Gender Inequalities in the Labor Market in Turkey: Differentials in Wages, Industrial & Occupational Distribution of Men and Women

by

Raziye Selim,
Istanbul Technical University, Faculty of Management, Macka 80680, Istanbul[1]

İpek İlkkaracan,
Yeditepe University, Faculty of Economics and Administrative Sciences, Kayışdağı, Istanbul

September 2002

Abstract

This paper examines gender inequalities in the labor market in Turkey with respect to wage differentials as well as industry- and occupational segregation. We employ standard wage regression estimations as well as the Oaxaca decomposition method to explore the wage differentials between men and women and its underlying causes, namely human capital endowments, occupational and industrial segregation and a series of institutional factors such as private/public sector, coverage of the workplace under a collective labor bargain, social security coverage and firm size. We also examine the extent of gender-based industry- and occupational segregation within the confines of our data set and compute the Duncan&Duncan segregation index. The data comes from the 1994 Labor Force Participation and Wage Structure Survey by the State Institute of Statistics (SIS), which covers a random sample of approximately 2,800 work places in three industries, namely manufacturing, mining & quarrying, and electricity, gas & water, where a total of 74,000 workers are surveyed through their employers. We find that a large portion of the gender wage gap is attributable to gender based occupational and industrial segregation as well as differences in institutional factors; and that a sizeable unexplained portion remains due to discriminatory workings of the labor market.

JEL Classification: J31, J71, O53

[1] Contact the authors at:
Raziye Selim: Tel: 0212 2931300 (2081) Fax: 0212 2407260 e-mail: selimraziy@itu.edu.tr ;
Ipek Ilkkaracan: ipeki@superonline.com

I. Introduction

The wage differentials between men and women and occupational/industrial segregation by sex are two of the most important and interlinked issues that has been the subject of study in the literature on gender inequalities in the labor market. In addition to much theoretical work on the topic, there is also substantial empirical literature focusing mainly on the advanced market economies of the North, and a relatively limited number of studies conducted in countries of the South.

In cross-country comparisons, Turkey is one of the few countries of the South pointed out for having one of the lowest gender differentials in pay (Anker 1997). There is, however, little work done on the topic in the labor market in Turkey with the exception of only very few recent empirical studies, namely DGSPW (2000), Kasnakoğlu and Dayıoğlu (2000) and Günlük-Şenesen and Özar (2001); and some reports summarizing official statistics (SPI 2000; TÜSİAD 2000; SIS 1996.)

The findings of the above-mentioned reports utilizing official statistics basically show that women on average earn 60% of men according to the hourly wage rate based on 1987 data; the figures for the industry and service sectors show that the average wages of women are 78% of average male wages based on 1998 and 1999 data (TÜSİAD 2000). A detailed investigation based on 1994 data, on the other hand, shows that the gender wage differential is much higher in the private sector than in the public sector; the occupational category of "production related activities" has one of the largest gender wage gaps at 51% in the private sector; and there is substantial variation in the extent of the male-female wage differential by different categories of industry, firm size and educational level (SPI 2000).

Kasnakoğlu and Dayıoğlu (2000), use individual level data from the Household Income and Expenditures Survey for the year 1987 and explore the extent of the wage gap by level of schooling, education, region, occupation and job status. The average female-to-male earnings differential they find for the overall data is 47.5% which improves to 60% when corrected for hours worked. They find the earnings gap to be the largest at primary level schooling, in the occupational categories of "agricultural workers" and "production related activities," and in the job status category of "self-employed." The gap becomes progressively smaller as the

level of schooling increases from primary onwards. The occupational category of "clerical workers" and the job status category of "employees" have the lowest gender pay differentials.

Using separate wage regressions for men and women, the authors show that women generally enjoy higher returns to education with the exception of the low level of primary schooling. Similarly the ordering of the occupational returns are different for men and women such that with respect to the omitted category of "sales workers", men have the lowest returns in "agricultural workers", and women in "service workers." Using the Oaxaca decomposition method, Kasnakoğlu and Dayıoğlu (2000) also show that human capital endowment differences between men and women account for 36.2% of the gender wage gap, while they explain 63.8 % of the differential as due to discriminatory mechanisms of the labor market.

Günlük-Şenesen and Özar (2001) examine sex-based occupational segregation within the context of a limited data set that entails information on the private banking sector in the years 1996-97 covering approximately 39,440 workers representing 49% of total employment in private banking at the time. The private banking sector is an area where there is an observed feminization of the labor force such that by the late 1990s women constituted approximately 46% of the total employees. Using four hierarchical occupational categories, the authors find a vertical occupational segregation index of 25.6 on average for their total sample, while the index ranges from 17 to 45.7 when they conduct the analysis for each one of the 16 private banks included in their data. Comparing this finding to an index that they have calculated in a previous study for textiles (OSI=46) and tourism (OSI=42) (DGSPW 2000), they conclude that banking is a sector where occupational gender segregation is relatively less severe. When they examine the data on occupational segregation by level of schooling, however, they also find that women with higher levels of education are increasingly employed in occupations requiring lower levels of education and with very limited promotional opportunities. Hence the apparent feminization of the labor force in the banking sector and the relatively lower level of occupational sex-based segregation is not necessarily a positive trend but rather hides beneath it an oversupply of university graduate women into low qualification banking sector jobs.

