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► To cite this version:

Elisabeth Cudeville, Leman Yonca Gurbuzer. Gender wage discrimination in the Turkish labor market. 2007. halshs-00188745

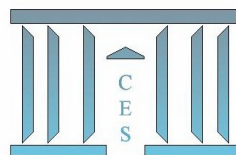
HAL Id: halshs-00188745

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Submitted on 19 Nov 2007

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2007.67



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Gender Wage Discrimination in the Turkish labor market*

Elisabeth Cudeville[†] and Leman Yonca Gurbuzer[‡]

May, 2007

Abstract : While the topic of gender equality turns out to be an important element in the preparation of Turkey to join the European Union, very little empirical research on this issue has been done using Turkish data. This paper aims to contribute toward filling this gap. We propose an estimate of the wage discrimination in Turkey relying on different decompositions of the gender wage differential. The data set used is the 2003 Turkish Household Budget Survey. In Turkey, the observed average gender wage gap is about 25.2% in favor of men for the salaried population, and around 60% of it may be attributed to discrimination. In terms of gender wage discrimination, with an observed wage gap close to those observed in France and Italy, and a discrimination component close to the ones obtained in Spain and Greece with comparable methods, Turkey happens to do not so bad. But, in the Turkish case, wage discrimination appears to be a bad indicator of gender inequalities in the labor market, as exclusion and segregation of women are the main concerns.

Keywords: discrimination, gender wage gap decompositions, Turkey.

JEL Codes: J16 - J71 - J82

Résumé : Si le thème de l'égalité des sexes se révèle être un sujet sensible dans les discussions préparatoires à une future adhésion de la Turquie à l'Union Européenne, peu de travaux empiriques ont été menés sur données turques. Cet article propose une estimation de la discrimination salariale sur le marché du travail turc à partir de différentes décompositions de l'écart de salaires hommes-femmes, sur la base de l'Enquête ménage 2003. Il apparaît, qu'en moyenne, en Turquie, sur la population salariée, un homme touche 25,2% de plus qu'une femme, et qu'environ 60% de cet écart peut être attribué à des pratiques discriminatoires. Du point de vue de la discrimination salariale, avec un écart de salaires observé du même ordre que ceux constatés en France et en Italie, et une part attribuée à la discrimination, à partir de méthodes directement comparables, proche de celles obtenues sur l'Espagne et la Grèce, la Turquie se situe dans les standards européens. Mais, dans le cas turc, les limites des mesures de discrimination salariale comme indicateur des inégalités hommes-femmes sur le marché du travail apparaissent clairement, l'exclusion et la ségrégation étant les problèmes majeurs auxquels sont confrontées les femmes.

Mots-clefs : discrimination, décompositions du différentiel de salaires hommes-femmes, genre, Turquie.

Classement JEL : J16 - J71 - J82

*Paper presented at the JMA, Fribourg, June 2007 and the ECINEQ Conference, Berlin, July 2007.

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1 Introduction

”If a society does not walk towards its objective with all women and all men who compose it, it will not progress.”

Mustafa Kemal ATATÜRK

While Turkey’s accession negotiations to the European Union began in October 2005, the topic of gender equality has turned out to be an important element in the preparation of the country to join the Union. Reports after reports, the European Commission underlines the incompleteness of the Turkish alignment process on the Community acquis in the area of non-discrimination and gender equality. The 2006 Commission’s report notes, as regards equal opportunities, that alignment is required in respect of the Community acquis, in particular concerning parental leave, equal pay, equal access to employment and statutory and occupational social security.

If the question of discriminating practices against women in the Turkish labor market is a recurrent point of debate between the organisms of the Community and the Turkish government — point all the more sensitive that inevitably linked in common minds to cultural and religious factors — there is actually very few quantitative studies on this topic going beyond the simple statements of the very low employment rate for women and a wage differential disfavoring them.

However, we know that such statements are not sufficient to draw conclusions in terms of discrimination against women. In fact, wage gaps may be justified by objective reasons, for instance productivity differences between men and women, themselves explained by differences in education or training. The approach the most commonly used in the literature to measure and analyze wage discrimination is based on wage gap decompositions in the line of the one first proposed by Oaxaca (1973) and Blinder (1973). The idea of these decompositions is to isolate, in the gender wage differential, the part due to differences in the observable characteristics of the individuals, from the part which can not be explained by these differences, generally attributed to discrimination.

Even though this approach of wage discrimination may be, and has been criticized on different grounds, it is nevertheless the one we will follow here as our main concern is comparability. Indeed, the present contribution is not intended to propose methodological improvements on the empirical treatment of wage discrimination but to situate Turkey in terms of gender wage discrimination relative to the EU countries. As far as we know, one of the most recent and comprehensive study on gender wage discrimination implemented on a large sample of European countries is the one proposed by Meurs and Ponthieux (2005). This study presents the great advantage of using recent data — the 7th wave (2000) of the ECHP data set — and applying to the different countries concerned¹ a perfectly homogeneous method. To make possible the comparison with Turkey, we chose to follow the same approach based on different decompositions of the gender wage gap, completed with a Heckman’s two-steps procedure (1979) in order to correct for selectivity. The data set used is the 2003 Household Budget Survey conducted by the Turkish Institute of Statistics.

The paper is organized as follows. In the next section we give few key statistics to briefly present the current state of the Turkish labor market and the space it makes for women. We then describe our data. Section 3 presents our findings with respect to the observed gender gaps in a series of figures. Section

¹The analysis is done for 10 countries of the EU : Austria, Denmark, France, Germany, Greece, Ireland, Italy, Portugal, Spain and the United Kingdom.

4 contains the results of the wage equations' estimates and our decomposition analysis of the gender wage gaps in Turkey. In section 5 we complete our analysis by a treatment of selectivity based on the Heckman's two-steps procedure (1979) in order to estimate the selectivity corrected wage gap. In the last section, we compare our results with the ones obtained using the same methodology by Meurs and Ponthieux (2005) on European countries.

2 Women in the Turkish labor market

2.1 Some Key Statistics

One of the most serious structural handicap penalizing Turkey in the negotiation process on its future membership in the EU is the state of its labor market. The low employment rate, the high level of unemployment, the size of the informal economy, and the strong disparities between rural and urban areas are the main challenges that Turkey has to take up in terms of employment policy.

Labor force participation in Turkey is exceptionally low by international standards and has been in long-term declining. The overall participation rate of 48.7 % in 2004 was the lowest in the OECD and 21.4 percentage points below the OECD average (Table 1). According to the World Bank (2006), from 1980 to 2004, the working age population (those aged from 15 to 64) grew by 23 million in Turkey, but only 6 million net jobs were created. As a result, the employment rate (the percentage of working age population that is employed) in 2004, at 43.7%, is one of the lowest in the world. Most countries have employment rates in excess of 50%²; the EU-15 average in 2004 was 65 %.

TAB. 1 – Labor Force Participation and Employment, 2004

	Population 15+	Labor force	Employment	Participation rate	Employment rate
	<i>Thousands</i>	<i>Thousands</i>	<i>Thousands</i>	<i>Percent</i>	<i>Percent</i>
Total	49,906	24,290	21,791	48.7	43.7
Female	25,150	6,388	5,768	25.4	22.9
Male	24,756	17,902	16,023	72.3	64.7
Urban	30,813	13,714	11,844	44.5	38.4
Female	15,450	2,832	2,325	18.3	15.0
Male	15,363	10,882	9,519	70.8	62.0
Rural	19,093	10,576	9,948	55.4	52.1
Female	9,700	3,556	3,443	36.7	35.5
Male	9,393	7,020	6,505	74.7	69.3
<i>Memo item :</i>					
OECD Total				70.1	65.3

Source : SIS, HLFS, and OECD Employment Outlook 2005.

Participation and employment rates differ significantly with respect to gender and location. Rural participation and employment rates are higher than urban and men's are higher than women's. For the economy overall, the male participation rate (72.3 %) is nearly three times the female rate (25.4 %). In urban areas, women's labor force participation is exceptionally low, at only 18.3 % versus 70.8% for

²The exceptions are largely in the Middle-East.

men (Table 1). Actually, a significant part of the gap between the employment rate in Turkey and the EU-15 comes from the very low employment rate for women. According to the World Bank (2006), the employment rate in 2004 in Turkey was 64.7 % for men, while in the EU-15 it was 72.9. By contrast, the average for women, 22.9 %, was less than half the EU-15 average of 57.1%. Thus, by 2004, less than one in four Turkish women aged 15-64 was employed. Moreover, according to studies by the European Foundation for the Improvement of Living and Working Conditions, the female participation rate has dropped to around 20% from 1998 to 2004, in contrast to the rise of women's participation in the informal sector. These evolutions are the result of the combination of a range of sociological, cultural

TAB. 2 – Educational Attainment, 1988 and 2003 (% of population)

	Population		Men		Women	
	1988	2003	1988	2003	1988	2003
Illiterate	22.9	11.7	11.6	4.3	33.9	18.9
No diploma	9.1	4.4	9.6	4.0	8.6	4.8
Primary	47.2	49.6	51.8	48.7	42.8	50.6
Lower secondary	8.1	9.8	10.5	12.9	5.7	6.8
Lower secondary vocational	0.7	0.1	1.0	0.1	0.5	0.1
Upper secondary	6.0	11.1	7.1	13.1	5.0	9.1
Upper secondary vocational	2.7	6.4	3.8	8.3	1.7	4.4
Tertiary	3.2	6.9	4.7	8.6	1.8	5.2

Source : SIS Labor Force database.

and institutional factors and partly explain the declining overall trend of the labor market participation. The rapid demographic transition experienced by Turkey since the 1950s and the concomitant structural transformations of the country resulting in a shift out agriculture have been translated into a high ratio of rural-to-urban migration and a decline in women's participation in the labor force. When rural women actively working in agriculture migrate to urban areas, the fact that they are less educated than men virtually prevents them from finding paid employment in the official labor force. In rural areas, where agriculture dominates and labor-intensive technology is widespread, and where home and work environment overlap to a great extent, all family members are more likely to participate in productive activities, and most of the women and children work as unpaid family labor in agriculture. By contrast, urban households tend to be more specialized, men earn an income while women are homemakers. Lower female participation rates in the urban areas reflect both social custom whereby married women are expected to devote themselves to domestic work and a greater access to education that lowers participation among the youngest. Regional differences are also striking in the instance of female employment. In the West of Turkey, the proportion of women working for pay is 40%, while in the East approximately 90% of women still have the status of unpaid family workers (Ilkcaracan, 1999).

Although between 1980 and 2000 the employment rate in Turkey was continuously falling, the unemployment rate did not increase. As a result, open unemployment is not particularly high, averaging 8 to 10 % during the 1990's and the early 2000³. In the same time, the informal sector has developed,

³Turkey's unemployment figures are likely to be underestimated as workers have few incitations to report themselves as unemployed. The unemployment insurance system was legally established in 1999 but the first benefit payments were made in the beginning of 2002 only. Moreover, the coverage of the plan is currently very low. According to the World Bank (2006), less than 4% of the unemployed workers are getting benefits.

and according to the last report of the World Bank, more than half of the working population is today working in the informal sector. In urban areas, one worker out of three has no social insurance, and in rural areas, this proportion raises up to three persons out of four. Consequently, half of existing workers in Turkey receive no social benefits or job protection, and this precariousness affects more often the female workers, which are more concerned by unemployment⁴ and when working are more often employed in the informal sector.

Thus, even though gender discrimination is legally prohibited⁵ in Turkey, the situation of women in the labor market appears particularly worrying. However, these descriptive statistics do not say if the situation is due to active discrimination against women. It could be also the result of the traditional accepted gender division in the Turkish society, or the consequence of inferior human capital characteristics of women, particularly in terms of education. This is the question that we will try to clarify in the following sections.

2.2 Structure of the Population Studied

The data used in this study is taken from the 2003 Household Budget Survey conducted by the Turkish State Institute of Statistics (SIS). This survey uses samples representative of the whole population, chosen in both urban and rural areas, in order to study the behavior of Turkish households. The final sample is composed of 107,614 individuals from 25,920 households.

We confine our investigation to the working age population, that is individuals from 15 to 64, which numbered 69,712, with 47.7% males and 52.3% females (Table 3). Among them, only 35,638 are active, resulting in a very low labor force participation rate equal to 51.1 %. Women's participation in the labor market is even lower as if they count for more than half of the sample working age population, only 28.3% are active. Therefore, the great majority of the inactive people of working age are women (76.8 %). If we consider only what we could call the "pure inactive" people (by excluding from the inactive those who can not apply for a job : the individuals who are waiting to start work, the students, the sick and disabled persons, the pensioners ...), 95.1 % are women (see Table 21 in Appendix 1). Table 3 also shows that participation and employment rates are higher in rural than in urban areas, especially for women.

In our sample, the unemployment rate (the percentage of the labor force that is unemployed) reaches 10.1 % and is very close to the national average unemployment rate equal to 10.5% in 2003. Women are slightly more concerned than men as the female unemployment rate is equal to 11.2% and the male's is 9.6%.

Figure 1(b) shows clearly that the bulk of working aged women are inactive (73%). When they are active, one woman out of two is an unpaid family worker, and one out of three is a wage employee. Compared to men, active women are far less often wage-earners, self-employed or employers (see Table 4).

If we focus on the salaried population, who represents 23.6 % of the sample working age population, women become scarcer as they count for only 20 % of the salaried workers. This proportion is falling to 18.5 % when we restrict to the full-time salaried workers only (those working at least 30 hours a

⁴According to World Bank (2006), in 2002, 24.7% of women only have access to social security, for 50.9% of men.

⁵Labor Law Article 26 stipulates that male and female workers performing jobs of the same nature and working with equal efficiency will receive the same wages.

TAB. 3 – Structure of the Population Studied

	Working Age Individuals	Active Individuals	Employed Individuals	Participation rate	Employment rate
	<i>Number</i>	<i>Number</i>	<i>Number</i>	<i>Percent</i>	<i>Percent</i>
Total	69,712	35,638	32,056	51.1	46.0
Female	36,485	10,303	9,146	28.3	25.1
Male	33,227	25,335	22,910	76.3	69.0
Urban	48,409	21,429	18,504	44.3	37.3
Female	25,244	4,558	3,568	18.1	14.1
Male	23,165	16,871	14,936	72.8	64.5
Rural	21,303	14,209	13,552	66.7	63.6
Female	11,241	5,745	5,578	51.1	49.6
Male	10,062	8,464	7,974	84.1	79.2

Source : HBS Turkey 2006, (SIS Turkey).

TAB. 4 – Composition of the Labor Force

Status	Wage Earners		Employers		Self-Employed		Unpaid Family Workers		Unemployed		Total
Total	16,475	(46.2 %)	1,684	(4.7 %)	6,602	(18.5%)	7,295	(20.5%)	3,582	(10.1%)	35,652
Female	3,301	(32.1%)	61	(0.6%)	883	(8.6%)	4,901	(47.5%)	1,157	(11.2%)	10,310
Male	13,174	(52.0%)	1,623	(6.4%)	5,719	(22.6%)	2,394	(9.5%)	2,425	(9.6%)	25,342

Source : HBS Turkey 2006, (SIS Turkey).

week.⁶). If in urban areas, wage and salary employees form the largest fraction of the male and female working populations with 72.3% and 79.2% respectively, in rural areas by contrast, 42.9% of working men are self-employed and only 29.9% of them are wage earners. Concerning women, the dominant form of employment in rural areas is unpaid family membership with about 80% of the total, only 8.6% of rural active women are wage-earners (see Table 24 in Appendix 1).

