Public-Private Employment Choice, Wage Differentials and Gender in Turkey

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ABSTRACT

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The main objective of this paper is to examine the factors which explain the employment choice and the wage differentials in the public administration, state owned enterprises and the formal private wage sector in Turkey. Selectivity corrected wage equations are estimated for each sector for men and women separately. Oaxaca-Blinder decomposition of the wage differentials between sectors by gender and between men and women by sector are carried out. Results indicate that when controlled for observed characteristics and sample selection, for men, public administration wages are higher than private sector wages except at the university level where the wages are at par. State owned enterprise wages for men are higher than private sector wages. Similar results are obtained for women. Further, while wages of men and women are at parity in the public administration, there is a large gender wage-gap in the private sector in favor of men. Private returns to schooling are found to be lower in the noncompetitive public rather than in the competitive private sector.

JEL Classification: J31, J45, J16

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1. Introduction

Public sector labor markets have attracted a great deal of attention from economists recently. This interest results from the fact that in most economies public sector labor markets are large and their operation is different from that of the private sector labor markets. Several studies addressed public-private wage differentials in developed (Dustman and van Soest 1998; Lassibille 1998; Mueller 1998) and developing countries (Terrell 1993; Assaad 1997; Nielsen and Rosholm 2001) and the transition economies (Adamchik and Bedi 2000; Falaris 2004). They try to find out if the public sector labor markets are efficient. The issue is believed to be particularly important in developing countries where public sector usually comprises a major part of the wage employment. Therefore, it could influence the wage setting and other employment practices in the rest of the labor market. These considerations necessitate separate analysis of the public sector labor markets.

This study considers the public-private wage differential in Turkey. There are several considerations which make this examination in Turkey important. These considerations are not unique to Turkey but are relevant for other developing countries also. First of all, previous evidence on public-private wage differential in Turkey in based on examining average wages and their rates of growth ignoring worker characteristics and the choice aspect of sector selection. This study uses individual level data to explain the employment sector selection and the wage differentials in the public and private sectors. Second, public sector constitutes a major part of the wage employment in Turkey. Thus, an understanding of the public sector labor market operation contributes to an understanding of the aggregate labor market outcomes. Third, the wage bill constitutes the largest item in public sector spending in Turkey. This was an important concern of the governments due to recent public sector fiscal

problems and the associated budgetary constraints. As a result public sector employment and compensation came under close scrutiny especially after the economic crisis and the structural adjustment programs of January 24, 1980. Reducing the government wage bill was viewed as a way of reducing the budget deficits. Therefore, it is of interest to study whether or not public sector wages are above or below the comparable private sector wages which is assumed to be competitive. Fourth, privatization of the State Owned Enterprises (SOEs) gained momentum in the late 1980s in Turkey. Since then privatized or reformed SOEs dismissed a number of workers (Tansel 1998). An important impediment in implementing the SOE reform has been the lack of dependable information on the gap between public and private sector compensation. Thus, such information will provide a guide to the compensation packages for the dismissed workers from the reformed or privatized firms. For all these reasons analysis in this paper provides valuable information on public-private wage gap in Turkey which is a developing country.

This study examines how individuals are selected into employment in public administration, SOEs and covered private sector and the wage determination in these sectors in Turkey. Individual level data from the 1994 Household Expenditure Survey are used to assess the sectoral differentials for men and women separately. I distinguish between non-participation, public administration work, SOE work, covered private sector work and other employment. Accordingly, five-way multinomial logit model is estimated for sector selection. Mincerian, sectoral wage equations are estimated taking sector selection into account. Oaxaca-Blinder decomposition of the wage differentials between sectors by gender and between men and women by sector are carried out. The central questions addressed are as follows. Do the relationships between wages and wage determining factors differ by sector of work? Do public sector employees earn a premium? Are women discriminated against in the

public sector? The commonly held beliefs are negative answers to these querries. The results indicate that when controlled for observed characteristics and sample selection, for men, public administration wages are higher than private sector wages except at the university level where the wages are at par. SOE wages are higher than private sector wages. The results are similar for women. Further, while there is parity in wages between sexes in public administration, there is a large gender gap in wages in the private sector in favor of men. Lower private returns to schooling are found in the noncompetitive public than in the competitive private sector.