The aim of this paper is to conduct an empirical analysis of both the gender-based wage gap and of the level of occupational and industrial segregation in a more comprehensive manner using country-wide data from the 1994 Labor Force Participation and Wage Structure Survey

by the State Institute of Statistics. Using individual worker level data representative of the three industries of manufacturing, mining & quarrying, and electricity, gas & water, where approximately 30% of both the female and the male urban labor force is employed,[2] we do conduct two types of analysis: explore the extent of the gender wage gap and its underlying reasons with respect to human capital endowments, occupational and industrial segregation, and the very important institutional variables such as public/private sector, firm size, coverage of workplace under collective labor bargain; and explore the extent of (horizontal) occupational segregation and its contribution to the gender wage gap. The exhaustive list of variables included in our data set constitutes the main distinction of the findings of this paper from the previous studies. The fact that we were able to include a range of institutional variables (not to mention the full set of industry, and regional variables), has allowed us to conduct a comprehensive analysis of the gender wage gap. It is worth mentioning here that Anker (1997), in his review of empirical and theoretical studies of the gender based wage gap and occupational segregation, emphasizes that the inclusion of institutional variables proves to be of utmost importance for a coherent analysis.

The rest of the paper is organized as follows: Section II presents the data and the methodology. This is followed by our findings in Section III. In the final section, we present an evaluation of our results in comparision to those of earlier studies.

II. Data and Methodology

Our source for the wage data is the Labor Force Participation and Wage Structure Survey, which was conducted by the State Institute of Statistics (SIS) in early 1995, taking November 1994 as the reference point. The survey covers a random sample of approximately 2,800 workplaces in all seven geographical regions of Turkey, in three industries, namely manufacturing, mining & quarrying, and electricity, gas & water. A total of 74,000 workers are surveyed through their employers. The survey provides both firm- and worker-related information. Firm-level information entails variables such as geographic region, industry, public/private sector, total number of workers, whether the wage determination process of the firm is subject to a collective labor bargain. Worker-level information includes variables such as the worker's age, sex, level of

[2] According to SIS Household Labor Force Survey findings for 1994, 30.1 % and 30.8% of the urban female and male labor force respectively, is employed in these three industries (see TÜSİAD 2000).

education, number of years on the job, occupation, type of social security coverage, and monthly salary (see the Appendix for descriptive statistics of variables).

We employ a two-tiered methodology in the analysis of the gender wage gap, starting with regular wage regressions and then moving onto the use of the Oaxaca decomposition method. In the analysis of gender based occupational and industrial segregation, on the other hand, we compute the Duncan & Duncan Index.

We run two types of wage regressions; first a standard human capital wage regression and then an expanded wage regression that entails a host of other variables commonly accepted as determinants of wages.

The standard human capital wage regression is based on the well-known earnings function by Mincer (1974), where wage is a function of educational attainment and experience. The econometric literature on wage determination commonly employs a wage regression where the natural logs of wages is regressed on education and experience.[3] The human capital theory also postulates that individuals can increase their productivity by learning important work skills on the job. Hence job tenure as an indicator of seniority on the current job is also included in the regression equation. Due to unavailability of data on actual employment experience, we use a proxy variable for experience (potential experience) which is defined as age minus schooling minus seven is used in the analysis.[4] The basic human capital model based regression equation is as follows:[5]

$$\ln W = \beta_0 + \sum_{i=1}^{4} \beta_i S_i + \beta_5 E + \beta_6 E^2 + \beta_7 J + \beta_8 M + \sum_{s=9}^{14} \beta_s R_s + u \qquad (1)$$

lnW is the natural log of wages, regressed on education dummies, where each variable refers to primary, regular high school, technical high school and college (university) graduates respectively and experience (E), square of experience (E2), job tenure (J), a gender dummy for males (M) and R_s represents six regional dummy variables aimed at controlling for regional effects. The regression coefficients on the education dummies show returns to each

[3] As wage data is typically right-skewed, we use the natural log of wages as our dependent variable in the regression analysis.

[4] For the illeterate individuals, the proxy variable for experince is calculated as age minus twelve.

level of schooling with respect to the omitted category of illiterates. β_5 and β_7 imply the returns to each additional year of experience and seniority. The coefficient on the male dummy serves the purpose of showing any gender wage differentials that is not attributable to human capital endowment differences.

