Gender Reservation Wage Gap in Developing Countries

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The gender reservation wage gap in developing countries

Abstract: This is one of the first papers to document the existence of a gender reservation wage gap in developing countries. We find a 25% gender reservation wage gap, a gap that is much larger than current estimates for developed countries. Assets play the largest role in closing this gap, whereas adult height widens the gap among the poor.

JEL Classification: J13, J24, J64
Keywords: Reservation wages, Gender, Developing countries

1. Introduction and background

There exists a vast empirical literature that explores the overall gender wage gap in developed and increasingly also in developing countries (Jayachandran 2015; Bertrand 2011). In the theoretical models of job search, labor supply and labor market participation (Blackaby et al. 2007), reservation wages generally play a key role. Moreover, recent empirical evidence from some developed countries has demonstrated that gender wage gaps are primarily driven by gender reservation wage gaps (Caliendo et al 2017). Yet, not much is known about gender reservation wage gaps in developing countries. Given that female labor force participation rates are low in many developing countries (Verick 2014), it is important to understand the extent to which gender gaps exist in reservation wages in developing countries and the factors which determine this gap. Is it due to differences in demographics, personality traits, cognitive skills, socio- economic status or to unexplained factors? For instance, women may have rational or adaptive expectations about the true gender discrimination in the labor market and may adjust their reservation wages accordingly.

2. Data and methodology

The data for this study comes from the STEP Skill Measurement surveys collected by the World Bank in 2012 and 2013 in 12 countries—Armenia, Bolivia, Colombia, Georgia, Ghana, Kenya, Laos, Macedonia, Sir Lanka, Vietnam, Ukraine and Yunnan province in China.[1] The household survey gathers information from urban adults between the ages of 15 and 64. The survey provides a harmonized data set across these countries and provides various detailed measures of cognitive and non-cognitive skills (Big 5 personality traits, discount rates and risk factors), which are usually not measured in standard surveys in developing countries[2]. The STEP survey also contains detailed information on reservation wages at the individual level. In particular, if the respondent is not currently working, he/she is asked: 'Are you available to start work within the next two weeks (if you find work)?" For this sub-sample of workers who answer yes, we use the following question to determine reservation wage: 'What is the lowest monthly net (take-home) wage that you would be willing to accept for a full-time job with social security benefits,

[1] We did not include Ukraine because of small sample size, and some variables measured inconsistently than rest of survey. That said, including Ukraine does not change our results.

[2] See Pierre et al. (2014) for a detailed description of the skills measures included in the STEP surveys.

in this locality or area?' We drop outliers above 99% percentile of the reservation wage distribution. Figure 1 shows the kernel density plots of the real reservation wage by gender. The distribution of reservation wages of females is strictly to the left of males.

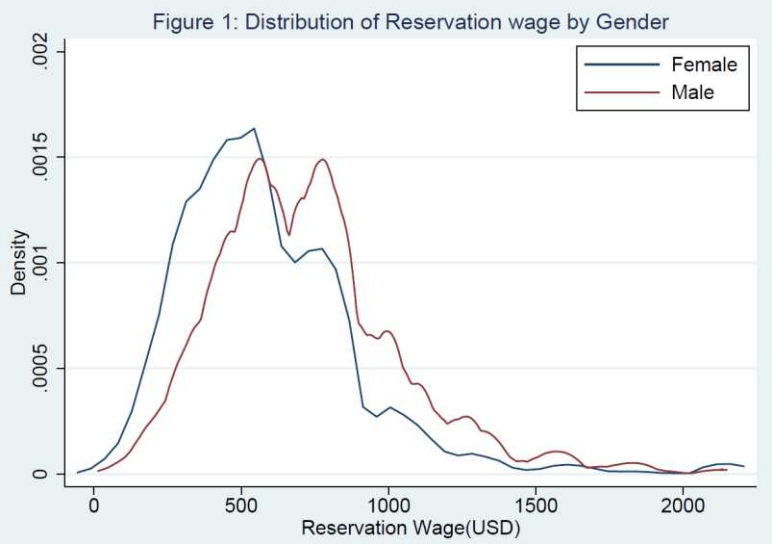

Table 1 shows summary statistics by gender. The mean of the monthly reservation wages (in USD) is $736 for males and $594 for females. Relative to men, women in our sample are younger, more likely to be married, have more schooling, more assets, higher scores on extraversion but lower ones on emotional stability, shorter in height, more likely to be chronically ill, but to be without health insurance, have less work experience, to be less likely to be actively looking for work and more likely to have dropped out from their highest education level.