This paper is organized as follows. A brief discussion of theoretical considerations appears in Section 2. An overview of employment and wage setting practices in public and private sectors in Turkey are provided in Section 3. The conceptual framework and the empirical specification of the sectoral choice and wage equations are described in Section 4. Section 5 introduces the data used in this study. Estimation results are presented in Section 6. Section 7 provides policy implications of the results. Conclusions and suggestions for future research appear in Section 8.

2. Theoretical Consideration and Previous Research

Public sector labor markets clearly differ from the private sector in terms of the parties involved in decision making, the mechanisms which can be used to control the decision makers and the nature of output. Owners of private sector firms are guided by the market mechanism and the profit constraint while politicians and bureaucrats as public sector decision makers are guided and monitored by the general public or voters. Public sector employees are an important constituency of the political parties and they have direct interest

in government wage setting policies. Voter maximization models assume that government produces votes which keeps the government in power and enter the labor demand and wage equations. Reder (1975) and Borjas (1980) use vote maximization to explain public sector employment and wages. In the budget maximization model bureaucrat is interested in maximizing his or her budget (Niskanen 1975). The operation of the public and private sector labor markets are demonstrated graphically by Mazumdar (1989) and Lindauer (1991). According to the simple presentation by Mazumdar, profit maximizing private sector aims to attain a point on the demand curve for labor in order to determine the wage rates and employment levels. Public sector operates within the budget constraint that determine its total wage bill. This defines various combinations of wages and employment levels. Thus, theoretically, public sector wages may be above, below or equal to the private sector levels. A formal theoretical model of why a public-private wage differential exists is given by Holmlund (1993). He developed a model of wage differential where there are trade unions which bargain over wages with a utilitarian government. The efficiency goal may be revealed by the choice of wages and employment to minimize the cost of production of public sector output. However, employment and distributional goals of the government may necessitate expansion of public employment beyond efficient levels. Gunderson (1979) points out that the trade unions may take advantage of the relatively inelastic labor demand in the public sector to obtain higher wages. Moore and Raisan (1991) propose the theory of compensating differentials as the reason for the public-private wage differential.

3. Features of Public versus Private Sector Employment in Turkey

Public sector in Turkey comprises of public administration and SOEs. In Turkey, in 1996, the total public employment was 11.6 percent of total employment, 21.3 percent of non-

agricultural employment and 27.6 percent of the wage-earners (Tansel 2001a). The relative size of the public sector in Turkey is larger than in Haiti but smaller than in Egypt. In Haiti, in 1987 public sector accounted 7 percent of non-agricultural employment and 11 percent of the wage-earners (Terrell 1993) while in Egypt, in 1995, 35 percent of total employment was in the public sector (Assaad 1997).

In the 1980s reducing the government wage bill was an immediate concern of the governments. This was achieved by allowing salaries to be eroded by inflation while maintaining the level of public employment. By 1988 real wages were half of what they were in 1978 (Bulutay 1995). In response to wage erosion, moonlighting by public sector workers increased during this period (Tansel 1996). During the early 1990s real wages increased and caught-up with the pre-1980 levels. Another crisis culminated in April of 1994 and a stabilization program was implemented. The year 1994 was a year of austerity. Public administration real wages declined by 22 percent; SOE real wages did not change; real wages of the large establishments in the private sector fell by 18 percent (State Planning Organization 1999).

Employment and wage setting processes between the public administration, SOEs and the private sector differ from each other. Public administration and SOE wages are not necessarily set to equal marginal productivity as it is in the private sector. In the public administration, wages are generated by a non-market process. There is a system of base salary for each education level which are incremented annually according to seniority. The normal hours of work is 40 hours per week. A recent law granted the public administration employees the right to organize trade unions. However, they are not allowed to collectively bargain or strike. SOE workers are subject to the Labor Law as are the private sector

employees. They have open ended contracts which could be canceled with a notice period and severance payment. The normal hours of work is 45 hours per week. SOE wages are determined by a process of collective bargaining as they have almost 100 percent unionization rates. The unionization in the private sector is much less prevalent than in the SOEs. In this study, the covered private sector employees are defined as those who are covered by the Social Insurance Organization in terms of retirement and health benefits. The retirement and health benefits of the SOE workers are also provided by the Social Insurance Organization. I chose covered private sector wage earners as the comparison group in order to maintain comparability in the nonpecuniary aspects of the public and private sector jobs.