The expanded model, on the other hand, which entails occupational, industrial and a series of what we call institutional variables, is as follows:

$$\ln W = \beta_0 + \sum_{i=1}^{4} \beta_i S_i + \beta_5 E + \beta_6 E^2 + \beta_7 J + \beta_8 M + \sum_{j=9}^{17} \beta_j O_j + \sum_{k=18}^{28} \beta_k I_k + \beta_{29} C + \beta_{30} P + \beta_{31} A +$$

$$\beta_{32} F_m + \beta_{33} F_L + \sum_{s=34}^{39} \beta_s R_s + u \qquad (2)$$

Here O_i and I_i stand for 9 occupational and 11 industry dummies respectively; C for coverage of the workplace under a collective labor bargain; P is a dummy variable for the private sector; A is a dummy variable for coverage of the worker under social security; F_m and F_L dummies for medium- and large-size firms respectively. All these variables are commonly accepted determinants of wages and have become standard for wage regressions. Each regression is estimated for the whole sample as well as separately for men and women workers. This exercise has several objectives: to see whether there is a statistically significant coefficient on the male dummy hence indicating a gender wage differential that remains unaccounted for by the other variables; how this coefficient changes from the simple to the expanded model and hence the extent of the explanatory power of occupational and industrial segregation and institutional variables in explaining a part of the gender wage gap; and finally to explore if the coefficients on the various variables differ for men versus for women hence indicating different rates of return to education, experience, job tenure, etc.

It is commonly acknowledged in theoretical as well as empirical literature that the reasons underlying male-female wage differentials are partially due to productivity differences as indicated by human capital factors, and partially due to discriminatory workings of the labor market as indicated by the occupational and industrial sex-based segregation as well as the

[5] 6 Region dummies are added to the regression to control for regional differences.

institutional factors. The empirical separation of these two effects can be done by using a decomposition method which is known as Oaxaca (1975) decomposition.

The wage differantial between men and women can be written as follows:

$$\overline{\ln W_m} - \overline{\ln W_f} = \sum_{i=1}^{n} (\overline{X_{mi}} - \overline{X_{fi}}).\beta_{mi} + \sum_{i=1}^{n} (\beta_{mi} - \beta_{fi}).\overline{X_{fi}} \qquad (3)$$

$\overline{X_m}$ and $\overline{X_f}$ refer average qualifications of men and women. β_m and β_f are the coefficients from separete regressions for men and women. Using the decomposition method for the simple model, the first term on the right-hand side of equation (3) represents the part of the total wage differantial due to human endowment differences between men and women (difference in education, experience, etc.); and the second term represents the part of the wage differential which can not be explained with human capital variables, hence accepted as being due to discrimination.[6] In the case of the expanded model, the first term represents the portion of the wage differential due to human endowment, occupational, industrial and institutional differences between men and women; and the second term is the part of the wage differential which is not atributable to any of these variables.

The method we employ in measuring the level of occupational and industrial segregation is the Duncan& Duncan index which is computed as follows:

$$SI = 0.5 \sum_{i=1}^{n} \left| m_i - f_i \right| \qquad (4)$$

m_i and f_i are the percentage female and male workers in occupation and/or industry i respectively. The index SI calculated as such shows the percentage of female and male workers that would need to trade places with one another in order for their occupational/industrial distribution to be the same. Hence SI has a minimum value of 0 which indicates perfectly equal gender distribution across the different occupational/industrial categories, and the maximum value of 100 indicates perfect segregation of women and men into distinct occupational/industrial categories.

III. Findings

Table 1 shows the results with respect to the various coefficients of the six different wage regressions; simple and expanded estimations for the mixed sample, and separately for men and for women. Columns 1 and 2 where we report the results of the regressions for the mixed sample, show a statistically significant coefficient for the male dummy. In the simple human capital model, the coefficient of 0.16 implies that male workers earn 17.4 % more than women controlling for education, experience and job tenure as well as for regional factors.

In the expanded model, the coefficient on the male dummy is reduced to 0.085, implying that a non-negligible 8.9 % gender wage differential remains despite the fact that we control for all kinds of variables. The reduction in the size of the male dummy coefficient from the simple to the expanded regression, shows that sex-based occupational and industrial segregation as well as the gender differences in institutional factors account for a substantial portion of the observed wage differential in the first model.

The same results are shown in a different form in Figure 1. The actual (unadjusted) gender wage ratio is 70.6 %, that is women earn on average 70.6% of what men earn. The ratio adjusted for human capital variables show that if women had the same human capital characteristics as men, their wages would be 85.2 % of men's wages. Finally, if women also had the same occupational and industrial affiliations, as well as the same institutional characteristics as men, they would be earning 91.9 % of what men earn, closing the wage gap to a substantial degree. Nevertheless, there still remains a gender based differential.

