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Discriminate Me – if You Can!

The Disappearance of the Gender Pay Gap among Public-Contest Selected Employees*

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Abstract

This paper analyzes the effect of public-contest recruitment on earnings by gender using Italian microdata over a time span of 10 years. We find that the gender pay gap vanishes when employees are selected through a public contest. By decomposing the gender pay gap and accounting for double selection into employment and method of recruitment, we find that the selected employees (both women and men) possess higher productive characteristics than unselected ones; and the component relative to the unobserved characteristics (either with or without selection) is no longer the main driver of the gap. On the contrary, in general the Italian labor market appears gender biased with a relevant gender pay gap that is mostly due to the unobserved components. Our results suggest that public contests are merit-based and gender-fair screening devices.

Keywords: Gender pay gap; Public-contest recruitment; Double sample selection.

JEL - Classification: J7, J13, J310

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1 Introduction

There is a huge literature on the gender pay gap (GPG) and on its narrowing in recent years (e.g., Blau and Kahn, 2003, 2006, 2007 and Goldin, 2014). However, women continue to earn considerably less than men; about 20% in the US and 15% in Europe.¹ Moreover, the empirical analysis on the GPG shows that, despite the fact that the difference in pay has decreased in the last decades, a consistent unexplained gap remains and this component has been roughly stable after the noticeable narrowing over the 1980s (Blau and Kahn, 2016).

The unexplained GPG, i.e. the portion of the GPG not accounted for gender differences in observed characteristics, may be influenced by cognitive processes such as stereotyping. The literature on gender stereotypes is now rich in results, and systematic errors in screening devices and performance assessment arising from unconscious discriminatory behavior have been proven beyond any doubt (Fiske 1998, Schein 2007). This literature is relevant for the analysis of the GPG as it highlights how, because of the stereotypes, an identical curriculum is evaluated in a substantially different way if attributed to a woman instead of to a man (Valian 1998).

Blau and Kahn (2016) give further arguments to the so far unexplained part of the GPG arguing that persuasive evidence of discrimination is provided by field and laboratory experiments. Based on findings from social psychologists that discriminatory attitudes and stereotyping may be unconscious, and therefore cannot be easily eliminated, Blau and Kahn (2016) argue that indeed, as gender discrimination has become less socially acceptable, it has likely become less overt and more subtle, as well as unconscious. They acknowledge that confirmation of lab results in the field is suggestive, but they also note that these findings cannot be easily translated into accounting for a particular portion of the GPG.

However, Castagnetti and Rosti (2013) identify specific environments in which the use of stereotypes is expected to be more likely to exert an influence on screening devices, and they show that the unexplained component of the GPG increases in line with the expected influence of stereotypes. Castagnetti and Rosti (2013) show that the mechanism of open competition represents a device to weaken or even delete the impact of stereotypes on performance appraisal in the labor market. Public contests increase the accuracy of assessment as they require the use of objective criteria and justification of the choice of candidates (Dobbs and Crano, 2001) thereby increasing the probability of fair assessment for women compared to other recruitment methods.²

¹See Kahn (2015) who compares the GPG of several countries in the period 2010-2012.

²Dobbs and Crano (2001) argue that individuals who have to justify their decisions have a stronger incentive to bypass their stereotyped impressions than those who do not have to provide justifications. As a consequence, when

In this paper we focus on Italian public contests as a procedure that may counteract discrimination mechanisms in the hiring process. We argue that a public contest, whose methods of implementation are strictly regulated by Italian law, better ensures that applicants are chosen and rewarded based on their personal characteristics and without discrimination. As public contests are less discretionary and less ambiguous than other private methods of performance appraisal, they can in principle reduce the conditions which favour gender discrimination. In particular, in the Italian public contest the recruitment procedure is a combination of examinations and scrutiny of qualifications in which the information cannot easily be distorted to fit the stereotypes.

By comparing the GPG between two groups of employees which differ in the hiring method (i.e. recruitment through public contest or without public contest) we find that the recruitment through public contest has a sizeable positive effect on wages (stronger for women than for men). Moreover, by applying the standard Oaxaca-Blinder methodology, we find that the unexplained component of the GPG is negligible among public-contest selected employees, while it is positive and statistically significant among employees hired without public contest.

We argue that public contests are merit-based and gender-fair mechanisms for applicants' evaluation. They are merit-based because public-contest selected employees hold better productive characteristics than unselected ones. They are gender-fair because among public-contest selected employees women's characteristics are rewarded as men's ones. This procedure picks out the most deserving participants (males or females) because it is less discretionary and more regulated by law than other screening devices. As public contests are by law more regulated and more controlled, less discretionary and less ambiguous than other private methods of applicants' assessment, we hypothesize that they can reduce gender discrimination, and we verify that in such gender-fair evaluation mechanisms women's characteristics are rewarded as men's ones.

We confirm the robustness of these findings by considering a double sample selection setting where both the decision to be employed and the sectoral choice (recruitment by public contest or not) are taken into account and by conducting the analysis over a period of ten years (2005–2014). Hence, we are taking into account the importance of the selection bias channel relative to other GPG-reducing channels by considering both the selection into employment and the selection into the hiring method. Both channels are indeed relevant for explaining the GPG. Given more equal and less discriminatory assessment of the candidates, women may self-select themselves in public-contest recruitment. Moreover, the decision to become employed in the first stage depends

decision makers are required to justify their choices and describe the criteria they use to evaluate candidates, as in open competition, they are less likely to discriminate against women.

on individual heterogeneity and unobservable characteristics. Therefore, it is crucial to account for self-selection into the sample at both stages.

Our selection variables show that public contests are merit-based screening devices because employees hired by public contest hold better observable and unobservable characteristics than unscreened employees. They are gender-fair, too, because among public-contest selected employees women's characteristics are rewarded as men's ones, in so indicating the absence of gender wage discrimination.

By computing the counterfactual pay gap (CPG) adjusted for selectivity bias we show that among public-contest selected employees women earn the same than they would if they were remunerated as men, that is, the CPG is not statistically different from zero. On the contrary, among employees hired without public contest the unexplained component turns out to be an important driver of the GPG

The paper is organized as follows. Section 2 describes the data. Section 3 shows the effects, the type of hiring process has on earnings and provides evidence on public contests as gender-fair and merit-based selection methods. Section 5 extends the analysis to a double sample selection model, thereby accounting for sample selection and endogeneity problems. Section 7 concludes.

2 Data and Descriptive Statistics

The empirical analysis is based on micro-data collected by the Italian Institute for the Development of Vocational Training for Workers (ISFOL) in the Participation, Labour, Unemployment Survey (PLUS). The data was collected in the context of a joint project with the Italian Ministry of Labor and Social Policy that was started in 2005. The survey was released up to now in 2005, 2006, 2008, 2010, 2011 and 2014 with a longitudinal structure.

The empirical analysis is conducted by exploiting both the cross section and the panel dimension of the data set. In particular, the panel data set includes all the individuals that have been interviewed for at least two periods. However, given that the focus is mainly on the impact of individual variables constant across time as being hired by public contest³ and that part of the analysis relies on an extension of the Oaxaca-Blinder decomposition for the GPG, we base our estimates on a pooled OLS regression model. In the following, all the empirical results are presented both for the pooled regression model on the panel data set as well as for the single cross-section releases. In total, ISFOL Plus was conducted with 159,615 interviews of panel structure and on

³The number of transition in and out of being hired by public contest is very low.

aggregate with 241,502 interviews for the cross-sectional releases.

In our analysis, we focus on full-time employees aged between 18 and 64 years. Part-time workers are excluded from the sample as they have a larger dispersion in pay than their full-time colleagues that may raise the probability of earning less than the average hourly wage. Moreover, the incidence of part-time work differs significantly between men and women in favour of women. Similarly, self-employed workers are not considered in the study, as the focus in this paper is employees' selection mechanisms, but self-employed are unselected or, if selection takes place in the form of an entrance examination as to notaries, the aim pursued is not to fill job vacancies but to ensure the citizens on the quality of the services provided. The analysis is also constrained to earnings from the main job only, i.e. from the job that yields the highest income. As only 1.68% of the individuals in the sample have more than one job, the impact of this restriction should be negligible. Last, we exclude all individuals with disabilities (1.81% in the panel data and 2.26% in the cross sections).

The selection criteria yielded a sample size of 72,932 for the pool and 109,339 for the cross sections of which 39,365 were female (53.97%) and 33,567 were male employees (46.03%) in the pool (in the cross-sections; 59,479 women and 49,860 men). Out of this sample there were 44,480 (63,086) employed individuals of which 20,465 were female (29,061) and 24,015 (34,025) were male employees in the panel data (and the cross sections, respectively). In the panel data, 7,170 male (45.90%) and 8,450 female (54.1%) employees entered via public contest in their current job. In the cross-sectional dimension, 9,953 men (45.59%) and 11,881 women (54.41%) were recruited by means of public contest.

Table 1 reports mean and standard deviation for some of the variables that are considered in the analysis. On average, workers hired by public contest have higher salaries, more experience and have enjoyed about 1.5 years more education. Our data show that the selection by public contest is not a prerogative of the public sector; about 10% of the recruitment in the private sector takes place by contest.

Table 1: Descriptive Statistics

Variables	Pool						Cross Sections					
	Selection by			Selection not by			Selection by			Selection not by		
	Public Contest	Mean	Std.Dev.	Public Contest	Mean	Std.Dev.	Public Contest	Mean	Std.Dev.	Public Contest	Mean	Std.Dev.
Log Hourly Wage		2.350	0.418		1.956	0.456		2.339	0.436		1.962	0.465
Female		0.541	0.498		0.417	0.493		0.545	0.498		0.416	0.493
Educ		14.01	2.238		12.51	2.830		13.99	2.256		12.44	2.857
Maximum_D_Mark		0.094	0.291		0.033	0.180		0.083	0.276		0.029	0.168
Exper		25.56	10.82		16.66	13.03		24.96	11.11		16.81	12.95
Tenure		20.74	11.23		10.86	11.07		20.35	11.33		11.09	11.05
Extra_Hours		0.519	0.500		0.522	0.500		0.504	0.500		0.508	0.500
Married		0.743	0.437		0.465	0.499		0.737	0.440		0.483	0.500
Ageychild3		0.063	0.243		0.069	0.254		0.061	0.240		0.071	0.257
Childrdummy		0.757	0.429		0.481	0.500		0.741	0.438		0.498	0.500
Age		48.78	10.09		37.30	12.55		48.17	10.56		37.55	12.55
Public_Sector		0.914	0.280		0.163	0.370		0.913	0.282		0.167	0.373
Managers		0.383	0.486		0.144	0.351		0.402	0.490		0.145	0.352
Intermediate_Professions		0.499	0.500		0.452	0.498		0.480	0.500		0.448	0.497
Observations		15,620			28,860			21,834			41,252	

3 The Effect of Public-Contest Selection on Earnings

The unadjusted GPG⁴ is a key indicator used within the European employment strategy to monitor imbalances in wages between men and women. The Eurostat data show that in the period considered, 2005-2014, the GPG is estimated to be on average 16.79% in the EU⁵ as a whole, and 5.72% in Italy.⁶ In our dataset the gender gap in log hourly wages among fulltime employees is 6.50% for the panel data set and varies between 10.31% and 2.04% for the cross sections, see Table 2.

Table 2: GPG on Log of Net Hourly Wages

Year	Pool	2005	2006	2008	2010	2011	2014
GPG in %	6.50	10.31	8.64	7.12	5.77	2.04	4.21
Observations	44,480	10,397	10,009	9,358	10,280	9,897	13,145

Source: Own elaboration on Isfol-Plus.

A small GPG in hourly wage does not imply a thin overall income inequality between women and men within the economy. When considering the annual income instead of the hourly wage, the differential increases significantly due to the lower number of hours worked by female employees. Moreover, besides the GPG and the gender gap in paid hours, it is important to consider gender gaps in employment, as they also contribute substantially to increases of the difference in average earnings of women versus men. That is because in countries where the female employment rate is particularly low, women who chose to work may decide so due to their higher job profile and earnings expectations. To give a complete picture of the GPG, Eurostat has developed a new synthetic indicator called *Gender overall earnings gap*. This indicator measures the impact of three combined factors (hourly earnings, hours paid and employment rate) on the average earnings of all men of working age compared to women. Eurostat (2015) estimates the 2010 Gender overall earnings gap at 44.3% in Italy, and at 41.1% in Europe. At EU level, the Gender overall earnings gap was driven mostly by the GPG (contribution of 37.0%) and the gender employment gap (contribution of 35.0%), with minor contribution of the gender gap in paid hours (28.0%). In Italy the gender gap

⁴“The *unadjusted* gender pay gap provides an overall picture of gender inequality in hourly pay. This gap represents the difference between the average gross hourly earnings of men and women expressed as a percentage of average gross hourly earnings of men. It is called *unadjusted* as it does not take into account all of the factors that influence the gender pay gap, such as differences in education, labour market experience or type of job” (Eurostat 2015).

⁵EU-27 include: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden and the United Kingdom.

⁶The GPG in Italy varies between 4.40% and 7.30% in the period considered. The GPG indicator is calculated within the framework of the data collected according to the methodology of the Structure of Earnings Survey - NACE Rev. 2. The population consists of all paid employees in enterprises with 10 employees or more (Eurostat2014).

in employment rates was the main contributor to the total earnings gap (contribution of 65.0%), followed by the gender gap in paid hours (26.0%) and by the GPG (contribution of 9.0%, Eurostat 2015). Although the GPG in hourly wages is only a small part of the overall income inequality by gender in Italy, it is precisely the analysis of that small difference which brings out discrimination from the data and drives the gender gap in both paid hours and employment rates.

We intend to prove that recruitment carried out by public contest can narrow the GPG substantially and even reverse it among young employees because public contests are merit-based and gender-fair selection methods, that is without (or with a lower) wage discrimination. To achieve our purpose we focus on the estimates of disparity in hourly wages that persists when employed women and men are similar with regard to personal and job characteristics. This gap is of special interest for discrimination search, as this wage disparity cannot be justified on grounds of productivity. The basis for the following analysis is the estimation of a standard Mincer wage equation augmented by factors such as human capital, employment, personal and family background characteristics.

We consider as human capital variables: years of education and a dummy variable for excellence in education. The employment variables include actual work experience, as well as experience squared as an indicator of the diminishing marginal utility of the work experience, tenure (years with present employer), dummy variables for the employment sector (public or private) and occupations. Personal characteristics include family status and sex when appropriate. A complete list of the variables included in the analysis along with their coding is provided in Appendix A. By considering a broad set of controls, we expect to explain earnings as well as participation and selection into employment and capture the explained and the unexplained components of the difference in mean outcomes; i.e. the GPG.

The empirical analysis has been conducted on the panel data set and on the single cross sections as well. Table 3 shows the results for the panel data while Tables B1-B6 in Appendix B present the results for the cross-sectional data.

Among the explanatory variables there is the dummy variable *Public Contest*, which takes the value 1 if the individual has been hired by public contest and 0 otherwise. The estimation results show that recruitment carried out by public contest has a positive effect on wages. The recruitment through public contest has a sizeable positive effect on earnings and the dummy *Public Contest* emerges as one of the most important among the considered variables to predict earnings. In the full sample of individuals aged 18-64 the wage premium for the public-contest selection is between 3.7% and 11.2%. This finding is in line with the empirical evidence of a public sector premia in

Italy (Dickson et al. 2014, Cappellari 2002) as the correlation between being hired by public contest in Italy and working in the public sector is very high; indeed, about 90% of the individuals in our sample hired by contest work in the public sector.

The coefficient of the variable *Female*, negative and significant, confirms the usual results of the literature: being a woman reduces earnings. In our sample, earnings are reduced between 7.3% and 13.6%, all else equal. But the coefficient for the interaction term *Contsex*⁷, positive and significant, shows that female employees receive from public-contest selection a wage premium. The wage premium for young female employees is always higher than the gender penalty. When we consider women aged 18-64 the wage prize is except for 2005 and 2014 at par or even higher than the gender penalty. The results presented in Table 3 and in Tables B1-B6 show that experience, education and tenure positively impact on wages as expected.

Both theoretical literature and empirical evidence (Blau and Kahn , 2000) on the GPG indicate that small differences in the early career greatly expand with age and give rise to a large lifelong observed gender disparity in earnings. This is driven by gender differences in promotion and bargaining and particularly women's absence from the labor market due to childbearing and -care (Bertrand , 2011; Blackaby et al , 2005). As the positive effect of public-contest selection impacts to a greater extent on early wages, we expect to find a stronger effect of public-contest recruitment among young people, by taking the early age as a proxy for the early career. The results stressed above confirm that the positive effect on wages of recruitment carried out by public contest is stronger in the early career. Moreover, the positive effect of recruitment through public contest is less volatile and generally higher among young employees: their earnings increase between 7.5% and 8.3% if individuals are selected by public contest (compared to the non-selected). The coefficient of the variable *Female*, negative and significant, reduces the earnings of young employees. But the coefficient of the variable *Contsex*, positive and significant, shows that the premium received by female employees for the public-contest selection is much higher and outweighs the negative wage effect from *Female* significantly in all years. As public contests are less discretionary than other private methods of recruitment, they are assumed to be preferred by women (all else equal) because they can reduce gender discrimination. Consequently, we expect that the positive effect on wages of recruitment carried out by public contest is stronger for women than for men, as shown in Table 4 and Tables B7-B12.