4. The Model

The wage equations are specified according to the traditional human capital framework (Becker 1975; Mincer 1958, 1974). Log wages are explained by human capital characteristics and locational factors indicating labor market and cost of living differences, as follows:

$$\ln W_j = \beta_{oj} + \beta_j X_j + U_j$$

where W denotes wages, X is a vector of characteristics of workers, β is a vector of unknown parameters with β_o as the intercept term, and U is the random disturbance term; j stands for public administration, SOE or covered private sector.

The distribution of workers among these sectors is not random. In estimating the wage equations, the selection into different sectors for which we observe wages must be taken into account. Potential biases could result from ignoring sample selection (Heckman 1974). To take this into account, I assume that, individuals face five mutually exclusive choices: not

working (j=0), public administration employment (j=1), SOE employment (j=2), covered private sector wage employment (j=3) or other employment (j=4). The sectoral choice depends on the perceived net differentials in the wage and non-wage compensation in each of these sectors. Worker's tastes and preferences as well as human capital and other characteristics will determine the sectoral choice. I assume a conditional multinomial logit model for the probability that the individual chooses alternative j as follows.

$$P_j = \exp(Z\alpha_j) / (1 + \sum_{j=1}^{4} \exp(Z\alpha_j))$$

where Z is a vector of explanatory variables affecting sectoral choice, α_j is a vector of unknown parameters of the alternative j. I adopt the two-step estimation method developed by Lee (1983) and Trost and Lee (1984). In the first stage, I estimate the sectoral choice probabilities by maximum likelihood logit method and construct the selection term for the alternative j as follows:

$$\lambda_j = \phi(H_j) / \Phi(H_j) \quad \text{where} \quad H_j = \Phi^{-1}(P_j)$$

ϕ is the standard normal density function and Φ is the standard normal distribution function. In the second stage, the estimated λ_j is included among the explanatory variables of the wage equations. The implied wage equations are then estimated by OLS providing consistent estimates of the parameters.

Empirical Specification:

The explanatory variables that are included in both the multinomial logit and the wage equations are as follows. Education is represented by the dummy variables for different levels of diplomas achieved in order to capture nonlinear and differential returns associated with different levels of education. Since it is necessary to be at least primary

school graduate for a job in the public administration, in the multinomial logit equations (which are jointly estimated) and the public administration wage equation, the reference category is the group of illiterates, nongraduates and the primary school graduates. In the wage equations of the remaining alternatives the reference category includes illiterate and literate but nongraduate people. Including the least educated in the analysis may create biases. Therefore, the analysis was redone by excluding those who can not qualify for the public sector. The qualitative results were not altered by this respecification. The experience variable is computed as age minus the number of years of schooling minus six, the age of entry into school (Mincer 1974)[1]. A quadratic term in experience is also included. A dummy variable indicates whether the individual resides in an urban area which is defined as a location with over twenty thousand population. Further, dummy variables for regions of residence are included to control for differentials in cost of living and the labor market opportunities. Marmara is the reference region.

In order to achieve identification, I introduce variables into the multinominal logit equation that influence, labor force participation and the sector choice but may be excluded from the wage equations. I include unearned income of the individual, unearned income of the other household members and the amount of land owned to explain choices involving labor force participation as suggested by Schultz (1990). They are expected to reduce the probability of participation by raising the shadow value of a person's time in nonmarket activities and in self employment. The survey reports only the amount of land owned by the household. Therefore, I use the amount of per capita land owned by an individual. Land increases the potential non-labor income of the individual affecting the kind of the work. Three other variables are also included in the multinominal logit equation for identification. They are the dummy variables that indicate the presence of other public administration

workers, other SOE workers and other covered private sector workers in the household. These variables may influence public-private sector choice but not wages. The presence of such household members provides labor market information and should be positively associated with participation and sector choice. For instance, presence of other public administration workers in the household may increase the probability of employment of an individual in the public administration sector. Similarly for the other variables and sectors. Thus, identification was achieved by the use of above mentioned variables since the choices involve nonparticipation and participation into various sectors. Some studies include marital status and household composition in the multinominal logit equation. However, recent literature on household economics indicates that they should be treated as endogenous variables. Therefore, they are not included in this study.