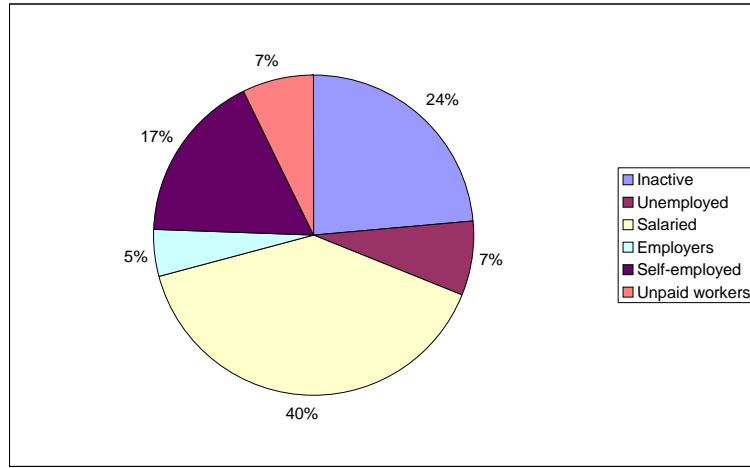
In the sample, women are more likely than men to be in precarious jobs, even among salary workers (see Table 5). The proportion of salaried women with long term contracts is equal to 76.2 % compared to 85.6 % for men, 58.5% of them are registered in social security compared to 65.6% of the salaried man. If we consider the fact of not being covered by any social insurance as a proxy of the belonging to the informal sector⁷, women are proportionally more concerned.

Gender disparities in education appear clearly in the data (Table 6), and are particularly pronounced at the lowest levels of education. In our sample, 21.6% of the working age women are illiterate or non graduate compared to 6.4% of their male counterparts. A third only of women of working age have achieved a level of education higher than primary school, compared to more than half for men.

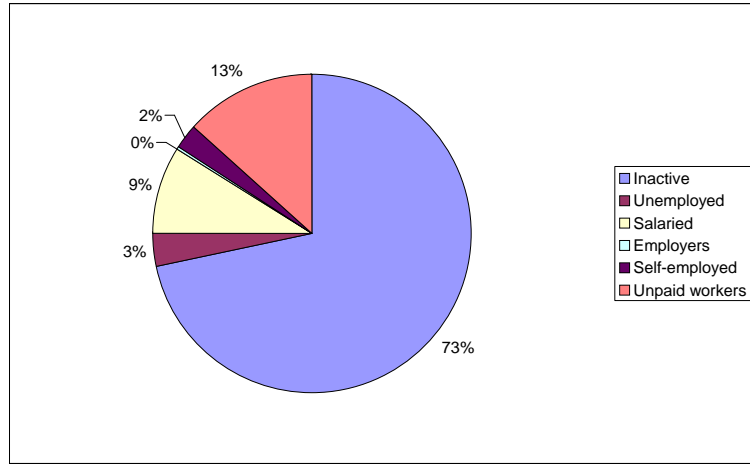
The picture is quite different if we focus on the salaried population of our sample (Table 6 and Figures 2). Salaried women happen to be strikingly more educated than their counterparts of working age. Illiterate and non graduate women are clearly under-represented among wage earners, though the

⁶The legal working time in Turkey is 45 hours a week.

⁷See Tansel (2000). In Turkey, it is illegal for an employer to employ workers without social security coverage.



(a) Men of Working Age



(b) Women of Working Age

FIG. 1 – Activity Status

TAB. 5 – Type of Labor Contract

	Wage-Earners	Long-term contract	Covered by social insurance	Full-time
Total	16,475	13,800 (83.8%)	10,574 (64.2%)	15,286 (92.8%)
Female	3,301	2,516 (76.2%)	1,930 (58.5%)	2,829 (85.7%)
Male	13,174	11,284 (85.6%)	8,644 (65.6%)	12,457 (94.6%)

Source : HBS Turkey 2006, (SIS Turkey).

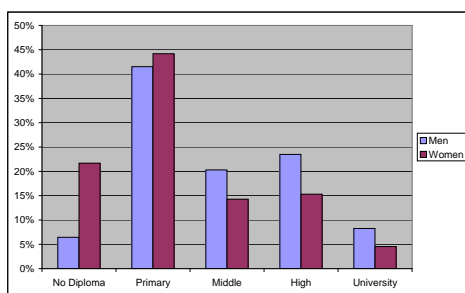
most educated are over-represented. So, salaried employment concentrates women who are comparatively more educated. This phenomenon does not concern men to the same extent.

Given the scarcity of women in the Turkish labor market, occupations are all dominated by men except the skilled agricultural workers (Figure 8(a) in Appendix 1). This exception is explained by the

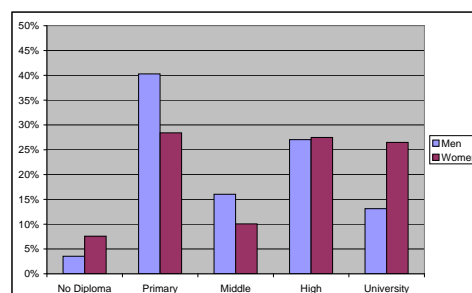
TAB. 6 – Educational Attainment

	% of Working Age Population			% of Salaried Population		
	Population	Men	Women	Population	Men	Women
Illiterate	8.8	2.5	14.5	2.1	1.4	4.6
No diploma	5.6	3.9	7.1	2.3	2.1	3.0
Primary	42.9	41.5	44.2	37.9	40.3	28.4
Lower secondary	16.9	19.9	14.1	14.3	15.4	9.9
Lower secondary vocational	0.3	0.4	0.2	0.5	0.6	0.2
Upper secondary	16.1	19.1	13.3	20.8	20.8	21.1
Upper secondary vocational	3.1	4.4	2.0	6.3	6.3	6.4
Tertiary	6.4	8.3	4.6	15.8	13.1	26.5

Source : HBS Turkey 2006, (SIS Turkey).



(a) Working Age Population



(b) Wage Earners

FIG. 2 – Distribution of Men and Women by Educational Attainment

domination of women among unpaid family workers. Indeed, if we restrict to the salaried population only, all occupations are male-dominated (see Figure 8(b) in Appendix 1). Concerning sectors, women dominate the agricultural sector — where are found most of the unpaid family workers — and the sector of private households with employed persons, where domestic workers — who are mainly women — are registered. Except for agriculture, the gender composition of sectors is very close for the working aged and the salaried populations (see Figures 9 in Appendix 1).

Genders are differently distributed across occupations and sectors. The bulk of working women are agricultural workers, nearly 60% against 20% of their male counterparts (Figure 3(a)). The distribution of the female salaried population across occupations is much less concentrated — as more than half of the salaried women is uniformly distributed across intermediary occupations (17% are professionals, 15% clerks, 12% service and sale workers) and a quarter is elementary workers (Figure 3(b)). It is worthwhile noticing that, in our sample, female salaried workers are more likely to be managers, professionals or employees than their male counterparts, although the latter are more often skilled or unskilled workers. We find here the same feature than in the Southern European countries (Spain, Greece, Italy or Portugal) where the proportion of women holding managerial positions is higher than men's (see Meurs and Ponthieux, 2005). The main reason of this particularity is the low employment rate for women in these countries. As women are actually fewer in employment, those holding high-status occupations are proportionally in greater numbers compared to men in these countries, or to women in the other developed countries. This trait may also be partly explained by a generation effect, older women being less likely

to be active, and when active, more likely to be unpaid family workers than the younger, who are more likely to be both better educated and salaried.

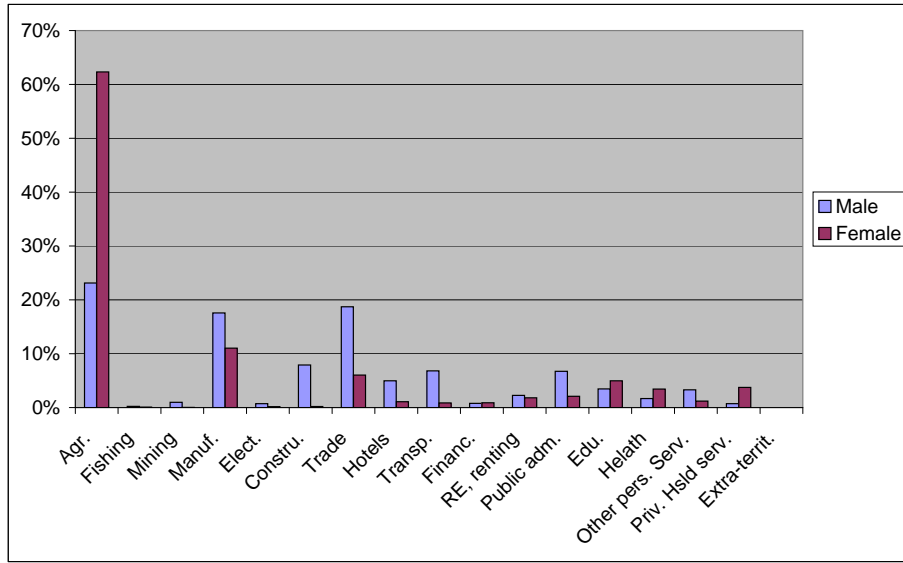


FIG. 3 – Distribution of Men and Women by Occupation

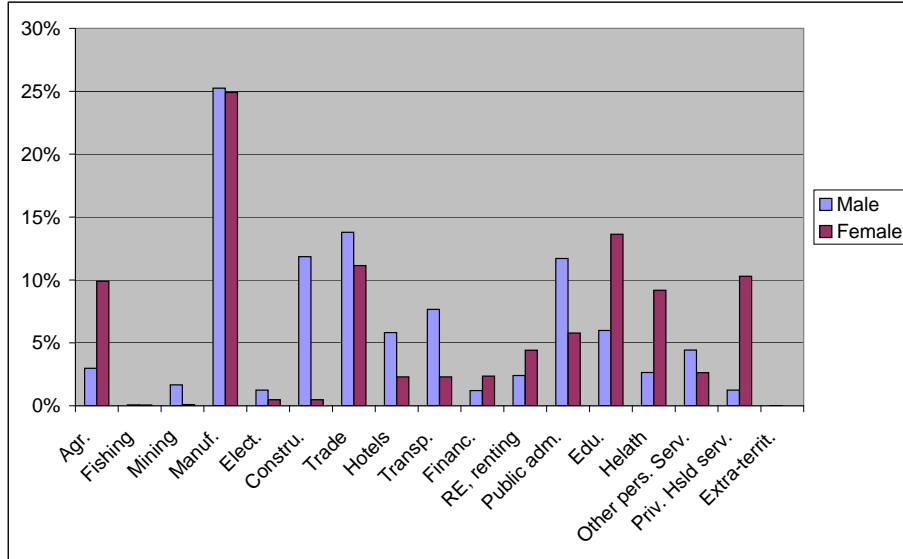
At the sector level, if working women are concentrated in agriculture, the salaried women are found first in the manufacturing sector, followed by education and trade (see Figure 4). Interestingly, if in much countries the public sector appears rather favorable to female workers, this does not seem to be the case in Turkey since the public sector employs women and men in quite the same proportions than the private one, and the distribution of men and women between these two sectors is the same (see Table 23 in Appendix 1).

Finally, concerning differences in geographical location, 36% of the female salaried workers are concentrated in the Marmara region (the westerner region of the country, where Istanbul is located). A closer examination show that among wage-earners, the proportion of women is falling when moving toward the Eastern regions (see Figures 10). This can be related to cultural and religious differences between these two areas, Eastern regions being more rural and less developed than the Western ones. When considering the geographical distribution of the working population rather than the salaried one, the proportion of women raises up, particularly in the rural regions (Black Sea, South East Anatolia, East Anatolia), what can be linked to the number of unpaid family workers among active women (see Table 25 and Figures 5 and 10).

On the whole, we find clearly in our sample data the global characteristics of the Turkish labor market described in the preceding section : women do not participate much in the labor market, they are on average less educated than men, they are more often in precarious jobs and in the informal sector. Salaried women are even scarcer — the probability to accede to the salaried employment is much lower for women than for men — they are mainly urban, much more educated than the women’s average and form the majority of the high educated wage earners. Compared to men, they are more likely to occupy high-status occupations. These characteristics may indicate a high selectivity for women into salaried employment, the process of selection setting for them higher standards in terms of educational attainment. The figures presented so far reveal striking differences in the way men and women are distributed into employment, across occupations and sectors, and let suspect that the mechanisms of selection into work and into salaried work are likely to be gender specific in Turkey, the selection process being potentially tainted of segregation. Those differences would have to be taken into account in our analysis of discrimination.



(a) Working Population



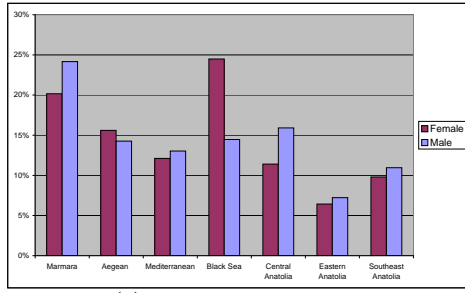
(b) Wage Earners

FIG. 4 – Distribution of Men and Women by Industries

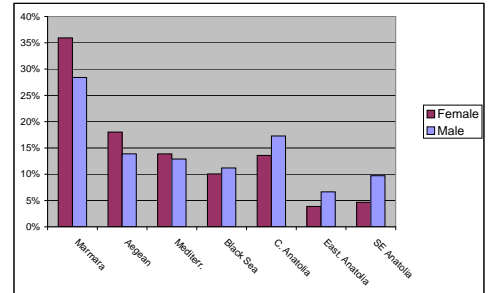
3 Observed Gender Wage Gaps in Turkey

The relative gap between the male and female average monthly wages⁸ computed on the full sample of the salary workers is equal to 25 % in favor of men (Table 7). The average monthly wage differential is much lower, 10.4%, if we restrict to the sole full-time salary workers. Those figures are not so high when compared to the European standards. Meurs and Ponthieux (2005) compute the average gender wage

⁸Wages are the sum of cash earnings, bonuses and the value of income in-kind. Fringe benefits are not included in the wage earners reported earnings.



(a) Working Population



(b) Salary workers

FIG. 5 – Distribution of Men and Women by Region

ratio on the salaried workers aged 25 to 55 and working at least 15 hours a week for seven European countries and find results varying from 1.2 in Portugal to more than 1.5 in Germany, Austria, Ireland and the United Kingdom. On our data, we obtain, for the same population, a ratio equal to 1.13 (Table 7). Then, if we stuck to this simple comparison, situation of Turkey in terms of wage equality would not seem particularly worrying as the Turkey's average wage gap lies in the same scope than the one observed in the UK, the Netherlands or Germany, that is between 20 to 25%. But beyond this observation, the crucial point is to know how much of this gap is due to discrimination.

TAB. 7 – Observed Gender Monthly Wage Gap (New Turkish Liras)

	Wage Earners (15-64)			Full-time Wage Earners (15-64)			Wage Earners (25-55) working at least 15 h./week			Full-time Wage Earners (25-55)		
	Men (1)	Women (2)	Wage gap [(1)/(2)]	Men (1)	Women (2)	Wage gap [(1)/(2)]	Men (1)	Women (2)	Wage gap [(1)/(2)]	Men (1)	Women (2)	Wage gap [(1)/(2)]
Average	487	389.6	1.25	491.9	410.3	1.20	531.7	469.7	1.13	533.8	483.5	1.10
Median Wage	380	260	1.46	400	300	1.33	430	350	1.23	434	380	1.14
D1	180	90	1.80	200	119	1.68	220	100	2.20	223	130	1.71
D9	863.6	750	1.15	870	778	1.12	900	850	1.06	900	850	1.06
D9/D1	4.8	8.33	-	4.35	6.54	-	4.09	8.50	-	4.04	6.54	-

Source : HBS Turkey 2006, (SIS Turkey).

