Do you get what you ask?

The gender gap in desired and realised wages

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Abstract: This paper will study gender differences in wage bargaining by comparing the unexplained wage gap in desired, realised and reservation wages. The notion of desired wages shows workers' first bet to potential employers during the job-search process. It is found that: (1) The unexplained gender wage gap is around 20% in desired and realised wages, which supports the view that gender income gap in expectations compares well with realised income gap. (2) The unexplained gender wage gap is larger in desired wages than in reservation wages for unemployed individuals that can be related to women's higher disutility from unemployment. (3) Occupational and sectoral mobility cannot explain a significant additional part of the gender wage gap.

JEL Codes: J16, J13, D13, J31

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1. Introduction

The unconditional and conditional gender wage gap can vary a lot internationally and is found to range from 3% to 30% in the European Union (Christofides et al. (2013)). There is already a wide range of literature seeking to explain gender differences in income. The main factors explaining the gender wage difference are found to be educational attainment; women's longer non-employment spells; vertical and horizontal segregation in the labour market; psychological attributes; personality traits; and gender identity (Altonji and Blank (1999), Bertrand (2010)).

The job search process offers a potentially fruitful channel for understanding the differences in wage outcomes for men and women. Bertrand (2010) summarises the issue by saying that while there is laboratory experimental evidence on gender differences in psychological attributes, personality traits and gender identity, the role of these factors on actual labour market outcomes has received little research attention.

This paper will study the factors behind the gender wage gap by comparing the gender differences in desired wages, realised wages and reservation wages. The notion of desired wages is introduced here and it shows the employee's first bet during the job-search process. The desired wage is distinct from the reservation wage, as a wage signalled to an employer does not need to equal the reservation wage at which a worker is ready to start a new job. The information about desired wages is obtained from an electronic job-search database of CV-Keskus and information about realised and reservation wages from the labour force survey. Both of the databases cover around 16,000 individuals and are made representative to the whole population using weight calibration.

To the best of our knowledge, this is the first study comparing gender differences in desired wages, realised wages and reservation wages. The contribution of this paper is twofold. First,

we seek to reveal gender differences during wage bargaining. The two data sources used let us understand the discrepancies between men and women in wage bargaining. The job search portal data reveals the first bet signalled by job-seekers in the wage bargaining process, and the labour force survey data report their realised and reservation wages. Although we cannot follow all the bets in the wage negotiations process, we can observe the first bets made by employees to their employers. There is laboratory evidence that men and women do not differ in negotiation skills, but just in their initial offers (Dittrich et al. (2014)), which highlights the importance of first bets in wage negotiations for gender wage gaps.

Second, we seek to explain one of the largest unexplained gender wage gaps in Europe by introducing a novel set of variables for occupational and sectoral mobility from a lengthy retrospective panel. The data of both sources cover the labour market in Estonia, which has one of the largest unconditional and conditional gender wage gaps in Europe (Christofides et al. (2013)), offering a valuable ground for testing gender issues in an environment where it really matters.

The paper is organised as follows: the next section provides an overview of the related literature and a background of the study; the third section presents and validates the data; the fourth section presents the results and the last section summarises.

2. Related literature and the background of the study

2.1. Related literature

The literature on gender inequality is vast and growing, and more emphasis has been put on behavioural economics and psychological attributes lately. There are also many papers on wage bargaining in the laboratory environment, but there is no consensus in the results. It has been found that men negotiate much higher wages for themselves than do women in the mul-

tistage alternating-offers game (Dittrich et al. (2014)) and that both men and women ask for a higher outcome when playing against women than when playing against men in the ultimatum game (Solnick (2001)). The multistage game conducted by Dittrich et al. (2014) is the closest to the situation captured by data of this paper. They show that men and women do not differ in negotiation skills, but just in their initial offers. Bowles (2012) argues that the main psychological perspective in wage negotiations are stereotypes, men are expected to be breadwinners and women communal and to care about others. She also argues that the role of stereotypes in negotiations weakens when there is less communication potential between negotiators, e.g. face-to-face vs written negotiations.

Bertrand (2010) summarises the recent experimental and empirical literature on gender issues into three main groups of factors: psychological attributes, personality traits and gender identity. Women sort by psychological attributes into more stable and less risky occupations due to their higher risk aversion, and into occupations that do not generally have a highly competitive environment, as they tend to underperform in competitive situations. Le et al. (2011) show that while women are more risk averse towards economic risk, the differences in risk aversion explain only a small part of the gender pay gap. Women have stronger redistributive preferences that may also sort them into specific jobs accordingly. They are less likely to negotiate and are not good negotiators for themselves, but rather for others. However, it has been found that while psychological attributes help to explain some part of the gender wage gap, the factors related to human capital have a much stronger role. It has also been found that men and women have differences in personality traits and that these can explain some part of the gender wage gap, but again the contribution of personality traits is smaller than that of educational attainment. The gender identity implies that women behave in the way expected by society and their current identity role. (Bertrand (2010))

There are many fewer studies on reservation wages than on realised wages. The realised gender wage gap could be caused because fewer high-ability women participate in the labour market than do high-ability men. Christofides et al. (2013) show that after controlling for selection to participate in the labour market, the gender wage gap increases in most of the countries in Europe. This is evidence of positive selection where women with rather better characteristics participate in the labour market. There could be also systematic differences in reservation wages between men and women. Brown et al. (2011) show that pre-school-age children explain most of the gender reservation wage gap in the UK. Baffoe-Bonnie and Ezeala-Harrison (2005) show that unemployment duration has a significantly different effect on the male and female reservation wage.

