base our analysis on monthly pay from work and consider only couples for which both man and woman report nonzero labour income. Both employees and self-employed (outside agriculture) are included. We use two measures of within couple pay gap: (1) woman's labour income as the percentage of couple's total labour income, (2) the difference in man's and woman's pay as the percentage of woman's pay. While the first measure should be interpreted as the share of women's pay in the couple's total labour income, the second measure reflects how many percent more (less) should women earn in order to equalize their pay with their partner.

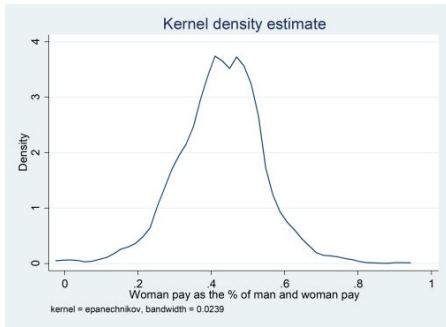
3 Results

3.1 The distribution of income within households

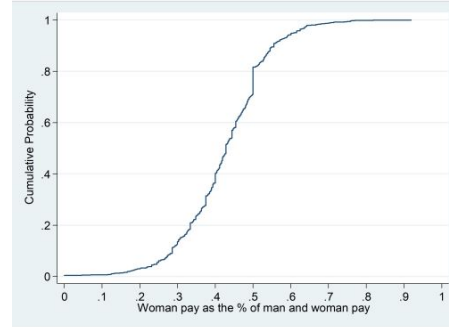
The distribution of the estimates of within couple pay inequality measured by the share of woman's pay in total labour income earned by the couple are presented in Figure 1a. Figure 1b additionally plots the cumulative distribution function for the obtained estimates. The results show that the median share of pay earned by woman amounts to 42.8 %. The share of households, in which women contribute to total pay earned by the couple by less than 50% is equal to around 71%. Every tenth woman earns an equal share of the household income as her partner, and in less than 19% of households women outearn men. In Figure 2 we plot respective results obtained when the within couple pay inequality is measured by the difference in man's and woman's pay as the percentage of woman's pay. The results show that in order to earn as much as her partners do, women would have to earn by 0-20% more - in around 12% of the households, by 20-40% more - in around 15% of the households, by 40-60% more - in around 11% of the households, by 60- 80% more - in around 8% of the households, and by 80-100% more - in around 6% of the households. In around 18% of the households women would have to earn at least twice as much as they do in order to equalize their pay with their partners.

3.2 The distribution of *adjusted* income within households

The estimates of the within couple pay inequality change substantially once we account for the fact that women are paid differently from men for the same characteristics. To show this, we calculate expected pay for women assuming they are paid according to men's returns for age, education, type of employment (public sector, private sector employee or self-employed). After this adjustment the distribution of women's share of couple's pay is spread from around 40% to 65%, and not as before from 0% to 100%. The median of women's share of couple's labour income changes from 42.8% to 50.1%, pointing that in around half of the households women's pay would contribute to couples' total pay in less than 50% and in around half of them they would contribute by more than 50%. In only 37% of households would men's labor income exceed those of their partners. In other words, if women were paid similarly to men, the distribution of the

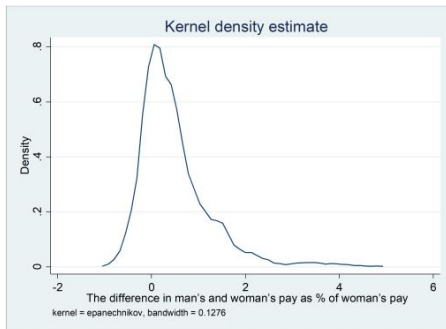


(a) Panel A

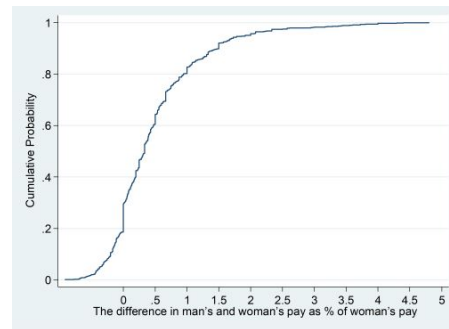


(b) Panel B

Figure 1: The distribution of the share of woman pay in the household's total pay



(a) Panel A



(b) Panel B

Figure 2: The distribution of the share of woman pay in the household's total pay