Table 7 also shows that the wage gap is not uniform throughout the distribution of wages but is clearly higher at the bottom of the distribution where it reaches 80% for those aged 15-64 and 120% for the 25-55 working at least 15 h./week, and substantially lower at the top, where it is only of 13% for the 15-64 and 6% for the 25-55. This result remains true when we consider the full-time salary workers only. Figure 6 plots the gender gap in terms of the differences of logged gross monthly wages of respectively male and female salaried workers working at least 15 hours a week. As can be observed, there is a decreasing trend, and the gender gap at the various percentiles differs notably from the gap at the mean. This evolution stands in sharp contrast to the one found for example by Albrecht et al. (2003) in the case of Sweden, where the raw gap increases from the bottom to the top of the log wage distribution, given rise to the well-known glass ceiling phenomenon. Here we have a decreasing trend, resembling the sticky floor phenomenon documented for example in de la Rica, Dolado and Llorens (2005) for the low educated

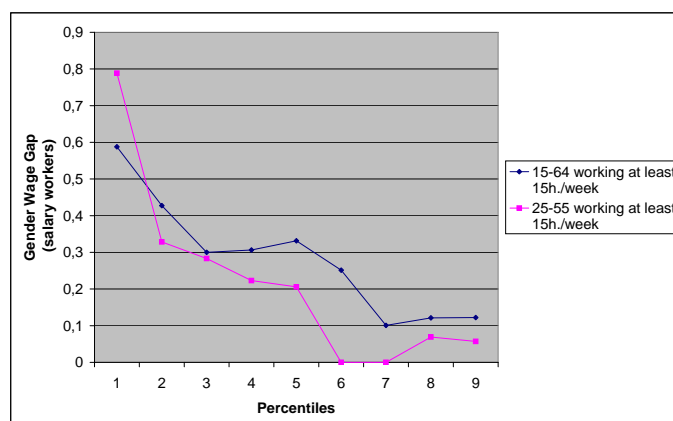


FIG. 6 – Gender Wage Gap Distribution

Spanish workers⁹. The ratio D9/D1 reported in Table 7 also shows the high degree of inequalities in the distribution of wages that prevails in Turkey, inequalities much more pronounced for women.

Given that the working time is typically unequal between men and women, it is likely that a part of the observed gender monthly wage gap is explained by differences in hours worked. In our sample, male wage earners work in average seven hours more than their female counterparts : the weekly average working time for women is about 44 hours, and nearly 51 hours for men (Table 8). The proportion of part-time workers¹⁰ in the salaried population is low, only 5.2%¹¹, and women are more concerned than men, as 10.5% of them work part-time against 3.9% for men (see Table 22 in Appendix 1). However, the difference in working time does not come only from a part-time work effect, but also from differences in hours worked in full-time employment as shown by table 8. As noted by Meurs and Ponthieux (2005), the working time is strongly constrained by sector and occupational practices and most often, workers have to conform with the norm of their activity. Given that occupations and sectors are heterogeneous in terms of the average working time, the hourly wage rate is not appropriate to study wage inequalities. This point is particularly important in the study of gender wage gaps as certain occupations are dominated by women, and others by men. In order to take into account those differences in hours worked between men and women, we will retain the monthly wage as the dependant variable in our econometric analysis of the gender wage gap and will include the working time as one of the explicative variable.

Male and female salaried workers differ in their working time and the type of jobs they occupied. They also differ in their human capital characteristics as education attainment or experience. The differential in monthly wages between men and women may thus be explained by these objective differences, but

⁹The rationale they give to explain this phenomenon may fit quite well the case of Turkey. Insofar as Turkish women's careers suffer from frequent interruptions — due to social discrimination in family duties and religious beliefs — employers may use statistical discrimination resulting in lower wages in the lower part of the wage distribution, which typically corresponds to entry jobs in the labor market. As their job tenure expands, however, women become more reliable to employers and their wages converge to those of men.

¹⁰The legal working time in Turkey is 45 hours a week. We consider full-time a wage-earner working 30 hours a week or more, and part-time a wage earner working between 10 and 29 hours.

¹¹This is low compared to the average EU part-time employment rate equal to 18.2% in 2002 according to the European Foundation for the Improvement of Living and Working Conditions (Corral and Isusi, 2003). The part-time employment rate in Turkey is comparable with the one observed in Greece (4.5% in 2002).

TAB. 8 – Gender Differences in Weekly Worked Hours

	Wage Earners (15-64)			Full-time Wage Earners (15-64)			Wage Earners (25-55)			Full-time Wage Earners (25-55)		
	Men (1)	Women (2)	Wage gap [(1)/(2)]	Men (1)	Women (2)	Wage gap [(1)/(2)]	Men (1)	Women (2)	Wage gap [(1)/(2)]	Men (1)	Women (2)	Wage gap [(1)/(2)]
Average	50.9	43.8	1.2	53.0	48.6	1.09	50.4	42.1	1.20	52.4	47	1.11
Median	48	45	1.1	50	48.0	1.04	48	40	1.20	48.0	45	1.06
D1	40	20	2.00	40	36	1.11	40	20	2.00	40	35	1.14
D9	70	60	1.17	70	63	1.11	70	60	1.17	70	60	1.17
D9/D1	1.75	3.00	-	1.75	1.75	-	1.75	3	-	1.75	1.71	-

Source : HBS Turkey 2006, (SIS Turkey).

it may also partly result from a different evaluation by the market of identical characteristics, what is generally referred as discrimination. These returns are not directly observable but have to be estimated. We do so by estimating Mincer-type earnings equations.

4 Gender Wage Discrimination in Turkey

4.1 Earnings Equations Estimates

The usual approach to investigate the wage gap — the one we will follow here — has been derived from human capital theory (Becker, 1956; Mincer, 1958, 1974), where an individual's wage rate reflects the productivity potential based on various human capital characteristics. According to Oaxaca (1973) and Blinder (1973), any wage differential between two groups of people can therefore be decomposed into two parts. The first is explained by differences in observable human capital endowments supposed to reflect productivity differences and other job related variables between both group (*endowment effect*), the second reflects differences in the values assigned in the labor market to women's and men's characteristics, that is the price or remuneration of these endowments (*remuneration effect*). This latter part of the wage differential may be interpreted as an estimate of wage discrimination.

In this line, we assume the following log-linear wage regression model :

$$\ln W = \beta X' + u \quad (1)$$

where W is the monthly wage in New Turkish Liras, X is a vector of explicative variables including the set of usual Mincerian human capital variables augmented with working time related variables, job attributes and firm and sector characteristics, β is a vector of unknown parameters — the returns of the aforesaid characteristics —, and u the error term.

The detailed list of the earnings equation's variables, as well as the reference categories chosen for dummies are given in Appendix 2, Figure 11, and descriptive statistics are reported in Table 26. Education is represented by dummy variables indicating different levels of education attainment. Few information related to work experience are available in our data set. Consequently, following Mincer (1974), we define a proxy for actual work experience as age minus the number of years of schooling completed minus seven, the age of entry into school in Turkey. This variable measures what is called the potential experience, where we would like to measure the actual experience. When work experience is acquired

without interruption after the completion of formal schooling, potential and actual experience coincide. Potential experience is typically a reasonable proxy for the men's actual experience since men on average exhibit a strong attachment to the labor force. However, potential experience overstates the actual years of work experience of women to the extent that career's interruptions are frequent for many female workers due to their household and childbearing activities. This problem of measurement typically creates a bias toward finding discrimination. To better measure the effective experience — following Oaxaca (1973) — we include the number of children born to the women as a regressor of the earnings equation as a proxy of the cost of career's interruptions for women. The linear children variable reflects the cost of lost experience due to child care, including the costs from the depreciation of skills during the period of absence from the labor force. Accordingly, we expect the estimated coefficient of the number of child variable to have a negative sign.

One could think that this problem of measurement of female actual work experience is not so significant in the case of Turkey, having in mind the example of Southern European countries, where typically women once married and having children leave definitely the labor market. In fact, this is not the case in Turkey where a very small fraction of working aged women enters the labor market. Figure ?? plots the male and female participation rate computed on our sample data. It shows clearly that when women decide to participate — what very few do — they stay in the labor market.

In the set of regressors related to experience, we also include tenure on the last job occupied, as well as the square of potential experience and of job tenure in order to capture the non linearity of the wage–experience relation.

Since we use the monthly wage as dependent variable, we include variables related to the working time in the set of the regressors : we use the natural logarithm of the weekly worked hours and a dummy indicating part-time employment. At last, we had as control variables, variables related to the class of worker (dummy variables for union membership, government employed, social insurance), the type of labor contract (dummy variables for permanent and fixed term contracts), the job occupied (dummy variables for occupations and industries) and the geographical localization (dummy variables for residence in rural area and for the seven big Turkish regions).

The results of the estimates are presented in Appendix 2, Figures 13 and 14. The different components of human capital (education level, potential experience and job tenure) have a positive and significant effect on wages for both men and women. The returns to job tenure are very close for both sexes, although the returns to education and potential experience are higher for men at all levels. Experience squared and job tenure squared have a negative impact on wages also for both sex, implying that wages increase at a decreasing rate with experience and job tenure, reflecting an inverted U-shaped profile of earnings as experience and job tenure increase. The number of worked hours has a positive impact on wages for both men and women, but compared to men, women gain more from working more than the average. Part-time workers receive lower wages, particularly when they are women, and wages are significantly higher in the public sector than in the private sector. As to occupations, wages increase monotonically along the job ladder for men. This is true also for women but this effect is significant beyond the employee category only. Wages also increase with the firm's size in all the regressions and with social insurance affiliation. In fact, as we said before, this last variable may be used as a proxy of the informal sector. An individual without social insurance has a good chance to be employed in the informal sector where the wages are lower, for both men and women. Regional dummies are in general not significant except for Marmara

(Istanbul) and the Central Anatolia (Ankara) where the coefficients are significant and positive, implying that wages in these areas — where the main cities are located — are higher than elsewhere.

The average logarithm of the monthly wages computed from our sample are 5.9550 for men and 5.6126 for women. The value of the wage differential in logarithmic terms is 0.34244. The estimated average monthly wage of the salary workers is 442 for males and 352.8 for females, that is a gender wage gap equal to 25.2% in favor of men. We now have to find out whether these gender differences in earnings reflect productivity enhancing characteristics such as education, or are unexplained, that is are related to discrimination practices.

4.2 Wage decompositions

Following Oaxaca (1973) and Blinder (1973) it is usual to write the average wage gap as follows :

$$\ln(\bar{W}_m/\bar{W}_f) = \underbrace{\bar{X}'_f(\hat{\beta}_m - \hat{\beta}_f)}_{\text{Discrimination}} + \underbrace{\hat{\beta}_m(\bar{X}_m - \bar{X}_f)'}_{\text{Endowments}} \quad (2)$$

where \bar{W} denotes the geometric mean wage evaluated by the earning equation (1), \bar{X} are the average characteristics and $\hat{\beta}$ the estimated returns on these characteristics, the indices m and f denoting male and female variables respectively. The first term of decomposition (2) represents the differences in returns on male and female characteristics respectively, that is *the discrimination component*, the second one the differences in the observed characteristics of men and women — *the endowment component*.

The Oaxaca-Blinder's method has been subject to criticisms on the point that it is based on the endowment prices of one of the two genders — the male here and in most applications — thereby introducing a potential dissymmetry in the effects depending on which gender is considered as the reference. Actually, this problem — known as the index-problem — lies in the choice of the wage structure that is to be regarded as the non-discriminatory standard. Indeed, and more generally, given (1), the gender wage gap could be decomposed in the following way :

$$\ln(\bar{W}_m/\bar{W}_f) = \underbrace{\bar{X}'_m(\hat{\beta}_m - \hat{\beta}^*) + \bar{X}'_f(\hat{\beta}^* - \hat{\beta}_f)}_{\text{Discrimination}} + \underbrace{\hat{\beta}^*(\bar{X}_m - \bar{X}_f)'}_{\text{Endowments}} \quad (3)$$

where $\hat{\beta}^*$ is an estimated non-discriminatory wage structure. The first two terms in (3) correspond to the discrimination component — the first term representing pure favoritism toward males and the second one pure discrimination against females —, the third term is the endowment component. A choice has to be made regarding $\hat{\beta}^*$. Oaxaca (1973) first proposes either the current male structure $\hat{\beta}_m$ (which leads to the decomposition described in equation 2), or the current female wage structure $\hat{\beta}_f$, suggesting that the result would bracket the "true" non-discriminating wage structure. But other decompositions have been proposed in the literature. Reimers (1983) assigns identical weights to both men and women. Cotton (1988) argues that the non-discriminatory structure should approach the structure that holds for the larger group and thus proposes using as weights the relative group sizes in the sample. A more general method is provided by Neumark (1988) and Oaxaca and Ransom (1994) who uses the wage structure obtained by OLS estimates on the pool sample as the non-discriminatory standard.

Table 9 presents our results for four alternative decompositions (see Appendix 3, Figure 17 for confidence intervals). The first (D1) and the third (D3) are the standard Oaxaca-Blinder decompositions using

respectively the current male and female wage structures as the non-discriminating norm, the second one (D2) is the one proposed by Reimers using the intermediate norm and the fourth and last one (D4) is the one proposed by Oaxaca and Ransom. The results appear clearly sensitive to the decomposition method used.

TAB. 9 – Gender Wage Gap Decompositions*
Full-scale Wage Regressions

Decomposition method	Endowment	Discrimination
D1 Oaxaca-Blinder Male	42.3%	57.7%
D2 Reimers	31.8%	68.2%
D3 Oaxaca-Blinder Female	21.3%	78.7%
D4 Oaxaca-Ransom	54.0%	46.0%

* All components are significant at the 5% level, see Appendix 3 for details.

Not surprisingly, the discrimination component is the highest in the Oaxaca-Blinder decomposition using the female wage structure as reference, as it amounts to 78.7% of the gender wage gap, against 57.7% when using the male structure. The Reimers decomposition leads to an intermediate result of 68.2%, although the Oaxaca-Ransom decomposition, that uses the pool wage structure as the non discriminatory standard, leads to assign a lower part of the gender wage gap to discrimination as the remuneration effect is lessened to 46%. So, the discrimination component, depending on the decomposition, ranges from 46 to 79% of the estimated gender wage gap.

None of these decompositions is better than the others, each of them referring to a peculiar vision of discrimination. Using for example the estimated male wage structure as the norm assumes that all of the discrimination against women is attributable to favoritism toward men, whereas using the estimated female wage structure assumes that all of the discrimination against women is pure discrimination. It is generally accepted that the current female wage structure is not a good choice as the non discriminatory standard. As pointed by Oaxaca and Ransom (2003), in terms of practical application for correcting gender wage inequities, the use of the female structure as the equity standard presents potential problems of implementation associated with legal restrictions and employee moral. Ginther and Hayes (2003) point out that men are the usual comparison group in legal proceedings concerning gender discrimination and consequently cast doubts on the fact that a pooled approach, obtained from a weighted average of the male and female wage structures as in D3 or D4, could be used in legal cases concerned with equal opportunities for women and men. The diversity of wage gap decompositions found in the literature makes comparisons difficult and from this point of view is regrettable. We follow Ginther and Hayes (2003) in considering that operational choice criteria should weigh in this debate, criteria that lead to favor the traditional Oaxaca-Blinder decomposition using the male norm. But our concern here being also comparability, and given that Meurs and Ponthieux (2005) chose to use in their study of the EU countries the Oaxaca and Ransom methodology, we will systematically report in the following this other measure of discrimination.