⁷The variable *Contsex* is given by the interaction between the variables *Female* and *Public Contest*.

Table 3: OLS Estimates of Log Hourly Wages with Dummy *Public Contest* and Interactive Effect *Contsex*

Variables	Full Sample including Individuals Aged 18-64	Individuals Aged 18-34	Individuals Hired by Public Contest and Aged 18-64	Individuals Hired by Public Contest Aged 18-34	Individuals not Hired by Public Contest and Aged 18-64	Individuals not Hired by Public Contest and Aged 18-34
Public Contest	0.032*** (0.0070)	0.054*** (0.0170)				
Contsex	0.089*** (0.0076)	0.095*** (0.0184)				
Female	-0.102*** (0.0051)	-0.065*** (0.0073)	-0.016*** (0.0061)	0.039* (0.0210)	-0.103*** (0.0051)	-0.066*** (0.0073)
Exper	0.018*** (0.0008)	0.022*** (0.0030)	0.013*** (0.0014)	0.021*** (0.0074)	0.018*** (0.0010)	0.022*** (0.0033)
Exper2	-0.0002*** (1.61e-05)	-0.001*** (0.0002)	-8.75e-05*** (2.76e-05)	-0.0006 (0.0004)	-0.0002*** (2.01e-05)	-0.0005*** (0.0002)
Tenure	0.003*** (0.0003)	0.007*** (0.0012)	0.002*** (0.0004)	0.002 (0.0028)	0.004*** (0.0004)	0.008*** (0.0014)
Educ	0.041*** (0.0010)	0.027*** (0.0018)	0.063*** (0.0016)	0.035*** (0.0061)	0.033*** (0.0012)	0.027*** (0.0019)
Intermediate_Profession	0.040*** (0.0048)	0.041*** (0.0075)	-0.0002 (0.0090)	0.036 (0.0237)	0.064*** (0.0057)	0.041*** (0.0079)
Manager	0.198*** (0.0070)	0.097*** (0.0129)	0.185*** (0.0108)	0.125*** (0.0289)	0.167*** (0.0097)	0.086*** (0.0147)
Public_Sector	0.094*** (0.0059)	0.151*** (0.0111)	0.019* (0.0010)	0.046** (0.0229)	0.122*** (0.0072)	0.166*** (0.0124)
North	0.035*** (0.0046)	0.067*** (0.0082)	-0.016** (0.0066)	-0.043** (0.0190)	0.068*** (0.0061)	0.083*** (0.0089)
Centre	0.013** (0.0053)	0.041*** (0.0094)	-0.011 (0.0078)	-0.031 (0.0232)	0.035*** (0.0072)	0.054*** (0.0102)
Home_Time	0.008*** (0.0005)	0.015*** (0.0014)	0.007*** (0.0007)	0.014*** (0.0033)	0.008*** (0.0007)	0.015*** (0.0015)
Age_Y_Child3	0.050*** (0.0079)	0.067*** (0.0142)	0.036*** (0.0122)	0.064** (0.0290)	0.051*** (0.0102)	0.068*** (0.0163)
Childrdummy	0.001 (0.0054)	-0.041*** (0.0094)	0.021** (0.0086)	-0.040 (0.0262)	-0.008 (0.0069)	-0.041*** (0.0100)
Maximum_D_Mark	0.082*** (0.0093)	0.076*** (0.0158)	0.061*** (0.0116)	0.074*** (0.0276)	0.074*** (0.0152)	0.067*** (0.0191)
Married	0.035*** (0.0052)	0.026*** (0.0090)	0.016** (0.0080)	0.043** (0.0207)	0.046*** (0.0069)	0.026*** (0.0100)
Homeowner	0.053*** (0.0048)	0.050*** (0.0070)	0.042*** (0.0089)	0.030 (0.0196)	0.057*** (0.0058)	0.053*** (0.0075)
Extra_Hours	-0.009** (0.0038)	0.014** (0.0064)	-0.030*** (0.0058)	-0.002 (0.0167)	0.006 (0.0049)	0.017** (0.0068)
Constant	1.050*** (0.0155)	1.115*** (0.0323)	0.969*** (0.0303)	1.257*** (0.1010)	1.100*** (0.0191)	1.097*** (0.0344)
Observations	44,480	17,598	15,620	2,176	28,860	15,422
R-squared	0.348	0.142	0.286	0.120	0.222	0.094

Robust standard errors in parentheses
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 4: OLS Estimates of Log Hourly Wages by Age and Gender

Variables	Individuals Aged 18-64		Individuals Aged 18-34	
	Women	Men	Women	Men
Public Contest	0.091*** (0.0087)	0.059*** (0.0082)	0.123*** (0.0166)	0.083*** (0.0191)
Exper	0.015*** (0.0012)	0.021*** (0.0010)	0.016*** (0.0046)	0.026*** (0.0039)
Exper2	-0.0002*** (2.45e-05)	-0.0003*** (2.12e-05)	-0.0003 (0.0003)	-0.0007*** (0.0002)
Tenure	0.003*** (0.0004)	0.003*** (0.0004)	0.007*** (0.0018)	0.008*** (0.0016)
Educ	0.046*** (0.0016)	0.036*** (0.0012)	0.032*** (0.0029)	0.023*** (0.0022)
Intermediate Profession	0.065*** (0.0085)	0.025*** (0.0059)	0.069*** (0.0121)	0.023** (0.0095)
Manager	0.206*** (0.0114)	0.199*** (0.0092)	0.123*** (0.0195)	0.081*** (0.0177)
Public Sector	0.135*** (0.0089)	0.059*** (0.0078)	0.175*** (0.0155)	0.113*** (0.0158)
North	0.010 (0.0072)	0.057*** (0.0059)	0.074*** (0.0131)	0.062*** (0.0102)
Centre	0.001 (0.0080)	0.024*** (0.0071)	0.063*** (0.0143)	0.023* (0.0124)
Home Time	0.007*** (0.0007)	0.008*** (0.0007)	0.013*** (0.0020)	0.016*** (0.0018)
Age Y Child3	0.057*** (0.0109)	0.037*** (0.0111)	0.080*** (0.0177)	0.039 (0.0234)
Childrdummy	-0.015** (0.0074)	0.018** (0.0078)	-0.051*** (0.0131)	-0.022* (0.0133)
Maximum D Mark	0.069*** (0.0116)	0.086*** (0.0156)	0.073*** (0.0192)	0.062** (0.0283)
Married	0.033*** (0.0068)	0.031*** (0.0084)	0.020* (0.0112)	0.048*** (0.0156)
Homeowner	0.056*** (0.0075)	0.050*** (0.0063)	0.058*** (0.0107)	0.048*** (0.0092)
Extra Hours	-0.022*** (0.0056)	0.001 (0.0051)	-0.002 (0.0094)	0.027*** (0.0086)
Constant	0.907*** (0.0263)	1.066*** (0.0196)	0.989*** (0.0520)	1.140*** (0.0413)
Observations	20,465	24,015	8,590	9,008
R-squared	0.366	0.338	0.177	0.104

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

4 Public Contests are Gender-fair and Merit-based Selection Methods

In the previous section we have found evidence that hiring carried out by public contest has a positive effect on earnings, more prominent for female and young employees. In this section we use the Oaxaca-Blinder standard methodology to decompose the GPG (Blinder, 1973; Oaxaca, 1973). Our aim is to estimate the GPG all else equal, and to find evidence of gender discrimination in our data (if any). We expect that both the GPG and discrimination are lower among public-contest selected employees. That is because we assume that public contests are merit-based and gender-fair, whereas other private methods of recruitment are more discretionary and unregulated, in so creating the conditions for gender discrimination to flourish. By using the implicit assumptions in Blinder (1973); Oaxaca (1973) we decompose the wage differential in three distinct parts; endowments, coefficients and interactions:

$$\begin{aligned}\overline{\ln(W_M)} - \overline{\ln(W_F)} &= \bar{X}'_M \hat{\beta}_M - \bar{X}'_F \hat{\beta}_F \\ &= (\bar{X}'_M - \bar{X}'_F) \hat{\beta}_F + \bar{X}'_F (\hat{\beta}_M - \hat{\beta}_F) + (\bar{X}'_M - \bar{X}'_F) (\hat{\beta}_M - \hat{\beta}_F)\end{aligned}\quad (1)$$

where $\overline{\ln(W_M)}$ and $\overline{\ln(W_F)}$ are the logarithmic wages for the male and female sample evaluated at the mean, respectively, with \bar{X}_G and $\hat{\beta}_G$ being $(K \times 1)$ vectors of average characteristics and estimated coefficients for $G = (F, M)$, where $G = F$ stands for female and $G = M$ stands for male. The first term is the endowments effect that evaluates the GPG in terms of characteristics at the rate of return of the characteristics of women. As different endowments should have different effects on earnings, the difference in endowments represents the *explained* component in the Oaxaca-Blinder three-fold decomposition. The second term is the coefficients effect evaluating the GPG in terms of different returns for female characteristics. As the same endowments should have the same effect on earnings for both men and women, coefficients should not differ by gender, which is why this term represents the *unexplained* part of the GPG. If the GPG depends mainly on the difference in returns on characteristics, this may indicate the presence of gender discrimination.⁸ The third term is the interaction effect that takes into account the simultaneous existence of differences in

⁸The unexplained part of the GPG is often taken to be an estimate for the gender discrimination. However, the unexplained portion of the GPG may include the effects of unmeasured productivity or compensating differentials, and some of the explanatory variables such as industry or occupation may be affected by discrimination (Blau and Kahn, 2006).

endowments and remuneration by gender⁹.

In the case of public-contest recruitment, the GPG vanishes from 2005 onwards (see Table 5). Interestingly, the coefficient component is not statistically significant except for 2014 where, however, it is not the main driver of the zero-GPG. On the contrary, Table 6 shows that if individuals enter not via public contests in employment, there is a significant GPG in all years. Also, the component generally referred to as *discrimination*, the coefficient effect, turns highly statistically significant in all years.

Our data show (Table 5) that the GPG among public-contest selected employees vanishes in the full sample of individuals aged 18-64 and even reverses in the young sample, 18-34 years (Table 7). This is because the career path erodes the head start that young women receive by public-contest recruitment. Table 7 shows the result for the young sample; recruitment carried out by public contest significantly reverses the GPG among young employees in all years, except for 2014, where the reversal is not statistically significant. Table 7 shows that the reversed wage gap is mainly explained by endowments, i.e. by the fact that women have better observable characteristics than men, with the only exception of 2011. The component for discrimination (coefficients) is not even significant in 2005, 2010 and 2014; given the same observable characteristics for men and women, the difference in coefficients by gender is negligible (not statistically significant). Conversely, in the sample of young individuals not hired by public contest (Table 8), the GPG is never reversed apart for 2001 where, however, it is substantially smaller compared to the GPG found for young public contest selected employees. In the case of young individuals not hired by public contest, the coefficients component is always significant;¹⁰ meaning that there is discrimination in pay already in the early career, when individuals are recruited not by public contest. The different magnitude of the GPGs shown in Tables 6 and 8 may due to the fact that even small differences at the start of the career may expand greatly in the career path and give rise to large lifelong GPGs.

⁹An alternative to the three-fold decomposition outlined here is the two-fold decomposition that decomposes the wage differential in an explained and an unexplained part;

$$\begin{aligned} \overline{\ln(W_M)} - \overline{\ln(W_F)} &= \hat{\alpha}_M + \bar{X}'_M \hat{\beta}_M - \hat{\alpha}_F - \bar{X}'_F \hat{\beta}_F \\ &= (\bar{X}'_M - \bar{X}'_F) \hat{\beta}_F + \bar{X}'_F (\hat{\beta}_M - \hat{\beta}_F) + (\hat{\alpha}_M - \hat{\alpha}_F) \end{aligned}$$

We focus here on the three-fold as differences existing simultaneously across gender (interaction effects) may be important.

¹⁰Except for the year 2011.

Table 5: Log Hourly Wages and Oaxaca-Blinder Decomposition of Gender Log Hourly Wage Gap, Public-Contest Selected Employees – Full Sample 18-64

Year	Pool	2005	2006	2008	2010	2011	2014
Differential							
Male Wages (Log-Hourly Wages)	2.352*** (0.0104)	2.282*** (0.0050)	2.311*** (0.0099)	2.355*** (0.0104)	2.375*** (0.0121)	2.369*** (0.0121)	2.362*** (0.0099)
Female Wages (Log-Hourly Wages)	2.348*** (0.0045)	2.243*** (0.0094)	2.302*** (0.0045)	2.352*** (0.0010)	2.378*** (0.0102)	2.386*** (0.0106)	2.365*** (0.0088)
Difference	0.004 (0.0067)	0.039*** (0.0140)	0.009 (0.0138)	0.003 (0.0144)	-0.003 (0.0158)	-0.017 (0.0161)	-0.003 (0.0132)
Decomposition							
Endowments	-0.035*** (0.0051)	-0.069*** (0.0107)	-0.024** (0.0107)	-0.045*** (0.0123)	-0.032*** (0.0118)	-0.051*** (0.0117)	-0.072*** (0.0090)
Coefficients	0.007 (0.0066)	0.083*** (0.0139)	-0.007 (0.0132)	-0.002 (0.0142)	0.001 (0.0170)	-0.012 (0.0156)	0.048*** (0.0138)
Interaction	0.032*** (0.0046)	0.025*** (0.0090)	0.041*** (0.0094)	0.050*** (0.0117)	0.029** (0.0121)	0.046*** (0.0110)	0.021*** (0.0082)
Observations	15,620	3,924	3,666	3,164	3,249	3,161	4,670

Robust standard errors in parentheses

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

Table 6: Log Hourly Wages and Oaxaca-Blinder Decomposition of Gender Log Hourly Wage Gap, Not Public-Contest Selected Employees – Full Sample 18-64

Year	Pool	2005	2006	2008	2010	2011	2014
Differential							
Male Wages (Log- Hourly Wages)	1.997*** (0.0035)	2.027*** (0.0068)	1.955*** (0.0072)	1.991*** (0.0070)	2.010*** (0.0077)	2.007*** (0.0074)	2.078*** (0.0100)
Female Wages (Log- Hourly Wages)	1.899*** (0.0042)	1.885*** (0.00822)	1.830*** (0.0080)	1.885*** (0.0083)	1.925*** (0.0099)	1.969*** (0.0100)	2.011*** (0.0080)
Difference	0.098** (0.0055)	0.142*** (0.0107)	0.125*** (0.0107)	0.106*** (0.0108)	0.086*** (0.0125)	0.038*** (0.0124)	0.067*** (0.0106)
Decomposition							
Endowments	-0.018*** (0.0036)	-0.018*** (0.0076)	0.008 (0.0073)	-0.022*** (0.0078)	-0.023*** (0.0074)	-0.034*** (0.0078)	-0.029*** (0.0058)
Coefficients	0.094*** (0.0054)	0.145*** (0.0102)	0.093*** (0.0108)	0.100*** (0.0103)	0.083*** (0.0126)	0.073*** (0.0124)	0.076*** (0.0110)
Interaction	0.022*** (0.0035)	0.015** (0.0066)	0.024*** (0.0074)	0.028*** (0.0071)	0.026*** (0.0077)	-0.001 (0.0083)	0.020*** (0.0060)
Observations	28,860	6,473	6,343	6,194	7,031	6,736	8,475

Robust standard errors in parentheses

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

Table 7: Log Hourly Wages and Oaxaca-Blinder Decomposition of Gender Log Hourly Wage Gap, Public-Contest Selected Employees – Young Sample 18-34