5. Data

I use individual level sample data which come from the 1994 Household Expenditure Survey conducted by the State Institute of Statistics of Turkey[2]. I restricted the sample to individuals 15 to 65 years of age. Wages are the sum of cash earnings, bonuses and the value of income in kind[3]. Information on wages was collected both for the month of the interview of 1994 and for the entire previous year. The survey also asked the usual hours of work per week but not the number of weeks worked during a month or during a year. I obtained the hourly wage by dividing the reported monthly wage by the imputed monthly hours of work. The monthly hours of work is imputed by multiplying the usual hours of work per week by 4.3. Assuming that number of weeks worked during a year is 52, the hourly wage is imputed using annual wage. The analysis of this paper is carried out twice; once using hourly wage based on monthly wage and the second time using hourly wage based on annual wage. The results were

qualitatively similar. Therefore, assuming that there may be less errors of measurement in the monthly wage, in the ensuing analysis, I preferred to present the results using hourly wage based on monthly wage[4].

The main characteristics of the raw data are shown in the Appendix Table. The public sector wages are markedly higher than those in the private sector. But, schooling achievements are also higher in the public sector than in the private sector. Men's hourly wages in the SOEs are higher than those in the public administration. However a simple difference in means test shows that public administration and SOE wages are not significantly different from private sector wages for both men and women at 5 percent level of significance. The gender gap in average wages is narrow in public administration (0.0029 log points) but large in the private sector (0.2728 log points). It is noteworthy that standard deviation of log average wage is lower in public than in the private sector. Thus, the distribution of wages in the public administration and the SOEs are less spread compared to the private sector wage distribution. The public sector workers are better educated, somewhat older and have more experience than the private sector workers. Women are better educated than men in all sectors. The most educated workers are women in the public administration. Nearly 94 percent of the female and 70 percent of the male public administration workers hold a high school diploma or above, while the same percentages in the SOE sector are 58 for women and 30 for men and in the covered private sector 41 for women and 23 for men. Since SOE male workers are predominantly blue collar workers it is note worthy that about 51 percent of them have primary school diploma only. In the covered private sector about 59 percent of men have primary school diploma only compared to the public sector where 16 percent of men have primary school diploma only. Sample statistics for unearned household income for women in public administration and for men in covered private sector are

somewhat odd possibly due to a few big outliers[5]. The analysis of this paper repeated by excluding these outliers. The results were qualitatively similar to the ones presented here. With regards to the regional distribution of workers, it can be observed that the percentage of female workers in all sectors, are about the same as men's or larger than men's in all regions except in the East and Southeast Anatolia where the percentages of female workers are about half as those of male workers. This can be attributed to the prevailing social norms in the latter two regions adverse to women's market employment.

6. Estimation Results

      Multinomial Logit Estimates:

      Multinomial logit estimates of sector choice for men and women are shown in Tables 1 and 2 respectively. The tables give the marginal effects of each variable on the probability of joining a particular sector calculated at the mean values of the variables and the associated asymptotic t-ratios. The null hypothesis that the slope coefficients are jointly equal to zero can be rejected at the one percent significance level for both men and women. The category of "other employment" includes all other employed individuals who are not included in the previous categories. These include self-employed, wage-earners in the informal sector, employers and the unpaid family workers. Experience significantly increases the probability of employment in all of the four sectors at a decreasing rate as compared to nonparticipation. All levels of educational attainment are statistically significant and increase the probability of joining public administration, SOEs and the covered private sector but reduce the probability of participation in the other employment category.The higher the educational level, the higher its contribution to the participation in the public administration sector. Terrell (1993) also

found that higher levels of education are associated with greater probability of public employment.