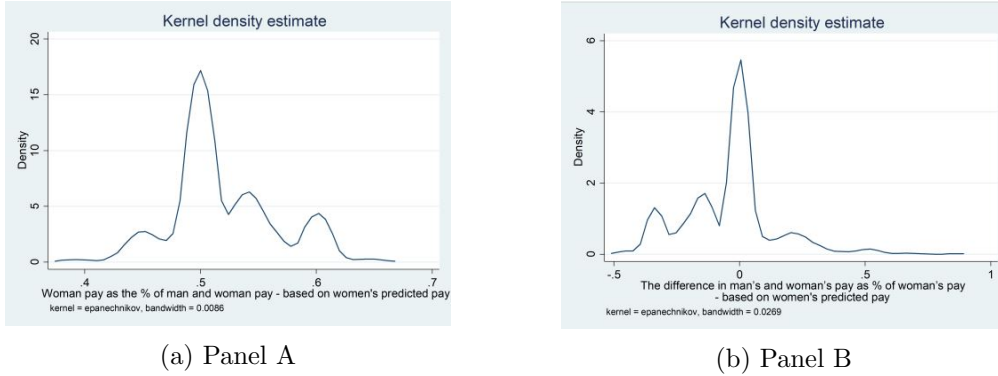


Figure 3: The distribution of within couple pay inequality assuming women are paid in the same way as men (i.e. equal returns to characteristics between genders)

Table 1: Distribution of housework tasks within couples

	% of answers			
	"Both do"	"She does"	"He does"	"Someone else"
Cooking	30.6	62.4	4.3	2.7
Dishes	39.3	50.6	6.3	3.8
Food shopping	49.5	41.9	7.6	1
Cleaning	35.6	57.2	3.3	3.9

share of women’s pay in couples’ joint pay would be cumulated at around 50% (Figure 3a), pointing to relatively equal pay between partners, and consequently the gender gap within the couples would be cumulated at around zero (Figure 3b). This finding shows that when choosing a partner men and women are likely to match “alike”, as in the event of equal returns to characteristics they would equally contribute to household income.

3.3 Within household income inequality and home production

Lastly, we look at the correlation between the within couple pay inequality and the division of housework between men and women. We consider five housework tasks: cooking, doing dishes, shopping for food, cleaning and small home repairs. For each of these tasks we derive a measure indicating who is mostly responsible for doing it, where the possible answers are: “both of us”, “she does”, “he does”, “someone else”. The distribution of the answers is presented in Table 1. It is clear that cooking, doing dishes, and cleaning are mostly “female” tasks, while small home repairs are a predominantly “male” task.

To evaluate the link between the size of the within couple pay inequality and the division of housework between partners, we run simple regressions in which the dependent variable is the gap and the independent variable represents the levels of the five measures we derived. The coefficients are estimated assuming a base level that men and women

Table 2: Relation between the gender division of housework and the size of within couple pay inequality

	Gap - woman's pay as a % of her and his pay		Gap - the difference in man's and woman's pay as % of woman's pay	
	Coefficient for "she does"	Coefficient for "he does"	Coefficient for "she does"	Coefficient for "he does"
Cooking	-0.023***	0.012	0.10**	-0.013
Dishes	-0.017**	0.008	0.054	-0.135
Food shopping	-0.01	-0.003	0.022	0.105
Cleaning	-0.028**	0.005	0.096*	-0.018
Small home repairs	-0.02	-0.013	0.135	0.059

*Notes: The table presents coefficients for selected coefficients from the regressions, in which each gender gap is regressed on each housework task, assuming a base category "both do". Coefficients obtained for category "someone else" are omitted. *** represents $p < 0.001$, ** represents $p < 0.05$, * represents $p < 0.1$.*

divide equally the task between them ("both do"). The results are presented in Table 2. They show that there is a statistically significant relation between women's involvement in housework – especially cooking, making dishes, and cleaning – and the size of within couple pay inequality. When a woman is mostly responsible for performing these tasks, she is likely to earn significantly less than her partner. Women who outearn their partner are thus unlikely to compensate for that by spending more time on domestic work, as hypothesized in the Introduction.

It has be noted that the uncovered relation rather than a causal relation presents a correlation. However, the fact that in couples in which men are mostly responsible for "female" housework tasks such as cleaning, making dishes or cleaning, we don't observe more equal pay between men and women, makes us expect it is the existence of the within couple pay inequality that leads to women's greater involvement in housework, rather than the other way around.

4 Further work

- estimating potential earnings for non-working partners and analyzing within household wage inequality based on these estimates
- extending the data coverage to include observations for other countries available in GGS; this will both enlarge the sample size allowing for more detailed analysis and enable new investigations of country-level factors (associated with e.g. gender norms we are particularly interested in)

- investigate whether there is a U-shape relation between female inactivity and household income, and how does it correlate with gender norms and perceptions, or gender equality indexes?
- approaching identification issues and coming up with an econometric strategy to potentially identify the causal link between gender norms and within household wage inequality
- analyzing the link between income shares, household work and perceptions of relationship quality and satisfaction with work/ life balance

5 References

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