If the wage decomposition into endowment and discrimination components depends on the choice of the non-discriminating norm, it also crucially depends on the choice of explanatory variables included in the earning equations. Typically, the greater the number of control variables is, the smaller the remuneration effect will be and thus the part of the gender gap affected to discrimination (Sofer, 1995). In

fact, when controlling by variables related to the job occupied and geographical localization, one defines discrimination as difference in remuneration between individuals of identical characteristics occupying the same job and living in the same area. By doing so, one neglects the fact that typically men and women have not got the same access into jobs because of segregation phenomena and that segregation practices may be more or less pronounced depending on occupations, sectors and regions, so the effects of these types of barriers as sources of discrimination are eliminated. As a result, we are likely to underestimate the effects of discrimination when adding regressors in Mincer equation beyond the human capital variables. One way to evaluate the scale of segregation against women is thus to estimate another set of equations that do not control for occupation, industry, class of worker, type of labor contract and region. With this set of regressions that we shall label, following Oaxaca (1973), the personal characteristics wage regressions, we obtain the results presented in Table 10 (see Appendix 2, Figures 15 and 16 for estimation results and Appendix 3, Figure 18 for details on decompositions).

TAB. 10 – Gender Wage Gap Decompositions*
Personal Characteristics Wage Regressions

Decomposition method	Endowment	Discrimination
D1 Oaxaca-Blinder Male	22.5%	77.5%
D2 Reimers	09.4%	90.6%
D3 Oaxaca-Blinder Female	-03.8%	103.8%
D4 Oaxaca-Ransom	28.4%	71.6%

* All components are significant at the 5% level, see Appendix 3 for details.

Actually, discrimination increases sharply as it ranges now, depending on the decomposition, from 71.6% to 103.8% (compared to the 46%-78.7% range obtained from the full-scale wage regressions). Consequently, segregation against women is likely to be an important phenomenon in the Turkish labor market, and an essential component of the gender labor market discrimination prevailing in this country.

TAB. 11 – Decomposition of the Endowment Component

Casual Factor	Amount attributable	Amount attributable to Endowments	Amount attributable to Coefficients
Variable			
Education	-4.2	-6.8	8.6
Primary School	3.2	1.3	1.9
Middle School	1.9	1.0	0.9
High School	2.9	-0.2	3.1
Bachelor degree	-1.2	-1.8	0.6
Over	-5.0	-7.1	2.1
Experience	26.8	9.5	17.3
Experience	44.7	21.1	23.6
Experience squared	-17.9	-11.6	-6.3
Job Tenure	5.8	4.4	1.5
Tenure	8.9	8.5	0.5
Tenure squared	-3.1	-4.1	1.0
Working Time	-56.3	2.7	-59.0
Hours Worked	-57.2	2.1	-59.3
Part-time Work	0.9	0.6	0.3
Rural area	-0.5	-0.2	-0.3
Region of residence	-4.8	-1.2	-3.7
Aegean	-1.0	0.0	-1.0
Mediterranean	0.0	0.0	-0.0
Marmara	-3.3	-1.3	-1.9
South East Anatolia	-0.1	0.1	-0.2
Central Anatolia	-0.5	0.2	-0.7
Eastern Anatolia	0.1	0.1	0.1
Labor Contract Stability	2.6	1.8	0.9
Permanent	1.2	-0.5	1.8
Fixed-term	1.4	2.3	-0.9
Occupations	-3.0	-2.5	-0.3
Managers, officials	-3.6	-2.3	-1.2
Professionals	-1.5	-1.0	-0.5
Employees	-0.2	-0.2	0.1
Skilled Workers	2.3	1.0	1.3
Sectors	-11.2	5.1	-16.5
Industry	-0.9	0.2	-1.1
Construction	2.0	2.0	-0.0
Trade and Repair	-1.5	0.1	-1.6
Hotels and Restaurants	-0.4	0.0	-0.4
Transport and Communication	1.1	1.2	-0.2
Financial services, Real Estate and Business Activities	-0.9	-0.4	-0.6
Public Administration, Education, Health and Social Work	-5.6	1.0	-6.6
Other Services	-5.0	1.0	-6.0
Public sector	1.6	0.3	1.3
Firm's Size	1.4	-0.5	1.9
Social Insurance	-7.9	1.3	-9.2
Union Membership	0.6	0.4	0.2
Number of Children	3.2	-0.2	3.4
Subtotal	-39.9	E=14.5	C=-54.4
Shift Coefficient	U=74.2		
Total	R=34.2	D=C+U=19.8	

A + sign indicates an advantage for males ; a - sign an advantage for females.

A closer examination of the results obtained with the full-scale regressions enables us to say more about the part played by each subset of variables into the average non-discriminatory endowment effect denoted

E in Table (11) that refers to the traditional Oaxaca-Blinder decomposition (D1). The E component related to the observed wage gap denoted R in Table (11) gives the endowment component reported in Table(9). The decomposition of the endowment effect by components presented in Table (11) reveals that even though female salary workers have, on average, inferior endowments compared to males, this is not true concerning education attainments since educational variables actually accounts for a 6.8% differential in favor of women. The results of the regressions further show that this advantage in endowments is accounted for by the average higher level of schooling of women among the highly educated salary workers. Actually, we saw in section 2.2 that the female salary workers are in average more educated than men at the high levels of education. Interestingly also, the distribution of female salary workers across occupations give them an advantage in term of endowments due to the fact that, compared to men, they are more concentrated at the top of the job ladder. By contrast, the distribution of salary workers across industries favors men. But the main factor explaining the inferior endowments of female salary workers is their lack of experience and job tenure. Interestingly, this disadvantage does not come from their level of experience and tenure on job — as in terms of years of potential experience and tenure women get the advantage — but from the associated quadratic terms, indicating that the main advantage for male salary workers is their more concave experience-wage and tenure-age profile. The female inferior endowments are also explained by a lower working time and by more precarious labor contracts.

The decomposition of the discrimination term is not interpretable in the same way as shown by Jones (1983). In fact, this latter demonstrates that the Blinder (1973) decomposition of the residual discrimination term (D), into two components — the part due to difference in the coefficients (C) and the part due to the difference between the intercepts (U) — is arbitrary and thus uninterpretable. Indeed, this decomposition cannot be uniquely determined because the value for the difference in intercepts depends on measurement decisions, in particular the choice of the omitted category for the dummy variables and the treatment of certain variables as continuous or not. Consequently, to go further in our analysis of discrimination in Turkey, we compute the same decompositions for different sub-populations.

Results are reported in Table (12) for the different occupations. The wage gap decreases monotonically along the job ladder, from .743 in logarithms for the unskilled workers to .138 for the senior managers, but it is not the case for discrimination which appears to be particularly strong at the top for the senior managers (from 74.6% in D4 to 91.9% in D1), and at the bottom for the skilled workers (from 48.9% in D4 to 64.6% in D1).

TAB. 12 – Wage Gap Decompositions by Occupations

		Oaxaca-Blinder Deomposition		Oaxaca-Ransom Decomposition	
	Wage gap	Endowments (% of wage gap)	Discrimination (% of wage gap)	Endowments (% of wage gap)	Discrimination (% of wage gap)
Total of the wage-earners	0.342	42.3	57.7	54.0	46.0
Senior managers	0.138	8.1	91.9	25.4	74.6
Technicians and associate	0.202	90.9	8.1	80.4	19.6
Clerks and service Workers	0.313	65.4	34.6	70.4	29.6
Skilled workers	0.599	35.4	64.6	51.1	48.9
Unskilled workers	0.743	61.2	38.8	73.3	26.7

We have also estimated the wages for men and women by level of educational attainment. Results are reported in Table (13) and show that if the wage gap decreases with higher levels of education (from .668 in logarithms for the non graduate salary workers to .218 for the university graduate salary workers), there is no clear relation between education and discrimination except that education does not protect women against discrimination, as even for the highest levels of education (over bachelor), discrimination still amounts to about 40% of the wage gap.

TAB. 13 – Wage Gap Decompositions by Educational Attainments

		Oaxaca-Blinder Decomposition		Oaxaca-Ransom Decomposition	
	Wage gap	Endowments (% of wage gap)	Discrimination (% of wage gap)	Endowments (% of wage gap)	Discrimination (% of wage gap)
No education	0.668	38.0	62.0	71.2	28.2
Primary school	0.670	51.7	48.3	65.9	34.1
Middle School	0.542	70.8	29.2	75.6	24.4
High School	0.359	63.5	36.5	65.9	34.1
Bachelor	0.207	41.5	58.5	44.2	55.8
Over	0.218	59.1	40.9	60.8	39.2

We saw in section 2.2 that contrasts between rural and urban areas are important in Turkey concerning the structure of the labor market. Separate estimates on the rural and urban populations show that the urban environment is not particularly favorable to the female salary workers as, if the wage differential is lower in the cities, discrimination is slightly higher (Table 14).

TAB. 14 – Wage Gap Decompositions by areas

		Oaxaca-Blinder Decomposition		Oaxaca-Ransom Decomposition	
	Wage gap	Endowments (% of wage gap)	Discrimination (% of wage gap)	Endowments (% of wage gap)	Discrimination (% of wage gap)
Rural	0.588	48.1	51.9	65.4	34.6
Urban	0.311	41.4	58.6	52.1	47.9

Examination to the age factor shows that age does protect against discrimination (Table 15). If the gender wage gap increases monotonically with age, from 0 to .71 in logarithms, the part attributed to discrimination is the lowest for the oldest, as it lessens from more than 167% of the wage gap to 39% in D1 and from 133.6 to 26.5% in D4. This result corroborates the possibility of statistical discrimination against young women, employers anticipating that they will leave the labor market once married and mothers. Consequently, when restricting to the population studies by Meurs and Ponthieux of those aged 25-55 working at least 15 hours a week, we find a wage differential equal to 0.256 in logarithms, that is a wage gap equal to 13.2% in favor of men, and a discrimination component raising to 67.9% in D1 and to 84% in D4.

TAB. 15 – Wage Gap Decompositions by Age Categories

		Oaxaca-Blinder Decomposition		Oaxaca-Ransom Decomposition	
	Wage gap	Endowments (% of wage gap)	Discrimination (% of wage gap)	Endowments (% of wage gap)	Discrimination (% of wage gap)
[15 – 64]	0.342	42.3	57.7	54.0	46.0
[15 – 25[	0.00	–	–	–	–
[25 – 35[	0.122	–67.2	167.2	–33.6	133.6
[35 – 45[	0.396	25.8	74.2	45.2	54.8
[45 and over[	0.709	61.1	38.9	73.5	26.5
[25 – 55]	0.256	16.0	84.0	32.1	67.9

Decompositions by industries show that discrimination is particularly high in the agricultural sector and in the Public Administration, Education, Health and Social Work category, two sectors where women are over represented. But if in the former, the wage differential is particularly high (.679 in logarithms), in the latter it is particularly low (.112).

TAB. 16 – Wage Gap Decompositions by Industries

		Oaxaca-Blinder Decomposition		Oaxaca-Ransom Decomposition	
	Wage gap	Endowments (% of wage gap)	Discrimination (% of wage gap)	Endowments (% of wage gap)	Discrimination (% of wage gap)
Agriculture	0.679	31.2	68.8	46.7	53.3
Industry	0.513	46.6	53.4	59.8	40.2
Construction	0.023 [†]	–	–	–	–
Trade and Repair	0.241	50.1	41.9	63.9	36.1
Hotels and Restaurants	0.083 [†]	–	–	–	–
Transport and Communication	0.063 [†]	–	–	–	–
Fin. and Business activities	0.240	39.2	60.8	47.1	52.9
Public Adm, Edu. Health and Social	0.112	–8.0 [†]	108.0	14.3 [†]	85.7
Other services	0.518	71.4	28.6	89.0	11.0

[†] Non significant at the 5% level.

It is then interesting to estimate discrimination by opposing public and private sectors. The results, given in Table 17, show that even though the wage differential is small in the public sector, discrimination is very high as it ranges from 120 to more than 400% depending on decompositions. This result contrasts with the one obtained on developed countries where generally¹² the public sector is more favorable to women (see Meurs and Ponthieux, 2005). As to informality, surprisingly, our results do not show the informal sector as unfavorable to women. On the contrary, discrimination happens to be higher for the socially insured salary workers. By contrast, the union membership lessens the discrimination component of the gender gap.

¹²Denmark is an exception.

TAB. 17 – Wage Gap Decompositions by classes of workers

		Oaxaca-Blinder Decomposition		Oaxaca-Ransom Decomposition	
	Wage gap	Endowments (% of wage gap)	Discrimination (% of wage gap)	Endowments (% of wage gap)	Discrimination (% of wage gap)
Public	0.080	-20 [†]	120	-337.5	437.5
Private	0.427	44.0	56	58.3	41.7
Insured	0.096	-26.0	126.0	-21.9	121.9
Not Insured	0.569	45.5	54.5	63.4	36.6
Unionized	0.107	50.5	49.5	41.1	58.9
Not Unionized	0.339	36.9	63.1	51.0	49.0

[†] Non significant at the 5% level.

At last, concerning regions, the decompositions shows that discrimination is higher in Eastern Turkey (Table 18). This is not surprising as Turkey is one country seriously affected by problems resulting from regional differences in socio-economic conditions, which are progressively worse as one moves from West to East, particularly for women. According to Ilkkaracan (1999), Eastern Turkey can at best be characterized as a semi-feudal, traditional, agricultural economy. The region has a multi-ethnic character (besides Kurds and Turks, which are the largest ethnic groups, the region also includes Zaza, Azerbaijanis, Arabs, Christians who speak Syriac language and others) and women are confronted with a variety of customary and religious practices, which seriously limit their rights.

TAB. 18 – Wage Gap Decompositions by Regions

		Oaxaca-Blinder Decomposition		Oaxaca-Ransom Decomposition	
	Wage gap	Endowments (% of wage gap)	Discrimination (% of wage gap)	Endowments (% of wage gap)	Discrimination (% of wage gap)
Marmara	0.321	42.7	57.3	57.3	42.7
Aegean	0.342	45.3	54.7	55.8	44.2
Mediterranean	0.499	56.1	43.9	43.9	56.1
Black Sea	0.412	47.3	52.7	52.4	47.6
C. Anatolia	0.239	22.1	77.9	41.8	58.2
E. Anatolia	0.132 [†]	-50.0 [†]	150	-18.1 [†]	118.1
SE. Anatolia	0.303	26.7	73.3	42.1	57.9

[†] Non significant at the 5% level.

The estimates of wages presented so far are based on the hypothesis of an equal access for men and women to salaried employment. However, as shown in section 2.2, the probability to belong to the salaried population differs for men and women since women are clearly under represented among salary workers. The process of selection into wage-earning jobs probably differs also since only the most skilled women are found there, what is not the case for men. Thus, it seems hard to consider the male and female salary

populations as random samples of the male and female working age populations. Consequently, selection may be a problem resulting in biased estimates of wages and as a result of wage discrimination. That is why we propose in the next section to reestimate the wage equations using the Heckman two-steps procedure in order to correct for potential selectivity bias.

5 Selection into salaried employment

Selectivity bias is a problem that arises when the sample used is not randomly selected. In our case, the wages we observe are the wages of individuals who chose to work as wage-earners — a decision based on several factors, some of which might affect the wage itself. Consequently, the coefficients obtained in the preceding simple regressions may capture not only the effect of the dependent variables on the wage, but also their effect on the participation decision into salaried employment. Selectivity bias might be found at different stages of the employment process : at the stage of joining the employed labor force or when an employment status is chosen. To solve the potential selectivity problem we follow Meurs and Ponthieux (2005) and introduce a selection equation referring to the decision of being a salaried worker rather than remaining inactive. We saw in the first section that in our sample, economically inactive people are mainly women. Among the population of working age from which are excluded those who can not find a job, those who are not in position to apply for a job (students, old age pensioners, etc), and those who are not available for a salary job, that is the employers, the self-employed and the unpaid family workers, 95.3% of the men are salaried workers, compared with only 15.4% of women.