The closest study to our paper is the study by Filippin and Ichino (2005) on wage expectations and realised wages. Filippin and Ichino (2005) study is limited to college students of business and economics. They match individuals from a survey of college students and a survey of graduates and find that the 10% gender income gap in expectations compares well with realised income shortly after graduation. However, the unconditional and conditional gender income gap enlarges with work experience, which is not consistent with students' expectations about their income in a more distant future. They argue that female students may expect their wage to be lower than that of male colleagues because of path dependent occupational choices formed by parents and because of self-confirming expectations about being discriminated against.

Our notion of the desired wage is close to but can differ from the notion of wage expectation as information asymmetry means that job-seekers know their productivity and market wage but employers do not, so that job-seekers can ask for a higher wage than their perceived market wage.

2.2. Background of the study

This paper studies the gender wage gap in Estonia, a former centrally planned economy where the gender wage differences in favour of men emerged forcefully during the transition process (Trapido (2007)). There are a number of papers emphasising the massive labour market adjustments during the transition from planned to market economies in Central and Eastern Europe[1]. There is evidence that worker flows exploded (Haltiwanger and Vodopivec (2002)), that around one third of workers changed their occupation during the first five years of transition (Campos and Dabušinskas (2009)), and that in general workers with more skills and longer tenure replaced those with fewer skills and shorter tenure (Lehmann et al. (2005)). At the same time, the formerly compressed wage distribution widened (Eriksson et al. (2013)) and wage gaps emerged across ethnicity (Leping and Toomet (2008)), gender (Pastore and Verashchagina (2011), Kecmanovic and Barrett (2011)) and age (Kovacheva (2011)). There are also studies confirming declining gender income differences throughout the transition process (Newell and Reilly (2011), Heyns (2005)). While the worker flows have been reduced to the conventional levels of developed countries, the wage disparities remain high and often unexplained.

Women earned on average 17% less in gross hourly wages than men did in the European Union (EU-27) and in the euro area (EA-17) in 2009 (see Eurostat Gender pay gap). Women earned 10–25 percent less than men did in OECD countries (Böheim et al. (2013)). Christofides et al. (2013) demonstrate that the gender wage gap amounts to 30% in our sample

[1] See for example Sorm and Terrell (2000) on Czech data; Haltiwanger and Vodopivec (2002) on Estonian data; Haltiwanger and Vodopivec (2003) on Slovenian data; and Jurajda and Terrell (2008) comparing the gradualist transition in the Czech Republic and the rapid transition in Estonia.

country Estonia. The unconditional gender wage gap decreased during the early years of transition in Estonia as the transition process shifted the economic structure towards industries with a high share of female employment and favoured a more educated labour force. Women were less likely to change jobs and more likely to exit the labour market than men (Orazem and Vodopivec (2000)). The later years of the transition process and the establishment of a strongly liberal economic environment have enlarged the gender wage gap and the unconditional gender wage gap has become one of the largest in Europe. Estonia is known for its very high economic freedom (see the index of economic freedom by the Heritage Foundation) and has a flexible labour market, low union power and low enforcement of employment protection legislation (Eamets and Masso (2005)). As a result, the wage distribution is wide, and the unconditional wage gap is also large by ethnicity and gender.

Surprisingly, characteristics like education, language skills, industry, or occupation cannot explain much of the difference in wages by gender (Anspal et al. (2010)), though a much higher part of the ethnicity wage gap can be explained by these characteristics (Leping and Toomet (2008)). While the unexplained wage differential is around 10–15% for ethnic minorities (Leping and Toomet (2008)), the unexplained gender wage gap is substantially larger, at 24% in 2000–2008 (Anspal et al. (2010), Christofides et al. (2013)). Semykina and Linz (2010) argue that education and qualification differences are not useful predictors of the gender wage gap in post-communist economies as the education level and participation rate were high in Soviet times and so the observed gender differences in human capital are small.

The female participation rate is also high in Estonia, where the rate was 62% for females and 71% for males in 2009 (see Statistics Estonia general labour market data). However, the high participation rate does not explain the gender wage gap; Christofides et al. (2013) show that after controlling for the selection into labour market participation, the unexplained gender

wage gap increases from 20% to 31%. This indicates that there is no negative selection into employment among women that would be able to explain the large gender difference in wages. Instead, positive selection indicates that women with a potentially higher reservation wage and better characteristics are more likely to be employed.

3. Data and methodology

The paper uses two large databases, the job-search database from CV Keskus and the Estonian labour force survey. The job-search dataset is drawn from the main Estonian electronic job search site CV Keskus (CV Centre in English, see http://www.cvkeskus.ee/). CV Keskus is a part of the international CV Market Group with representation in Estonia, Latvia, Lithuania and Hungary. CV Keskus is the largest job-search portal in Estonia and it offers a job search service for both employers and employees. Job-seekers can upload their CVs to the site and apply directly for jobs on offer via this electronic environment. Employers can upload job ads or make job-seekers a direct offer based on their profile or even track how particular job-seekers click on their advertisement. This gives job-seekers an incentive to upload and update their CVs in the web and to provide correct information about their skills and work experience. The job search service is free for job-seekers, while employers need to pay for the service.