We first estimate an OLS Mincerian reservation wage model to determine gender gaps, and then apply Blinder–Oaxaca decomposition analysis to decompose it as follows:

$$ln\overline{r_m} - ln\overline{r_f} = \widehat{\beta_*}(\overline{x}_m - \overline{x}_f) + [\,\overline{x}_m(\widehat{\beta_m} - \widehat{\beta_*}) - \overline{x}_f(\widehat{\beta_f} - \widehat{\beta_*})\,] \qquad (1)$$

where r is the real monthly reservation wage, *m* and *f* refer to males and females respectively, x is a row vector of observed characteristics, $\hat{\beta}$ is a vector of estimated parameters and a bar denotes a mean value. The term $\widehat{\beta_*}$ represents an estimate of the non-discriminatory reservation wage based upon the Oaxaca and Ransom (1994).

The first term on the right-hand side of equation Eq. (1) represents the difference in the reservation wage that is attributable to individuals' characteristics (explained component), which typically captures productivity effects, and the second term is that part of the reservation wage differential due to differences in returns to endowments (unexplained or discriminatory component)[3]. The covariates used in our models are shown in Table 1. In

[3] Following Brown et al. (2010), we adjust for sample selection into labor force participation. The instruments used to identify the selection equation are chronic illness, financial shock to the household before 15 years of age, currently attending school, dropped out of the highest education level and actively

addition we control for country fixed effects. Our results table (Table 2) first shows an OLS Mincerian reservation wage model, followed by a decomposition analysis for all individuals and for subsamples of those with low and high assets, to investigate the role of wealth in gender reservation wage gaps.[4]

3. Results

The findings in column (1) of Table 2 indicate that women earn 20.8% less than similar men overall. Reservation wages are positively associated with age (experience), assets, years of schooling, risk loving preferences and adult height, and negatively associated with possession of health insurance and willingness to work without social security (consistent with a desperation effect of unemployment).

Column (3) shows results from Oaxaca decomposition for the full sample. There is a large and significant gender reservation wage gap of 25.6% in our sample. This gap is much higher than estimates of 9-13% from Britain and Germany (Brown et al. 2011; Caliendo et al. 2017). Only 8.2% of the gap can be explained, whereas 91.8% remains unexplained. Of the explained component the most important individual characteristic tending to narrow the gap is assets, whereas after age, adult height is the most important factor tending to widen the gap.

Given the importance of assets in reducing the gender reservation wage gap, we split the asset index by rich (zero and positive values) and poor (negatives values).[5] For rich individuals, the gender reservation wage gap is 23.6%. In this case, the explained component of the reservation wage differential falls to 1.3%, and is statistically insignificant, suggesting that perceived discrimination or the opportunity costs of time for labor market entry for those with high assets may have a large effect here. In contrast, for the relatively poor sample, the gender gap is 28% percent, considerably larger than that for the rich. Furthermore, the explained component for the poor dramatically increases to 22.5% and is statistically significant. Also for the poor, the most important factors are age and adult height both of which widen the reservation wage gap. There is a significant literature establishing the height premium in earnings in developed and developing countries (Behrman et al. 2009 and Lundborg et al. 2014). It has been argued that taller people earn more because of a combination of brain and brawn and that women have a comparative advantage in brain rather than brawn. The findings that taller men aspire to greater wages than taller women is consistent with taller men having greater brawn which is valued relatively more for low skilled jobs for which the poor may be actively seeking.