(Tables 1 and 2)

Income effects on participation are measured by the unearned income of the individual and of the other household members. For men, both of these terms are negative and statistically significant except for the unearned income for the SOE participation and the household unearned income for the other employment. For women, unearned income terms are all statistically insignificant while household unearned income terms are all negative but significant only for the SOEs and the other employment. The insignificance of the unearned income terms in the multinomial logit participation equations for women are also observed in other Turkish studies[6]. The pattern of observations in the data for men and women were different. While 18 percent of men had unearned income, only four percent of women had unearned income. Conversely, only 12 percent of men had household unearned income while about 24 percent of women had household unearned income. For men, the amount of per capita land owned significantly reduces the probability of participation in all of the sectors except in the other employment category. While for women the amount of per capita land owned is insignificant in the public administration and the SOEs but significantly increases the probability of participation in the covered private sector and other employment.The positive effects of the per capita land for both men and women in the in the case of other employment are expected since this category includes self-employed in both the agricultural and the non-agricultural activities and the unpaid family workers. The positive effect of the per capita land for women in the case of covered private sector is not expected and counters the predictions of the theoretical considerations. Women in the covered private sector owned as much the amount of land as women in the other employment which was significantly larger than the land holdings of women in the public administration and the SOEs. As expected the

presence of other public administration workers in the household significantly increases the probability of participation as public administration employee for both men and women. This effect is stronger for men than for women. Similarly, the presence of other SOE workers in the household significantly increases the probability of choosing SOE employment for both men and women. Again, the effect is stronger for men than for women. Finally, the presence of other covered private sector workers in the household significantly increases the probability of working in the covered private wage sector. Again, this effect is stronger for men than for women. The presence of other wage earners in these categories would be negatively associated with other employment. The coefficient estimates are all negative and statistically significant both in the case of men and women. These results suggest that connections are an important determinant of employment in a sector. Therefore, these variables are successful at making identification possible.

As for the regional factors: For men the probabilities of working in the public administration are higher in all regions as compared to the Marmara region. The probabilities of working in the SOEs in the Aegean and Mediterranean are the same as in the Marmara while they are higher in all other regions than in Marmara. However, the probability of working in the covered private sector is lower in all regions as compared to the Marmara region except in the Aegean. The regional patterns for women in the public administration and the SOEs do not show a regularity while in the covered private sector it is similar to that of men in that the probability of working in the covered private sector is lower in all regions than in Marmara except the Aegean.

The Wage Equations:

Selectivity corrected estimates of the sectoral wage equations for men and women are given in Tables 3 and 4 respectively. All of the wage equations are over all statistically significant. However, the SOE wage equation for women has relatively poor fit possibly due to small number of observations.

(Tables 3 and 4)

Linear and quadratic terms in experience have the expected positive and negative signs respectively in all sectors. However, the quadratic term is statistically insignificant for women in the public administration. Returns to experience are lower in the public administration and in the SOEs for both men and women than in the private sector. For men, the curvature of the wage-experience profile is steeper in the SOEs and the covered private sector than in the public administration implying a lower impact for an additional year of experience in public administration than in the SOEs and the private sector. Terrell (1993) also finds steeper wage-experience profile in the private than in the public sector in Haiti. For men, wages peak at 48, 35 and 30 years of experience respectively, in the public administration, SOEs and covered private sector. For women, wages peak at 20, 28 and 24 years of experience respectively, in the public administration, SOEs and covered private sector. In all sectors for both men and women the coefficient estimates of the educational attainment terms are mostly statistically significant. The coefficient estimates for regions indicate that there are some regional wage differentials for men in public administration and the SOEs, but not for women. Private sector pays both men and women workers in the Marmara region substantially more than workers with the same qualifications in all other regions. This may be due to higher cost of living or tighter labor market in Marmara than in the other regions. Wages are higher in urban areas, than in rural areas in all sectors for men, while for women urban wages are not statisticially significantly different from rural wages in all sectors.

The coefficient estimates of the selection term for men in public administration and in SOEs are statistically insignificant while in the covered private sector it is statistically significant and positive which implies that men who select covered private sector have higher productivity than the average. Thus, unobserved characteristics that increase probability of covered private sector employment have a positive impact on wages. In case of women the selection terms for public administration and the covered private sector are statistically insignificant indicating that the covariance between the error terms in the wage equation and the sectoral choice equation is weak. For the SOEs the selection term is positive and statistically significant indicating that women who select SOEs have higher productivity than average.