The data for CV Keskus job searchers was downloaded in January 2010. The unemployment rate was very high in 2010 and was rising, from 13.5% in 2009 to 16.7% in 2010 according to the Statistics Estonia labour force survey, which indicates low bargaining power for workers at this time. The database contained more than 200,000 CVs in 2010. The data on employment history covers the last five jobs, giving the name and country of the employer, the start and end months of the job, and the occupation. Individuals report employment breaks in their

CVs and it is not possible to disentangle unemployment or inactivity in these breaks. All the individuals in the CV Keskus data can be considered as currently economically active as they are looking for a job. The data also include background information about the job-seeker, like age, family status, education and details of the desired job and wage. The self-reported occupations from CVs were converted into ISCO codes by the specialists at Statistics Estonia. The self-reported names of employers were merged with the Estonian commercial register to find employer characteristics like employer's field of activity by NACE 2003.

The CVs are limited to cover only those individuals who had updated their CVs within the last year, between January 2009 and January 2010. This exclusion means that only those individuals who are actively looking for a new job or seeking to exit unemployment to employment are included. As we investigate the gap in desired wages, we lose data on individuals who do not provide their desired wage[2]. The expected wage, phrased as "desired gross salary" in CVs, is provided by 16,228 job-seekers and this is our final database for the research. We conduct the analysis only for those individuals who are looking for a full-time job or if no full-time job is available are also willing to accept a part-time job. Those seeking only a part-time job are excluded.

The Estonian labour force survey (LFS) is used to complement the analysis with realised wages and reservation wages. The labour force survey is the source of official statistics for the labour market and is representative of all the demographic groups in the country. The sample size is around 16,000 yearly observations, where some individuals enter the survey repeatedly due to rotating panel method used (for the methodology please refer to

[2] Less than 20% of job-seekers report their desired wages, while reporting the wage or not is random according to Heckman selection model of wages for employed and unemployed job-seekers. These results are available from authors upon request.

http://www.stat.ee/labour-market "Estonian labour force survey. Methodology"). The wage of employed people is the gross salary of the last month and the reservation wage of the unemployed is the wage for which someone would start a job. As with the CV Keskus data, we conduct the analysis only for those individuals who are full-time employees or are looking for a full-time job or are also willing to accept a part-time job if no full-time job is available.

Wages are measured as gross monthly wages in euros in both of the datasets. The wages were reported in Estonian kroons and translated to euros by the authors. Logarithmic values will be used in the regressions as the distribution of wages has more mass concentrated in the lower values. Large effort is taken to make the CV Keskus data representative to the whole population. As white-collar and young people are overrepresented in on-line search portal, the probability weights are introduced to make the sample of CV Keskus job-seekers representative to the whole population. The weights are calibrated to the population totals reported by the labour force survey using the following characteristics: gender, age, education, field of activity and occupation. Although we cannot observe the same individuals in CV Keskus and labour force survey, both of the surveys are representative to the whole population after weighting.

Table 1 presents descriptive statistics of the variables analysed. The desired wages of employed women are around 26% lower than those of men. This unconditional wage gap is surprisingly similar to that for realised wages found from the labour force survey, 29%. The desired wage in the job-search portal is around one fifth to one fourth higher for employed people than the realised wages in the labour force survey. This could be an indication that the reservation wage for leaving a job is higher than the wage at the current job.

The unconditional gender wage gap for unemployed individuals is the same in the job search portal and in the labour force survey, 23%. The desired wage in the job-search portal is around 40% higher for unemployed people than the reservation wage they report in the labour

force survey. Unemployed job-seekers ask for a substantially higher wage than the wage they are willing to start a job.

[Table 1 approximately here]

As expected, the job search portal contains more unemployed individuals, while as many as more than 50% of job-seekers are currently employed. The average duration of unemployment among unemployed individuals is very similar in both of the data sources, confirming the representativeness of the job search portal data compared to official statistics.

4. Results

4.1. Conditional gender gap in desired and realised wages

This section presents the conditional gender wage gap in desired and realised wages. We present the results for employed and unemployed individuals separately to reveal the gender differences in negotiations under different labour market statuses. First simple wage regressions are presented for all individuals and for men and women separately, then in the next subsection the gender differences are decomposed into the part due to endowments or characteristics.

Tables 2 and 3 present the results of wage regressions from the job-search portal and the labour force survey. The conditional gender wage gap is of a similar large size to the unconditional one. While there are no statistically significant differences in the conditional gender wage gap between the desired and realised wages for employed individuals, the wage gap between the desired and reservation wages becomes noticeable for unemployed individuals. The gender wage gap in reservation wages or in the wages individuals expect to get to move out from unemployment and take a job is 20%[3], while the gender wage gap in the desired

[3] Malk (2014) finds a similar gender gap in reservation wages of 24%, in 2011–2013.

wages of unemployed individuals is 31%. This can indicate gender differences in risk aversion as unemployed men ask for much higher wages than women do. For employed individuals the idea of "what you ask is what you get" seems to hold, or there is evidence of the self-confirming equilibrium of Filippin (2003) that women expect to be discriminated against and this leads to the outcome where they actually are discriminated against.

The main differences in the coefficients of other explanatory variables for men and women are family related. Children have a positive effect on the wages of men, while a negative effect on the wages of women. This suggests gender identity plays some role in society. Men seem to be seen as the traditional breadwinners and women as the traditional homemakers. Bertrand (2010) concludes that these gender identity patterns are usually quite stable over time and predict women's performance in the labour market well.

[Tables 2 and 3 approximately here]

4.2. Decomposition of the gender gap into desired and realised wages

In addition to examining the differences in returns for men and women, we go further to contrast them with differences in endowments. For example it could be that education is not differently rewarded for men and women, but that there are significant differences in the educational attainment of men and women. Hence education itself could be driving the unconditional gap in wages and not necessarily different rewards for education.