Year	Pool	2005	2006	2008	2010	2011	2014
Differential							
Male Wages (Log- Hourly Wages)	2.048**** (0.0144)	2.087*** (0.0311)	2.001*** (0.0281)	2.048*** (0.0281)	2.034*** (0.0121)	2.016*** (0.0304)	2.168*** (0.0264)
Female Wages (Log- Hourly Wages)	2.181**** (0.0101)	2.075*** (0.0203)	2.130*** (0.0203)	2.205*** (0.0239)	2.190*** (0.0206)	2.234*** (0.0229)	2.222*** (0.0212)
Difference	-0.133**** (0.0176)	-0.0799*** (0.0372)	-0.129*** (0.0338)	-0.158*** (0.0369)	-0.155*** (0.0421)	-0.218*** (0.0381)	-0.054 (0.0339)
Decomposition							
Endowments	-0.152*** (0.0166)	-0.165*** (0.0327)	-0.136*** (0.0298)	-0.198*** (0.0407)	-0.187*** (0.0349)	-0.070 (0.0443)	-0.072*** (0.0220)
Coefficients	-0.071*** (0.0240)	0.0329 (0.0559)	-0.101*** (0.0445)	-0.124** (0.0486)	-0.046 (0.0583)	-0.134*** (0.0459)	0.029 (0.0450)
Interaction	0.089*** (0.0221)	0.0519 (0.0498)	0.109*** (0.0400)	0.165*** (0.0518)	0.078 (0.0540)	-0.0131 (0.0567)	-0.012 (0.0333)
Observations	2,176	613	509	427	559	494	889

Robust standard errors in parentheses

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

Table 8: Log Hourly Wages and Oaxaca-Blinder Decomposition of Gender Log Hourly Wage Gap, Not Public-Contest Selected Employees – Young Sample 18-34

Year	Pool	2005	2006	2008	2010	2011	2014
Differential							
Male Wages (Log- Hourly Wages)	1.832*** (0.0044)	1.769*** (0.0083)	1.772*** (0.0085)	1.824*** (0.0093)	1.852*** (0.0099)	1.863*** (0.0094)	1.928*** (0.0103)
Female Wages (Log- Hourly Wages)	1.817*** (0.0055)	1.701**** (0.0100)	1.756*** (0.0095)	1.804*** (0.00992)	1.852*** (0.0133)	1.903*** (0.0140)	1.931*** (0.0121)
Difference	0.015** (0.0071)	0.069*** (0.0130)	0.017 (0.0128)	0.0194 (0.0136)	0.000 (0.0166)	-0.040** (0.0168)	-0.002 (0.0159)
Decomposition							
Endowments	-0.062*** (0.0043)	-0.095*** (0.00929)	-0.052*** (0.0077)	-0.077*** (0.0089)	-0.059*** (0.0109)	-0.060*** (0.0108)	-0.048*** (0.0080)
Coefficients	0.060*** (0.0076)	0.139*** (0.0136)	0.057*** (0.0113)	0.085*** (0.0152)	0.032* (0.0177)	0.013 (0.0183)	0.038** (0.0171)
Interaction	0.016*** (0.0045)	0.025** (0.0104)	0.011 (0.0101)	0.014 (0.0107)	0.028*** (0.0123)	0.007 (0.0131)	0.008 (0.0096)
Observations	15,422	3,408	3,448	3,355	3,946	3,524	3,898

Robust standard errors in parentheses

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

5 Accounting for Double Sample Selection: Model and Results

In the previous sections, the GPG disappeared when employees are recruited via public contests and even reverses in favor of women among public-contest selected young employees. We argue that this is due to the fairness of the public-contest selection mechanism, that is, among public-contest selected employees women's characteristics are rewarded as men's. In order to prove this statement, we must control for any possible selection bias that may occur when the selection process into the considered subsample is not random and may be different for male and female workers (Heckman 1979). Earnings are observed only for the sector in which the individual is employed (sector where the entry is via public contest or not) and thus the sectoral earnings equations cannot be consistently estimated using ordinary least squares regression due to the endogeneity of sectoral choice (often referred to as selection bias). The selection rule depends on two individual decisions; the decision to be employed and the sectoral choice (recruitment by public contest or not). Our setup refers to the case of a censored probit, i.e. *partial partial observability* by the definition of Meng and Schmidt (1985); the output of the first decision is always observed, but the output of the second decision is observed if and only if the individual participates in employment. In this paper, we do not take into account the selectivity bias that can stem from the participation in the labor market. We consider only individuals that have already chosen to participate in the labor market. We are aware of the fact that the selectivity bias that can stem from the participation to the labor force may be particularly relevant in Italy given the low female participation into the labor market (see De la Rica et al. 2008; Olivetti and Petrongolo 2008; Centra and Cuttillo 2009). However, as this participation bias is well known for the Italian case, in this paper we prefer to focus on the double selection of employment and recruitment decisions only; i.e. the decision to accept a wage offer¹¹ (yes or no) and the decision to compete in public contests (yes or no). The double selection approach allows simultaneous estimation of the worker's participation to employment and of the decision to be hired by means of a public contest.

The selection into wage work may depend on some positive factors such as individual ability, motivation or educational quality that raise both the probability of being employed and the level of wages, but are omitted in the estimates of earnings equation as these factors are unobservable. Moreover, we need to correct for any possible endogeneity bias that may result when the decision of individuals for public-contest recruitment also depends on individuals decisions to participate in

¹¹The observation of the wage may depend either on the decision of the employee to accept a job offer or not, or on the firm decision to hire the candidate or not. We assume that the selection into employment depends only on the individual decision and not on the firm decision.

a contest. The selection rules are described by the following relations:

$$\text{Employment Selection:} \quad Y_{iW}^* = Z_i' \gamma + u_{iW} \quad (2)$$

$$\text{Public-Contest Selection:} \quad Y_{iR}^* = Q_i' \alpha + u_{iR} \quad (3)$$

where Y_{iW}^* represents the unobservable index function underlying individual i 's decision whether to work or not and Y_{iR}^* represents the unobservable index function underlying individual i 's decision to use the channel of public contest; with Z_i and Q_i being $(K_z \times 1)$ and $(K_Q \times 1)$ vectors of explanatory variables, respectively; and the u_i are assumed to be $N(0, 1)$ with $\text{cov}(u_W, u_R) = \rho$.

The model is completed with wage equations for paid-employees in both sectors. Moreover, we estimate the model separately for the female and the male sample. The model can also be consistently estimated by Maximum Likelihood Estimation (MLE). Yet, the number of parameters to be estimated is rather large and by FMLE we run into many convergence failures of the optimization methods. Therefore, we follow Tunali (1986) and Sorensen (1989) that extend the Heckman (1976, 1979) and Lee (1979, 1983) procedure by including selectivity coefficients as explanatory variables in the wage regression. The method proposed by Tunali (1986) is a two-step procedure that at the first step makes use of MLE for equations (2) and (3) to obtain consistent estimates of the correction (selectivity) terms; $\bar{\lambda}_W$ and $\bar{\lambda}_R$. This procedure allows wages to be generated through multiple selection rules explicitly recognizing the roles of both the work decision and the recruitment decision for the determination of the individual's employment status. In Appendix 7, Table B21–B26, the estimation results of the bivariate probit regression for men and women are outlined. Adding the selection terms $\bar{\lambda}_W$ and $\bar{\lambda}_R$ to the earnings equations allows us to consistently estimate the earnings for public-contest and non-public-contest selected individuals, respectively (Lee 1983; Tunali 1986):

$$\overline{\ln(W_G^m)} = \bar{X}_G^{m'} \hat{\beta}_G^m + \hat{\delta}_{W,G}^m \bar{\lambda}_{W,G}^m + \hat{\delta}_{R,G}^m \bar{\lambda}_{R,G}^m \quad (4)$$

where $m = (PC, NPC)$; $m = PC$ is for individuals selected by contest and $m = NPC$ is for individuals not selected by public contest and $G = (F, M)$ where $G = F$ is for female and $G = M$ is for male. Following Beblo et al. (2003), when considering selection in the sample, the decomposition expression (1) becomes:

$$\overline{\ln(W_M^m)} - \overline{\ln(W_F^m)} = (\bar{X}_M^{m'} - \bar{X}_F^{m'}) \hat{\beta}_F^m + \bar{X}_F^{m'} (\hat{\beta}_M^m - \hat{\beta}_F^m) + \bar{\lambda}_{W,F}^m (\hat{\delta}_{W,M}^m - \hat{\delta}_{W,F}^m) + \bar{\lambda}_{R,F}^m (\hat{\delta}_{R,M}^m - \hat{\delta}_{R,F}^m) \quad (5)$$

Tables B21–B26 in Appendix B present the results of the bivariate probit model for the two selection equations, (2) and (3) that model the decision to enter employment via public contest and the decision to become employed. The parameter ρ measuring the correlation of the residuals from the two models shows that the unobservable parts of the two equations are strongly and positively correlated for both, men and women. Hence, the two decisions need to be modeled jointly.

The selection terms and sector-specific earnings equations are identified since both of the selection equations include groups of variables which are uniquely excluded from the earnings equations. The dummy variables *Partner Works* and *Age5064*¹² are included in the participation equation (2) as they are assumed to affect an individual’s reservation earnings. These variables are excluded from both the earnings and the sectoral choice equations as they should not affect marginal productivity or individual preferences in a particular recruitment method. This identification strategy is in line with the analysis of Bar et al. (2015) that emphasize the negative relationship between the decision of women to work and spousal income.

Variables measuring the level of work satisfaction (including the level of satisfaction with working climate, stability of job and workload at current job) are included in the second choice equation (3) as they are assumed to affect the individual’s propensity to being employed by public-selection recruitment method. These variables are excluded from both the earnings and the participation equations as they should not affect marginal productivity or reservation earnings.

The parameter ρ measuring the correlation of the residuals from the two models shows that the unobservable parts of the two equations are strongly correlated for both, men and women. For the female sample, ρ is highly statistically significant in all years. Similarly for the male sample, except for 2005, the correlation is highly statistically significant and positive. Both the high significance of ρ and the Loglikelihood Ratio (LLR) test show that the two selection equations are not independent and thus underline the importance of taking both decisions into account.

The estimated values for ρ suggest that there are positive and significant selection (or truncation) effects and those who select into public-contest employment get higher wages than a randomly chosen individual not selected into public-contest recruitment with a similar set of characteristics would get.

The double selection mechanism may reveal benefits from selection through public contest for both, men and women. If the selection effect of both the work decision and the recruitment decision is significant and positive, women and men selected by public contest would have higher unobserved

¹²The dummy variable *Partner Works* is equal to one if the partner of the individual is employed and zero otherwise. The dummy variable *Age5064* is equal to one if the individual’s age is between 50 and 65 years, zero otherwise.

characteristics and wages than women and men with the same observed characteristics not selected by public contest. We present in Table 9 definitions and values of the four selection variables we consider in this study, for both men and women in the full sample.¹³

We study first the sign of λ 's in the sample of individuals selected by public contest (λ_W^{PC} and λ_R^{PC}). The positive sign of the coefficient λ_W^{PC} indicates the presence of sample selection bias, that is, individuals in employment are paid more than otherwise observationally identical unemployed individuals. This means that those unobserved characteristics raising the probability of being employed also increase wages. We find evidence that women recruited by public contest have higher positive unobserved characteristics and earnings than other women with similar observed characteristics and actually unemployed would have obtained if they were recruited by public contest.

¹³The complete wage regressions with selection variables are provided in Appendix B, Tables B13–B19. Due to data limitation (only 2,176 observations out of 17,598 young employees in the panel dimension and 3,491 out of 25,070 observations on aged below 35 in the entirety of the cross sections), the coefficient estimates for the selection terms are generally not statistically significant. Therefore, we present here only the results for the full sample.

Table 9: Selection Variables, Definition and Values

Year	Pool		2005		2006		2008		2010		2011		2014	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
λ_W^{PC} measures the selection bias from the <i>work decision</i> for those selected by public contest	0.050 (0.0340)	0.160 (0.1090)	0.006 (0.0507)	0.449 (0.4585)	0.002 (0.0800)	0.386* (0.2240)	0.068 (0.0864)	-0.049 (0.0236)	0.237** (0.1060)	0.449 (0.4170)	-0.0192 (0.1080)	0.458 (0.3100)	-0.205 (0.1520)	0.178 (0.2750)
λ_R^{PC} measures the selection bias from the <i>recruitment decision</i> for those selected by public contest	0.151*** (0.0256)	0.126*** (0.0247)	0.128* (0.0676)	-0.011 (0.0579)	0.109** (0.0529)	0.118*** (0.0452)	0.153** (0.0598)	0.107** (0.0463)	0.221*** (0.0655)	0.125* (0.0738)	0.112* (0.0633)	0.131** (0.0625)	0.010 (0.0461)	0.090* (0.0489)
Observations	8,439	7,181	2,099	1,825	1,799	1,867	1,658	1,506	1,725	1,524	1,801	1,360	2,799	1,871
λ_W^{NPC} measures the selection bias from the <i>work decision</i> for those NOT selected by public contest	-0.002 (0.0360)	0.139*** (0.0367)	0.004 (0.0402)	0.034 (0.0485)	-0.097 (0.0592)	0.159** (0.0688)	-0.022 (0.0640)	0.133* (0.0687)	-0.081 (0.1100)	0.0640 (0.0885)	0.194* (0.1040)	-0.157** (0.0774)	0.027 (0.1250)	0.248* (0.1210)
λ_R^{NPC} measures the selection bias from the <i>recruitment decision</i> for those NOT selected by public contest	-0.058** (0.0248)	0.007 (0.0227)	-0.096* (0.0506)	-0.040 (0.0420)	-0.083* (0.0428)	0.044 (0.0428)	-0.142*** (0.0463)	-0.034 (0.0413)	-0.102 (0.0666)	-0.156** (0.0610)	-0.116** (0.0613)	-0.121** (0.0541)	-0.016 (0.0485)	0.106 (0.0695)
Observations	12,026	16,834	2,774	3,699	2,553	3,790	2,584	3,610	2,830	4,201	2,806	3,930	3,633	4,842

The positive sign of the coefficient λ_R^{PC} indicates that those unobserved positive characteristics raising the probability of winning a contest also increase wages. That is, individuals who are actually recruited by public contest have higher positive unobserved characteristics and wages than individuals not recruited by public contest would have obtained if they were recruited by public contest.

We turn now to study the sign of λ 's in the sample of individuals not selected by public contest (λ_W^{NPC} and λ_R^{NPC}). The selectivity variable λ_W^{NPC} is not statistically significant, that is employees not selected by public contest have almost the same unobserved characteristics and wage offers than unemployed individuals. On the contrary, as expected, the selectivity variable λ_R^{NPC} is negative and statistically significant, that is employees recruited without public contest have lower levels of positive unobserved characteristics and wage offers than individuals actually selected by public contest.

Our results in Table 9 strengthen the results found in Section 3; public contests are merit-based selection methods. The value of λ_W^{PC} (female coefficient) in Table 9, positive and significant, confirms that women selected by contest have better unobserved characteristics than unemployed women. Moreover, the value of λ_R^{PC} , positive and significant, confirms that women selected by public contest have better unobserved characteristics than women not selected by public contest. As expected, the female coefficient of λ_R^{NPC} , negative and significant, provides a further confirmation of the fact that the recruitment mechanism of public contests is a merit-based; indeed women not selected by public contest have worse unobserved characteristics. The values of the male coefficients λ_R^{PC} and λ_R^{NPC} , positive and significant the first, negative and significant the second, confirm the fact that public contests are a merit-based selection method also for men.

Last, the value of λ_W^{PC} positive and significant for women and not significant for men, confirms once again that women have better unobserved characteristics than men among public-contest selected employees.

6 Counterfactual GPG Adjusted for Double Selection

In Section 4 we have shown that the GPG in the case of public-contest recruitment is reduced to zero. Moreover, when we look at the decomposition of the GPG, it turns out that only the explained component is statistically significant. On the opposite, in the case of non public-contest recruitment, the coefficients effect is identified as the main driver of a positive and significant GPG.

To verify the robustness of these results in the presence of selection bias, we compute the CPG adjusted for selectivity bias. Tables 10 and 11 show the estimated difference in pay between men and women after the correction for selectivity bias. In particular, the CPG adjusted for double selection is given by

$$CPG^m = \bar{X}_F^{m'}(\hat{\beta}_M^m - \hat{\beta}_F^m) + \bar{\lambda}_{E,F}^m(\hat{\delta}_{W,M}^m - \hat{\delta}_{W,F}^m) + \bar{\lambda}_{R,F}^m(\hat{\delta}_{R,M}^m - \hat{\delta}_{R,F}^m) \quad (6)$$

where $m = (PC, NPC)$.

Table 10 confirms the results of Section 3. In the case of public-contest selected individuals, women earn the same than they would if they were remunerated as men; the CPG is not statistically different from zero except for 2005. When we consider individuals not selected by public contest, the counterfactual analysis corrected by the selectivity bias also confirms the results of Section 3. In both cases, with and without taking into account the correction for selectivity bias, the unexplained part turns out to be an important driver of the GPG in the case of non public-contest selection. Using the estimation results, it is predicted that women in non public contest jobs earn between 4.00% (in 2011) and 17.00% (in 2005) less than they would if they were remunerated as men. Hence, in the case of non public-contest recruitment, a non-trivial pay disparity between women and men still exists even after adjusting for selectivity and productivity-related characteristics.