The selectivity correction consists in estimating via a Probit model a latent variable that is a function of individuals' characteristics and expresses their propensity to hold a salaried job rather than being purely inactive. This estimation provides us with an additional regressor (the inverse Mills ratio - IMR) to introduce into the earning equation. This variable enables us to capture the effect on wages of selection into the salaried employment. With a standard earning equation, we therefore have a model of the following form :

$$\ln W = \beta X' + \theta \lambda' + u$$

where λ is an estimator of the inverse Mills ratio and θ is the coefficient indicating the effect of selection on the wage.

To identify the participation into salaried employment, we use individual characteristics (age¹³, age squared, marital status and a dummy for polygamy¹⁴), households' demographics (having children, having children aged between 0 and 6 years, number of children, size of the household) and household's wealth indicators (housing owner, logarithm of household's incomes other than wages) as instruments (see Appendix 4, Figure 19 for a detailed list of the regressors used in the selection equation). These variables are expected to have a direct impact on occupational choice but no direct impact on the actual wage earned. Results of the estimates are presented in Appendix 4, Figures 20 and 21.

Age and age squared have the expected positive and negative signs respectively. The coefficients are significant in all specifications implying that the probability of working as a salary worker increases with

¹³The idea here is that what matters for wages is how many years one is in the labor market as for the probability of entrance into salaried employment, age might be more relevant than work experience because of potential discrimination at the entrance level against very young or old applicants or cohort effect that might be at work.

¹⁴372 households in our sample are polygamous.

age but at a decreasing rate, reflecting an inverted U-shaped profile with age. High levels of education increase the probability of being a salary worker rather than being inactive for both men and women. For women, a level of education higher than the primary school strongly increases the probability of being a wage earner.

The marital status has an important impact on the participation in the salaried employment but differs with gender as the coefficient of the variable "married" is significantly positive for men and significantly negative for women. Married men are more likely to work than their unmarried counterparts, which could be explained by the fact that men are typically the main wage earner in the family. On the contrary, married women are less likely to be salaried-worker than their unmarried counter-parts and than men. This probably reflects a higher reservation wage for married women resulting for access to their spouses' income, and also because of difficulties of coping with wage employment owing to the burden of their domestic responsibilities and of traditions. As to the polygamy variable, it does not significant affect the participation decision into salaried employment.

While the coefficient of the household's size is significant and negative for both sexes, the number of children has a significant positive impact on the probability of being a wage-earner, but the presence of small children has a negative impact on women's participation, while it is not significant for men. These results corroborate the interpretation as men being the main wage earner for the household and women having to care for children.

At last, the variable "housing owner" appears to be significant and negative in all the regressions, being owner of one's housing reduces the probability to be a salaried worker rather than inactive. The variable "household's other incomes" play a distinctive role for men and women as its coefficient is significantly positive for women but negative for men.

Once wage estimates corrected for selectivity bias, we compute the Oaxaca-Blinder's type decompositions on the corrected wage gap. The difference between the two gaps (without and with selectivity correction) may be interpreted as the part of the observed wage gap due to selectivity. Neuwman and Oaxaca [1998] discuss the question of the affectation of the selectivity term to the explained and unexplained components. We choose here to treat selectivity as a separate component. This is the simplest approach, as it requires no *a priori* hypotheses about whether selectivity has more influence on individual characteristics or on the returns on theses characteristics. We then obtain an equation of the following form :

$$\ln(\bar{W}_m/\bar{W}_f) = \underbrace{\bar{X}'_m(\hat{\beta}_m - \hat{\beta}^*)}_{\text{Discrimination}} + \underbrace{\bar{X}'_f(\hat{\beta}^* - \hat{\beta}_f)}_{\text{Endowments}} + \underbrace{\hat{\beta}^*(\bar{X}_m - \bar{X}_f)'}_{\text{Selectivity}} - (\hat{\theta}_m\hat{\lambda}_m - \hat{\theta}_f\hat{\lambda}_f) \quad (4)$$

where $\hat{\beta}^*$ is the non-discriminating norm.

Results are presented in Table (19) (see Figure 22 in Appendix 4 for confidence intervals). Selection contributes to slightly reduce the gender wage gap as it now amounts in logarithms to .334 compared to .342 without selectivity correction. For both men and women, the coefficient of the IMR is negative and significant. As the IMR is negatively related to the probability to participate into salaried employment, these results show that for both genders, those who are the more likely to be wage-earners are also the more likely to earn high wages. So, the individuals actually employed as salaried workers are the higher earning potential ones when compared with the reference population, and this is particularly true for men

TAB. 19 – Selectivity-Corrected Gender Wage Gap Decompositions*

Decomposition method	Endowment	Discrimination	Selectivity
D1 Oaxaca-Blinder Male	31.8%	65.7%	2.5%
D2 Reimers	28.8%	68.7%	2.5%
D3 Oaxaca-Blinder Female	25.8%	71.7%	2.5%
D4 Oaxaca-Ransom	47.0%	50.5%	2.5%

* All components are significant at the 5% level, see Appendix 3 for details.

as the λ 's coefficient is higher for men than for women. The estimated average logarithm of the monthly wages are now 6.030 for men, and 5.696 for women. The corresponding average monthly wages amount to 467.44 New Turkish Liras for males and 375.26 for females, leading to a gender wage gap of 24,6% in favor of men.

If the wage gap decreases slightly after the selectivity correction (the selectivity component amounting to 2.5% of the total wage gap), its unexplained part — that is the discrimination component — increases in all decompositions except (D3). It amounts now to 65.7% compared to 57.7 without correction with the standard Oaxaca decomposition (D1), and to 50.5% compared to 46% with the Oaxaca-Ransom decomposition. So, once controlled for gender differences in the probability to participate in salaried employment, discrimination increases.

6 Comparison with some EU countries

This comparison is based on the work of Meurs and Ponthieux (2005). In their study of wage discrimination in the EU countries, Meurs and Ponthieux (2005) consider only the wage-earners aged 25-55 and working at least 15 hours a week. Moreover, as regards the issue of selection, they choose to implement the selectivity correction on the female population only, setting $\hat{\lambda}_m = 0$ in the Heckman's procedure, considering that the problem of selection between salaried employment and inactivity concerns mainly women. In order to obtain results strictly comparable with theirs, we choose to restrict to the same population and to follow the same methodology for the selectivity correction. Actually, when doing so, selectivity correction is not needed anymore as the λ 's coefficient is no more significant for the female population (see Figure 24 in Appendix 5). For the population considered, we obtain a gender wage gap in logarithm terms equal to .256, and according to the Oaxaca-Ransom decomposition, 67.1% of this wage differential is related to discrimination (see Appendix 5, Figure 23 for details).

Methodologically perfectly comparable, our results and those of Meurs and Ponthieux (2005) are presented in Table 20. We are now able to situate Turkey relatively to the EU countries in terms of gender wage discrimination.

If we rank Turkey in terms of increasing total wage gap, Turkey comes at the fifth position on eleven, after Portugal, Denmark, Italy and Greece, and before France, Spain, Austria, Ireland, UK and Germany. If we consider only the percentage of the discrimination part in the total gender wage gap, that is if countries are classified in terms of increasing wage discrimination, the ranking is not the same as Turkey happens to come in ninth position, before Greece and Portugal (Figure 7).

This comparison reveals that Turkey is not doing so bad compared to other European countries

TAB. 20 – Gender Wage Gap by Country

Country	Discrimination % of Total Wage Gap	Endowments % of Total Wage Gap	Selection % of Total Wage Gap	Total Wage Gap in logarithm
Germany	45.5	44.9	09.6	0.470
Austria	41.0	62.8	-03.8	0.449
Denmark	26.2	74.3	0.00	0.202
Spain	62.0	34.5	03.5	0.287
France	27.8	41.0	31.2	0.267
Greece	88.8	21.0	-09.9	0.233
Ireland	50.8	57.7	-08.5	0.451
Italy	58.3	18.4	23.3	0.206
Portugal	117.4	-14.5	-02.9	0.172
U-Kingdom	39.0	61.6	-00.6	0.464
<i>Average</i>	<i>51.3</i>	<i>45.6</i>	<i>03.1</i>	<i>0.320</i>
Turkey	67.1	32.9	00.0	0.256

Source : Meurs and Ponthieux (2005) except for Turkey

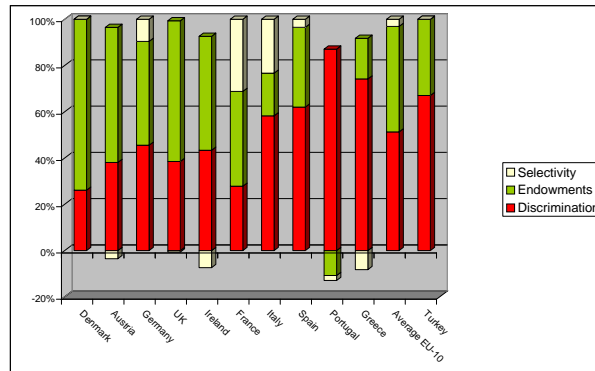


FIG. 7 – Comparison Turkey/EU

in terms of gender wage discrimination, in particular compared to the Southern ones. Perhaps should we rather say that Turkey is not doing worse than the Southern European countries. But as regard equal opportunities for men and women in Turkey, wage discrimination is surely only the visible part of the iceberg. In fact, segregation and exclusion of women from the labor market are probably much more important. As noted by Meurs and Ponthieux in their analysis of European countries, a high discrimination component is generally not associated with an important gender wage gap. This feature seems to be confirmed here, as in Turkey, if the gender wage gap is quite moderate, the part due to discrimination is quite high. What our analysis seems to confirm is that wage discrimination is on average relatively moderate in countries where selectivity into work is high for women. Moreover, the analysis reveals that discrimination in Turkey concerns mainly the low wages, revealing a phenomenon of sticky floor, although the glass ceiling phenomenon seems to be very limited, probably because of the high selectivity for high educated women. Moderate wage discrimination and high selectivity go probably on pare and it is likely that wage discrimination increases when the access for women in the Turkish labor market gets larger.

Bibliography

- Oaxaca, R. (1973), "Male-Female Wage Differentials in Urban Labor Markets", *International Economic Review*, vol. 14, No 3, October, pp. 693-709.
- Albretch, J.W, A. Björklund and S. Vroman, (2003), "Is there a Glass Ceiling in Sweden ?", *Journal of Labor Economics*, 21(1), pp. 145-178.
- Beblo M., D. Beninger, A. Heinze and F. Laisney, "Measuring Selectivity-Corrected Gender Wage Gaps in the EU", *ZEW Discussion Paper* No 03-74.
- Blinder, A.S., (1973), "Wage Discrimination : Reduced Form and Structural Estimates", *The Journal of Human Resources*, vol. 8, n°4, Autumn, pp. 436-455.
- Corral, A. and I. Isusi, (2003), "Part-Time work in Europe", *report ef0441*, European Foundation for the Improvement of Living and Working Conditions.
- de la Rica, S., J.J. Dolado and V. Lorens, (2005), "Ceiling and Floors : Gender Wage Gaps by Education in Spain", *IZA Discussion Paper* No. 1483, January.
- Ginther, D.K and K.J. Hayes, (2003), "Gender Differences in Salary and Promotion For Faculty in the Humanities 1977-1995", *Journal of Human Resources*, 38 (1), pp. 34-73.
- Heckman, J., (1979), "Sample Selection Bias as a Specification Error", *Econometrica*, 47(1), pp. 153-61.
- Jones, F.L., (1983), "On Decomposing the Wage Gap : A Critical Comment on Blinder's Method", *The Journal of Human Resources*, vol. 18, No. 1, Winter, pp. 126-130.
- Ilkcaracan, P. and Women for Women's Human Rights, (1999), "Exploring the Context of Women's Sexuality In Eastern Turkey", Dossier 22, Women living under muslim laws.
- Kara, O.,(2006), "Occupational gender wage discrimination in Turkey", *Journal of Economic Studies*, vol. 33, No 2, pp. 130-143.
- Meurs, D. and S. Ponthieux, (2000), "Une mesure de la discrimination dans l'écart de salaire entre hommes et femmes", *Economie et Statistique*, No 337-338, 7-8, pp. 135-158.
- Meurs, D. and S. Ponthieux, (2005), "The gender wage gap in Europe : women, men and the public sector", *WP F0502*, Direction des Statistiques Démographiques et Sociales, INSEE.
- Mincer, J., (1974), *Schooling, Experience and Earnings*, NY :Columbia U. Press.
- Mincer, J. and S. Polachek, (1974), "Family Investments in Human Capital : Earnings of Women", *Journal of Political Economy*, 82(2) p.S76-S108.
- Neuman, S. and Oaxaca R., (1998), "Estimating labour market discrimination with selectivity corrected wage equations : methodological considerations and an illustration from Israel", *CEPR Discussion Paper Series*, No 1915.
- Neuman, S. and Oaxaca R., (2004), "Wage Differentials in the 1990s in Israel : Endowments, Discrimination, and Selectivity", *IZA Discussion Paper Series*, No 1362, October.
- Oaxaca, R. (1973), "Male-Female Wage Differentials In Urban Labor Markets", *International Economic Review*, 14(3), pp. 693-709.
- Oaxaca, R. and M.R. Ransom, (1999), "Identification in Detailed Wage Decompositions", *The Review of Economics and Statistics*, 81, pp. 154-157.
- OECD(2006), *Economic Surveys, Turkey*.
- Petit P. (2006), "Les écarts de salaire horaire entre hommes et femmes en 2002", *Première Synthèses Informations*, DARES, juin, No 22.1, juin, pp. 135-158.

- Rapport Cedaw (2003), Nations Unies, "Examen des rapports présentés par les Etats Parties en vertu de l'article 18 de la convention sur l'élimination de toutes les formes de la discrimination à l'égard des femmes, Turquie".
- Rapport de la Commission Européenne (2006), "Emploi et Politique Sociale : Dimension Internationale et Elargissement, Turquie".
- Rapport du Parlement Européen (2006), "Projet de Rapport sur le rôle des femmes en Turquie dans la vie sociale, économique et politique".
- Reimers, C. (1983), "Labor Market Discrimination Against Hispanic and Black Men", *The Review of Economics and Statistics*, 65, pp. 570-79.
- Sofer, C., (1995), "La mesure des discriminations de salaire", in Différences de sexe sur le marché du travail, *Cahiers du Mage*, No 2/95.
- Tansel, A.,(2000), "Wage Earners, Self-Employment and Gender in the Informal Sector in Turkey", Policy Research Report on Gender and Development, *Working Paper Series* No. 24.
- Tunali, I., (2003), "Background Study on Labor Market and Employment in Turkey", European Training Foundation, *report*, June.
- World Bank, (2006), *Turkey Labor Market Study*.

Appendix 1. The Turkish Labor Market and Women

TAB. 21 – Composition of the Inactive People

	Inactive	Pure Inactive
Total	34,074	22,538
Female	26 182	21,434
Male	7,892	1,104

Source : HBS Turkey 2006, (SIS Turkey).

TAB. 22 – Composition of the Salaried Population

	Salaried	Full-Time	Part-Time
Total	16,475	15,286	857
Female	3,301	2,829	345
%	20.0	18.5	40.3
Male	13,174	12,457	512
%	81.0	81.5	59.7

Source : HBS Turkey 2006, (SIS Turkey).

TAB. 23 – Distribution of Men and Women in Public and Private Sectors

	Private		Public	
Total	11,754		4,721	
Female	2,395	(72.5%)	906	(27.5%)
%	20.4		19.2	
Male	9,359	(71.0%)	3,815	(29.0%)
%	79.6		80.8	

Source : HBS Turkey 2006, (SIS Turkey).