Table 5 shows the expected wages for different levels of experience and educational attainment. For men, at experience levels above twenty years highest wages are achieved at the SOEs. At different levels of education highest wages are achieved again at the SOE sector[7]. Comparing public administration and the private sector, we observe that for men public administration workers earn more than covered private sector workers at all levels of experience and education. However, at the university level their earnings are about the same. Public administration workers earn retirement for men at 25 and for women at 20 years of work (This law has changed recently). After earning retirement some public sector workers switch to the private sector (Tansel 2001b). I also note that for men, in the public administration after twentyfive years, in the SOEs after thirty years there are no more substantial wage gains from working more years while in the private sector there is a slight decline after thirty years. For women I make the following observations. At all levels of experience wages are higher in the public administration than in the private sector. Similarly,

wages are higher in the SOEs than in the private sector. In the private sector after twentyfive years of experience there is a declining tendency in wages. At different levels of education, public administration and SOE wages are higher than the private sector wages[8].

(Table 5)

In public administration, for an average individual there is near parity between the wages of men and women. This is expected since in the public administration wages are set by law irrespective of gender. However, at different levels of experience women's wages seem at par or higher than that of men's wages and the reverse is true at different levels of education. In the covered private sector, there is a large gender gap in wages for an average individual. At the initial levels of experience men's and women's wages are at par. However, after twenty years of experience and at all levels of education there is a large gender gap in wages. This finding suggests that women may be facing discrimination in the private sector. Assaad(1997) in Egypt and Lassibille(1998) in Spain also found that male-female wage differential is larger in the private than in the public sector.

Although both the public administration and the covered private sector workers have retirement and health benefits, it is well known that the public administration benefits are better quality than that of the SOEs and the private sector. Further, there is job security in the public administration but not in the SOEs and the private sector. Thus, not only covered private sector wages are lower than that of the public administration they are characterized by lower quality non-wage benefits and lack of job security. The different findings for public administration and the SOEs are due to the different wage setting procedures in the two sectors although both are public sectors. The wage setting is the result of the collective bargaining process in the SOEs; a non-market process in the public administration and the market mechanism in the covered private sector as explained in Section 3.[9]

Oaxaca-Blinder Decompositions:

Table 6 shows the decomposition of wage differentials between sectors for men and women which is due to Oaxaca (1973) and Blinder (1974). I decompose the total mean log wage differential between public administration and private sector and between SOE and the private sector into four components including the differentials caused by the selectivity bias (Idson and Feaster 1990) as follows:

$$lnW_j - lnW_i = (\beta_{oj} - \beta_{oi}) + 0.5 (\beta_j + \beta_i)(X_j - X_i) + 0.5 (X_j + X_i)(\beta_j - \beta_i) + (\theta_j \lambda_j - \theta_i \lambda_i) \quad (1)$$

where the variables are evaluated at their sample means; j denotes public administration or SOE and i denotes the private sector. θ's are the coefficients of the selection terms in the wage equations. Equal weights are assigned to the public and private sectors. The first component is the difference in the constant terms. This differential is often interpreted as the premium or pure rent from being in a given sector (Terrell 1993). The second component is due to the difference in endowments of the workers. The third component is due to the difference in the coefficients or due to the market returns to the endowments. The final component is due to the difference in the selection terms. The first and the third components are often referred to as the unexplained differentials. The decomposition in Table 6 indicates that the positive public-private wage differential in favor of the public administration is partly due to constant term and partly due to the higher levels of human capital endowments of public administration workers. The total unexplained differential is large and positive in case of public administration versus private sector differential for men. This differential is mostly due to the differential in constant terms and the coefficients which results from higher returns to worker characteristics in the private sector. In the case of SOE versus private wage differential for men the total unexplained differential is positive and large. It is mostly due to the differential in the constant term. The differential in the endowments indicate higher

returns to worker characteristics in the SOE sector. In the cases of public administration versus private sector differential for women and the SOE versus private sector differential for women the total unexplained differentials are positive and large and mostly due to the differentials in the constant terms. The differential in the endowments indicate higher returns to worker characteristics in the public than in the private sector. Terrell found in Haiti that the public administration workers especially SOE workers earn a sizable rent and Lindauer and Sabot (1983) suggested that the SOEs may be distributing monopoly rents in Tanzania.