Another point to be observed in the seperate expanded wage regressions for men and women of Table 1 (columns 4 and 6), is in regards to the different coefficients on all the variables. Returns to education seem to be greater for men in general with the only exception of college level schooling. In particular the difference in returns to primary level schooling is striking; men enjoy a 5.5 % increase in pay as compared to illiterate male workers; while for women, we do not find a statistically significant coefficient on the primary school dummy. University graduates are the only category where women enjoy higher returns at 81.5 %, as compared to 68.4 % for men.

---

[6] For a detailed description of the Oaxaca decomposition method, see Oaxaca 1975, or Blau, Ferber & Winkler 2002.

The returns to experience for men are higher than for women (2.7 % vs. 1.8 % for each additional year) while the opposite holds true for job tenure where women enjoy higher returns (2.5% for men vs. 3.1% for women). This is probably indicative of the typically interrupted work careers of women due to their traditional roles in childbirth and childrearing. While the years of work experience for women is likely to be prone to interruptions rather than continuous as is the common case for men; the job tenure variable is likely to indicate a continuous involvement of women at the workplace, and therefore a relatively more meaningful indicator of increased productivity.

The coefficients on the occupational dummies exhibit substantial variation between men and women; in all the occupational categories men enjoy higher returns than women. The ordering of the occupational returns with respect to the omitted category of "service workers" appear to be quite similar for men and women. The highest returns are enjoyed by both sexes in the occupations of "administrative and managerial workers," followed by "commerce & sales", "scientific and technical workers". The lowest returns for men are observed in the categories of "other professional" and then "clerical workers," both of which carry statistically insignificant coefficients for women.[7]

As for the institutional variables, the largest differences between men and women appear for to be for the following variables: coverage of the workplace under a collective labor bargain, coverage of the worker under social security, and the large firm dummy. In each case, men seem to enjoy higher returns than women once again. A male worker whose workplace is covered under a collective labor bargain earn 43.6 % more than his counterpart whose workplace is not unionized; while the same difference for women is 26.7 %. The return to coverage of a male worker under social security is 42.5 %, while for women it is lower at 26.9 %. While the returns to working at a medium size firm appear to bring similar pay advantages for both men and women with respect to the omitted variable of small-size firms, men working at large size firms again enjoy higher returns at 38.4 % versus 28 % for women.[8]

[7] See the appendix for a detailed description of the occupational categories.
[8] Small size firm is defined as a firm with employees fewer than 10 workers (which constitutes approximately 3.4 % the sample); medium-size firms have 10-99 employees; large size firms have 100+ employees.

The private sector dummy seems to be the only institutional variable where women have a relative pay advantage over men. Generally both men and women in the private sector earn less than their counterparts in the public sector; 30.1 % lower for women versus 35.1 % lower for men. The negative coefficient on the private sector dummy can be explained by the fact that the public sector in our data entails for most part state-owned enterprises rather than public administration. The state-owned enterprises are known to enjoy almost 100 % unionization rates and where wages are determined exclusively by collective labor bargaining, and hence the higher wages. (Tansel, 1999)

Tables 2 and 3 show the results of the Oaxaca decomposition analysis in regards to the relative weights of the "human capital factors" versus "discrimination" in explaining the gender wage gap. The wage gap we find in our raw data is such that the average male wage is 41.7 % higher than the average female wage.[9] In Table 2, where we report the results of the Oaxaca decomposition using the simple human capital model, we find that 57 % of this gender wage differential is due to human capital differences, while 43 % remains unexplained. This 43 % unexplained portion of the wage gap can be interpreted as being due to discrimination, where women and men with the same level of education, experience and job tenure and living in the same region are paid differential wages independent of their productivity.

Table 3, on the other hand, shows the results of the Oaxaca decomposition using the expanded regression. Here we find that 80 % of the gender wage gap is attributable to the combined factors of human capital endowments, occupational and industrial affiliations of male and female workers, and differences in the institutional characteristics of their jobs. The remaining 20 % which remains unexplained is interpreted as being due to outright gender discrimination in the labor market. In other words, two workers, one male and one female, wşth the same level of education, experience, job tenure, working in the same region, industry, occupation, and sector, with similar institutional characteristics of their jobs with respect to coverage under a collective labor bargain, coverage under social security and firm size, are paid differential wages; and hence this is an indicator of gender discrimination in the labor market. We should further note here that many of the explanatory factors to which we attribute the 80 % of the wage differential, also entail systematic differences between men and women in the

[9] Average refers to the geometric mean.

labor market that result from different forms of discrimination, such as women concentraing in the lower paid occupations, or in non-union jobs, having lower levels of education or experience due to restrictions of different social and economic forms.