TAB. 24 – Employment Composition of the Active Population by Gender and Area (%)

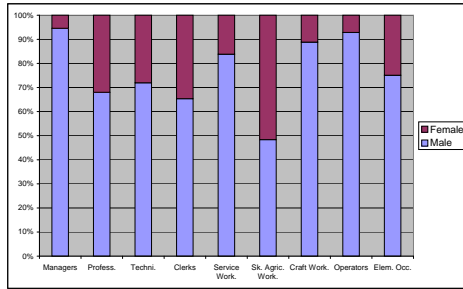
Employment Status	Urban		Rural	
	Men	Women	Men	Women
Salaried workers	72.3	79.2	29.9	8.6
Employers	8.7	1.3	4.1	0.2
Self-Employed	15.4	7.6	42.9	11.0
Unpaid Family Workers	3.7	11.9	23.1	80.2

Source : HBS Turkey 2006, (SIS Turkey).

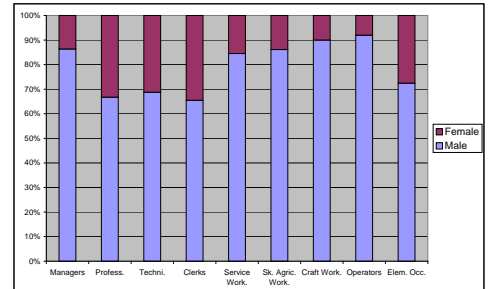
TAB. 25 – Distribution of Men and Women Across Regions (%)

Region	Wage-Earners			Labor Force		
	Total	Men	Women	Total	Men	Women
Marmara	4,929	3,743	1,186	7,381	5,537	1,844
Aegean	2,423	1,828	595	4,694	3,267	1,427
Mediterranean	2,156	1,698	458	4,092	2,984	1,108
Black Sea	1,806	1,474	332	5,554	3,314	2,240
Central Anatolia	2,723	2,275	448	4,687	3,644	1,043
East Anatolia	1,004	876	128	2,242	1,654	588
South East Anatolia	1,434	1,280	154	3,406	2,510	896
Total	16,475	13,174	3,301	32,070	22,917	9,153

Source : HBS Turkey 2006, (SIS Turkey).

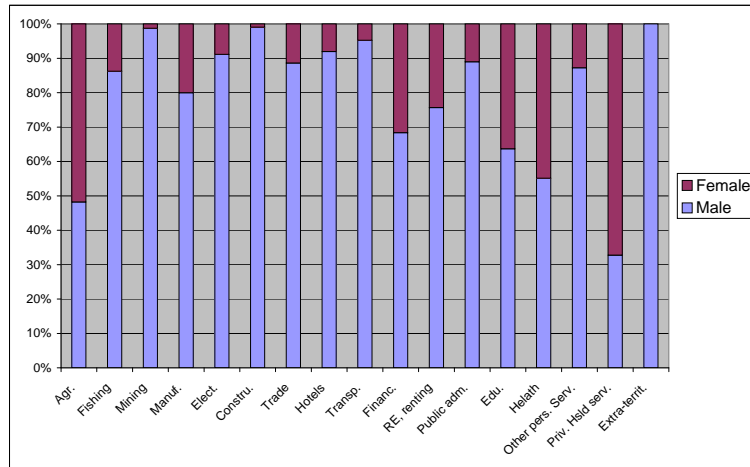


(a) Working Population

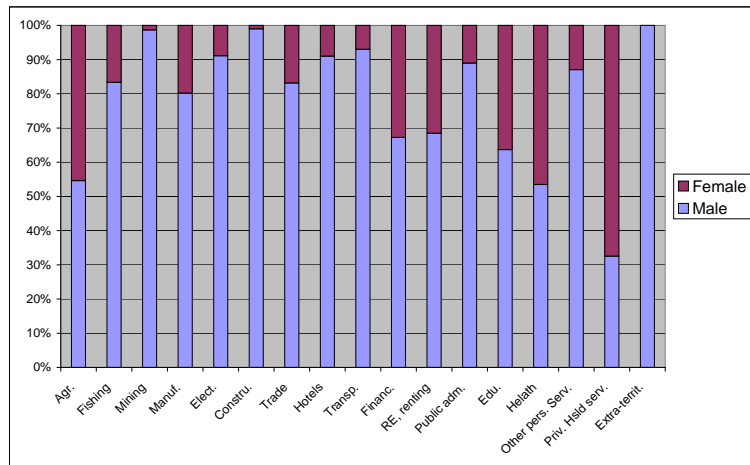


(b) Wage Earners

FIG. 8 – Gender Composition of Occupations

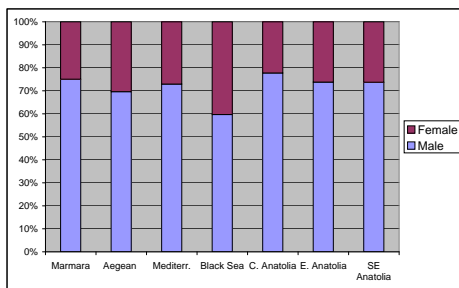


(a) Working Population

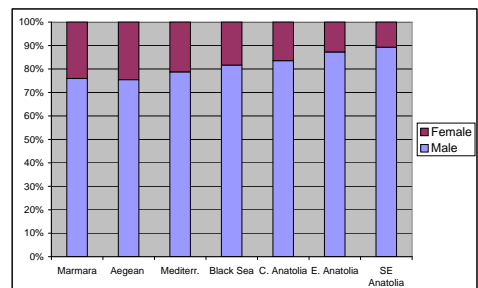


(b) Wage Earners

FIG. 9 – Gender Composition of Industries



(a) Working Population



(b) Wage Earners

FIG. 10 – Gender Composition of Regions

Appendix 2. Mincer Equations Estimates

TAB. 26 – Descriptive Statistics of Variables

Variables	Salaried Workers 15-64			
	Women		Men	
	Average	Std. Dev.	Average	Std. Dev.
Monthly wage	389.6	392.0	487.1	418.7
Age	31.4	9.8	35.3	9.8
Age squared				
Experience	15.3	11.4	20.2	10.7
Experience squared				
Job tenure	5.5	6.3	8.1	7.5
Job tenure squared				
Education Attainment				
– Illiterate or Non Graduate	7.6%		3.5%	
– Primary school	28.4%		40.3%	
– Middle school	10.1%		16%	
– High school	27.5%		27%	
– Bachelor's degree	6.9%		3.2%	
– Over Bachelor's degree	19.6%		9.9%	
Married	55%		81.4%	
Number of children	2.0%		2.2%	
Having Children	88.2%		91.9%	
Having Children aged less than 6	19.4%		36.5%	
Size of the Household	4.2	1.7	4.6	1.9
Household's other incomes	76.6	1118	218.2	2680.8
Housing Owner	59.7%		60.5%	
Weekly worked hours	43.8	15.8	50.9	15.3
Part-time work	10.0%		13.9%	
Public sector	27.5%		29%	
Permanent contract	10.1%		6.3%	
Fixed-term contract	76.2%		85.7%	
Other contract	13.7%		8.1%	
Occupation				
– Senior Officials and Managers	18.9%		12.1%	
– Professionals	11.4%		6.3%	
– Service Workers and Sale Workers	27.3%		23.7%	
– Craft Workers and Skilled Workers	12%		26.7%	
– Unskilled Workers	30.4%		31.2%	
Economic Branch				
– Agriculture	10%		3.1%	
– Industry	25.5%		28.2%	
– Construction	0.5%		11.9%	
– Trade and Repair	11.2%		13.8%	
– Hotels and Restaurants	2.3%		5.8%	
– Transport and Communication	2.3%		7.7%	
– Financial services, Real Estate	6.8%		3.6%	
and Business Activities				
– Public Administration, Education	28.6%		20.3%	
Health and Social Work				
– Other community, social	12.9%		5.7%	
and personal services				
Size of the firm				
Very small	75.2%		63.5%	
Small	9.5%		12.9%	
Middle	4.4%		6.3%	
Bif	11.0%		17.4%	
Unionized Workers	8.2%		12.0%	
Social Insurance	58.5%		65.6%	
Regions				
– Maramara	35.9%		28.4%	
– Aegean	18.0%		13.9%	
– Mediterranean	13.9%		12.9%	
– Central Anatolia	13.6%		17.3%	
– South East Anatolia	4.7%		9.7%	
– Eastern Anatolia	3.9%		6.7%	
– Black Sea	10.1%		11.2%	
Village	14.5%		18.1%	
Istanbul	17.6%		13.5%	

Variables related to human capital	<ul style="list-style-type: none"> • Experience (exp) • Experience² (exp2) • Job Tenure (tenure) • Job Tenure² (tenure2) • Diplomas <ul style="list-style-type: none"> ◦ Illiterate or No schooling (E0) ◦ Primary school (E1) ◦ Middle-School (E2) ◦ High-School (E3) ◦ 2 years university (E4) ◦ >2 years university (E5) • Number of children (nbchild)
Variables related to working time	<ul style="list-style-type: none"> • Log of Weekly Worked Hours (lhours) • Part-time work (parttime)
Variables related to the job	<ul style="list-style-type: none"> • Private sector / Public sector (public) • Permanent contract (cdi) • Fixed-Term contract (cdd) • Others
Variables related to firm and activity sector	<ul style="list-style-type: none"> • Socioprofessional Categories <ul style="list-style-type: none"> ◦ Senior officials and managers (M) ◦ Professionals (P) ◦ Service workers and shop and market sale workers (E) ◦ Craft workers and skilled workers (SW) ◦ Unskilled workers (UW) • Industrial sectors <ul style="list-style-type: none"> ◦ Agriculture, Hunting and Fishing (S1) ◦ Industry (S2) ◦ Construction (S3) ◦ Trade and Repair (S4) ◦ Hotels and Restaurants (S5) ◦ Transport and Communication (S6) ◦ Financial intermediation, Real Estate, Renting and Business activities (S7) ◦ Public Administration, Education, Health and Social Work (S8) ◦ Other community, social and personal services (S9) • Firm's size (firmsize) • Unionized worker (union) • Covered by social insurance (insurance)
Variables related to geographic localisation	<ul style="list-style-type: none"> • Regions <ul style="list-style-type: none"> ◦ Marmara (marmara) ◦ Aegean (ege) ◦ Mediterranean (mediterranee) ◦ Central Anatolia (anatolice-e) ◦ Southeast Anatolia (anatoli-dest) ◦ Eastern Anatolia (anatol-est) ◦ Black Sea (mernoire) • Village (village)/ (City)

In red are indicated the reference situations

FIG. 11 – Exogenous Variables In The Earning Equations

Linear regression

Number of obs = 16475
F(38, 16436) = 602.26
Prob > F = 0.0000
R-squared = 0.6013
Root MSE = .4682

logsalaire	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
E1	.1312665	.0242281	5.42	0.000	.0837768	.1787563
E2	.176131	.0260491	6.76	0.000	.125072	.2271901
E3	.3889842	.0263292	14.77	0.000	.3373761	.4405922
E4	.531969	.0315726	16.85	0.000	.4700833	.5938548
E5	.7610775	.0336717	22.60	0.000	.6950773	.8270776
exp	.0370381	.001468	25.23	0.000	.0341607	.0399155
exp2	-.0006348	.0000324	-19.58	0.000	-.0006984	-.0005712
tenure	.0336924	.0018691	18.03	0.000	.0300288	.0373559
tenure2	-.0008363	.0000711	-11.76	0.000	-.0009757	-.0006969
nbchild	-.0094662	.0028038	-3.38	0.001	-.0149619	-.0039705
lhours	.1557909	.0137218	11.35	0.000	.1288947	.1826872
parttime	-.10855	.0278742	-3.89	0.000	-.1631865	-.0539135
public	.2062119	.0149402	13.80	0.000	.1769274	.2354964
cdd	.0875898	.0251596	3.48	0.001	.0382743	.1369053
cdi	.2590506	.0243396	10.64	0.000	.2113423	.3067588
M	.3506175	.0220178	15.92	0.000	.3074602	.3937749
P	.2152744	.0177376	12.14	0.000	.1805068	.2500421
E	.0638337	.0113699	5.61	0.000	.0415474	.0861199
SW	.055796	.0109268	5.11	0.000	.0343782	.0772138
S2	.1343202	.0317273	4.23	0.000	.0721312	.1965091
S3	.3167293	.0294078	10.77	0.000	.2590868	.3743718
S4	.128769	.0324157	3.97	0.000	.0652308	.1923073
S5	.094402	.0347633	2.72	0.007	.0262621	.1625419
S6	.3242189	.0327913	9.89	0.000	.2599444	.3884934
S7	.19401	.0360161	5.39	0.000	.1234146	.2646055
S8	-.0105638	.0321782	-0.33	0.743	-.0736366	.0525089
S9	.022371	.0325799	0.69	0.492	-.0414892	.0862311
firmsize	.0669473	.0037621	17.80	0.000	.0595733	.0743214
union	.1083564	.0110462	9.81	0.000	.0867048	.1300081
secu	.2151399	.0107205	20.07	0.000	.1941266	.2361533
village	-.0531613	.0104284	-5.10	0.000	-.0736021	-.0327205
ege	-.0030269	.014376	-0.21	0.833	-.0312054	.0251517
mediterranee	-.0223162	.0145345	-1.54	0.125	-.0508054	.006173
marmara	.1879814	.0127853	14.70	0.000	.1629208	.2130419
anatolySE	.0273858	.0162888	1.68	0.093	-.0045419	.0593136
anatolyC	.0600886	.0134645	4.46	0.000	.0336968	.0864805
anatolyE	.0233374	.017046	1.37	0.171	-.0100747	.0567494
male	.1973658	.0108259	18.23	0.000	.1761459	.2185857
_cons	3.446293	.0636975	54.10	0.000	3.321439	3.571147

Measures of Fit for regress of logsalaire

Log-Lik Intercept Only:	-18429.319	Log-Lik Full Model:	-10855.409
D(16436):	21710.817	LR(38):	15147.821
		Prob > LR:	0.000
R2:	0.601	Adjusted R2:	0.600
AIC:	1.323	AIC*n:	21788.817
BIC:	-137876.158	BIC':	-14778.856

FIG. 12 – Earning Equation Estimate, Full-Scale Regression, Wage-Earners aged 15-64.