We implement a Neumark (1988) and Oaxaca and Ransom (1994) decomposition to investigate the contribution of coefficients and endowments to the gender wage gap. The *nldecompose* command for Stata by Sinning and Hahn (2008) is implemented. The decomposition is performed over the variable "female" and the counterfactual group of coefficients is estimated from the pooled sample (Sinning and Hahn (2008)):

$$\bar{Y}_A - \bar{Y}_B = (\bar{X}_A - \bar{X}_B)\beta^* + \bar{X}_A(\beta_A - \beta^*) + \bar{X}_B(\beta^* - \beta_B) \qquad (1)$$

where β^* denotes coefficients from the pooled sample, β_A coefficients from the sample of men and β_B coefficients from the sample of women; $\bar{Y}_A$ and $\bar{Y}_B$ denote the average wages of men and women; $\bar{X}_A$ and $\bar{X}_B$ the average values of explanatory variables for men and women. The left hand side of equation (1) captures the difference in the average wage of men and women. The first term on the right hand side captures the difference in wages due to differences in characteristics or endowments; this part is calculated by predicting the average wage gap of men and women based on the coefficients of the pooled sample. The next two terms on the right hand side capture the difference in wages due to differences in coefficients. The first of them indicates male advantage and is calculated as a combination of the average characteristics of men and the difference of male coefficients from the pooled sample coefficients. The very last term indicates female disadvantage and is calculated as a combination of the average characteristics of women and the difference of pooled coefficients from female sample coefficients. The sum of the last two parts is also denoted as the unexplained part and is often interpreted as a result of discrimination in the labour market[4], while the part explained by coefficients is taken as the explained part.

Table 4 presents the decomposition estimation results for the gender wage gap. The set of explanatory variables is the same as in Tables 2 and 3. The raw difference in wages strongly favours men and the smaller part of the raw difference can be explained by the different characteristics of men and women, like segregation into different sectors and occupations. Around

[4] The decomposition is sensitive to the choice of counterfactual group of coefficients. If we used coefficients from the sample of men as a counterfactual for women, and not from the pooled sample, we would estimate the unexplained part to be somewhat larger. This is in line with the estimations provided by Elder et al. (2010). The choice of control group does not change our results in terms of comparison of the gender gaps in desired, realised and reservation wages.

20% of the gender wage gap remains unexplained for employed individuals and the unexplained part is very similar in desried and realised wages. It is found that women ask for lower rewards than do men in their desired wages and that the wage desired is surprisingly well in line with the average labour market outcome for women. This result is similar to the findings by Filippin and Ichino (2005) who find that gender income gap in expectations compares well with realised income.

A much smaller part of the gender gap remains unexplained for reservation wages of unemployed individuals, 14%. The smaller unexplained part originates from smaller female disadvantage component, which is statistically significantly different from the same component in the rest of the subsamples. The female disadvantage component contributes to the gap in reservation wages by 5.1 percentage point, in contrast to the contribution to the gap in desired wages of 9.0 percentage points. This result can originate from women's relatively higher reservation wage or their relatively lower desired wage.

It is tempting to speculate that if men and women were to ask for a similar wage relative to their true reservation wage, the unexplained gender wage gap would be reduced from around 20% to 14%. It is not possible to observe empirically what the labour market outcome for women would be if they had the same desired and reservation wage ratio as men. One of the possible mechanisms that could explain the gender differences in desired and reservation wages is that women ask for lower wages because of their higher disutility from unemployment. They prefer stable employment and look to move from unemployment to employment more quickly. Stable employment is compensated by lower wages and shorter unemployment spells reduce job match quality and also contribute to the gender gap in realised wages.

[Table 4 approximately here]

We can use the labour force survey to test whether women have a higher probability of being

unemployed. Appendix 1 presents the gender gap decomposition results based on logit models where the dependent variable takes the value zero if a person is employed and the value one if the person is unemployed. The same set of controls is used as in Table 3 for employees. Appendix 1 shows that women have a statistically significantly lower probability of being unemployed and that the majority of the difference in unemployment probability can be explained by characteristics such as education, occupation and industry.[5] It can be concluded that women probably have higher disutility from unemployment, which makes them choose an education, occupation and industry that give them more stable employment.

4.3. Decomposition of the gender wage gap in quantiles

As a robustness test we also decompose the gender wage gap in a quantile equation. The advantage of this exercise is that explanatory variables can have different effects on the dependent variable over the conditional distribution. The decomposition of the gender wage gap into the part due to coefficients and endowments is done over the distribution of conditional wages.

There could be different patterns for the role of the unexplained part in different conditional wage quantiles. For example if the largest unexplained part is observed for lower wage earners the "sticky floor" phenomenon for women in the labour market is observed. Under this notion women occupy the lowest distribution of jobs and are not promoted to higher ranking jobs. From the other end, if the largest unexplained part is observed for higher conditional

[5] The bottom of the crisis in Estonia came in 2009. There were certain male-dominated industries that suffered most from the crisis, such as construction and manufacturing, which contributed to the large unconditional gender gap in unemployment. However, the results presented in Appendix 1 also hold for the later non-recession years, and female unemployment rates are usually lower and seggregation by education, occupation and industry contribute to the gender gap in the unemployment rate.

wage quantiles the "glass ceiling" phenomenon is observed. Under this notion women do not have access to the jobs with the highest wages. Christofides et al. (2013) demonstrates that European countries evolve different patterns of unexplained gender wage gaps in quantiles, and there are roughly as many countries where the sticky floor phenomenon is found as countries where the glass ceiling phenomenon is found. Estonia stands out here for having an increasing unexplained gender wage gap in higher quantiles with no evidence of a sticky floor or a glass ceiling. We replicate this exercise on the data of the job search portal and the labour force survey.