Finally in Table 4, we report our findings with respect to gender differences in occupational distribution. A first look at the numbers indicates that women are heavily concentrated in two occupational categories, namely "production workers in textiles, food, tobacco, etc." and "clerical workers"; 66.5 % of all women are in these two occupations. Men, on the other hand, appear to have a relatively more even distribution across the different occupational categories. We find that both male and female workers in the highest paying occupational categories of "administrative, executive and manegerial workers" and "scientific and technical professionals" constitute a small portion of total employment; nevertheless the percentage of men in these occupations is higher than women. In the second highest paying category of "commerce and sales workers," however, we obsewrve an almost identical gender concentration. In the lowest paying occupation of "clerical workers", women have a much higher concentration (approximately one fifth of total female employment) than men (less than one tenth of male employment.) The Duncan&Duncan occupational segregation index of 27.6, implies that more than a quarter of the male and female workers would have to trade places horizontally across occupational categories in order to have a perfectly equal distribution.

Table 5 has similar results with respect to distributions of men and women workers across industries. Close to half of all women workers (44.6 %) are concentrated in textiles manufacturing; over 60 % are in the two industries of textiles and food manufacturing; when we add to this those working in manufacturing of metal goods and machinery, we find that close to three quarters of women (72.5 %) are squeezed into three of the 12 industrial categories that we have in our sample. Men on the other hand, have a much more even industrial distribution across the 12 industries. While we do not report the coefficients on the industry dummies here, we find that, the ordering is quite similar with respect to the omitted category of mining & quarrying. The only exception is the category of electricity, gas and water, which has the highest returns for men, but next to the lowest returns for women. The Duncan&Duncan index of industrial segregation equals 33.95, which implies that this time as many as one third of all women and men workers would have to trade places with one another in order for their industrial distribution to be equal.

IV. Conclusion

The various forms of analyses of the gender wage gap and sex-based occupational/industrial segregation in this paper all point to the existence of gender discrimination in the labor market in Turkey. The findings uncover the different aspects of this discrimination. The wage regressions and the Oaxaca decomposition analyses show that an important part of the gender wage gap is explained due to the fact that women on average have lower levels of education, experience and job tenure than men do. Nevertheless, the male-female differences in human capital endowment factors account for only half of the gender wage gap, and the rest can not be explained through differing levels of labor productivity between the sexes.

We find that a substantial portion of the remaining gap is then attributable to the fact that women are generally concentrated in the lower paying occupations and industries, and the institutional characteristics of the jobs that they hold onto are of the type that brings lower returns; for instance, women are more likely to be working at workplaces that are not covered under a collective labor bargain, in the private sector, without social security.

Obviously the systematically lower human capital endowments of women, as well as the systematic allocation of women workers into types of jobs that are distinct from men's jobs are already indicative of different forms of gender discrimination operating at both the labor supply and labor demand levels. Even when we control for all these different variables affecting wage determination, however, we find that there still remains an unexplained portion of the wage gap, as high as 20%. This unexplained portion, we call as being due to "outright discrimination" in the labor market; a pay differential that occurs neither as a result of different productivity levels, nor as a result of the type of job or workplace; but merely due to the sex of the worker.

As for the occupational and industrial gender segregation index, we find generally that women are heavily concentrated in two or three categories; while men enjoy a relatively more even distribution. When compared to the vertical gender occupation segregation index computed by Günlük-Şenesen and Özar (2000) and DGSPW (2000), the horizontal occupation segregation index we find seems to be relatively more egalitarian.

The findings of this paper with respect to the wage gap are for most part in conformity with Kasnakoğlu and Dayıoğlu (1997), our only point of reference in the literature with comparable findings using country-wide data. The main distinction is the fact that they find a much higher percentage of the wage gap to be unexplained than we do in this paper (63.8 % as opposed to 20%). Possibly two types of factors account for this discrepancy in the findings of the two studies. Most importantly, in our study we were able to include a whole range of wage determinant variables such as industry dummies and all types of institutional variables which Kasnakoğlu and Dayıoğlu (1997) did not have available in their data. The utilization of a more complete set of variables in the wage regressions have reduced the portion of the wage gap that we find as unexplained and attribute to "outright discrimination."

The second difference between the two studies is in regards to the sample used. Our study entails three industries and is focused on the formal sector wages of employees, while the previous study has a representative sample of household members including all industries, employees as well as employers and self-employed, and covering the informal sector to the extent possible.

We believe that the findings of this study provide some important insights into the gender discriminatory aspects of the labor markets in Turkey, an empirically understudied topic. We would benefit from further work using more comprehensive data covering all the industries, in particular the service industry where a substantial portion of the urban labor force is concentrated, and entailing a complete set of wage determinant variables. Moreover, time series studies aimed at showing the more dynamic aspects such as the trends in the wage gap and segregation by gender would be useful; but to this end, the collection and accessibility of appropriate data is of utmost importance.