Table 10: CPG Adjusted for Double Selection, Public-Contest Selected Individuals – Full Sample 18-64

Year	Pool	2005	2006	2008	2010	2011	2014
Counterfactual	0.009 (0.0273)	0.233*** (0.0239)	0.056 (0.0444)	-0.044 (0.0504)	0.079 (0.1100)	0.099 (0.01020)	0.081 (0.0938)
Observations	15,620	3,924	3,666	3,164	3,249	3,161	4,670
<i>Robust standard errors in parentheses</i>							
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$							

Table 11: CPG Adjusted for Double Selection, Non Public-Contest Selected Individuals – Full Sample 18-64

Year	Pool	2005	2006	2008	2010	2011	2014
Counterfactual	0.133*** (0.0121)	0.160*** (0.0203)	0.152*** (0.0306)	0.149*** (0.0304)	0.113*** (0.0241)	0.043** (0.0205)	0.118*** (0.0246)
Observations	28,860	6,473	6,343	6,194	7,031	6,736	8,475
<i>Robust standard errors in parentheses</i>							
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$							

7 Conclusion

We study the effect of hiring methods on earnings and we show that public-contest selection reduces the conditions for gender discrimination to flourish. We argue that public contests are merit-based and gender-fair mechanisms for performance appraisal. They are merit-based because employees hired by public contest hold better observable and unobservable characteristics than unselected employees. They are gender-fair because among public-contest selected employees women’s characteristics are rewarded as men’s ones, thereby indicating the absence of gender discrimination. The GPG, if any, only depends on the difference in women’s and men’s characteristics. We prove that recruitment carried out by public contests erases the GPG in the full sample of individuals aged 18-64, and even reverse the gap in favor of women among young employees. To the best of our knowledge, no other research establishes such a relationship between recruitment procedures and the reversal of the GPG. This merit-based procedure picks out the most deserving participants because it is less discretionary and more regulated by law than other screening devices.

Our data show that the positive effect of public-contest selection impacts to a greater extent

in the early career. Earnings increase substantially if individuals are selected by public contest (compared to the non-selected). Moreover, the Oaxaca-Blinder decomposition of the GPG shows that discrimination is lower (or even not statistically significant) among public-contest selected employees. Hence, public contests are merit-based and gender-fair selection methods.

The implication is that we observe in the young sample of individuals recruited by public contest a strong wage gap in favor of women. Moreover, this gap is mainly explained by endowments, i.e. by the fact that women have better observable characteristics than men. The component for discrimination (coefficients) is often not significant at all; if men had the same productive characteristics as women, they would be remunerated equally. Our data also show that the reversal of the GPG observed among public-contest selected young employees vanishes among individuals aged 18-64, even if they are recruited by public contest. This is because the career path erodes the head start that young women receive by public-contest recruitment. This result is in line with the literature finding that women are less often promoted and have generally more breaks in their careers due to childbearing and -care (Bertrand , 2011; Blackaby et al , 2005; Fortin , 2008; Heilman and Okimoto , 2008; Niederle and Vesterlund , 2007). The best female characteristics are confirmed by a positive and significant coefficient for endowments in the full sample too, but whenever the initial advantage of young women is reabsorbed from the career path, the reversal vanishes again. Indeed, in the case of employees not hired by public contest, discrimination in the career path is the main driver of the disparity in pay. By comparing the values of coefficients in the Oaxaca-Blinder decomposition by recruitment method, we draw the conclusion that public-contest recruitment is a gender-fair screening device.

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Appendix A: Definition of Variables

Variable Name	Definition
Dependent Variables	
Work Decision	One if the respective individual decided to work for pay, zero if unemployed
Public Contest	One if the respective individual was selected by public contest, zero otherwise
Net Hourly Wages	Hourly wages in Euros and net of taxes and social security contributions
Independent Variables	
Female	One if the respective individual is a woman, zero otherwise
Contsex	Interactive effect of Public Contest and Female, i.e. one if employee entered via public contests in current job and is female, zero otherwise
Exper	Number of years of prior work experience
Exper2	Exper squared
Tenure	Number of years worked for current employer
Educ	Number of years of schooling completed
Maximum_D_Mark	One if maximum degree mark was, i.e. <i>110 e lode</i> , attained, zero otherwise
Managers	Intellectual professions; scientific, and highly specialized occupations
Intermediate_Profession	Intermediary positions in commercial, technical or administrative sectors, health services, technicians.
Age	Age of individual (in years)
Age5064	One if age is between 50 and sixty-four years, zero otherwise
Public_Sector	One if firm is a publicly owned firm, zero otherwise
City	One if individual is located in a metropolitan area, zero otherwise
Full_Time	One if worked at least 1,840 hours last year, zero otherwise
Married	One if married, zero otherwise
Childrdummy	One if individual has at least one child, zero otherwise
Ageychild3	One if age of youngest child is less or equal to three years, zero otherwise
North	One if individual lives and works in the North of Italy, zero otherwise
Centre	One if individual lives and works in the Centre of Italy, zero otherwise
Homeowner	One if employee owns a house, zero otherwise
Extra_Hours	Measures the hours spent working overtime
Partner_Works	One if partner is employed, zero otherwise
Eng_Skill	One if individual is able to communicate in English, zero otherwise
Italian	One if individual is Italian, zero otherwise
Working_Climate	Level of satisfaction with working climate at current job
Stability_Work	Level of satisfaction with stability of current job

Hours_Work	Level of statisfaction with working hours at current job
Payment_Work	Level of statisfaction with retribution at current job
Workload	Level of statisfaction with workload at current job
<i>Selection Variables</i>	
λ_W^{PC}	Measures the selection bias from the work decision for those selected by public contest
λ_R^{PC}	Measures the selection bias from the recruitment decision for those selected by public contest.
λ_W^{NPC}	Measures the selection bias from the work decision for those not selected by public contest
λ_R^{NPC}	Measures the selection bias from the recruitment decision for those not selected by public contest

Appendix B: Estimation results

Table B1: OLS Estimates of Log Hourly Wages with Dummy *Public Contest* and Interactive Effect *Contsex*, 2005

Year	2005					
Variables	(1) Full Sample of Individuals Aged 18-64	(2) Individuals Aged 18-34	(3) Individuals Hired by Public Contest and Aged 18-64	(4) Individuals Hired by Public Contest and Aged 18-34	(5) Individuals not hired by Public Contest and Aged 18-64	(6) Individuals not Hired by Public Contest and Aged 18-34
Public Contest	0.049*** (0.0139)	0.072** (0.0340)				
Contsex	0.054*** (0.0149)	0.074** (0.0374)				
Female	-0.146*** (0.010)	-0.146*** (0.0129)	-0.092*** (0.0122)	-0.051 (0.0418)	-0.152*** (0.0098)	-0.148*** (0.0130)
Exper	0.020*** (0.0015)	0.022*** (0.0050)	0.013*** (0.0028)	0.035** (0.0172)	0.022*** (0.0018)	0.019*** (0.0051)
Exper2	-0.0003*** (3.06e-05)	-0.0004 (0.0003)	-0.0001** (5.63e-05)	-0.001 (0.0008)	-0.0003*** (3.74e-05)	-0.0002 (0.0003)
Tenure	0.002*** (0.0006)	0.002 (0.0020)	0.002*** (0.0009)	-0.006 (0.0049)	0.002** (0.0007)	0.005** (0.0021)
Educ	0.040*** (0.002)	0.037*** (0.0034)	0.051*** (0.0032)	0.056*** (0.0114)	0.035*** (0.0024)	0.035*** (0.0036)
Intermediate_Profession	0.042*** (0.0093)	0.037*** (0.0135)	-0.013 (0.0187)	-0.065 (0.0451)	0.073*** (0.0109)	0.053*** (0.0141)
Manager	0.314*** (0.0150)	0.183*** (0.0284)	0.312*** (0.0229)	0.129** (0.0605)	0.251*** (0.0225)	0.171*** (0.0346)
Public_Sector	0.048*** (0.0112)	0.105*** (0.0196)	0.003 (0.0215)	0.064 (0.0410)	0.068*** (0.0134)	0.107*** (0.0221)
North	0.056*** (0.0085)	0.094*** (0.0148)	-0.012 (0.0133)	-0.038 (0.0366)	0.102*** (0.0110)	0.120*** (0.0162)
Centre	0.047*** (0.0106)	0.073*** (0.0179)	0.016 (0.0154)	-0.035 (0.0455)	0.080*** (0.0144)	0.098*** (0.0194)
Home_Time	0.007*** (0.0010)	0.014*** (0.0025)	0.0047*** (0.0015)	0.008 (0.0065)	0.010*** (0.0012)	0.015*** (0.0027)
Age_Y_Child3	0.044*** (0.0146)	0.035 (0.0223)	0.054** (0.0237)	0.073 (0.0469)	0.023 (0.0185)	0.019 (0.0249)
Childrdummy	0.011 (0.010)	0.019 (0.0185)	0.007 (0.0156)	0.029 (0.0420)	0.021* (0.0123)	0.017 (0.0206)
Maximum_D_Mark	0.074*** (0.0216)	0.045 (0.0348)	0.035 (0.0265)	0.005 (0.0678)	0.099*** (0.0377)	0.034 (0.0401)
Married	0.026*** (0.010)	0.064*** (0.0200)	0.010 (0.0148)	0.095** (0.0424)	0.037*** (0.0135)	0.058** (0.0228)
Homeowner	0.027*** (0.010)	-0.018 (0.0182)	0.019 (0.0158)	-0.020 (0.0444)	0.031** (0.0131)	-0.017 (0.0197)
Extra_Hours	-0.006 (0.0073)	-0.008 (0.0120)	-0.011 (0.0115)	-0.007 (0.0356)	-0.005 (0.0093)	-0.009 (0.0127)
Constant	1.010*** (0.0312)	0.968*** (0.0650)	1.115*** (0.0610)	0.964*** (0.2090)	0.995*** (0.0387)	0.961*** (0.0692)
Observations	10,397	4,021	3,924	613	6,473	3,408
R-squared	0.413	0.203	0.359	0.171	0.284	0.141

Robust standard errors in parentheses

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

Table B2: OLS Estimates of Log Hourly Wages with Dummy *Public Contest* and Interactive Effect *Contsex*, 2006

Year	2006					
Variables	(1) Full Sample including Individuals Aged 18-64	(2) Individuals Aged 18-34	(3) Individuals Hired by Public Contest and Aged 18-64	(4) Individuals Hired by Public Contest and Aged 18-34	(5) Individuals not Hired Public Contest and Aged 18-64	(6) Individuals not Hired Aged 18-34
Public Contest	0.043*** (0.0146)	0.080** (0.0347)				
Contsex	0.089*** (0.0150)	0.095*** (0.0350)				
Female	-0.097*** (0.0099)	-0.060*** (0.0134)	-0.007 (0.0125)	0.062 (0.0392)	-0.102*** (0.0101)	-0.062*** (0.0136)
Exper	0.019*** (0.0015)	0.024*** (0.0044)	0.016*** (0.0030)	0.043*** (0.0158)	0.019*** (0.0018)	0.021*** (0.0045)
Exper2	-0.0002*** (3.24e-05)	-0.001** (0.0002)	-0.0002** (5.85e-05)	-0.002** (0.0007)	-0.0003*** (3.89e-05)	-0.0003 (0.0002)
Tenure	0.004*** (0.0006)	0.005** (0.0021)	0.002 (0.0009)	-0.002 (0.0056)	0.005*** (0.00078)	0.006*** (0.0022)
Educ	0.036*** (0.0019)	0.022*** (0.0031)	0.053*** (0.0031)	0.021** (0.0099)	0.029*** (0.0023)	0.023*** (0.0033)
Intermediate_Profession	0.051*** (0.0092)	0.062*** (0.0132)	-0.004 (0.017)	0.035 (0.0410)	0.079*** (0.0107)	0.066*** (0.0140)
Manager	0.257*** (0.0150)	0.108*** (0.0289)	0.245*** (0.0224)	0.167*** (0.0579)	0.200*** (0.0222)	0.090*** (0.0338)
Public_Sector	0.062*** (0.0130)	0.114*** (0.0261)	-0.039* (0.0222)	-0.051 (0.0601)	0.099*** (0.0161)	0.139*** (0.0285)
North	0.026*** (0.0087)	0.065*** (0.0143)	-0.032** (0.0128)	-0.034 (0.0368)	0.066*** (0.0116)	0.083*** (0.0156)
Centre	0.003 (0.0104)	0.049*** (0.0162)	-0.040** (0.0171)	-0.078 (0.0511)	0.043*** (0.0132)	0.072*** (0.0170)
Home_Time	0.007*** (0.0011)	0.015*** (0.0025)	0.005*** (0.0014)	0.0003 (0.0064)	0.008*** (0.0015)	0.017*** (0.0027)
Age_Y_Child3	0.023 (0.0140)	0.025 (0.0336)	0.036 (0.0219)	-0.027 (0.0648)	0.014 (0.0186)	0.043 (0.0385)
Childrdummy	0.018 (0.0136)	0.003 (0.0320)	0.039** (0.0189)	0.075 (0.0642)	0.006 (0.0193)	-0.011 (0.0366)
Maximum_D_Mark	0.069*** (0.0206)	0.108*** (0.0372)	0.0003 (0.0248)	0.061 (0.0619)	0.134*** (0.0362)	0.114** (0.0464)
Married	0.034*** (0.0118)	0.020 (0.0199)	0.010 (0.0163)	0.050 (0.0447)	0.050*** (0.0168)	0.014 (0.0220)
Homeowner	0.021** (0.0104)	0.018 (0.0178)	0.019 (0.0156)	-0.008 (0.0491)	0.015 (0.0139)	0.020 (0.0186)
Extra_Hours	0.007 (0.0074)	0.020* (0.0115)	-0.019 (0.0121)	-0.021 (0.0332)	0.022** (0.0093)	0.025** (0.0122)
Constant	1.090*** (0.0303)	1.134*** (0.0556)	1.147*** (0.0606)	1.559*** (0.1850)	1.113*** (0.0380)	1.095*** (0.0589)
Observations	10,009	3,957	3,666	509	6,343	3,448
R-squared	0.395	0.169	0.309	0.130	0.269	0.109

Robust standard errors in parentheses
 *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B3: OLS Estimates of Log Hourly Wages with Dummy *Public Contest* and Interactive Effect *Contsex*, 2008

Year	2008					
Variables	(1)	(2)	(3)	(4)	(5)	(6)
	Full Sample including Individuals Aged 18-64	Individuals Aged 18-34	Individuals Aged 18-64 Hired by Public Contest and	Individuals Aged 18-34 Hired by Public Contest and	Individuals Aged 18-64 not Hired by Public Contest and	Individuals Aged 18-34 not Hired by Public Contest and
Public Contest	0.015 (0.0143)	0.040 (0.0331)				
Contsex	0.104*** (0.0157)	0.125*** (0.0384)				
Female	-0.111*** (0.0098)	-0.086*** (0.0138)	-0.013 (0.0134)	0.050 (0.0442)	-0.112*** (0.0099)	-0.087*** (0.0140)
Exper	0.017*** (0.0016)	0.013** (0.0063)	0.012*** (0.0030)	0.003 (0.0151)	0.017*** (0.0019)	0.014** (0.0068)
Exper2	-0.0002*** (3.33e-05)	-5.52e-05 (0.0004)	-4.68e-05 (5.96e-05)	0.0003 (0.0008)	-0.0006*** (4.07e-05)	-0.0001 (0.0004)
Tenure	0.003*** (0.0005)	0.007** (0.0028)	0.001 (0.0010)	0.003 (0.0063)	0.004*** (0.0006)	0.008** (0.0031)
Educ	0.043*** (0.0018)	0.034*** (0.0031)	0.074*** (0.0033)	0.038*** (0.0136)	0.032*** (0.0022)	0.034*** (0.0032)
Intermediate_Profession	0.069*** (0.0097)	0.055*** (0.0149)	0.029 (0.0192)	0.078 (0.0579)	0.086*** (0.0112)	0.054*** (0.0155)
Manager	0.163*** (0.0163)	0.031 (0.0296)	0.132*** (0.0239)	0.098 (0.0741)	0.153*** (0.0234)	0.019 (0.0335)
Public_Sector	0.139*** (0.0114)	0.189*** (0.0197)	0.038* (0.0203)	0.108** (0.0517)	0.169*** (0.0138)	0.200*** (0.0216)
North	0.034*** (0.0091)	0.079*** (0.0153)	-0.016 (0.0143)	-0.060 (0.0495)	0.065*** (0.0116)	0.097*** (0.0161)
Centre	0.008 (0.0113)	0.065*** (0.0193)	-0.035** (0.0172)	0.016 (0.0524)	0.038*** (0.0146)	0.072*** (0.0208)
Home_Time	0.007*** (0.0010)	0.017*** (0.0029)	0.005*** (0.0017)	0.013 (0.0080)	0.008*** (0.0013)	0.017*** (0.0031)
Age_Y_Child3	0.02 (0.0151)	0.002 (0.0361)	0.020 (0.0285)	-0.091 (0.0694)	0.005 (0.0183)	0.027 (0.0411)
Childrdummy	0.027** (0.0133)	-0.015 (0.0362)	0.049*** (0.0187)	0.079 (0.0690)	0.025 (0.0183)	-0.033 (0.0412)
Maximum_D_Mark	0.111*** (0.0216)	0.148*** (0.0332)	0.060** (0.0281)	0.138** (0.0664)	0.133*** (0.0317)	0.146*** (0.0367)
Married	0.032*** (0.0112)	0.059*** (0.0173)	-0.021 (0.0172)	0.004 (0.0457)	0.061*** (0.0145)	0.068*** (0.0187)
Homeowner	0.033*** (0.0116)	0.030* (0.0170)	0.019 (0.0237)	0.038 (0.0594)	0.038*** (0.0131)	0.029 (0.0178)
Extra_Hours	0.002 (0.0078)	0.022* (0.0131)	-0.028** (0.0126)	-0.007 (0.0395)	0.019* (0.0098)	0.025* (0.0139)
Constant	1.030*** (0.0304)	1.021*** (0.0574)	0.881*** (0.0629)	1.228*** (0.2290)	1.096*** (0.0366)	0.994*** (0.0597)
Observations	9,358	3,782	3,164	427	6,194	3,355
R-squared	0.387	0.185	0.277	0.143	0.272	0.129