Appendix 2 presents the decomposition results graphically, showing the unexplained part with a confidence interval. The rqdeco command for Stata written by Melly (2006) is implemented. This approach uses an Oaxaca-Blinder-style approach and decomposes the conditional wage differences in quantiles into two parts: one due to coefficients and one due to endowments. The results based on the labour force survey demonstrate the same result as that found by Christofides et al. (2013) using EU-SILC data, which is that Estonia appears to have an increasing unexplained part of the gender wage gap in higher wage quantiles with no clear evidence of the sticky floor or glass ceiling phenomena. The lower gender wage gap in reservation wages that was pointed out in previous subsection is originating from the lower quantiles below the median.

A similar declining gender wage gap over quantiles is also found in the job search portal data, with a single difference in the lower parts of the conditional wage distribution. While the conditional gender gap in desired wages is roughly the same over all the percentiles, the gap is much smaller in the very bottom quantiles in the labour force survey data. Interestingly women signal similarly low wages in negotiations over all the quantiles, while the labour force survey shows that the labour market outcome for women is much better for lower quantiles.

This could be interpreted as evidence of something characteristic to women in negotiations, except in the very low quantiles that are likely affected by formally regulated minumum wage, women aks for more or less by the same proportion lower wages over all the quentiles.

4.4. Labour market experience and the gender wage gap

The CV Keskus database contains unique information about the labour market experience of job-seekers. The same information is unfortunately not available in the labour force survey, but it enables us to test on the CV Keskus data whether employment and non-employment breaks and labour market mobility can explain an additional part of the gender wage gap in Estonia. The same methodology as in subsection 4.2 is applied and equation (1) is estimated with different subgroups of explanatory variables. As decomposition results from the job-seekers database did not differ much for the employed and the unemployed, these two groups are analysed jointly. The results are presented for all the individuals in the database irrespective of their tenure in the labour market.

Table 5 presents the results. Family characteristics cannot explain significant part of the gender gap in desired wages. It is intuitive that family characteristics can explain only a small part of the wage gap as there is little variation in these characteristics across economically active men and women. Adding education reverses the explained part to negative. This shows that while men have less education, their educational returns are on average higher. Adding occupation increases the part explained to 3.8 percentage points, and adding industry 5.5 percentage points. This result overlaps with international evidence that occupational and sectoral segregation explains a large part of gender pay differences. However, the part explained by these characteristics amounts only to one fifth in Estonia.

Labour market experience, such as current employment status, count of previous jobs and

average duration of previous jobs, can add a small part to the explained gender wage gap. Men and women tend to have similar labour market experience. However, women have longer non-employment spells (please see Table 1) and this explains some additional part of the gender gap in desired wages. Less than one third of the gender gap is explained after controlling for all these variables in the decomposition. Lastly, occupational and sectoral mobility cannot add a significant contribution to the explained part.

[Table 5 approximately here]

The most important characteristics for the wage gap are women's employment in less well paid occupations and industries, their weaker labour market experience, and their longer non-employment breaks. The unexplained gender gap amounts to 18% even after all these controls on labour market history are introduced.

The lower wages desired by women originate partly from their higher alternative cost of working, as women are more resilient to switching to the labour market when they have children. Brown et al. (2011) find that in the UK the existence of pre-school-age children can explain most of the gender reservation wage gap. They interpret this result as perceived labour market discrimination due to children, which influences the reservation wage setting of women. Baffoe-Bonnie and Ezeala-Harrison (2005) find that the duration of unemployment spells can explain a large part of the gender wage gap. Table 5 and the regression coefficients presented in section 4.1 show the importance of the same factors for the gender wage gap in Estonia, but children and longer non-employment spells can explain only a small part of the gender pay gap in Estonia.

5. Summary

This study compared gender differences in desired wages, realised wages and reservation

wages to reveal gender differences in wage bargaining. It is found that the unexplained gender pay gaps in desired and realised wages are very similar and are around 20% in Estonia. "You get what you ask" is in this sense a valid description of wage outcome for women, they ask for 20% lower wage and they get the 20% lower wage. This result is in line with previous studies that find gender income gap in expectations to compare well with realised income gap. The unexplained gender gap in the reservation wage is much smaller at 14%. Given their reservation wage, unemployed women ask for much lower wages than unemployed men do during their job-search. Our results also show that women have a much lower unemployment probability and that most of it can be explained by their segregation to more stable employment in terms of education, occupation and industry. We suggest that women have higher disutility from unemployment and a preference for more stable employment and shorter unemployment spells.

Our results also indicate that labour market experience and longer breaks between jobs can explain a small additional part of gender wage gap, while occupational and sectoral mobility cannot add much to the explained part.

The question of how much the gender wage gap would be reduced by if women desired the same wage as men cannot be answered by this paper. It seems that part of the gender gap cannot be reduced because of women's preference for more stable employment. If unemployed women were signalling their desired wage to employers as unemployed men, the resulting gender gap in wages would be reduced, but their unemployment probability would also increase. The other part of the gender gap, originating from a self-confirming equilibrium or a gender difference in labour demand, deserves further research. A possible avenue for further research is on all the records of wage bets in the non-experimental wage negotiation process and on the gender differences in the demand for labour.