References

Anker, R. (1997), "Theories of Occupational Segregationby Sex: An Overview." *International Labor Review*, Vol. 136, No:3: 1-25.

Blau, F.D., M.A. Ferber and A.E. Winkler (2002), *The Economics of Women, Men and Work* (4th edition). New Jersey: Prentice Hall.

Burnell, B. (1999), "Occupational Segregation" in Janice Peterson and Margaret Lewis (ed.s) *The Elgar Companion to Feminist Economics*, 578-583. Gloschire and Massachusettes: Edward Elgar.

Directorate General on the Status and Problems of Women (DGSPW) (2000), *Kadın İstihdamı için Yeni Perspektifler ve Kadın İşgücüne Muhtemel Talep (New Perspectives on Women's Employment and Possible Demand for Female Labor)*. Ankara: DGSPW.

Figart, D. (1999), "Wage Gap" in Janice Peterson and Margaret Lewis (ed.s) *The Elgar Companion to Feminist Economics*, 746-749. Gloschire and Massachusettes: Edward Elgar.

Günlük-Şenesen, G. and Özar, Ş. (2001), "Gender-based Occupational Segregation in the Turkish Banking Sector" in Mine Çınar (ed.) *The Economics of Women and Work in the Middle East and North Africa*, 247-267. Amsterdam: Elsevier Science.

Kasnakoğlu, Z. and Dayıoğlu, M. (1997), Kentsel Kesimde Kadın ve Erkeklerin İşgücüne katılımları ve Kazanç Farklılıkları (Women's Labor Force Participation and Earnings Differentials between Genders in Turkey), *METU Studies*, Vol. 24, No:3: 329-361.

Mincer, J. (1974), *Schooling, Experience and Earning,* Newyork: Columbia University Press.

Oaxaca, R. (1973), Male Female Wage Differentials in Urban Labor Markets", *International Economic Review*, 14: 3, 693-709.

State Institute for Statistics (SIS) (1996), *1990'lı Yıllarda Türkiye'de Kadın (Women in Turkey of the 1990's)*. Ankara: SIS.

State Planning Institute (SPI) (2000), *Çalışma Hayatı, Gelir, Yoksulluk ve Kadın: Sekizinci Beş Yıllık Kalkınma Planı, Özel İhtisas Komisyonu Raporu (Work life, Income, Poverty and Women: (th Development Plan, Report of the Special Expertise Commission).* Ankara: SPI.

Tansel, A. (1999), Public – Private Employment Choice, Wage Differentials and Gender in Turkey, *Working paper no: 9913*, Economics Research Forum.

TÜSİAD (2000), *Kadın – Erkek Eşitliğine doğru Yürüyüş (The Walk towards the Equality of Women and Men)*. İstanbul: TÜSİAD.

Table 1: Wage Regressions for Men, Women and Mixed Sample

	Mixed		Men		Women	
Variable	**Simple**	**Expanded**	**Simple**	**Expanded**	**Simple**	**Expanded**
Constant	8.038*	7.790*	8.138*	7.807*	8.196*	7.965*
	(0.013)	(0.020)	(0.015)	(0.022)	(0.027)	(0.057)
Primary	0.094*	0.053*	0.103*	0.054*	0.028	0.007
	(0.009)	(0.008)	(0.010)	(0.008)	(0.020)	(0.018)
Regular High school	0.336*	0.191*	0.353*	0.195*	0.247*	0.140*
	(0.010)	(0.009)	(0.012)	(0.010)	(0.022)	(0.021)
Technical High school	0.606*	0.295*	0.634*	0.296*	0.359*	0.195*
	(0.011)	(0.010)	(0.012)	(0.011)	(0.030)	(0.028)
College (University)	0.791*	0.534*	0.786*	0.521*	0.815*	0.596*
	(0.012)	(0.011)	(0.013)	(0.012)	(0.025)	(0.027)
Experience	0.035*	0.023*	0.041*	0.027*	0.023*	0.018*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Experience^2	-0.0008*	-0.0004*	-0.0009*	-0.0005*	-0.0005*	-0.0004*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Job tenure	0.055*	0.027*	0.055*	0.025*	0.053*	0.031*
	((0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.001)
Male	0.160*	0.085*	-	-	-	-
	(0.006)	(0.005)				
Scientific, Technical and professional		0.135*		0.145*		0.097*
		(0.010)		(0.011)		(0.028)
Other professional		0.044*		0.047**		-0.021
		(0.017)		(0.020)		(0.032)
Administrative, Executive, Managerial		0.307*		0.320*		0.265*
		(0.013)		(0.014)		(0.036)
Clerical		-0.039*		-0.049*		0.023
		(0.008)		(0.009)		(0.020)
Commerce, sales		0.182*		0.195*		0.112*
		(0.013)		(0.014)		(0.034)
Farming, Forestry and Fishing		-0.041*		-0.044		0.032
		(0.039)		(0.040)		(0.394)
Production Workers (Metal, textiles, food, tobacco, etc.)		0.074*		0.084*		0.041**
		(0.006)		(0.007)		(0.018)
Production Workers (Furniture, stone, leater, electronics, etc.)		0.063		0.069*		0.053**
		(0.007)		(0.007)		(0.022)
Production Workers (Other)		0.064*		0.077*		-0.047**
		(0.007)		(0.008)		(0.022)
Collective labor agreement		0.343*		0.362*		0.237*
		(0.004)		(0.005)		(0.010)
Sector		-0.301*		-0.301*		-0.263*
		(0.005)		(0.005)		(0.017)
Social security		0.334*		0.354*		0.238*
		(0.013)		(0.015)		(0.022)
Medium firms		0.113*		0.108*		0.108*
		(0.009)		(0.009)		(0.028)
Large firms		0.316*		0.325*		0.247*
		(0.009)		(0.010)		(0.028)
Industry Dummies		(11)		(11)		(11)
Region Dummies	(6)	(6)	(6)	(6)	(6)	(6)
Adjusted R^2	0.450	0.629	0.435	0.631	0.435	0.551
N	72983	72982	62802	62801	10181	10181
Residual standard deviation	0.511	0.420	0.520	0.420	0.441	0.393