Robust standard errors in parentheses
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B4: OLS Estimates of Log Hourly Wages with Dummy *Public Contest* and Interactive Effect *Contsex*, 2010

Year	2010					
	(1)	(2)	(3)	(4)	(5)	(6)
Variables	Full Sample including Individuals Aged 18-64	Individuals Aged 18-34	Individuals Aged 18-64 Hired by Public Contest and	Individuals Aged 18-34 Hired by Public Contest and	Individuals Aged 18-64 not Hired by Public Contest and	Individuals Aged 18-34 not Hired by Public Contest and
Public Contest	0.046*** (0.0172)	0.030 (0.0422)				
Contsex	0.090*** (0.0180)	0.102** (0.0431)				
Female	-0.094*** (0.0118)	-0.043** (0.0171)	-0.008 (0.0152)	0.027 (0.0501)	-0.093*** (0.0119)	-0.040** (0.0173)
Exper	0.020*** (0.0019)	0.021*** (0.0076)	0.018*** (0.0032)	0.009 (0.0150)	0.019*** (0.0023)	0.022** (0.0085)
Exper2	-0.0003*** (3.85e-05)	-0.001 (0.0004)	-0.0002*** (6.10e-05)	-0.001 (0.0008)	-0.0003*** (4.86e-05)	-0.001 (0.0005)
Tenure	0.003*** (0.0006)	0.012*** (0.0029)	0.003*** (0.0011)	0.015** (0.0066)	0.004*** (0.0008)	0.012*** (0.0032)
Educ	0.037*** (0.0023)	0.020*** (0.0044)	0.061*** (0.0036)	0.027** (0.0122)	0.029*** (0.0029)	0.019*** (0.0047)
Intermediate_Profession	0.043*** (0.0113)	0.025 (0.0175)	0.017 (0.0201)	0.077 (0.0522)	0.061*** (0.0134)	0.021 (0.0185)
Manager	0.145*** (0.0155)	0.065** (0.0277)	0.133*** (0.0237)	0.095* (0.0550)	0.131*** (0.0206)	0.060* (0.0318)
Public_Sector	0.105*** (0.0140)	0.154*** (0.0267)	0.036 (0.0266)	0.085 (0.0671)	0.132*** (0.0168)	0.164*** (0.0289)
North	0.033*** (0.0109)	0.045** (0.0189)	0.002 (0.0160)	0.002 (0.0434)	0.050*** (0.0142)	0.049** (0.0207)
Centre	-0.004 (0.0123)	-0.009 (0.0209)	-0.010 (0.0181)	-0.004 (0.0519)	0.007 (0.0162)	-0.010 (0.0227)
Home_Time	0.006*** (0.0010)	0.011*** (0.0032)	0.006*** (0.0016)	0.016** (0.0070)	0.006*** (0.0014)	0.009*** (0.0035)
Age_Y_Child3	0.052** (0.0205)	-0.003 (0.0429)	0.021 (0.0342)	-0.107 (0.0778)	0.062** (0.0258)	0.020 (0.0503)
Childrdummy	0.013 (0.0147)	0.044 (0.0378)	0.033 (0.0208)	0.084 (0.0727)	0.005 (0.0202)	0.034 (0.0437)
Maximum_D_Mark	0.106*** (0.0205)	0.091*** (0.0344)	0.108*** (0.0246)	0.122** (0.0486)	0.072** (0.0337)	0.079* (0.0429)
Married	0.044*** (0.0124)	0.029 (0.0208)	0.025 (0.0204)	0.095* (0.0554)	0.054*** (0.0156)	0.020 (0.0224)
Homeowner	0.045*** (0.0142)	0.044** (0.0219)	0.075** (0.0303)	0.121 (0.0804)	0.034** (0.0161)	0.034 (0.0226)
Extra_Hours	-0.012 (0.0087)	0.024* (0.0140)	-0.039*** (0.0138)	-0.042 (0.0356)	0.008 (0.0111)	0.034** (0.0153)
Constant	1.116*** (0.0388)	1.262*** (0.0811)	0.926*** (0.0763)	1.242*** (0.2040)	1.206*** (0.0480)	1.276*** (0.0884)
Observations	10,280	4,505	3,249	559	7,031	3,946
R-squared	0.282	0.088	0.245	0.123	0.164	0.055

Robust standard errors in parentheses
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B5: OLS Estimates of Log Hourly Wages with Dummy *Public Contest* and Interactive Effect *Contsex*, 2011

Year	2011					
	(1)	(2)	(3)	(4)	(5)	(6)
Variables	Full Sample including Individuals Aged 18-64	Individuals Aged 18-34	Individuals Aged 18-64 Hired by Public Contest and	Individuals Aged 18-34 Hired by Public Contest and	Individuals Aged 18-64 not Hired by Public Contest and	Individuals Aged 18-34 not Hired by Public Contest and
Public Contest	0.070*** (0.0160)	0.044 (0.0347)				
Contsex	0.076*** (0.0183)	0.150*** (0.0399)				
Female	-0.075*** (0.0122)	-0.015 (0.0179)	-0.006 (0.0147)	0.151*** (0.0446)	-0.073*** (0.0125)	-0.016 (0.0181)
Exper	0.015*** (0.0018)	0.017** (0.0072)	0.012*** (0.0033)	0.018 (0.0145)	0.014*** (0.0022)	0.017** (0.0078)
Exper2	-0.0002*** (3.76e-05)	-0.001 (0.0004)	-2.39e-05 (6.62e-05)	-0.001 (0.001)	-0.0002*** (4.66e-05)	-0.001 (0.0004)
Tenure	0.004*** (0.0006)	0.008*** (0.0026)	0.002** (0.0010)	0.010* (0.0060)	0.004*** (0.0008)	0.008*** (0.0028)
Educ	0.041*** (0.0023)	0.016*** (0.0045)	0.069*** (0.0042)	0.023 (0.0151)	0.032*** (0.0028)	0.016*** (0.0047)
Intermediate_Profession	0.033*** (0.0115)	0.057*** (0.0180)	0.019 (0.0220)	0.047 (0.0506)	0.052*** (0.0134)	0.057*** (0.0191)
Manager	0.131*** (0.0150)	0.100*** (0.0267)	0.133*** (0.0251)	0.075 (0.0616)	0.115*** (0.0191)	0.103*** (0.0296)
Public_Sector	0.079*** (0.0133)	0.104*** (0.0229)	0.048** (0.0238)	0.046 (0.0437)	0.097*** (0.0159)	0.114*** (0.0257)
North	0.046*** (0.0111)	0.080*** (0.0191)	-0.0003 (0.0163)	-0.024 (0.0406)	0.072*** (0.0147)	0.096*** (0.0211)
Centre	0.026** (0.0127)	0.037* (0.0223)	0.026 (0.0190)	-0.052 (0.0552)	0.035** (0.0166)	0.051** (0.0244)
Home_Time	0.009*** (0.0011)	0.012*** (0.0030)	0.011*** (0.0016)	0.014** (0.0068)	0.009*** (0.0014)	0.012*** (0.0033)
Age_Y_Child3	0.052** (0.0201)	0.109*** (0.0403)	0.020 (0.0332)	0.063 (0.0635)	0.064** (0.0255)	0.119** (0.0491)
Childrdummy	-0.014 (0.0151)	-0.078** (0.0361)	-0.018 (0.0218)	-0.085 (0.0822)	-0.002 (0.0202)	-0.072* (0.0413)
Maximum_D_Mark	0.073*** (0.0212)	0.035 (0.0334)	0.098*** (0.0247)	0.097* (0.0525)	0.017 (0.0343)	0.016 (0.0397)
Married	0.039*** (0.0143)	0.051* (0.0279)	0.055*** (0.0209)	0.079 (0.0773)	0.030 (0.0190)	0.050 (0.0301)
Homeowner	0.031** (0.0151)	-0.005 (0.0231)	0.021 (0.0251)	-0.045 (0.0750)	0.034* (0.0183)	0.002 (0.0243)
Extra_Hours	-0.011 (0.00884)	0.008 (0.0142)	-0.031** (0.0141)	0.007 (0.0359)	0.004 (0.0111)	0.009 (0.0154)
Constant	1.087*** (0.0392)	1.366*** (0.0797)	0.829*** (0.0768)	1.453*** (0.2700)	1.187*** (0.0474)	1.354*** (0.0852)
Observations	9,897	4,018	3,161	494	6,736	3,524
R-squared	0.262	0.088	0.245	0.124	0.136	0.051

Robust standard errors in parentheses
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B6: OLS Estimates of Log Hourly Wages with Dummy *Public Contest* and Interactive Effect *Contsex*, 2014

Year	2014					
	(1)	(2)	(3)	(4)	(5)	(6)
Variables	Full Sample including Individuals Aged 18-64	Individuals Aged 18-34	Individuals Hired by Public Contest and Aged 18-64	Individuals Hired by Public Contest and Aged 18-34	Individuals not Hired by Public Contest and Aged 18-64	Individuals not Hired by Public Contest and Aged 18-34
Public Contest	0.036** (0.0141)	0.078** (0.0318)				
Contsex	0.038** (0.0155)	0.028 (0.0363)				
Female	-0.086*** (0.0102)	-0.041** (0.0161)	-0.056*** (0.0122)	-0.011 (0.0361)	-0.085*** (0.0103)	-0.042*** (0.0162)
Exper	0.013*** (0.0015)	0.022*** (0.0064)	0.007*** (0.0026)	0.008 (0.0137)	0.014*** (0.0019)	0.026*** (0.0072)
Exper2	-0.0002*** (3.21e-05)	-0.001*** (0.0003)	-7.64e-05 (5.00e-05)	-0.0001 (0.0007)	-0.0002*** (4.11e-05)	-0.001*** (0.0004)
Tenure	0.003*** (0.0006)	0.0056** (0.0025)	0.0037*** (0.0010)	-0.006 (0.0060)	0.003*** (0.0007)	0.008*** (0.0028)
Educ	0.032*** (0.0020)	0.019*** (0.0042)	0.042*** (0.0034)	0.028*** (0.0087)	0.030*** (0.0025)	0.020*** (0.0046)
Intermediate_Profession	0.027*** (0.0102)	0.034* (0.0175)	-0.048** (0.0197)	0.049 (0.0544)	0.057*** (0.0118)	0.036* (0.0188)
Manager	0.259*** (0.0138)	0.181*** (0.0247)	0.262*** (0.0215)	0.250*** (0.0584)	0.212*** (0.0183)	0.162*** (0.0286)
Public_Sector	0.085*** (0.0116)	0.151*** (0.0220)	0.027 (0.0224)	0.083* (0.0477)	0.110*** (0.0139)	0.163*** (0.0250)
North	0.036*** (0.0093)	0.057*** (0.0171)	-0.012 (0.0135)	0.041 (0.0367)	0.064*** (0.0124)	0.063*** (0.0194)
Centre	-0.006 (0.0105)	-0.020 (0.0206)	-0.016 (0.0145)	-0.022 (0.0443)	0.006 (0.0146)	-0.0186 (0.0235)
Home_Time	0.005*** (0.0008)	0.004 (0.0026)	0.003* (0.0014)	-0.006 (0.0058)	0.006*** (0.0011)	0.006* (0.0030)
Age_Y_Child3	0.001 (0.0173)	-0.0201 (0.0322)	0.006 (0.0281)	0.042 (0.0662)	-0.001 (0.0216)	-0.044 (0.0372)
Childrdummy	0.022* (0.0123)	-0.004 (0.0274)	0.028* (0.0169)	-0.003 (0.0503)	0.021 (0.0167)	0.002 (0.0325)
Maximum_D_Mark	0.030 (0.0230)	0.014 (0.0331)	0.051** (0.0248)	-0.058 (0.0767)	-0.008 (0.0403)	0.028 (0.0371)
Married	0.034*** (0.0113)	0.059*** (0.0195)	-0.005 (0.0168)	0.011 (0.0421)	0.050*** (0.0147)	0.071*** (0.0220)
Homeowner	0.016 (0.0123)	0.016 (0.0185)	0.039* (0.0219)	0.003 (0.0433)	0.008 (0.0147)	0.020 (0.0203)
Extra_Hours	-0.020*** (0.0076)	-0.012 (0.0143)	-0.014 (0.0115)	0.038 (0.0314)	-0.015 (0.0099)	-0.019 (0.0160)
Constant	1.303*** (0.0338)	1.419*** (0.0773)	1.389*** (0.0608)	1.583*** (0.1780)	1.294*** (0.0419)	1.371*** (0.0867)
Observations	13,145	4,787	4,670	889	8,475	3,898
R-squared	0.251	0.109	0.252	0.090	0.152	0.069

Robust standard errors in parentheses
 *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B7: OLS Estimates of Log Hourly Wages by Age and Gender, 2005

Year	2005			
	(1)	(2)	(3)	(4)
	Individuals Aged 18-64		Individuals Aged 18-34	
Variables	Men	Women	Men	Women
Public Contest	0.087*** (0.0164)	0.058*** (0.0162)	0.087** (0.0368)	0.123*** (0.0308)
Exper	0.022*** (0.0020)	0.018*** (0.0022)	0.026*** (0.0061)	0.016** (0.0082)
Exper2	-0.0003*** (4.00e-05)	-0.0002*** (4.74e-05)	-0.0005 (0.0003)	-0.0002 (0.0004)
Tenure	0.001* (0.0008)	0.002** (0.0009)	0.003 (0.0027)	0.002 (0.0028)
Educ	0.036*** (0.0024)	0.046*** (0.0031)	0.032*** (0.0043)	0.045*** (0.0055)
Intermediate_Profession	0.028** (0.0113)	0.070*** (0.0161)	0.013 (0.0171)	0.071*** (0.0209)
Manager	0.304*** (0.0211)	0.337*** (0.0226)	0.158*** (0.0453)	0.214*** (0.0379)
Public_Sector	0.011 (0.0149)	0.089*** (0.0168)	0.087*** (0.0270)	0.118*** (0.0275)
North	0.059*** (0.0107)	0.055*** (0.0137)	0.049*** (0.0181)	0.150*** (0.0238)
Centre	0.049*** (0.0143)	0.048*** (0.0159)	0.020 (0.0236)	0.137*** (0.0274)
Home_Time	0.007*** (0.0014)	0.008*** (0.0013)	0.016*** (0.0033)	0.014*** (0.0036)
Age_Y_Child3	0.047** (0.0206)	0.037* (0.0201)	0.006 (0.0376)	0.041 (0.0276)
Childrdummy	0.001 (0.0130)	0.024* (0.0138)	0.006 (0.0251)	0.039 (0.0256)
Maximum_D_Mark	0.058 (0.0384)	0.077*** (0.0257)	-0.064 (0.0607)	0.087** (0.0426)
Married	0.030** (0.0151)	0.028** (0.0134)	0.101*** (0.0292)	0.046* (0.0273)
Homeowner	0.035** (0.0137)	0.020 (0.0146)	-0.023 (0.0236)	-0.008 (0.0265)
Extra_Hours	-0.007 (0.010)	-0.008 (0.0106)	-0.013 (0.0169)	-0.007 (0.0168)
Constant	1.073*** (0.0406)	0.763*** (0.0511)	1.061*** (0.0835)	0.657*** (0.1020)
Observations	5,524	4,873	1,964	2,057
R-squared	0.394	0.432	0.147	0.261