Linear regression

Number of obs = 13174
F(37, 13136) = 456.59
Prob > F = 0.0000
R-squared = 0.5684
Root MSE = .44902

logsalaire	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
E1	.1090504	.026061	4.18	0.000	.0579672	.1601337
E2	.1627518	.0279517	5.82	0.000	.1079625	.2175411
E3	.3775763	.028221	13.38	0.000	.3222592	.4328935
E4	.5009204	.0354193	14.14	0.000	.4314934	.5703474
E5	.7284843	.0374474	19.45	0.000	.6550819	.8018867
exp	.0435208	.0016866	25.80	0.000	.0402148	.0468269
exp2	-.000742	.0000366	-20.27	0.000	-.0008138	-.0006703
tenure	.0325497	.0020167	16.14	0.000	.0285967	.0365027
tenure2	-.000788	.0000768	-10.27	0.000	-.0009384	-.0006375
nbchild	-.0091845	.0029751	-3.09	0.002	-.0150161	-.003353
lhours	.1127846	.0147925	7.62	0.000	.0837891	.1417801
parttime	-.0914672	.0327471	-2.79	0.005	-.1556563	-.0272781
public	.2197843	.0162022	13.57	0.000	.1880256	.2515431
cdd	.1318253	.0260706	5.06	0.000	.0807232	.1829275
cdi	.2402282	.0259755	9.25	0.000	.1893124	.2911441
M	.3421979	.0248237	13.79	0.000	.29354	.3908559
P	.1946882	.0202154	9.63	0.000	.1550632	.2343133
E	.0623374	.0121569	5.13	0.000	.0385081	.0861667
SW	.0674265	.011237	6.00	0.000	.0454004	.0894525
S2	.0697605	.0345574	2.02	0.044	.002023	.137498
S3	.1801026	.0328418	5.48	0.000	.115728	.2444772
S4	.0411646	.0355806	1.16	0.247	-.0285786	.1109078
S5	.0092989	.0379223	0.25	0.806	-.0650343	.083632
S6	.2325589	.0358116	6.49	0.000	.162363	.3027548
S7	.1155924	.0406406	2.84	0.004	.0359309	.195254
S8	-.1260882	.0356355	-3.54	0.000	-.1959389	-.0562375
S9	-.1350654	.0375295	-3.60	0.000	-.2086287	-.0615021
firmsize	.0675774	.0040958	16.50	0.000	.059549	.0756057
union	.108517	.0120404	9.01	0.000	.0849161	.1321179
secu	.1829495	.0115999	15.77	0.000	.160212	.205687
village	-.0560333	.011025	-5.08	0.000	-.077644	-.0344226
ege	-.0061573	.0155642	-0.40	0.692	-.0366653	.0243507
mediterranee	-.017411	.0157157	-1.11	0.268	-.0482161	.0133941
marmara	.1793534	.0137918	13.00	0.000	.1523195	.2063872
anatolySE	.0149672	.0169431	0.88	0.377	-.0182436	.0481781
anatolyC	.0540542	.0142851	3.78	0.000	.0260534	.082055
anatolyE	.0268652	.0182782	1.47	0.142	-.0089628	.0626931
_cons	3.882522	.0736491	52.72	0.000	3.738159	4.026885

Measures of Fit for regress of logsalaire

Log-Lik Intercept Only:	-13660.915	Log-Lik Full Model:	-8125.666
D(13136):	16251.331	LR(37):	11070.499
		Prob > LR:	0.000
R2:	0.568	Adjusted R2:	0.567
AIC:	1.239	AIC*n:	16327.331
BIC:	-108356.771	BIC':	-10719.517

FIG. 13 – Earning Equation Estimate, Full-Scale Regression, Male Wage-Earners aged 15-64.

Linear regression

Number of obs = 3301
F(37, 3263) = 195.45
Prob > F = 0.0000
R-squared = 0.6761
Root MSE = .50703

logsalaire	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
E1	.0418248	.0518627	0.81	0.420	-.059862	.1435115
E2	.0696075	.060282	1.15	0.248	-.0485869	.1878019
E3	.2664651	.0617372	4.32	0.000	.1454175	.3875127
E4	.41615	.0687333	6.05	0.000	.2813852	.5509148
E5	.6237179	.0744102	8.38	0.000	.4778225	.7696132
exp	.028129	.0030487	9.23	0.000	.0221515	.0341066
exp2	-.0005691	.0000722	-7.88	0.000	-.0007107	-.0004274
tenure	.0317287	.0045996	6.90	0.000	.0227104	.040747
tenure2	-.0009282	.0001815	-5.11	0.000	-.001284	-.0005724
nbchild	-.02645	.0073622	-3.59	0.000	-.040885	-.012015
lhours	.2740871	.0293592	9.34	0.000	.2165228	.3316514
parttime	-.1156417	.0458798	-2.52	0.012	-.2055979	-.0256856
public	.1739693	.0371074	4.69	0.000	.1012131	.2467255
cdd	-.0421877	.0561837	-0.75	0.453	-.1523465	.0679711
cdi	.2519059	.0606088	4.16	0.000	.1330708	.370741
M	.4080657	.0499845	8.16	0.000	.3100616	.5060699
P	.2375203	.0415966	5.71	0.000	.1559621	.3190784
E	.0601371	.0321116	1.87	0.061	-.0028237	.123098
SW	-.040307	.0350957	-1.15	0.251	-.1091188	.0285048
S2	.1141307	.0662947	1.72	0.085	-.0158527	.2441141
S3	.2132357	.1140522	1.87	0.062	-.0103854	.4368567
S4	.1856814	.0698163	2.66	0.008	.0487932	.3225696
S5	.1827179	.083702	2.18	0.029	.0186041	.3468316
S6	.3125059	.0822274	3.80	0.000	.1512833	.4737285
S7	.1996488	.0732563	2.73	0.006	.0560158	.3432818
S8	.1062526	.0698345	1.52	0.128	-.0306713	.2431766
S9	.3262866	.0586272	5.57	0.000	.2113368	.4412365
firmsize	.0596025	.0090291	6.60	0.000	.0418992	.0773059
union	.0847811	.0253723	3.34	0.001	.0350339	.1345284
secu	.340213	.0266221	12.78	0.000	.2880154	.3924107
village	-.0336677	.0284047	-1.19	0.236	-.0893606	.0220252
ege	.0517011	.0326747	1.58	0.114	-.0123638	.115766
mediterranean	-.0173885	.0347324	-0.50	0.617	-.085488	.050711
marmara	.2331075	.0304645	7.65	0.000	.173376	.292839
anatolySE	.0499093	.0546629	0.91	0.361	-.0572679	.1570864
anatolyC	.108832	.034636	3.14	0.002	.0409215	.1767425
anatolyE	.0135973	.0432457	0.31	0.753	-.0711942	.0983888
_cons	3.140584	.1324463	23.71	0.000	2.880898	3.400271

Measures of Fit for regress of logsalaire

Log-Lik Intercept Only:	-4283.387	Log-Lik Full Model:	-2422.804
D(3263):	4845.609	LR(37):	3721.165
		Prob > LR:	0.000
R2:	0.676	Adjusted R2:	0.672
AIC:	1.491	AIC*n:	4921.609
BIC:	-21591.155	BIC':	-3421.391

FIG. 14 – Earning Equation Estimate, Full-Scale Regression, Female Wage-Earners aged 15-64.

Linear regression

Number of obs = 13174
F(18, 13155) = 629.04
Prob > F = 0.0000
R-squared = 0.4601
Root MSE = .50185

logsalaire	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
E1	.215958	.028667	7.53	0.000	.1597666	.2721494
E2	.367042	.0305149	12.03	0.000	.3072284	.4268556
E3	.7055157	.0302722	23.31	0.000	.646178	.7648535
E4	.9606563	.03604	26.66	0.000	.8900128	1.0313
E5	1.280232	.0337067	37.98	0.000	1.214162	1.346302
exp	.0579563	.001787	32.43	0.000	.0544536	.0614591
exp2	-.0010167	.0000385	-26.43	0.000	-.0010921	-.0009413
tenure	.0451675	.0021872	20.65	0.000	.0408803	.0494546
tenure2	-.0010366	.0000858	-12.08	0.000	-.0012048	-.0008684
nbchild	-.0202443	.003263	-6.20	0.000	-.0266402	-.0138483
lhours	.1402862	.0143242	9.79	0.000	.1122087	.1683636
village	-.1066567	.0122315	-8.72	0.000	-.1306322	-.0826812
ege	-.0068198	.0179811	-0.38	0.704	-.0420653	.0284257
mediterranee	-.0608255	.0185225	-3.28	0.001	-.0971324	-.0245187
marmara	.1752142	.0157754	11.11	0.000	.1442922	.2061362
anatolySE	-.0267922	.0195762	-1.37	0.171	-.0651643	.0115799
anatolyC	.034158	.0165367	2.07	0.039	.0017436	.0665723
anatolyE	.0257396	.0216699	1.19	0.235	-.0167364	.0682157
_cons	4.05638	.0671629	60.40	0.000	3.924731	4.188029

Measures of Fit for regress of logsalaire

Log-Lik Intercept Only:	-13660.915	Log-Lik Full Model:	-9600.651
D(13155):	19201.303	LR(18):	8120.527
		Prob > LR:	0.000
R2:	0.460	Adjusted R2:	0.459
AIC:	1.460	AIC*n:	19239.303
BIC:	-105587.033	BIC':	-7949.779

FIG. 15 – Earning Equation Estimate, Personal Characteristics Regression, Male Wage-Earners aged 15-64.

Linear regression

Number of obs = 3301
F(18, 3282) = 277.81
Prob > F = 0.0000
R-squared = 0.5817
Root MSE = .57448

logsalaire	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf. Interval]	
E1	.1059605	.0567952	1.87	0.062	-.0053971	.2173182
E2	.3021639	.0651156	4.64	0.000	.1744925	.4298353
E3	.7577755	.0629442	12.04	0.000	.6343616	.8811894
E4	1.155022	.0688766	16.77	0.000	1.019977	1.290067
E5	1.475409	.0664688	22.20	0.000	1.345085	1.605734
exp	.0379721	.0033007	11.50	0.000	.0315004	.0444438
exp2	-.0008544	.0000776	-11.02	0.000	-.0010064	-.0007023
tenure	.0507899	.0053965	9.41	0.000	.040209	.0613708
tenure2	-.0014173	.000231	-6.14	0.000	-.0018702	-.0009644
nbchild	-.0436018	.0082688	-5.27	0.000	-.0598143	-.0273894
lhours	.3548124	.0264232	13.43	0.000	.3030048	.40662
village	-.1405647	.0337397	-4.17	0.000	-.2067177	-.0744117
ege	.0777932	.0389581	2.00	0.046	.0014086	.1541777
mediterranee	-.044923	.041131	-1.09	0.275	-.125568	.0357221
marmara	.2745245	.035153	7.81	0.000	.2056004	.3434487
anatolySE	.0304949	.0631162	0.48	0.629	-.0932561	.1542459
anatolyC	.1153154	.0398586	2.89	0.004	.0371651	.1934657
anatolyE	.0832809	.0529552	1.57	0.116	-.0205477	.1871095
_cons	3.198495	.1236297	25.87	0.000	2.956096	3.440894

Measures of Fit for regress of logsalaire

Log-Lik Intercept Only:	-4283.387	Log-Lik Full Model:	-2844.688
D(3282):	5689.377	LR(18):	2877.397
		Prob > LR:	0.000
R2:	0.582	Adjusted R2:	0.579
AIC:	1.735	AIC*n:	5727.377
BIC:	-20901.324	BIC':	-2731.561

FIG. 16 – Earning Equation Estimate, Personal Characteristics Regression, Female Wage-Earners aged 15-64.

Appendix 3. Gender Wage Gap Decomposition

Mean prediction Male Wage in logarithms = 5.955023						
Mean prediction Female Wage in logarithms = 5.612583						
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
Wage Gap	.34244	.0165846	20.65	0.000	.3099347	.3749452
Linear decompositions						
Total	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
D1 Oaxaca explained	.1447199	.0131688	10.99	0.000	.1189096	.1705303
unexplained	.19772	.0123435	16.02	0.000	.1735272	.2219128
D2 Oaxaca explained	.108819	.0150376	7.24	0.000	.0793458	.1382921
unexplained	.233621	.0125248	18.65	0.000	.2090728	.2581692
D3 Reimers explained	.072918	.020603	3.54	0.000	.0325367	.1132992
unexplained	.269522	.0175221	15.38	0.000	.2351793	.3038647
D4 OR explained	.185046	.0134974	13.71	0.000	.1585914	.2115005
unexplained	.157394	.0089517	17.58	0.000	.139849	.174939

FIG. 17 – Gender Wage Gap Decompositions, Full-Scale Regressions

Mean prediction Male Wage in logarithms = 5.955023						
Mean prediction Female Wage in logarithms = 5.612583						
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
Wage Gap	.34244	.0165632	20.67	0.000	.3099766	.3749033
Linear decompositions						
Total	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
D1 Oaxaca explained	.0769669	.0112028	6.87	0.000	.0550098	.0989239
unexplained	.2654731	.0129502	20.50	0.000	.2400913	.2908549
D2 Oaxaca explained	.0319788	.0126623	2.53	0.012	.0071611	.0567966
unexplained	.3104611	.0128756	24.11	0.000	.2852255	.3356968
D3 Reimers explained	-.0130092	.0166624	-0.78	0.435	-.0456669	.0196484
unexplained	.3554492	.0156946	22.65	0.000	.3246883	.3862101
D4 OR explained	.0968168	.0116688	8.30	0.000	.0739463	.1196873
unexplained	.2456231	.0110013	22.33	0.000	.224061	.2671853

FIG. 18 – Gender Wage Gap Decompositions, Personal Characteristics Regressions

Appendix 4. Selectivity correction

- Age
 - Age²
 - Educational Attainments
 - **Illiterate or No schooling (E0)**
 - Primary school (E1)
 - Middle-School (E2)
 - High-School (E3)
 - 2 years university (E4)
 - > 2 years university (E5)
 - Married (married)
 - Number of children (nbchild)
 - Having children (child)
 - Having children aged less than 3 (achild03)
 - Household's size (hldsize)
 - Households' other income (lotherincome)
 - Village/**City** (village)
 - Housing owner/ **Not owner** (owner)
 - Geographic Localisation
 - Marmara (marmara)
 - Aegean (ege)
 - Mediterranean (mediterranee)
 - Central Anatolia (anatolyC)
 - Southeast Anatolia (anatolySE)
 - Eastern Anatolia (anatolyE)
 - **Black Sea (bsea)**
- In red are indicated the reference situations