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looking for work. These variables are significant in the selection equation but are insignificant in the decomposition analysis. Our results are broadly robust to analysis which don't adjust for selection.

[4] Previous literature finds that savings and wealth is positively related to reservation wages (e.g. Kruger and Mueller 2016).

[5] Our results are robust to defining poor alternatively as those who are in the lowest 2 or /lowest 3 quintiles of the asset distribution.

4. Conclusion

We document the existence of a gender reservation wage gap in developing countries. The gap is an order of magnitude larger than that in developed countries. Even within developing countries, the gender gap is larger for the poor compared to the wealthy. Assets play an important role in determining the gender reservation wage gap, explained by individual characteristics. For wealthy individuals, virtually none of the gap is explained, whereas for the poor the explained component is 22.5%. Other than low assets, differences in height among the poor seem to play an important role in widening the gap between men and women. However, it is pertinent to highlight that most of the gender reservation wage gap is unexplained. Our results highlight the need to understand the gender differences in aspirations regarding the labor market in developing countries.

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Table 1: *Summary Statistics*

	Male	***Female***
Reservation wage(USD)***	736.30	594.36
Age ***	36.77	35.07
Prop. Employed in household***	0.11	0.14
Married*	0.53	0.57
Children***	0.41	0.57
Years of schooling*	11.90	12.13
Chronic illness***	0.10	0.14
Height (meters)***	1.72	1.63
BMI***	25.25	24.16
Health insurance***	0.49	0.41
Extraversion***	2.83	2.87
Conscientiousness	3.10	3.19
Openness	3.12	3.14
Emotional stability***	2.53	2.39
Agreeableness	3.13	3.15
Risk aversion	1.72	1.68
Time preference	1.75	1.73
Asset index***	-0.36	-0.19
Work without social security***	0.64	0.68
Work experience***	0.57	0.53
Shocks before 15 years***	0.26	0.33
Attending school	0.08	0.07
Dropout of highest education level***	0.11	0.13
Actively looking for work***	0.71	0.67
Observations	1574	2329

**** p<0.01, ** p<0.05, *p<0.1*
(using t-test for difference in mean values)

Table 2: *Reservation wage gap by gender*

	OLS	**Oaxaca decomposition**		
	(1)	**(2)**	**(3)**	**(4)**
Variable	Log(Reservation wage)	All individuals	Poor	Wealthy
Male-Female raw differential	-	0.236***	0.272***	0.188***
Male-Female sel. differential	-	0.256***	0.280***	0.236***
Explained (%)	-	0.021 (8.2%)	0.063*** (22.5%)	0.003 (1.3%)
Unexplained (%)	-	0.235*** (91.8%)	0.217*** (77.5%)	0.233*** (98.7%)
		Explained	*Explained*	*Explained*
Female	-0.208***	-	-	-
Asset index	0.0600***	-0.012***	-	-
Age	0.0278***	0.046***	0.035***	0.053***
Age (squared)	0.000***	-0.047***	-0.036***	-0.052***
Years of schooling	0.028***	-0.009***	-0.006	-0.002
Married	0.011	-0.000	-0.000	0.000
Children	0.02	-0.004	-0.003	0.002
Prop. employed in household	0.016	-0.000	0.000	0.000
Risk aversion	0.011***	0.000	-0.000	0.002
Time preference	0.000	-0.000	0.000	-0.000
Height	0.330***	0.032***	0.039***	0.014
Health Insurance	-0.082***	-0.006***	-0.016***	0.000
Work experience	0.028	0.001	0.001	0.000
Work without social security	-0.067***	0.003***	0.004***	-0.000
Chronic illness	-0.008	-	-	-
Personality traits	Yes	Yes	Yes	Yes
BMI class	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes
Observations	n=3675	n=3662;n_m=1470;n_f=2192	n=2098;n_m=904;nf=1194	n=1649;n_m=591;n_f=1058
R-squared	0.316	-	-	-

**** p<0.01, ** p<0.05, *p<0.1*