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Table 1: Descriptive statistics of the variables analysed: CV Keskus vs labour force survey, 2009

	CV Keskus job-seekers: employed + unemployed		Labour force survey (LFS): employed + unemployed	
	Men	Women	Men	Women
Employed: desired wage in CV Keskus and actual wage in LFS (EUR) (standard error)	1002.7 (21.7)	747.3 (14.8)	830.3 (12.8)	593.6 (7.6)
Employed: unconditional gender wage gap	–0.255		–0.285	
Unemployed: desired wage in CV Keskus and reservation wage in LFS (EUR) (standard error)	777.3 (19.1)	598.5 (15.2)	556.1 (8.7)	428.2 (7.1)
Unemployed: unconditional gender wage gap	–0.230		–0.230	
Age	40.3	40.5	39.7	42.5
Married or cohabiting	0.712	0.591	0.669	0.592
Number of children	1.207	1.059	0.573	0.594
Tertiary education	0.157	0.319	0.171	0.305
Vocational education	0.491	0.361	0.447	0.403
Secondary education, not vocational	0.225	0.225	0.235	0.216
Primary education or less	0.127	0.095	0.146	0.076
Field of activity of current/last job				
No previous job experience or field of activity not available	0.022	0.016	0.023	0.015
Agriculture	0.040	0.034	0.046	0.029
Fishing	0.002	0.0002	0.002	–
Mining	0.017	0.003	0.015	0.004
Manufacturing	0.243	0.206	0.259	0.190
Electricity, gas and water	0.011	0.013	0.017	0.007
Construction	0.191	0.038	0.209	0.021
Wholesale and retail trade	0.114	0.155	0.100	0.168
Hotels and restaurants	0.011	0.052	0.013	0.049
Transport and communication	0.116	0.055	0.117	0.053
Financial intermediation	0.008	0.024	0.008	0.024
Real estate and business activities	0.058	0.060	0.062	0.056
Public administration	0.044	0.081	0.048	0.077
Education	0.056	0.147	0.039	0.164
Health	0.033	0.068	0.007	0.094
Other services	0.027	0.043	0.028	0.043
Sole proprietor	0.005	0.004	0.006	0.004
Occupation of current/last job				

	CV Keskus job-seekers: employed + unemployed		Labour force survey (LFS): employed + unemployed	
	Men	Women	Men	Women
No previous job experience or occupation not available	0.023	0.024	0.031	0.016
Managers	0.094	0.081	0.104	0.071
Professionals	0.080	0.193	0.078	0.177
Technicians and associate professionals	0.078	0.175	0.073	0.179
Clerical support workers	0.028	0.087	0.029	0.086
Service and sales workers	0.036	0.216	0.055	0.198
Skilled agricultural, forestry and fishery workers	0.003	0.016	0.009	0.010
Craft and related trades workers	0.307	0.036	0.309	0.033
Plant and machine operators, and assemblers	0.252	0.071	0.224	0.098
Elementary occupations	0.100	0.103	0.086	0.116
Employed	0.493	0.554	0.780	0.872
Duration of unemployment in months	7.130	6.459	2.454	1.312
… conditional on being unemployed	14.067	14.479	11.131	10.283
Average duration of break btw all the jobs in months[a)]	4.995	7.370	NA	NA
Count of breaks btw jobs [a)]	1.131	1.321	NA	NA
Average duration of all the jobs in months [a)]	40.336	38.536	NA	NA
Count of jobs [a)]	4.125	4.161	NA	NA
No of observations	6197	8266	3635	3727

Notes: [a)] Denotes smaller sample size for CV Keskus, 5000 for men and 7020 for women.
Wage of employed people is the gross salary of the last month; reservation wage of the unemployed is the wage for which someone would start a job in the labour force survey. CV Keskus wage information is based on desired wages.
Unemployment duration may can also refer to inactivity in CV Keskus. Duration is measured in months. Number of children in the labour force survey is based on children under the age of 19, the number of children in CV Keskus on all children.
Source: authors' calculation from CV Keskus and Estonian labour force survey data.

Table 2: Wage regressions, dependent variable log(desired wage): CV Keskus, 2009

	CV Keskus job-seekers: employed			CV Keskus job-seekers: unemployed		
	All	Men	Women	All	Men	Women
Female (1 – woman, 0 – man)	-0.297***			-0.309***		
	(0.026)			(0.027)		
Age	0.047***	0.047***	0.049***	0.033***	0.028**	0.037***
	(0.009)	(0.014)	(0.009)	(0.009)	(0.013)	(0.009)
Age squared /100	-0.053***	-0.054***	-0.057***	-0.038***	-0.033*	-0.042***
	(0.011)	(0.018)	(0.012)	(0.011)	(0.018)	(0.011)

Married or cohabiting	-0.009	-0.001	-0.007	0.023	0.023	0.030
	(0.027)	(0.040)	(0.029)	(0.031)	(0.054)	(0.027)
One child (base no children)	-0.015	-0.052	0.023	0.028	0.045	-0.007
	(0.035)	(0.049)	(0.041)	(0.034)	(0.061)	(0.031)
Two children	-0.046	-0.019	-0.066*	0.028	0.042	0.003
	(0.035)	(0.056)	(0.039)	(0.034)	(0.056)	(0.034)
Three or more children	-0.095*	0.016	-0.181***	0.055	0.057	-0.002
	(0.049)	(0.070)	(0.062)	(0.069)	(0.105)	(0.059)
Tertiary education (base primary)	0.100	0.179**	0.032	0.196***	0.207***	0.188***
	(0.062)	(0.085)	(0.059)	(0.040)	(0.054)	(0.047)
Vocational education	-0.053	0.067	-0.146**	0.077**	0.046	0.109**
	(0.062)	(0.078)	(0.063)	(0.038)	(0.046)	(0.044)
Secondary education, not vocational	-0.080	0.016	-0.143**	0.090***	0.084**	0.092**
	(0.059)	(0.078)	(0.058)	(0.033)	(0.041)	(0.041)
Duration of unemployment in months				-0.002**	-0.002	-0.002**
				(0.001)	(0.001)	(0.001)
Duration of unemployment squared /100				0.001*	0.001	0.001*
				(0.001)	(0.001)	(0.001)
Control for occupation and field of activity						
No of observations	7761	3152	4609	6702	3045	3657
R^2	0.323	0.214	0.329	0.302	0.172	0.392