(Table 6)

Table 7 shows the decomposition of male-female wage differentials by sector of work. I decompose the total mean log wage differential between male and female workers by sector into four components as shown in equation (1). The results indicate that the small gender wage differential in public administration is mostly due to the differentials in endowments in favor of women. The total unexplained male-female differential in public administration is small indicating small gender discrimination. The positive male-female wage differential in favor of men in the SOEs is mostly due to the differential in coefficients. The positive male-female wage differential in favor of men in the covered private sector is mostly due to the higher returns to characteristics of men. The total unexplained differential between male and female workers in the covered private sector is large indicating discrimination against women.

(Table 7)

Returns to Schooling:

Table 8 presents the private rates of return to schooling computed using the wage equation estimates[10]. Returns to schooling are observed to increase with level of schooling in all sectors for both men and women. There are not much gender differences in returns to schooling in all of the sectors, however there is a slight tendency for returns for women to be

higher than those for men. Small gender differences in private returns to schooling were also observed in other Turkish studies (Tansel 1994, 2001b). As for the public versus private sector differentials, the figures indicate that for men, returns in the public administration and the SOEs are lower than in the private sector. Similarly, for women returns are lower in the public administration than in the private sector[11].

(Table 8)

7. Policy Implications

This study found for both men and women public administration wages are higher than covered private sector wages. For men at the university level the public administration wages are at par with the covered private sector wages. It seems there may be no recruitment problems for the public sector except at the university level. At the university level public sector may have difficulty to retain and attract workers. Higher public sector wages may involve elements of efficiency wages in order the to counter the heavy criticism of low public administration wages of the previous periods. Higher public administration wages may have negative consequences on the fiscal position of the government. It will increase the wage bill and strain the fiscal position of the public sector. In order to establish efficiency and ease the fiscal strain government may reduce the public sector employment and pay higher wages to educated workers.

Wages in the SOEs are found to be higher than in the covered private sector for both men and women. This could provide an argument for contracting out SOE activities. There is evidence that contracting activities have recently increased in the privatized and reformed SOEs (Tansel 1998). The results further imply that the compensation packages for the

dismissed workers from the reformed or privatized SOEs needs to be generous since SOE workers are overpaid.

One of the main findings was gender based discrimination against women in the covered private sector but not in the public sector. Discrimination on the basis of gender is against the current labor law. This result indicates the need for more strict enforcement of the equal pay policy in the covered private sector.

8. Conclusion

This paper examines the factors which explain the employment sector choice and the wage differentials in the public administration, SOEs and the covered private wage sector in Turkey in 1994. Covered private sector includes only those wage earners who are covered by the social insurance program in terms of retirement and health benefits. Employment sector choice is explained with a five-way multinomial logit model with nonparticipation as the base choice. Mincerian wage equations are specified where log of the hourly wage rate is regressed on a set of education, experience and other exogenous variables. Selectivity corrected sectoral wage equations are estimated for men and women separately. Oaxaca-Blinder decompositions of the wage differentials between sectors by gender and between men and women by sector are carried out. One of the main findings is that when controlled for observed characteristics and sample selection, for men, public administration wages are higher than covered private sector wages except at the university level where there is parity between public administration and the private sector. The SOE wages are higher than covered private sector wages. SOE rents may be due to several factors such as unionization, monopoly market power in some cases or purely public sector factor. Unionization is known to be more prevalent among the

SOE workers than among the private sector workers. For women, public administration wages are higher than the private sector wages. Further, men's and women's wages are at parity in the public administration however there is a large gender gap in wages in the covered private sector except at the low levels of experience. This finding suggests that women may be facing discrimination in the private sector. As it was found in many other studies, the private returns to schooling are lower in the noncompetitive public sector than in the competitive private sector.