Note: Dependent variable is the natural log of monthly salary. Standart errors are reported in paranthesis. * and ** show significant coefficients at 1 % and 5 % significance level respectively.

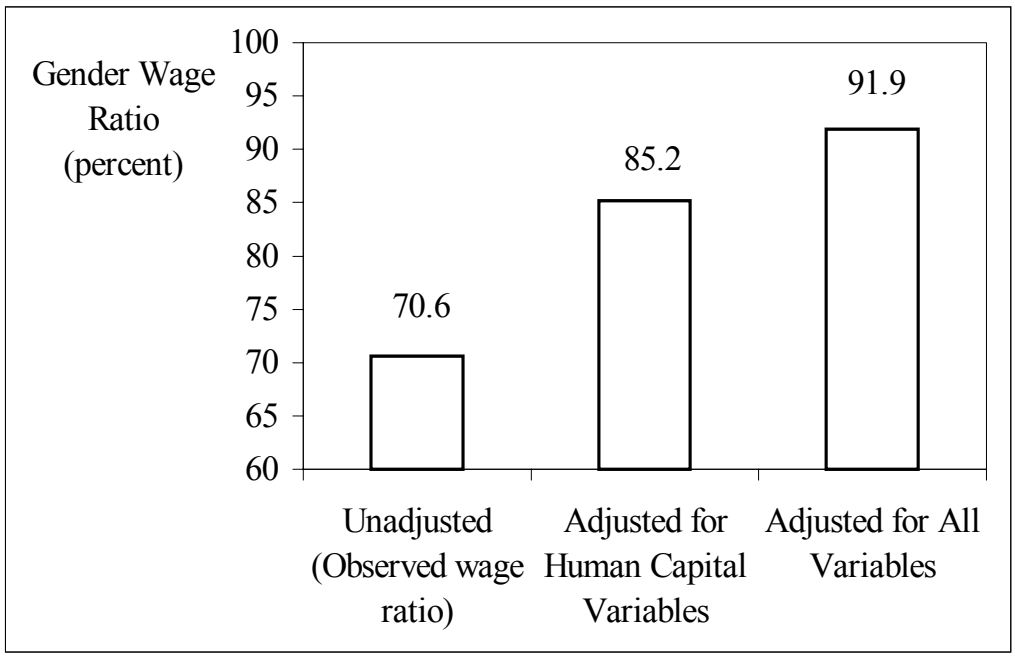

Figure 1: Unadjusted and Adjusted Wage Ratios, 1994

Table 2: The Results of Decomposition with respect to Simple Model

Characteristics	**Differences in Human Capital**	**Discrimination**	**Total Difference**
Education	-0.013	0.076	0.063
Experience	0.225	0.157	0.382
Region	-0.009	-0.029	-0.038
Sub Total	0.203	0.204	0.407
Constant Difference		-0.058	-0.058
Total Difference	0.203 (57 %)	0.146 (43 %)	0.349 (100 %)