Notes: See notes to Table 1 for variable definitions. ***, **, * indicate statistical significance at the levels of 1%, 5% and 10% respectively based on robust standard errors. Source: authors' calculation from CV Keskus data.

Table 3: Wage regressions, dependent variable log(wage): labour force survey, 2009

	Labour force survey: employed			Labour force survey: unemployed		
	All	Men	Women	All	Men	Women
Female (1 – woman, 0 – man)	−0.336***			−0.202***		
	(0.017)			(0.023)		
Age	0.023***	0.023***	0.021***	0.003	−0.005	0.013
	(0.004)	(0.006)	(0.005)	(0.007)	(0.009)	(0.009)
Age squared /100	−0.033***	−0.036***	−0.030***	−0.008	0.002	−0.019*
	(0.005)	(0.007)	(0.005)	(0.009)	(0.012)	(0.011)
Married or cohabiting	0.025	0.067**	−0.004	0.078***	0.072*	0.067**
	(0.017)	(0.034)	(0.017)	(0.026)	(0.042)	(0.034)
One child (base no children)	0.000	0.059*	−0.044**	0.025	0.058	−0.043

	(0.019)	(0.033)	(0.022)	(0.031)	(0.043)	(0.045)
Two children	0.012	0.057	−0.029	0.014	0.060	−0.035
	(0.020)	(0.035)	(0.024)	(0.039)	(0.062)	(0.047)
Three or more children	−0.066*	0.019	−0.166***	0.073	0.059	0.079
	(0.034)	(0.052)	(0.041)	(0.046)	(0.066)	(0.065)
Tertiary education (base primary)	0.243***	0.245***	0.262***	0.123***	0.098	0.084
	(0.029)	(0.043)	(0.036)	(0.044)	(0.060)	(0.057)
Vocational education	0.015	−0.001	0.040	0.052*	0.071**	0.015
	(0.024)	(0.033)	(0.031)	(0.028)	(0.035)	(0.041)
Secondary education, not vocational	0.046*	0.061	0.048	0.024	0.057	−0.017
	(0.027)	(0.040)	(0.032)	(0.030)	(0.038)	(0.046)
Duration of unemployment in months				−0.003**	−0.003**	−0.002
				(0.001)	(0.002)	(0.002)
Duration of unemployment squared /100				0.002**	0.002***	0.002**
				(0.001)	(0.001)	(0.001)
Control for occupation and field of activity	yes	yes	yes	yes	yes	yes
No of observations	6070	2824	3246	1292	811	481
R^2	0.405	0.297	0.452	0.272	0.240	0.176

Notes: See notes to Table 1 for variable definitions. ***, **, * indicate statistical significance at the levels of 1%, 5% and 10% respectively based on robust standard errors. Source: authors' calculation from Estonian labour force survey data.

Table 4: Oaxaca–Ransom decomposition, dependent variable log(wage), 2009

	Total gap (log difference)	Explained	Unexplained: male advantage	Unexplained: female disadvantage	No of obs
CV Keskus job-seekers: employed	−0.286***	−0.087***	−0.092***	−0.106***	7761
(standard error)	(0.028)	(0.022)	(0.010)	(0.011)	
CV Keskus job-seekers: unemployed	−0.250***	−0.061**	−0.099***	−0.090***	6702
(standard error)	(0.036)	(0.031)	(0.011)	(0.010)	
LFS employed	−0.313***	−0.089***	−0.104***	−0.120***	6070
(standard error)	(0.018)	(0.011)	(0.007)	(0.007)	
LFS unemployed	−0.241***	−0.104***	−0.086***	−0.051***	1292
(standard error)	(0.023)	(0.019)	(0.010)	(0.006)	

Notes: See notes to Table 1 for variable definitions and to Table 2 for the list of explanatory variables included and coefficients of the model for men, women and pooled sample. ***, **, * indicate statistical significance at the levels of 1%, 5% and 10% respectively based on bootstrapped standard errors.
Source: authors' calculation from CV Keskus and Estonian labour force survey data.

Table 5: Oaxaca–Ransom decomposition, dependent variable log(wage) in desired wages, 2009

	Age, marriage, children	*Previous education* +	*Previous occupation* +	*Previous + field of activity*	*Previous employment experience* +	*Previous + non-employment breaks*	*Previous + occupational and sectoral mobility*
Total gap (log difference)	−0.250						
(standard error)	(0.023)						
Explained (in %)	−0.007	0.036**	−0.038***	−0.055***	−0.063***	−0.075***	−0.076***
(standard error)	(0.009)	(0.014)	(0.027)	(0.018)	(0.017)	(0.018)	(0.022)
Unexplained: male advantage (in %) (standard error)	−0.115***	−0.136***	−0.100***	−0.092***	−0.088***	−0.083***	−0.083***
	(0.011)	(0.012)	(0.008)	(0.008)	(0.007)	(0.008)	(0.009)
Unexplained: female disadvantage (in %) (standard error)	−0.128***	−0.150***	−0.111***	−0.102***	−0.098***	−0.092***	−0.091***
	(0.012)	(0.011)	(0.010)	(0.008)	(0.008)	(0.009)	(0.008)
No. of obs.	4494 women and 2751 men						

Note: Occupational and sectoral mobility is measured as a sum of squares of shares of jobs at one particular occupation or sector to the total job counts. Occupations and sectors refer to ISCO88 9 major groups and NACE 2003 1-digit industries. ***, **, * indicate statistical significance at the levels of 1%, 5% and 10% respectively.
Source: authors' calculation from CV Keskus data.