FIG. 19 – Exogenous Variables of The Selection Equation

heckman selection model -- two-step estimates (regression model with sample selection)				Number of obs	=	14278
				Censored obs	=	1104
				Uncensored obs	=	13174
				Wald chi2(50)	=	7065.51
				Prob > chi2	=	0.0000
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
logsalaire						
E1	.0805174	.0317353	2.54	0.011	.0183172	.1427175
E2	.0980777	.0351019	2.79	0.005	.0292792	.1668761
E3	.347319	.0349373	9.94	0.000	.2788431	.4157948
E4	.4249115	.0477437	8.90	0.000	.3313356	.5184873
E5	.6327434	.0442034	14.31	0.000	.5461064	.7193804
exp	.0219195	.0026793	8.18	0.000	.0166682	.0271709
exp2	-.0003529	.000052	-6.78	0.000	-.0004548	-.0002509
tenure	.0306514	.002274	13.48	0.000	.0261944	.0351084
tenure2	-.0006742	.0000801	-8.42	0.000	-.0008311	-.0005173
nbchild	.0017849	.0041362	0.43	0.666	-.0063218	.0098916
lhours	.1114544	.0142554	7.82	0.000	.0835144	.1393944
parttime	-.0905585	.0307589	-2.94	0.003	-.150845	-.0302721
public	.2267205	.0208464	10.88	0.000	.1858623	.2675787
cdd	.1371197	.02748	4.99	0.000	.0832599	.1909794
cdi	.258588	.0277428	9.32	0.000	.2042131	.312963
M	.3500328	.0263467	13.29	0.000	.2983942	.4016713
P	.2013565	.0247058	8.15	0.000	.152934	.2497791
E	.0680054	.016573	4.10	0.000	.0355229	.1004878
SW	.072886	.0149471	4.88	0.000	.0435903	.1021818
S2	.0686469	.0372579	1.84	0.065	-.0043773	.1416711
S3	.170998	.0341817	5.00	0.000	.1040031	.2379929
S4	.0407018	.0383856	1.06	0.289	-.0345325	.1159361
S5	.0042529	.0421874	0.10	0.920	-.078433	.0869387
S6	.2222775	.0395248	5.62	0.000	.1448103	.2997447
S7	.1169858	.044736	2.62	0.009	.0293048	.2046667
S8	-.1345371	.0396753	-3.39	0.001	-.2122993	-.0567749
S9	-.1398725	.0393309	-3.56	0.000	-.2169596	-.0627854
firmsize	.0683701	.005419	12.62	0.000	.057749	.0789912
union	.1082418	.0179113	6.04	0.000	.0731362	.1433474
seu	.1600068	.0147648	10.84	0.000	.1310683	.1889452
village	-.0357005	.0149263	-2.39	0.017	-.0649556	-.0064455
ege	-.0228801	.0222378	-1.03	0.304	-.0664653	.0207052
mediterranee	-.0207026	.0225827	-0.92	0.359	-.0649638	.0235586
marmara	.1627092	.0199598	8.15	0.000	.1235887	.2018297
anatolySE	-.0118938	.025496	-0.47	0.641	-.061865	.0380775
anatolyC	.0627955	.0211614	2.97	0.003	.02132	.1042711
anatolyE	.010854	.0271277	0.40	0.689	-.0423153	.0640232
_cons	4.216805	.0825403	51.09	0.000	4.055029	4.378581
select						
age	.2148792	.0113319	18.96	0.000	.1926691	.2370893
age2	-.0027844	.000145	-19.20	0.000	-.0030686	-.0025001
E1	.1590545	.0874916	1.82	0.069	-.012426	.3305349
E2	.5342694	.0956946	5.58	0.000	.3467115	.7218273
E3	-.0587604	.0895366	-0.66	0.512	-.2342489	.1167281
E4	.2116292	.1437064	1.47	0.141	-.0700302	.4932887
E5	.4171016	.1179097	3.54	0.000	.1860029	.6482003
married	.6728287	.0647033	10.40	0.000	.5460126	.7996448
nbchild	.0471219	.0184835	2.55	0.011	.0108949	.0833489
child	-.2545335	.0835249	-3.05	0.002	-.4182392	-.0908278
achild06	.0726129	.0501705	1.45	0.148	-.0257194	.1709452
hshldsize	-.0633912	.012848	-4.93	0.000	-.0885729	-.0382096
owner	-.1944177	.0428516	-4.54	0.000	-.2784053	-.1104301
lotherincome	-.022106	.0094355	-2.34	0.019	-.0405992	-.0036128
village	-.1264692	.0453281	-2.79	0.005	-.2153106	-.0376279
ege	.2084584	.0757282	2.75	0.006	.0600339	.356883
mediterranee	.0474315	.0732524	0.65	0.517	-.0961404	.1910035
marmara	.1867294	.0661053	2.82	0.005	.0571654	.3162934
anatolySE	.172619	.0842538	2.05	0.040	.0074845	.3377534
anatolyC	-.0611026	.0679612	-0.90	0.369	-.194304	.0720988
anatolyE	.0908962	.0889152	1.02	0.307	-.0833745	.2651669
_cons	-2.263896	.214139	-10.57	0.000	-2.683601	-1.844192
mills						
lambda	-.6403809	.0563855	-11.36	0.000	-.7508944	-.5298674
rho	-1.00000					
sigma	.6403809					
lambda	-.6403809	.0563855				

FIG. 20 – Selectivity-Corrected Wage Equation, Men aged 15-64.

Heckman selection model -- two-step estimates (regression model with sample selection)			Number of obs	=	24735
			Censored obs	=	21434
			Uncensored obs	=	3301
			Wald chi2(50)	=	4922.42
			Prob > chi2	=	0.0000
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
logsalaire					
E1	.0475223	.0406504	1.17	0.242	-.0321509 .1271956
E2	.0661262	.0504009	1.31	0.190	-.0326627 .1649054
E3	.2461262	.0526209	4.68	0.000	.1429911 .3492613
E4	.3441189	.0717725	4.79	0.000	.2034473 .4847904
E5	.5441977	.0733629	7.42	0.000	.4004091 .6879863
exp	.027959	.0027577	10.14	0.000	.0225541 .033364
exp2	-.0005472	.0000617	-8.87	0.000	-.0006681 -.0004263
tenure	.0316471	.004066	7.78	0.000	.0236779 .0396162
tenure2	-.000928	.0001554	-5.97	0.000	-.0012325 -.0006235
nbchild	-.0262485	.0070586	-3.72	0.000	-.0400832 -.0124139
lhours	.2726962	.0195456	13.95	0.000	.2343876 .3110049
parttime	-.1136984	.0335813	-3.39	0.001	-.1795166 -.0478803
public	.173582	.0391819	4.43	0.000	.0967869 .2503771
cdd	-.0408062	.0395626	-1.03	0.302	-.1183475 .0367351
cdi	.2480316	.043374	5.72	0.000	.1630202 .333043
M	.4045585	.0484526	8.35	0.000	.3095931 .4995239
P	.2357226	.0417624	5.64	0.000	.1538698 .3175754
E	.0537518	.0322312	1.67	0.095	-.0094201 .1169237
SW	-.0401566	.0344544	-1.17	0.244	-.107686 .0273727
S2	.1069526	.0497177	2.15	0.031	.0095077 .2043976
S3	.1998711	.1356347	1.47	0.141	-.0659681 .4657103
S4	.1762498	.0558999	3.15	0.002	.066688 .2858117
S5	.1799581	.0747573	2.41	0.016	.0334364 .3264798
S6	.3072332	.0765603	4.01	0.000	.1571778 .4572885
S7	.1910668	.0600491	3.18	0.001	.0733728 .3087608
S8	.1004023	.0589867	1.70	0.089	-.0152095 .2160142
S9	.3201576	.0456894	7.01	0.000	.230608 .4097073
firmsize	.0589813	.0094454	6.24	0.000	.0404687 .0774939
union	.0856162	.0346126	2.47	0.013	.0177767 .1534557
seu	.3399746	.0277707	12.24	0.000	.2855449 .3944042
village	-.0313304	.0278896	-1.12	0.261	-.085993 .0233323
ege	.0374439	.03583	1.05	0.296	-.0327817 .1076695
mediterrane	-.0236507	.0370871	-0.64	0.524	-.0963401 .0490388
marmara	.2212065	.0331622	6.67	0.000	.1562097 .2862032
anatolySE	.0716831	.0518114	1.38	0.166	-.0298653 .1732315
anatolyC	.116557	.0372317	3.13	0.002	.0435841 .1895299
anatolyE	.0308254	.0537568	0.57	0.566	-.0745359 .1361868
_cons	3.266545	.1142887	28.58	0.000	3.042543 3.490547
select					
age	.0957613	.0077545	12.35	0.000	.0805629 .1109598
age2	-.0013844	.0001059	-13.07	0.000	-.001592 -.0011769
E1	-.0557257	.0391383	-1.42	0.154	-.1324354 .020984
E2	.0712766	.049603	1.44	0.151	-.0259435 .1684967
E3	.3667918	.0447136	8.20	0.000	.2791547 .4544288
E4	1.560887	.0851254	18.34	0.000	1.394044 1.727729
E5	1.813611	.0641634	28.27	0.000	1.687853 1.939369
married	-.8152702	.0369846	-22.04	0.000	-.8877586 -.7427817
nbchild	.031346	.0142129	2.21	0.027	.0034893 .0592027
child	-.0463621	.0457743	-1.01	0.311	-.136078 .0433538
achild06	-.3220182	.0311703	-10.33	0.000	-.3831109 -.2609254
hshldsize	-.0429302	.0103641	-4.14	0.000	-.0632435 -.022617
owner	-.3216489	.0256487	-12.54	0.000	-.3719193 -.2713784
lotherincome	.1460857	.0096682	15.11	0.000	.1271364 .165035
village	.0302942	.0312508	0.97	0.332	-.0309562 .0915445
ege	.3234399	.0461696	7.01	0.000	.2329491 .4139306
mediterrane	.1642189	.0474809	3.46	0.001	.071158 .2572798
marmara	.2849919	.0416829	6.84	0.000	.2032949 .3666889
anatolySE	-.3870299	.0607728	-6.37	0.000	-.5061423 -.2679174
anatolyC	-.353925	.0470612	-3.26	0.001	-.4456308 -.2611542
anatolyE	-.3833386	.0661209	-5.80	0.000	-.5129332 -.253744
_cons	-1.860626	.1382635	-13.46	0.000	-2.131617 -1.589634
mills					
lambda	-.0706864	.0309659	-2.28	0.022	-.1313785 -.0099943
rho	-.0.13941				
sigma	.50704126				
lambda	-.07068641	.0309659			

FIG. 21 – Selectivity-Corrected Wage Equation, Women aged 15-64.

Mean prediction Male Wage in logarithms = 6.030253						
Mean prediction Female Wage in logarithms = 5.696181						
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
Wage Gap	.3340723	.040755	8.20	0.000	.254194	.4139506
Linear decompositions						
Total	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
D1 Oaxaca						
explained	.1089408	.0133023	8.19	0.000	.0828686	.1350129
unexplained	.2251315	.0400766	5.62	0.000	.1465828	.3036802
D2 Oaxaca						
explained	.0986904	.0158306	6.23	0.000	.0676631	.1297177
unexplained	.2353819	.0433406	5.43	0.000	.1504359	.3203279
D3 Reimers						
explained	.08844	.0234063	3.78	0.000	.0425645	.1343155
unexplained	.2456323	.0487265	5.04	0.000	.1501301	.3411345
D4 OR						
explained	.1611295	.0149187	10.80	0.000	.1318894	.1903695
unexplained	.1729428	.0317786	5.44	0.000	.1106579	.2352277

FIG. 22 – Selectivity-Corrected Gender Wage Gap Decompositions.

Appendix 5. Comparison with EU countries

Mean prediction Male Wage in logarithms = 6.073556						
Mean prediction Female Wage in logarithms = 5.817989						
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
Wage Gap	.2555675	.0201932	12.66	0.000	.2159895	.2951455
Linear decompositions						
Total	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
D1 Oaxaca explained	.0431015	.0154708	2.79	0.005	.0127793	.0734238
unexplained	.212466	.0146485	14.50	0.000	.1837554	.2411766
D2 Oaxaca explained	-.0005208	.0188111	-0.03	0.978	-.0373899	.0363483
unexplained	.2560883	.0158068	16.20	0.000	.2251077	.287069
D3 Reimers explained	-.0441431	.0270401	-1.63	0.103	-.0971407	.0088544
unexplained	.2997106	.0234078	12.80	0.000	.2538322	.3455891
D4 OR explained	.0843263	.0160274	5.26	0.000	.0529132	.1157394
unexplained	.1712412	.0108148	15.83	0.000	.1500446	.1924378

FIG. 23 – Gender Wage Gap Decompositions, Wage-Earners aged 25-55 and working at least 15h./week.

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Heckman selection model -- two-step estimates
(regression model with sample selection)
Number of obs      =    17513
Censored obs       =    15394
Uncensored obs     =     2119
Wald chi2(50)      =   3188.57
Prob > chi2        =    0.0000

```

	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]

logsalaire					
E1	.0126405	.0521596	0.24	0.809	-.0895903 .1148714
E2	.0246545	.0706477	0.35	0.727	-.1138124 .1631215
E3	.2498201	.0718019	3.48	0.001	.109091 .3905492
E4	.3554263	.0928083	3.83	0.000	.1735254 .5373272
E5	.5352937	.0952296	5.62	0.000	.3486471 .7219403
exp	.0334065	.0053826	6.21	0.000	.0228569 .0439561
exp2	-.0006882	.000117	-5.88	0.000	-.0009175 -.000459
tenure	.0326407	.0051855	6.29	0.000	.0224773 .0428041
tenure2	-.0010596	.0002149	-4.93	0.000	-.0014809 -.0006383
nbrenfant	-.0276689	.0099823	-2.77	0.006	-.0472339 -.0081039
lhours	.2583888	.0548352	4.71	0.000	.1509139 .3658638
parttime	-.1979934	.0544035	-3.64	0.000	-.3046222 -.0913646
public	.1238155	.045746	2.71	0.007	.034155 .2134761
cdd	-.0651499	.048323	-1.35	0.178	-.1598612 .0295614
cdi	.2517396	.0578213	4.35	0.000	.138412 .3650672
M	.5240518	.0583184	8.99	0.000	.4097499 .6383537
P	.3622066	.0540332	6.70	0.000	.2563035 .4681097
E	.0791441	.0406158	1.95	0.051	-.0004614 .1587496
SW	-.0854937	.0452379	-1.89	0.059	-.1741583 .003171
S2	.1869595	.0637483	2.93	0.003	.062015 .3119039
S3	.2947628	.1682872	1.75	0.080	-.035074 .6245997
S4	.2528537	.0740214	3.42	0.001	.1077744 .397933
S5	.1899865	.0920476	2.06	0.039	.0095765 .3703965
S6	.3965321	.0915278	4.33	0.000	.2171409 .5759234
S7	.3165392	.0758072	4.18	0.000	.1680597 .4652186
S8	.1472659	.0724104	2.03	0.042	.0053442 .2891876
S9	.5460807	.0557059	9.80	0.000	.4368992 .6552622
tailleuse	.0701946	.0119535	5.87	0.000	.0467662 .0936231
syndicat	.0823952	.0371689	2.22	0.027	.0095456 .1552449
secu	.292113	.0403122	7.25	0.000	.2131026 .3711234
village	-.0728343	.0359336	-2.03	0.043	-.1432629 -.0024056
ege	-.0068048	.0423789	-0.16	0.872	-.0898659 .0762563
mediterranee	-.0250364	.0448666	-0.56	0.577	-.1129734 .0629006
marmara	.1826068	.0395844	4.61	0.000	.1050229 .2601908
anatolySE	.0830969	.0647789	1.28	0.200	-.0438674 .2100613
anatolyC	.0823729	.0442612	1.86	0.063	-.0043774 .1691232
anatolyE	-.0192642	.0609868	-0.32	0.752	-.138796 .1002677
_cons	3.192086	.2464822	12.95	0.000	2.70899 3.675182

select					
age	.1408823	.0186427	7.56	0.000	.1043432 .1774214
age2	-.0020635	.0002419	-8.53	0.000	-.0025375 -.0015894
E1	-.0182484	.0481941	-0.38	0.705	-.1127072 .0762103
E2	.0876279	.0675199	1.30	0.194	-.0447088 .2199646
E3	.5077147	.0564177	9.00	0.000	.397138 .6182914
E4	1.669557	.0989713	16.87	0.000	1.475576 1.863537
E5	1.964004	.0741888	26.47	0.000	1.818596 2.109411
marie	-.7496005	.045911	-16.33	0.000	-.8395843 -.6596167
nbrenfant	-.0091625	.0198289	-0.46	0.644	-.0480263 .0297014
child	.0095924	.0581523	0.16	0.869	-.1043841 .1235689
achild06	-.4006475	.0387525	-10.34	0.000	-.476601 -.324694
taillemenage	-.02737	.0138509	-1.98	0.048	-.0545172 -.0002229
proprio	-.2848494	.0313091	-9.10	0.000	-.346214 -.2234847
lotherincome	.1445781	.0105106	13.76	0.000	.1239777 .1651786
village	.0748762	.0400321	1.87	0.061	-.0035852 .1533376
ege	.2915282	.0565676	5.15	0.000	.1806577 .4023987
mediterranee	.1490794	.0590785	2.52	0.012	.0332876 .2648711
marmara	.2189862	.0514818	4.25	0.000	.1180837 .3198888
anatolySE	-.2911412	.0801492	-3.63	0.000	-.4482307 -.1340517
anatolyC	-.1127509	.0583451	-1.93	0.053	-.2271052 .0016034
anatolyE	-.2222761	.0813072	-2.73	0.006	-.3816353 -.062917
_cons	-2.764777	.3496883	-7.91	0.000	-3.450153 -2.0794

mills					
lambda	-.0260707	.0373418	-0.70	0.485	-.0992594 .0471179

rho	-0.05291				
sigma	.49277185				
lambda	-.02607072	.0373418			

FIG. 24 – Selectivity-Corrected Wage Equation, Females aged 25-55 and working at least 15h./week.