Table 3: The Results of Decomposition with respect to Expanded Model

Characteristics	**Differences in Human Capital, Occupational and Industrial Affiliation and Institutional Characteristics**	**Discrimination**	**Total Difference**
Education	-0.012	0.037	0.025
Experience	0.132	0.071	0.203
Region	-0.017	-0.068	-0.085
Industry	0.061	-0.024	0.037
Occupation	0.011	0.024	0.035
Institutional	0.105	0.184	0.289
Collective Labor Agreement	*(0.058)*	*(0.055)*	*(0.113)*
Sector	*(0.051)*	*(-0.032)*	*(0.019)*
Social Security	*(0.011)*	*(0.001)*	*(0.012)*
Medium Firms	*(0.004)*	*(0.000)*	*(0.004)*
Large Firms	*(-0.020)*	*(0.050)*	*(0.030)*
Sub Total	0.280	0.224	0.504
Constant		-0.158	-0.158
Total Difference	0.280 (80 %)	0.066 (20 %)	0.346 (100 %)

Table 4: Occupational Distribution of Men and Women

Occupation	Men (%)	Women (%)	$\lvert m_i - f_i \rvert$
Scientific and Technical Professionals	4.7	3.9	0.8
Other Professionals	0.9	2.7	1.8
Administrative, executive, manegerial workers	2.6	1.9	0.7
Clerical Workers	8.4	19.0	10.6
Commerce & sales workers	1.8	1.9	0.1
Service workers	8.2	6.4	1.8
Farming, forestry and fishing	0.2	0	0.2
Production workers (metal, textiles, tobacco, etc)	32.4	47.5	15.1
Production workers (furniture, stone, electronics, etc.)	25.3	9.0	16.3
Production workers (other production)	15.5	7.6	7.8
Total	*100.0*	*99.9*	*55.2*
Occupational Segregation Index			***27.6***

Table 5: Industrial Distribution of Men and Women

Industry	Men (%)	Women (%)	$\lvert m_i - f_i \rvert$
Mining and quarring	8.9	1.3	7.6
Manufacturing Food	1.5	16.8	1.8
Manufacturing Textiles	14.1	44.6	30.5
Manufacturing Foresty	4.8	2.7	2.1
Manufacturing Paper	4.5	3.6	0.9
Manufacturing Chemicals, petrol	8.4	8.0	0.4
Manufacturing Stone&earthware	8.0	3.5	4.5
Manufacturing Main metal	6.8	1.7	5.1
Manufacturing Metal goods, mach.	16.3	11.3	5.0
Manufacturing Other Goods	0.7	2.4	1.7
Electricity, gas, hot water	6.4	2.4	4.0
Water collection, purification	6.1	1.8	4.3
Total	*100.0*	*100.1*	67.9
Industrial Segregation Index			**33.95**

Appendix: Descriptive Statistics for Men, Women and Mixed Sample

Variable	Mixed	Men	Women
Average monthly salary (thousand TL)	11633.0	12175.9	8284.3
Average ln of monthly salary	9.1141	9.1627	8.8145
Experience (year)	17.66	18.40	13.11
Job tenure (year)	6.88	7.24	4.69
Male	0.86	-	-
Level of Education			
Illiterate	4.8	4.6	5.8
Primary	64.3	66.0	56.0
Regular High school	16.0	14.0	24.0
Technical High school	8.0	8.6	4.1
College (University)	7.4	7.1	9.2
Occupation			
Scientific, Technical and professional	4.6	4.7	3.9
Other professional	1.2	0.9	2.7
Administrative, Executive, Managerial	2.5	2.6	1.9
Clerical	9.9	8.4	19.0
Commerce, sales	1.8	1.8	1.9
Service workers	7.9	8.2	6.4
Farming, Forestry and Fishing	0.2	0.2	0.0
Production (Metal, textiles, food, tobacco, etc.)	35.0	32.4	47.5
Production (Furniture, stone, leater, elect. etc.)	23.0	25.3	9.0
Production Workers (Other)	14.0	15.5	7.7
Institutional Characteristics			
Collective labor agreement	58.0	60.0	44.0
Private	69.0	67.0	84.0
Social security	98.0	99.0	96.0
Medium firms	37.0	38.0	34.0
Large firms	59.0	58.0	64.0

Occupational Categories:

Scientific and Technical Professional: Physicians, chemists, architects, engineers, pilots, biological and life scientists, doctors, dentists, pharmacists, statistician, mathematicians, operations and systems researchers and analysts, economists.

Other Professional: accountants, lawyers, professors, assistants, teachers, editors and reporters, sculptors, painters, artists, photographer, sportsman.

Administrative, Executive, Managerial

Clerical: bureaucrats, secretaries, stenographers, typists, postman, conductors, plant and systems operators,

Commerce, sales workers

Service: cook, director of hotel, restaurant, cinema, babarber, barman, maidservant, polices, security workers, etc.

Farming, Forestry and Fishing

Production Workers (metal, textiles, food, tobacco): metal workers, wood workers, food and drink workers, tobacco workers, tailors.

Production Workers (furniture, stone, leather, electronics): leather and shoe workers, cabinetmakers, stone

Production Workers (other): plastic and rubber workers, papper and cardboard covering workers, dyer, master builder, etc.