Appendix 1: Decomposing the probability of being unemployed: labour force survey, 2009

Table 1: Oaxaca–Ransom decomposition based on logit model, dependent variable 0 – employed, 1 – unemployed: labour force survey, 2009

	Age, marriage, children	+ *Previous education*	+ *Previous occupation*	+ *Previous field of activity*	+
Total gap (log difference)	−0.060*** (0.112 for women and 0.172 for men)				
Explained (in %)	−0.009*** (15.1)	−0.027*** (45.0)	−0.056*** (93.9)	−0.055*** (92.0)	
Unexplained: male advantage (in %)	−0.026*** (44.0)	−0.017*** (28.6)	−0.002 (3.2)	−0.003 (4.2)	
Unexplained: female disadvantage (in %)	−0.024*** (40.7)	−0.016*** (26.4)	−0.002 (2.9)	−0.002 (3.9)	
No. of observations	4403 women and 4740 men				

Notes: See notes to Table 1 for variable definitions and list of explanatory variables; the table uses nonlinear decomposition of nldecompose command for Stata. ***, **, * indicate statistical significance at the levels of 1%, 5% and 10% respectively based on robust standard errors.
Source: authors' calculations from Estonian labour force survey data.

Appendix 2: Unexplained gender wage gaps in quantiles

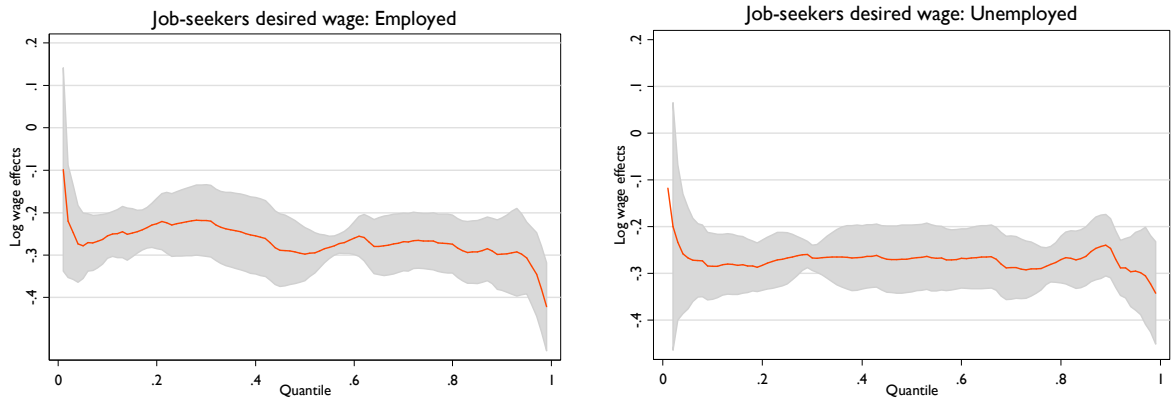

Figure 1a: Unexplained gender wage gap in quantiles of desired wage, employed and unemployed individuals in 2009
Source: authors' calculation from CV Keskus data.

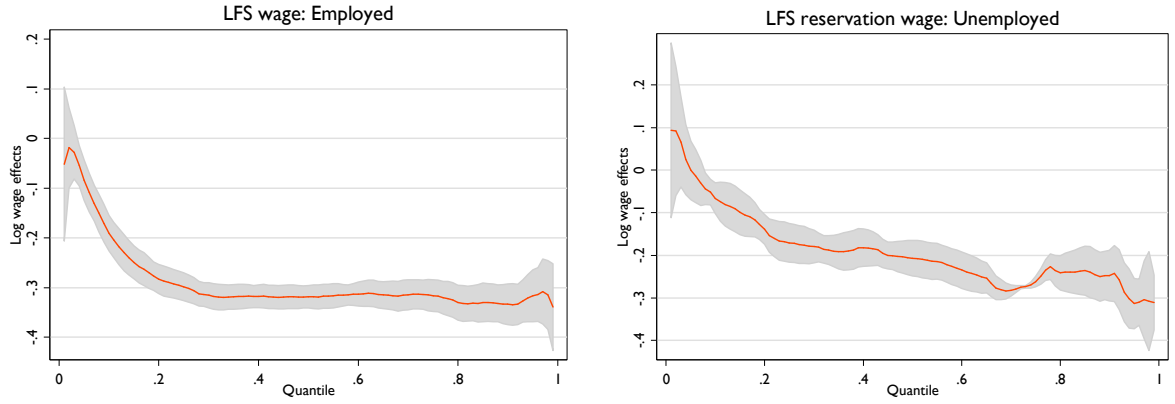

Figure 1b: Unexplained gender wage gap in quantiles of realised and reservation wage, employed and unemployed individuals in 2009
Source: authors' calculation from labour force survey data.