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B8: OLS Estimates of Log Hourly Wages by Age and Gender, 2006

Year	2006			
	(1)	(2)	(3)	(4)
	Individuals Aged 18-64		Individuals Aged 18-34	
Variables	Men	Women	Men	Women
Public Contest	0.050*** (0.0172)	0.126*** (0.0196)	0.111** (0.0430)	0.157*** (0.0374)
Exper	0.019*** (0.0020)	0.019*** (0.0024)	0.023*** (0.0054)	0.025*** (0.0071)
Exper2	-0.0003*** (4.18e-05)	-0.0003*** (5.01e-05)	-0.0004 (0.0003)	-0.001* (0.0003)
Tenure	0.004*** (0.0008)	0.002*** (0.0009)	0.006** (0.0028)	0.003 (0.0030)
Educ	0.035*** (0.0023)	0.038*** (0.0031)	0.022*** (0.0041)	0.023*** (0.0049)
Intermediate_Profession	0.032*** (0.011)	0.071*** (0.016)	0.050*** (0.0185)	0.079*** (0.0197)
Manager	0.260*** (0.0187)	0.254*** (0.0258)	0.088** (0.0369)	0.136*** (0.0449)
Public_Sector	0.041** (0.0172)	0.091*** (0.0198)	0.080** (0.0400)	0.132*** (0.0346)
North	0.039*** (0.0111)	0.007 (0.0142)	0.050*** (0.0182)	0.085*** (0.0228)
Centre	0.023 (0.0142)	-0.024 (0.0156)	0.032 (0.0228)	0.069*** (0.0231)
Home_Time	0.010*** (0.0016)	0.004*** (0.0015)	0.019*** (0.0035)	0.012*** (0.0036)
Age_Y_Child3	0.010 (0.0204)	0.028 (0.0189)	-0.082 (0.0753)	0.067* (0.0344)
Childrdummy	0.010 (0.0217)	0.031* (0.0169)	0.070 (0.0747)	-0.019 (0.0321)
Maximum_D_Mark	0.061* (0.0369)	0.070*** (0.0238)	0.002 (0.0854)	0.149*** (0.0385)
Married	0.039** (0.0193)	0.018 (0.0149)	0.044 (0.0315)	-0.003 (0.0257)
Homeowner	0.013 (0.0145)	0.026* (0.0147)	0.014 (0.0277)	0.028 (0.0229)
Extra_Hours	0.013 (0.0101)	0.001 (0.0109)	0.041*** (0.0157)	-0.002 (0.0166)
Constant	1.058*** (0.0387)	1.013*** (0.0503)	1.109*** (0.0734)	1.069*** (0.0853)
Observations	5,657	4,352	2,041	1,916
R-squared	0.382	0.415	0.127	0.216

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B9: OLS Estimates of Log Hourly Wages by Age and Gender, 2008

Year	2008			
	(1)	(2)	(3)	(4)
	Individuals Aged 18-64		Individuals Aged 18-34	
Variables	Men	Women	Men	Women
Public Contest	0.052*** (0.0166)	0.074*** (0.0179)	0.079** (0.0375)	0.130*** (0.0313)
Exper	0.020*** (0.0021)	0.014*** (0.0022)	0.010 (0.0108)	0.013* (0.0076)
Exper2	-0.0003*** (4.54e-05)	-0.0002*** (4.81e-05)	0.0001 (0.0006)	-0.0002 (0.0004)
Tenure	0.003*** (0.0007)	0.004*** (0.0008)	0.007 (0.0043)	0.008** (0.0036)
Educ	0.037*** (0.0023)	0.049*** (0.0031)	0.030*** (0.0040)	0.036*** (0.0052)
Intermediate_Profession	0.049*** (0.0118)	0.102*** (0.0169)	0.032* (0.0192)	0.090*** (0.0233)
Manager	0.178*** (0.0212)	0.160*** (0.0269)	0.027 (0.0413)	0.056 (0.0436)
Public_Sector	0.096*** (0.0156)	0.190*** (0.0167)	0.129*** (0.0306)	0.225*** (0.0258)
North	0.050*** (0.0120)	0.015 (0.0141)	0.054*** (0.0204)	0.106*** (0.0226)
Centre	0.018 (0.0145)	-0.003 (0.0176)	0.029 (0.0275)	0.106*** (0.0270)
Home_Time	0.007*** (0.0014)	0.006*** (0.0015)	0.015*** (0.0044)	0.018*** (0.0038)
Age_Y_Child3	0.038* (0.0216)	-0.0009 (0.0208)	-0.038 (0.0817)	-0.005 (0.0402)
Childrdummy	0.038* (0.0211)	0.023 (0.0169)	0.019 (0.0838)	-0.009 (0.0393)
Maximum_D_Mark	0.100*** (0.0340)	0.109*** (0.0277)	0.095 (0.0744)	0.162*** (0.0363)
Married	0.024 (0.0188)	0.034** (0.0139)	0.092*** (0.0336)	0.044** (0.0199)
Homeowner	0.030* (0.0152)	0.034* (0.0180)	0.032 (0.0261)	0.030 (0.0214)
Extra_Hours	0.001 (0.0105)	-0.005 (0.0115)	0.031* (0.0187)	0.010 (0.0182)
Constant	1.073*** (0.0394)	0.848*** (0.0487)	1.114*** (0.0833)	0.856*** (0.0839)
Observations	5,116	4,242	1,867	1,915
R-squared	0.364	0.420	0.112	0.254

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B10: OLS Estimates of Log Hourly Wages by Age and Gender, 2010

Year	2010			
	(1)	(2)	(3)	(4)
Variables	Individuals Aged 18-64		Individuals Aged 18-34	
	Men	Women	Men	Women
Public Contest	0.073*** (0.0199)	0.099*** (0.0209)	0.049 (0.0465)	0.105** (0.0410)
Exper	0.024*** (0.0026)	0.016*** (0.0027)	0.024*** (0.0090)	0.016 (0.0121)
Exper2	-0.0003*** (5.16e-05)	-0.0002*** (5.69e-05)	-0.001 (0.0005)	-0.001 (0.0007)
Tenure	0.003*** (0.0008)	0.004*** (0.0009)	0.010*** (0.0037)	0.014*** (0.0044)
Educ	0.031*** (0.0028)	0.045*** (0.0040)	0.014*** (0.0051)	0.029*** (0.0079)
Intermediate_Profession	0.027* (0.0142)	0.068*** (0.0193)	-0.020 (0.0220)	0.085*** (0.0292)
Manager	0.143*** (0.0197)	0.155*** (0.0261)	0.042 (0.0374)	0.107** (0.0429)
Public_Sector	0.069*** (0.0181)	0.150*** (0.0221)	0.134*** (0.0342)	0.169*** (0.0403)
North	0.052*** (0.0140)	0.006 (0.0170)	0.047** (0.0233)	0.042 (0.0312)
Centre	-0.010 (0.0166)	-0.001 (0.0182)	-0.026 (0.0283)	0.013 (0.0312)
Home_Time	0.006*** (0.0015)	0.006*** (0.0015)	0.012*** (0.0042)	0.009* (0.0048)
Age_Y_Child3	0.087*** (0.0272)	0.016 (0.0283)	0.033 (0.0577)	-0.036 (0.0536)
Childrdummy	0.020 (0.0225)	0.017 (0.0191)	0.049 (0.0566)	0.066 (0.0456)
Maximum_D_Mark	0.151*** (0.0304)	0.064** (0.0272)	0.179*** (0.0534)	0.033 (0.0443)
Married	0.022 (0.0207)	0.054*** (0.0155)	0.023 (0.0343)	0.034 (0.0262)
Homeowner	0.054*** (0.0187)	0.037* (0.0218)	0.066** (0.0300)	0.023 (0.0325)
Extra_Hours	-0.012 (0.0116)	-0.013 (0.0131)	0.020 (0.0185)	0.025 (0.0218)
Constant	1.149*** (0.0489)	0.949*** (0.0652)	1.310*** (0.0979)	1.096*** (0.1400)
Observations	5,725	4,555	2,416	2,089
R-squared	0.277	0.298	0.068	0.115

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B11: OLS Estimates of Log Hourly Wages by Age and Gender, 2011

Variables	2011			
	(1)	(2)	(3)	(4)
	Individuals Aged 18-64		Individuals Aged 18-34	
	Men	Women	Men	Women
Public Contest	0.087*** (0.0173)	0.130*** (0.0212)	0.074** (0.0370)	0.163*** (0.0365)
Exper	0.020*** (0.0023)	0.008*** (0.0028)	0.030*** (0.0077)	0.0001 (0.0119)
Exper2	-0.0003*** (4.86e-05)	-1.45e-05 (5.92e-05)	-0.001*** (0.0004)	5.50e-05 (0.0006)
Tenure	0.003*** (0.0008)	0.004*** (0.0010)	0.005* (0.0027)	0.010** (0.0042)
Educ	0.039*** (0.0028)	0.042*** (0.0041)	0.019*** (0.0053)	0.012 (0.0081)
Intermediate_Profession	0.020 (0.0137)	0.056*** (0.0205)	0.039* (0.0210)	0.098*** (0.0325)
Manager	0.112*** (0.0193)	0.162*** (0.0250)	0.062* (0.0339)	0.158*** (0.0450)
Public_Sector	0.051*** (0.0165)	0.113*** (0.0209)	0.064** (0.0306)	0.139*** (0.0342)
North	0.078*** (0.0139)	0.012 (0.0182)	0.123*** (0.0221)	0.023 (0.0338)
Centre	0.037** (0.0160)	0.016 (0.0203)	0.048* (0.0261)	0.022 (0.0395)
Home_Time	0.011*** (0.0014)	0.007*** (0.0015)	0.013*** (0.0036)	0.011** (0.0048)
Age_Y_Child3	0.018 (0.0269)	0.067** (0.0284)	0.272*** (0.0667)	0.048 (0.0488)
Childrdummy	0.024 (0.0240)	-0.041** (0.0201)	-0.203*** (0.0643)	-0.029 (0.0433)
Maximum_D_Mark	0.077** (0.0376)	0.060** (0.0259)	0.058 (0.0545)	0.016 (0.0424)
Married	0.031 (0.0236)	0.037** (0.0181)	0.066 (0.0459)	0.055 (0.0355)
Homeowner	0.024 (0.0196)	0.034 (0.0233)	-0.017 (0.0283)	0.005 (0.0380)
Extra_Hours	0.006 (0.0114)	-0.038*** (0.0138)	0.017 (0.0176)	-0.007 (0.0232)
Constant	1.052*** (0.0483)	1.087*** (0.0711)	1.292*** (0.0945)	1.470*** (0.1470)
Observations	5,290	4,607	2,283	1,7354
R-squared	0.288	0.248	0.074	0.102

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B12: OLS Estimates of Log Hourly Wages by Age and Gender, 2014

Variables	2014			
	(1)	(2)	(3)	(4)
	Individuals Aged 18-64		Individuals Aged 18-34	
	Men	Women	Men	Women
Public Contest	0.068*** (0.0174)	0.048*** (0.0144)	0.131*** (0.0383)	0.070** (0.0289)
Exper	0.017*** (0.0021)	0.009*** (0.0022)	0.026*** (0.0091)	0.018** (0.0088)
Exper2	-0.0002*** (4.60e-05)	-0.0001** (4.45e-05)	-0.001* (0.0005)	-0.001** (0.0004)
Tenure	0.003*** (0.0008)	0.003*** (0.0008)	0.010*** (0.0036)	0.002 (0.0036)
Educ	0.035*** (0.0026)	0.030*** (0.0032)	0.025*** (0.0055)	0.014** (0.0064)
Intermediate_Profession	0.022* (0.0127)	0.040** (0.0172)	0.025 (0.0229)	0.053* (0.0277)
Manager	0.217*** (0.0181)	0.297*** (0.0223)	0.159*** (0.0309)	0.207*** (0.0406)
Public_Sector	0.044** (0.0173)	0.124*** (0.0155)	0.083** (0.0352)	0.200*** (0.0285)
North	0.070*** (0.0128)	0.004 (0.0132)	0.064*** (0.0233)	0.050** (0.0252)
Centre	0.020 (0.0146)	-0.030** (0.0150)	-0.018 (0.0286)	-0.022 (0.0300)
Home_Time	0.008*** (0.0014)	0.002** (0.0011)	0.009** (0.0036)	-0.001 (0.0038)
Age_Y_Child3	-0.015 (0.0265)	0.005 (0.0229)	0.019 (0.0524)	-0.042 (0.0408)
Childrdummy	0.037* (0.0197)	0.012 (0.0155)	-0.036 (0.0465)	0.028 (0.0332)
Maximum_D_Mark	-0.007 (0.0495)	0.050** (0.0229)	-0.006 (0.0513)	0.024 (0.0434)
Married	0.039** (0.0182)	0.022 (0.0144)	0.073** (0.0294)	0.047* (0.0262)
Homeowner	0.004 (0.0172)	0.025 (0.0176)	0.022 (0.0264)	0.006 (0.0262)
Extra_Hours	-0.015 (0.0105)	-0.026** (0.0110)	-0.030 (0.0193)	0.001 (0.0210)
Constant	1.209*** (0.0525)	1.318*** (0.0444)	1.271*** (0.1160)	1.508*** (0.1060)
Observations	6,713	6,432	2,433	2,354
R-squared	0.233	0.277	0.091	0.132

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B13: OLS Estimates by Gender with Selection Variables, Pool

Year	Pool			
	(1)	(2)	(3)	(4)
Variables	Individuals Hired by by Public Contest and Aged 18-64		Individuals Not Hired by by Public Contest and Aged 18-64	
	Women	Men	Women	Men
Exper	0.017*** (0.0022)	0.024*** (0.0023)	0.015*** (0.0016)	0.020*** (0.0012)
Exper2	-7.02e-06 (3.50e-05)	-0.0003*** (3.99e-05)	-0.0002*** (3.30e-05)	-0.0003*** (2.33e-05)
Tenure	0.001** (0.0006)	0.003*** (0.0006)	0.005*** (0.0006)	0.004*** (0.0004)
Educ	0.095*** (0.0052)	0.070*** (0.0038)	0.030*** (0.0050)	0.032*** (0.0025)
Intermed_Prof	0.133*** (0.0186)	-0.042*** (0.0121)	0.077*** (0.0098)	0.052*** (0.0072)
Manager	0.281*** (0.0198)	0.182*** (0.0146)	0.163*** (0.0142)	0.166*** (0.0108)
Public_Sector	0.098*** (0.0167)	-0.016 (0.0133)	0.157*** (0.0102)	0.0854*** (0.0092)
North	-0.039*** (0.0131)	0.021* (0.0115)	0.068*** (0.0211)	0.142*** (0.0181)
Centre	-0.041*** (0.0123)	0.029** (0.0127)	0.052*** (0.0168)	0.075*** (0.0147)
Home_Time	0.012*** (0.0015)	0.010*** (0.0014)	0.006*** (0.0015)	0.009*** (0.0009)
Age_Y_Child3	0.035** (0.0160)	0.058*** (0.0219)	0.070*** (0.0153)	0.030* (0.0153)
Childrdummy	0.025** (0.0116)	0.045*** (0.0134)	-0.037*** (0.0126)	0.022** (0.0099)
Maximum_D_Mark	0.049*** (0.0126)	0.072*** (0.0175)	0.072*** (0.0185)	0.056*** (0.0211)
Married	0.032*** (0.0103)	0.040** (0.0162)	0.036*** (0.0110)	0.087*** (0.0159)
Homeowner	0.048*** (0.0115)	0.034*** (0.0124)	0.062*** (0.0093)	0.054*** (0.0075)
Extra_Hours	-0.045*** (0.0077)	-0.010 (0.0086)	-0.0002 (0.0078)	0.007 (0.0061)
λ_W^{PC}	0.050 (0.0340)	0.160 (0.1090)		
λ_R^{PC}	0.151*** (0.0256)	0.126*** (0.0247)		
λ_W^{NPC}			-0.002 (0.0360)	0.139*** (0.0367)
λ_R^{NPC}			-0.058** (0.0248)	0.007 (0.0227)
Constant	0.022 (0.1430)	0.53*** (0.1130)	1.07*** (0.1160)	0.94*** (0.0652)
Observations	8,439	7,181	12,026	16,834
R-squared	0.294	0.304	0.186	0.241

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B14: OLS Estimates by Gender with Selection Variables, 2005

Year	2005			
	(1)	(2)	(3)	(4)
	Individuals Hired by by Public Contest and Aged 18-64		Individuals Not Hired by by Public Contest and Aged 18-64	
Variables	Women	Men	Women	Men
Exper	0.017*** (0.0045)	0.016*** (0.0045)	0.015*** (0.0032)	0.022*** (0.0022)
Exper2	-8.48e-05 (7.32e-05)	-0.0002** (8.22e-05)	-0.0002*** (6.80e-05)	-0.0003*** (4.58e-05)
Tenure	0.002 (0.0012)	0.003** (0.0013)	0.003** (0.0012)	0.001 (0.0008)
Educ	0.077*** (0.0126)	0.043*** (0.0087)	0.030*** (0.0085)	0.028*** (0.0046)
Intermed_Prof	0.056 (0.0367)	-0.030 (0.0251)	0.098*** (0.0185)	0.057*** (0.0141)
Manager	0.378*** (0.0385)	0.290*** (0.0324)	0.225*** (0.0293)	0.271*** (0.0233)
Public_Sector	0.053 (0.0338)	-0.024 (0.0276)	0.110*** (0.0192)	0.020 (0.0172)
North	-0.032 (0.0213)	-0.002 (0.0197)	0.145*** (0.0271)	0.119*** (0.0252)
Centre	-0.021 (0.0215)	0.048** (0.0231)	0.130*** (0.0247)	0.077*** (0.0212)
Home_Time	0.011*** (0.0033)	0.002 (0.0028)	0.007*** (0.0023)	0.009*** (0.0018)
Age_Y_Child3	0.023 (0.0315)	0.089** (0.0413)	0.034 (0.0279)	0.012 (0.0278)
Childrdummy	0.038* (0.0214)	-0.019 (0.0228)	0.015 (0.0226)	0.017 (0.0160)
Maximum_D_Mark	0.026 (0.0252)	0.042 (0.0347)	0.125*** (0.0395)	0.042 (0.0426)
Married	0.034* (0.0202)	0.007 (0.0305)	0.016 (0.0214)	0.062** (0.0258)
Homeowner	0.009 (0.0197)	0.041* (0.0233)	0.022 (0.0203)	0.032* (0.0166)
Extra_Hours	-0.011 (0.0153)	-0.012 (0.0175)	-0.005 (0.0146)	-0.008 (0.0119)
λ_W^{PC}	0.006 (0.0507)	0.449 (0.4580)		
λ_R^{PC}	0.128* (0.0676)	-0.011 (0.0579)		
λ_W^{NPC}			0.004 (0.0402)	0.034 (0.0485)
λ_R^{NPC}			-0.096* (0.0506)	-0.040 (0.0420)
Constant	0.299 (0.3350)	1.265*** (0.2430)	0.891*** (0.1540)	1.060*** (0.0963)
Observations	2,099	1,825	2,774	3,699
R-squared	0.381	0.346	0.241	0.295

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B15: OLS Estimates by Gender with Selection Variables, 2006

Year	2006			
	(1)	(2)	(3)	(4)
	Individuals Hired by by Public Contest and Aged 18-64		Individuals Not Hired by by Public Contest and Aged 18-64	
Variables	Women	Men	Women	Men
Exper	0.022*** (0.0045)	0.019*** (0.0044)	0.017*** (0.0029)	0.019*** (0.0024)
Exper2	-0.0002** (7.91e-05)	-0.0002* (8.01e-05)	-0.0004*** (6.82e-05)	-0.0002*** (5.02e-05)
Tenure	0.0001 (0.0012)	0.003** (0.0013)	0.004*** (0.0012)	0.005*** (0.0008)
Educ	0.080*** (0.0113)	0.060*** (0.0067)	0.013 (0.0080)	0.034*** (0.0044)
Intermed_Prof	0.136*** (0.0387)	-0.053** (0.0235)	0.082*** (0.0183)	0.068*** (0.0145)
Manager	0.330*** (0.0427)	0.246*** (0.0302)	0.156*** (0.0323)	0.207*** (0.0236)
Public_Sector	-0.007 (0.0380)	-0.047* (0.0265)	0.127*** (0.0203)	0.075*** (0.0192)
North	-0.057** (0.0263)	-0.012 (0.0207)	0.019 (0.0343)	0.137*** (0.0298)
Centre	-0.106*** (0.0262)	0.023 (0.0238)	0.016 (0.0300)	0.091*** (0.0272)
Home_Time	0.008** (0.0032)	0.011*** (0.0026)	0.002 (0.0024)	0.012*** (0.0019)
Age_Y_Child3	0.039 (0.0320)	0.043 (0.0365)	0.021 (0.0296)	-0.006 (0.0272)
Childrdummy	0.064** (0.0259)	0.041 (0.0286)	0.021 (0.0287)	0.034 (0.0268)
Maximum_D_Mark	0.005 (0.0270)	-0.014 (0.0330)	0.162*** (0.0378)	0.094** (0.0446)
Married	0.025 (0.0217)	0.038 (0.0301)	0.020 (0.0231)	0.105*** (0.0293)
Homeowner	0.009 (0.0218)	0.027 (0.0223)	0.044** (0.0210)	-0.004 (0.0178)
Extra_Hours	-0.030* (0.0166)	-0.004 (0.0168)	0.026* (0.0145)	0.021 (0.0125)
λ_W^{PC}	0.002 (0.0800)	0.386* (0.2240)		
λ_R^{PC}	0.109** (0.0529)	0.118*** (0.0452)		
λ_W^{NPC}			-0.097 (0.0592)	0.159** (0.0688)
λ_R^{NPC}			-0.083* (0.0428)	0.044 (0.0429)
Constant	0.424 (0.3030)	0.752*** (0.1940)	1.400*** (0.1780)	0.878*** (0.1070)
Observations	1,799	1,867	2,553	3,790
R-squared	0.306	0.336	0.205	0.291

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B16: OLS Estimates by Gender with Selection Variables, 2008

Year	2008			
	(1)	(2)	(3)	(4)
	Individuals Hired by by Public Contest and Aged 18-64		Individuals Not Hired by by Public Contest and Aged 18-64	
Variables	Women	Men	Women	Men
Exper	0.013*** (0.0047)	0.025*** (0.0048)	0.013*** (0.0029)	0.017*** (0.0022)
Exper2	8.06e-05 (8.27e-05)	-0.0002** (8.87e-05)	-0.0003*** (6.98e-05)	-0.0002*** (4.82e-05)
Tenure	0.001 (0.0013)	0.0002 (0.0013)	0.005*** (0.0012)	0.004*** (0.0008)
Educ	0.101*** (0.0121)	0.082*** (0.0072)	0.022** (0.0088)	0.028*** (0.0045)
Intermed_Prof	0.211*** (0.0446)	-0.0241 (0.0252)	0.101*** (0.0185)	0.0726*** (0.0145)
Manager	0.259*** (0.0489)	0.139*** (0.0314)	0.152*** (0.0297)	0.151*** (0.0237)
Public_Sector	0.140*** (0.0371)	-0.004 (0.0263)	0.193*** (0.0189)	0.127*** (0.0184)
North	-0.067** (0.0302)	0.032 (0.0233)	0.098** (0.0399)	0.124*** (0.0339)
Centre	-0.0697** (0.0283)	0.000291 (0.0265)	0.0747** (0.0311)	0.0722** (0.0286)
Home_Time	0.009*** (0.0036)	0.011*** (0.0027)	0.006** (0.0025)	0.006*** (0.0018)
Age_Y_Child3	-0.026 (0.0374)	0.080* (0.0485)	-0.001 (0.0314)	-0.003 (0.0317)
Childrdummy	0.0577** (0.0271)	0.0616* (0.0324)	0.00472 (0.0294)	0.0590** (0.0266)
Maximum_D_Mark	0.081*** (0.0309)	0.015 (0.0397)	0.105** (0.0433)	0.147*** (0.0537)
Married	0.008 (0.0233)	-0.017 (0.0320)	0.053*** (0.0199)	0.086*** (0.0281)
Homenowner	0.007 (0.0293)	0.025 (0.0283)	0.046** (0.0202)	0.029* (0.0171)
Extra_Hours	-0.040** (0.0173)	-0.018 (0.0179)	0.022 (0.0145)	0.011 (0.0125)
λ_W^{PC}	0.068 (0.0864)	-0.049 (0.0236)		
λ_R^{PC}	0.153** (0.0598)	0.107** (0.0463)		
λ_W^{NPC}			-0.022 (0.0640)	0.133* (0.0687)
λ_R^{NPC}			-0.142*** (0.0463)	-0.034 (0.0413)
Constant	-0.023 (0.3370)	0.457** (0.2100)	1.117*** (0.1990)	1.048*** (0.1150)
Observations	1,658	1,506	2,584	3,610
R-squared	0.284	0.316	0.268	0.269

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B17: OLS Estimates by Gender with Selection Variables, 2010

Year	2010			
	(1)	(2)	(3)	(4)
	Individuals Hired by by Public Contest and Aged 18-64		Individuals Not Hired by by Public Contest and Aged 18-64	
Variables	Women	Men	Women	Men
Exper	0.023*** (0.0051)	0.032*** (0.0056)	0.013*** (0.0040)	0.019*** (0.0027)
Exper2	-6.91e-05 (7.98e-05)	-0.0004*** (9.65e-05)	-0.0003*** (8.82e-05)	-0.003*** (5.52e-05)
Tenure	0.003** (0.0014)	0.003 (0.0016)	0.003** (0.0015)	0.003*** (0.00094)
Educ	0.107*** (0.014)	0.071*** (0.0111)	0.020 (0.0138)	0.014** (0.0066)
Intermed_Prof	0.142*** (0.0409)	-0.025 (0.0297)	0.073*** (0.0238)	0.049*** (0.0169)
Manager	0.226*** (0.0442)	0.126*** (0.0337)	0.138*** (0.0321)	0.119*** (0.0237)
Public_Sector	0.081** (0.0370)	0.014 (0.0316)	0.174*** (0.0250)	0.076*** (0.021)
North	0.024 (0.0373)	0.049* (0.0265)	0.003 (0.0652)	0.112*** (0.0384)
Centre	0.022 (0.0316)	-0.005 (0.0307)	-0.005 (0.0463)	0.033 (0.0309)
Home_Time	0.017*** (0.0037)	0.008** (0.0033)	0.002 (0.0039)	0.004* (0.0020)
Age_Y_Child3	-0.026 (0.0385)	0.111* (0.0601)	0.040 (0.0389)	0.061 (0.0397)
Childrdummy	0.019 (0.0295)	0.071** (0.0358)	0.026 (0.0410)	0.006 (0.0316)
Maximum_D_Mark	0.081*** (0.0273)	0.145*** (0.0417)	0.025 (0.0413)	0.116** (0.0452)
Married	0.073*** (0.0235)	-0.005 (0.0368)	0.045* (0.0263)	0.071** (0.0331)
Homeowner	0.058* (0.0299)	0.094** (0.0369)	0.023 (0.0263)	0.045** (0.0211)
Extra_Hours	-0.047*** (0.0179)	-0.025 (0.0217)	0.019 (0.0193)	-0.004 (0.0140)
λ_W^{PC}	0.237*** (0.1060)	0.449 (0.4170)		
λ_R^{PC}	0.221*** (0.0655)	0.125* (0.0738)		
λ_W^{NPC}			-0.081 (0.1100)	0.064 (0.0885)
λ_R^{NPC}			-0.102 (0.0666)	-0.156** (0.0610)
Constant	-0.431 (0.3830)	0.422 (0.3310)	1.400*** (0.3410)	1.292*** (0.1680)
Observations	1,725	1,524	2,830	4,201
R-squared	0.256	0.260	0.131	0.193

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B18: OLS Estimates by Gender with Selection Variables, 2011

Year	2011			
	(1)	(2)	(3)	(4)
	Individuals Hired by by Public Contest and Aged 18-64		Individuals Not Hired by by Public Contest and Aged 18-64	
Variables	Women	Men	Women	Men
Exper	0.013** (0.0054)	0.020*** (0.0052)	0.005 (0.0042)	0.019*** (0.0025)
Exper2	3.95e-05 (8.33e-05)	-0.0001 (9.33e-05)	5.26e-05 (7.98e-05)	-0.0003*** (5.26e-05)
Tenure	0.001 (0.0015)	0.003** (0.0016)	0.005*** (0.0015)	0.003*** (0.0009)
Educ	0.093*** (0.0146)	0.078*** (0.0098)	0.024* (0.0136)	0.022*** (0.0059)
Intermed_Prof	0.109*** (0.0419)	-0.018 (0.0296)	0.071*** (0.0242)	0.038** (0.0164)
Manager	0.202*** (0.0447)	0.119*** (0.0330)	0.152*** (0.0309)	0.085*** (0.0217)
Public_Sector	0.148*** (0.0386)	-0.019 (0.0309)	0.108*** (0.0240)	0.076*** (0.0201)
North	-0.017 (0.0373)	0.030 (0.0254)	0.137*** (0.0525)	0.044 (0.0349)
Centre	0.029 (0.0316)	0.025 (0.0288)	0.076** (0.0387)	0.008 (0.0296)
Home_Time	0.013*** (0.0039)	0.016*** (0.0033)	0.008* (0.0039)	0.008*** (0.0019)
Age_Y_Child3	0.017 (0.0407)	0.006 (0.0563)	0.128*** (0.0401)	0.026 (0.0347)
Childrdummy	-0.011 (0.0310)	0.020 (0.0375)	-0.092** (0.0362)	0.013 (0.0312)
Maximum_D_Mark	0.076** (0.0328)	0.116** (0.0459)	0.008 (0.0460)	0.017 (0.0477)
Married	0.036 (0.0262)	0.123*** (0.0366)	0.021 (0.0277)	-0.033 (0.0323)
Homeowner	0.012 (0.0338)	0.024 (0.0372)	0.045 (0.0290)	0.019 (0.0211)
Extra_Hours	-0.056*** (0.0195)	0.001 (0.0211)	-0.021 (0.0200)	0.012 (0.0136)
λ_W^{PC}	-0.019 (0.1080)	0.458 (0.3100)		
λ_R^{PC}	0.112* (0.0633)	0.131** (0.0625)		
λ_W^{NPC}			0.194* (0.1040)	-0.157** (0.0613)
λ_R^{NPC}			-0.190*** (0.0613)	-0.116** (0.0541)
Constant	0.200 (0.4040)	0.334 (0.2880)	1.016*** (0.3410)	1.442*** (0.1540)
Observations	1,801	1,360	2,806	3,930
R-squared	0.225	0.301	0.098	0.187

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B19: OLS Estimates by Gender with Selection Variables, 2014

Year	2014			
	(1)	(2)	(3)	(4)
	Individuals Hired by by Public Contest and Aged 18-64		Individuals Not Hired by by Public Contest and Aged 18-64	
Variables	Women	Men	Women	Men
Exper	0.001 (0.0043)	0.014*** (0.0037)	0.011** (0.0041)	0.020*** (0.0026)
Exper2	1.24e-05 (6.49e-05)	-0.0002** (7.03e-05)	-0.0002** (5.84e-05)	-0.0003*** (4.61e-05)
Tenure	0.004*** (0.0012)	0.003* (0.0013)	0.003*** (0.0011)	0.003*** (0.0009)
Educ	0.037*** (0.0143)	0.049*** (0.0077)	0.023 (0.0159)	0.050*** (0.0095)
Intermed_Prof	0.017 (0.0412)	-0.053** (0.0261)	0.076*** (0.0198)	0.049*** (0.0154)
Manager	0.332*** (0.0422)	0.231*** (0.0309)	0.237*** (0.0265)	0.185*** (0.0216)
Public_Sector	0.083** (0.0323)	-0.017 (0.0282)	0.160*** (0.0190)	0.060*** (0.0186)
North	-0.098* (0.0530)	0.021 (0.0269)	0.051 (0.0628)	0.200*** (0.0558)
Centre	-0.103*** (0.0379)	0.046* (0.0270)	0.007 (0.0428)	0.094** (0.0419)
Home_Time	-0.001 (0.0029)	0.007*** (0.0023)	0.003 (0.0031)	0.011*** (0.0021)
Age_Y_Child3	-0.031 (0.0370)	0.020 (0.0470)	0.009 (0.0313)	-0.016 (0.0317)
Childrdummy	0.049* (0.0266)	0.038 (0.0292)	-0.001 (0.0286)	0.044** (0.0219)
Maximum_D_Mark	0.03! (0.0321)	0.092** (0.0440)	0.053 (0.0412)	-0.102** (0.0491)
Married	-0.025 (0.0233)	0.064* (0.0362)	0.052** (0.0231)	0.128*** (0.0494)
Homeowner	0.075*** (0.0286)	-0.013 (0.0302)	-0.0003 (0.0221)	0.009 (0.0196)
Extra_Hours	-0.022 (0.0156)	-0.001 (0.0174)	-0.019 (0.0152)	-0.014 (0.0130)
λ_W^{PC}	-0.205 (0.1520)	0.178 (0.2750)		
λ_R^{PC}	0.010 (0.0461)	0.090* (0.0489)		
λ_W^{NPC}			0.027 (0.1250)	0.248** (0.1210)
λ_R^{NPC}			-0.016 (0.0485)	0.106 (0.0695)
Constant	1.510*** (0.4010)	1.080*** (0.2230)	1.322*** (0.4070)	0.653** (0.2710)
Observations	2,799	1,871	3,633	4,842
R-squared	0.258	0.266	0.144	0.161

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B20: Bivariate Probit Estimation by Gender, Pool

	Public Contest	Employment	Public Contest	Employment
Variables	Women		Men	
Childrdummy	0.113*** (0.0296)	-0.249*** (0.0201)	0.144*** (0.0273)	0.118*** (0.0234)
Age	0.059*** (0.0013)	0.029*** (0.0011)	0.040*** (0.0010)	0.006*** (0.0011)
Educ	0.224*** (0.0046)	0.125*** (0.0028)	0.144*** (0.0036)	0.064*** (0.0030)
Married	0.122*** (0.0260)	-0.100*** (0.0247)	0.243*** (0.0288)	0.564*** (0.0291)
Age_Y_Child3	0.057 (0.0373)	0.152*** (0.0249)	0.086* (0.0442)	0.033 (0.0456)
Eng_Skill	-0.131*** (0.0229)	0.014 (0.0160)	-0.155*** (0.0210)	-0.131*** (0.0181)
City	0.070** (0.0270)	0.051*** (0.0179)	0.004 (0.0244)	0.126*** (0.0209)
Italian	1.120*** (0.1510)		1.205*** (0.3000)	
Working_Climate	-0.011 (0.0137)		-0.038*** (0.0121)	
Stability_Work	0.186*** (0.0107)		0.260*** (0.0110)	
Hours_Work	0.102*** (0.0136)		0.070*** (0.0123)	
Payment_Work	-0.177*** (0.0120)		-0.191*** (0.0108)	
Workload	-0.004 (0.0144)		0.042*** (0.0130)	
North		0.796*** (0.0155)		0.780*** (0.0175)
Centre		0.502*** (0.0188)		0.512*** (0.0214)
Age5064		0.803*** (0.0285)		0.345*** (0.0274)
Partner_Works		0.030 (0.0207)		0.139*** (0.0255)
Constant	-6.481*** (0.108)	-3.006*** (0.0491)	-5.132*** (0.0785)	-1.193*** (0.0493)
ρ		0.406*** (0.0442)		0.828*** (0.3545)
Observations	39,365	39,365	33,567	33,567

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B21: Bivariate Probit Estimation by Gender, 2005

	Public Contest	Employment	Public Contest	Employment
Variables	Women		Men	
Childrdummy	-0.0345 (0.0531)	-0.457*** (0.0409)	-0.112** (0.0441)	-0.152*** (0.0457)
Age	0.0636*** (0.00209)	0.00178 (0.00212)	0.0360*** (0.00188)	-0.00333 (0.00260)
Educ	0.227*** (0.00837)	0.136*** (0.00503)	0.144*** (0.00670)	0.0700*** (0.00591)
Married	0.180*** (0.0464)	-0.384*** (0.0475)	0.381*** (0.0472)	0.641*** (0.0529)
Age_Y_Child3	0.088 (0.0707)	0.341*** (0.0478)	0.179** (0.0819)	0.100 (0.0866)
Eng_Skill	-0.162*** (0.0465)	-0.00378 (0.0327)	-0.244*** (0.0419)	-0.232*** (0.0393)
City	0.070 (0.0528)	0.070** (0.0346)	0.023 (0.0461)	0.157*** (0.0427)
Italian	1.446*** (0.333)		1.229** (0.583)	
Working_Climate	-0.0224 (0.0275)		-0.0305 (0.0241)	
Stability_Work	0.131*** (0.0206)		0.221*** (0.0198)	
Hours_Work	-0.024 (0.0262)		-0.049** (0.0220)	
North		0.730*** (0.0304)		0.814*** (0.0367)
Centre		0.413*** (0.0362)		0.437*** (0.0428)
Age5064		1.433*** (0.0570)		0.532*** (0.0618)
Partner_Works		0.236*** (0.0425)		0.130*** (0.0494)
Constant	-6.404*** (0.185)	-1.984*** (0.103)	-4.609*** (0.144)	-0.814*** (0.121)
ρ		0.533*** (0.0595)		0.999*** (0.0008)
Observations	10,744	10,744	7,648	7,648

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B22: Bivariate Probit Estimation by Gender, 2006

	Public Contest	Employment	Public Contest	Employment
Variables	Women		Men	
Childrdummy	-0.020 (0.0678)	-0.284*** (0.0506)	0.223*** (0.0619)	0.286*** (0.0649)
Age	0.065*** (0.0026)	0.016*** (0.0026)	0.034*** (0.0021)	-0.003 (0.0026)
Educ	0.233*** (0.0097)	0.115*** (0.0055)	0.136*** (0.0071)	0.058*** (0.0060)
Married	0.091 (0.0554)	-0.197*** (0.0541)	0.257*** (0.0586)	0.452*** (0.0634)
Age_Y_Child3	0.162** (0.0758)	0.124** (0.0515)	-0.015 (0.0770)	0.014 (0.0836)
Eng_Skill	-0.144*** (0.0492)	0.034 (0.0345)	-0.189*** (0.0434)	-0.120*** (0.0394)
City	0.151*** (0.0568)	0.085** (0.0378)	-0.051 (0.0478)	0.166*** (0.0434)
Italian	1.600*** (0.415)		6.054 (3,487)	
Working_Climate	-0.031 (0.0290)		-0.062** (0.0248)	
Stability_Work	0.180*** (0.0225)		0.322*** (0.0230)	
Hours_Work	0.149*** (0.0289)		0.074*** (0.0245)	
Payment_Work	-0.209*** (0.0258)		-0.196*** (0.0217)	
Workload	-0.021 (0.0305)		-0.001 (0.0262)	
North		0.678*** (0.0324)		0.667*** (0.0357)
Centre		0.471*** (0.0399)		0.495*** (0.0465)
Age5064		0.942*** (0.0618)		0.399*** (0.0633)
Partner_Works		0.194*** (0.0451)		0.157*** (0.0508)
Constant	-6.729*** (0.203)	-2.404*** (0.103)	-4.720*** (0.156)	-0.741*** (0.105)
ρ		0.652*** (0.0736)		0.894*** (0.0533)
Observations	8,702	8,702	7,703	7,703

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B23: Bivariate Probit Estimation by Gender, 2008

	Public Contest	Employment	Public Contest	Employment
Variables	Women		Men	
Childrdummy	-0.061 (0.0703)	-0.331*** (0.0534)	0.237*** (0.0690)	0.330*** (0.0717)
Age	0.065*** (0.00266)	0.016*** (0.00278)	0.039*** (0.00237)	-0.006** (0.0028)
Educ	0.218*** (0.00987)	0.128*** (0.00588)	0.143*** (0.00778)	0.070*** (0.00638)
Married	0.096* (0.0569)	-0.014 (0.0586)	0.205*** (0.0658)	0.524*** (0.0710)
Age_Y_Child3	0.134 (0.0856)	0.0601 (0.0570)	-0.146 (0.0990)	-0.190** (0.0966)
Eng_Skill	-0.152*** (0.0506)	0.021 (0.0355)	-0.164*** (0.0479)	-0.130*** (0.0410)
City	0.084 (0.0610)	0.016 (0.0399)	0.018 (0.0558)	0.113** (0.0481)
Italian	0.813*** (0.266)		1.227** (0.553)	
Working_Climate	0.015 (0.0274)		-0.116*** (0.0254)	
Stability_Work	0.139*** (0.0233)		0.271*** (0.0247)	
Hours_Work	0.138*** (0.0278)		0.143*** (0.0266)	
Payment_Work	-0.156*** (0.0251)		-0.190*** (0.0226)	
Workload	-0.032 (0.0288)		0.037 (0.0268)	
North		0.831*** (0.0340)		0.820*** (0.0388)
Centre		0.473*** (0.0413)		0.554*** (0.0493)
Age5064		0.969*** (0.0665)		0.578*** (0.0698)
Partner_Works		-0.0471 (0.0485)		0.0193 (0.0577)
Constant	-6.691*** (0.218)	-2.594*** (0.111)	-5.148*** (0.173)	-0.898*** (0.111)
ρ		0.570*** (0.0820)		828*** (0.0850)
Observations	8,280	8,280	7,016	7,016

Robust standard errors in parentheses
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B24: Bivariate Probit Estimation by Gender, 2010

	Public Contest	Employment	Public Contest	Employment
Variables	Women		Men	
Childrdummy	0.097 (0.0704)	-0.328*** (0.0509)	0.156** (0.0651)	0.258*** (0.0635)
Age	0.0603*** (0.00270)	0.0246*** (0.00260)	0.0394*** (0.00213)	0.00221 (0.00242)
Educ	0.222*** (0.00970)	0.117*** (0.0057)	0.139*** (0.0074)	0.072*** (0.0057)
Married	0.070 (0.0557)	0.065 (0.0553)	0.105* (0.0609)	0.351*** (0.0622)
Age_Y_Child3	0.020 (0.0814)	.118** (0.0541)	0.063 (0.0981)	-0.148 (0.0904)
Eng_Skill	-0.072 (0.0475)	-0.003 (0.0324)	-0.084** (0.0426)	-0.065* (0.0348)
City	0.045 (0.0586)	0.011 (0.0379)	-0.050 (0.0527)	0.163*** (0.0411)
Italian	1.402*** (0.369)		0.789** (0.401)	
Working_Climate	-0.029 (0.0290)		-0.004 (0.0252)	
Stability_Work	0.176*** (0.0224)		0.229*** (0.0220)	
Hours_Work	0.139*** (0.0291)		0.070*** (0.0260)	
Payment_Work	-0.117*** (0.0248)		-0.118*** (0.0221)	
Workload	-0.042 (0.0298)		-0.002 (0.0271)	
North		0.813*** (0.0318)		0.649*** (0.0328)
Centre		0.463*** (0.0388)		0.407*** (0.0406)
Age5064		0.755*** (0.0648)		0.449*** (0.0625)
Partner_Works		0.036 (0.0469)		0.175*** (0.0515)
Constant	-6.603*** (0.214)	-2.848*** (0.105)	-5.089*** (0.154)	-1.225*** (0.0972)
ρ		0.535*** (0.4894)		0.890*** (0.0925)
Observations	9,204	9,204	8,579	8,579

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B25: Bivariate Probit Estimation by Gender, 2011

	Public Contest	Employment	Public Contest	Employment
Variables	Women		Men	
Childrdummy	0.170** (0.0697)	-0.264*** (0.0486)	0.217*** (0.0685)	0.333*** (0.0658)
Age	0.056*** (0.0035)	0.032*** (0.0027)	0.039*** (0.00224)	0.001 (0.0024)
Educ	0.233*** (0.0102)	0.117*** (0.00560)	0.150*** (0.00798)	0.064*** (0.00593)
Married	0.082 (0.0586)	-0.089* (0.0499)	0.194*** (0.0661)	0.408*** (0.0626)
Age_Y_Child3	-0.023 (0.0812)	0.252*** (0.0521)	-0.015 (0.0983)	0.035 (0.0932)
Eng_Skill	-0.002 (0.0484)	0.043 (0.0328)	-0.079* (0.0441)	-0.071** (0.0345)
City	0.048 (0.0557)	0.085** (0.0360)	-0.013 (0.0513)	0.098** (0.0395)
Italian	1.204*** (0.251)		6.390 (6,394)	
Working_Climate	-0.013 (0.0312)		0.026 (0.028)	
Stability_Work	0.199*** (0.0238)		0.252*** (0.0244)	
Hours_Work	0.126*** (0.0330)		0.060** (0.0293)	
Payment_Work	-0.159*** (0.0255)		-0.194*** (0.0239)	
Workload	0.006 (0.0318)		0.025 (0.0291)	
North		0.694*** (0.0318)		0.663*** (0.0340)
Centre		0.381*** (0.0381)		0.464*** (0.0404)
Age5064		0.705*** (0.0633)		0.544*** (0.0636)
Partner_Works		0.109*** (0.0407)		0.166*** (0.0513)
Constant	6.732*** (0.280)	-3.139*** (0.112)	-5.353*** (0.169)	-1.197*** (0.102)
ρ		0.296*** (0.1229)		0.897*** (0.0920)
Observations	9,347	9,347	8,236	8,236

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table B26: Bivariate Probit Estimation by Gender, 2014

	Public Contest	Employment	Public Contest	Employment
Variables	Women		Men	
Childrdummy	0.112** (0.0534)	-0.208*** (0.0381)	0.0297 (0.0536)	0.0289 (0.0481)
Age	0.0364*** (0.00195)	0.0345*** (0.00131)	0.0268*** (0.00165)	0.0157*** (0.00139)
Educ	0.218*** (0.00858)	0.145*** (0.00471)	0.152*** (0.00682)	0.0975*** (0.00509)
Married	0.305*** (0.0468)	0.0143 (0.0371)	0.404*** (0.0506)	0.525*** (0.0461)
Age_Y_Child3	-0.270*** (0.0707)	0.116** (0.0474)	-0.0816 (0.0831)	0.0724 (0.0728)
Eng_Skill	-0.236*** (0.0389)	-0.0117 (0.0272)	-0.169*** (0.0369)	-0.0594* (0.0307)
City	0.0517 (0.0444)	0.0288 (0.0296)	-0.0145 (0.0417)	0.0224 (0.0336)
Italian	1.106*** (0.198)		0.693*** (0.211)	
Working_Climate	-0.0293 (0.0224)		0.00331 (0.0207)	
Stability_Work	0.276*** (0.0193)		0.247*** (0.0197)	
Hours_Work	0.080*** (0.0221)		0.112*** (0.0215)	
Payment_Work	-0.220*** (0.0208)		-0.229*** (0.0201)	
Workload	0.0181 (0.0250)		0.0163 (0.0232)	
North		0.701*** (0.0263)		0.678*** (0.0291)
Centre		0.421*** (0.0313)		0.442*** (0.0351)
Age5064		-0.795*** (0.161)		0.0532 (0.141)
Partner_Works		0.143*** (0.0284)		0.158*** (0.0354)
Constant	-5.652*** (0.201)	-3.572*** (0.0811)	-4.868*** (0.140)	-2.149*** (0.0823)
ρ		0.369*** (0.0848)		0.858*** (0.0611)
Observations	13,202	13,202	10,678	10,678

*Robust standard errors in parentheses**** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Appendix C: Methodological issues

The probabilities of observing a positive labor income given recruitment through public contests or recruitment through other channels are given below:

$$Pr(Y_W^* > 0, Y_R^* > 0) = Pr(u_W > -Z' \gamma, u_R > -Q' \alpha) = G(Z' \gamma, Q' \alpha, \rho) \quad (7)$$

$$Pr(Y_W^* > 0, Y_R^* \leq 0) = Pr(u_W > -Z' \gamma, u_R \leq -Q' \alpha) = G(Z' \gamma, -Q' \alpha, -\rho) \quad (8)$$

where $G(\cdot)$ is the standard bivariate normal distribution and ρ is the correlation coefficient between the two selection rules. The subscript W identifies the work decision while R identifies the recruitment decision. Under the assumption that the two selection rules are not independent, that is $\rho \neq 0$, maximum likelihood of the bivariate probit leads to the following selection terms for public-contest selected employees, $m = PC$:

$$\lambda_W^{PC} = \frac{f(Z' \gamma) F[\frac{Q' \alpha - \rho Z' \gamma}{\sqrt{1 - \rho^2}}]}{G(Z' \gamma, Q' \alpha, \rho)} \quad (9)$$

$$\lambda_R^{PC} = \frac{f(Q' \alpha) F[\frac{Z' \gamma - \rho Q' \alpha}{\sqrt{1 - \rho^2}}]}{G(Z' \gamma, Q' \alpha, \rho)} \quad (10)$$

Similarly, for the subsample of non-public-contest selected individuals, $m = NPC$, the corresponding selection terms are given by:

$$\lambda_W^{NPC} = \frac{f(Z' \gamma) F[-\frac{Q' \alpha - \rho Z' \gamma}{\sqrt{1 - \rho^2}}]}{G(Z' \gamma, -Q' \alpha, -\rho)} \quad (11)$$

$$\lambda_R^{NPC} = \frac{-f(Q' \alpha) F[\frac{Z' \gamma - \rho Q' \alpha}{\sqrt{1 - \rho^2}}]}{G(Z' \gamma, -Q' \alpha, -\rho)} \quad (12)$$

$f(\cdot)$ is the standard normal density, while $F(\cdot)$ is the standard normal distribution and ρ is the correlation coefficient between the two selection rules.