This paper considered the covered private sector workers. Uncovered private sector workers are known to have considerably lower wages than the covered ones[12]. Thus, a comparison of the wages of public administration workers with those of the total private sector may lead to a conclusion that public administration workers may be earning substantial premiums. Aside from wages, jobs in the public and private sectors differ in nonpecuniary aspects which may play an important role in job evaluation. A number of nonwage factors may render a public administration job preferable over an SOE or a private sector job. These factors may include more generous retirement pensions and the medical care than in the SOEs and the private sector, job security, work effort, work hours, paid holidays, sick leaves and various other fringe benefits. These nonwage aspects are difficult to quantify and further research is needed to quantify them. Moreover, evidence shows that wages in the public and the private sectors vary over time for most countries as a result of shifts in policy or the economic environment. The results do not imply that public sector employees are always overpaid. Thus, analysis of changes over time in public-private pay differentials using comparable data and similar techniques should be carried out. Estimates in this paper provide a benchmark for studying the evolution of wages during the coming decades.

Endnotes

1. The potential experience as it is defined is likely to be a reasonably good proxy for actual work experience in case of men since their labor force participation is continuous. However, it may overstate the actual work experience of women since their labor force participation is not continuous over the life cycle because of childbearing and household demands on their time.

2. The survey was administered to 26,256 households. Interviews covered 58 provinces out of the total of 76 provinces in the country. There were 281 clusters which were selected with stratified, multistage sampling. The stratification was on seven geographical regions, rural-urban settlements in each region and according to the size of its population. Further stratification was according to socioeconomic status of the settlements as developed, developing and undeveloped. Household was the sampling unit. Each household was interviewed ten times a month. A different series of households were interviewed in each month throughout 1994. Details may be found in State Institute of Statistics (1997).

3. I excluded those individuals who are secondarily employed since no information was collected on the hours of work on the second job. Therefore, hourly earnings from the second job could not be computed. Moonlighting was common among public administration workers during the pre-1989 period of eroding wages. However, there is no evidence on the prevalence of moonlighting in 1994.

4. Since the households were interviewed at different months throughout 1994 during which the annual rate of inflation was about 90 percent the wages and unearned income figures were deflated by the local monthly consumer price index (CPI). Households in 16 major cities were assigned the monthly CPIs for those cities. Households in other locations were assigned either a rural or an urban monthly CPI for one of the five regions in which they are located

according to whether they are in a rural or an urban location. The base for the CPI figures was 1987. They were obtained from the State Institute of Statistics (1994).

5. See note 4 above, about adjustment of unearned income for inflation.

6. Tansel(1994) uses 1987 Turkish data and finds that unearned income was statistically insignificant while unearned income of the other household members was statistically significant for women in the estimation of a probit equation for participation as a wage earner. Tansel(2001b) uses 1989 Turkish data and finds that the income of other household members with linear and quadratic terms were statistically insignificant for women in the probit estimate of the participation in wage employment versus self-employment.

7. Tansel(2001c) compares the earnings of a group of SOE workers before and after dismissal due to privatization. The earnings of SOE workers were much lower in the private sector than when in the SOEs.

8. Terrell (1993) finds in Haiti large wage differentials between public administration and state owned enterprises versus the private sector. Assaad (1997) finds that government wages are at par or higher than private sector wages in Egypt. Adamchick and Bedi (2000) find lower public sector wages for men and women than in the private sector in Poland. Nielsen and Rosholm (2001) find in Zambia that public sector wages are higher than that of the private sector. Christofides and Pashardes (2002) find in the Republic of Cyprus that public sector wages are higher than in the private sector.

9. Examining the quit rates is an indirect way of assessing the public versus private compensation differences. Lower quit rates in the public sector led some authors to infer existence of higher total compensation in the public sector (Long 1982).This argument may be defective for several reasons such as institutional differences between the sectors regarding firing procedures. In Turkey, the quit rate was strikingly low among the SOE workers as compared with private sector workers over the 1992-1995 period (Organization for Economic

Cooperation and Development 1996). Once the initial barrier to entry is overcome, very few workers leave before the retirement age. This indirectly attests the desirability of the SOE work.

10. Rates of return to schooling are calculated as $(\beta_i - \beta_{i-1})/n_i$ where β_i is the coefficient of the ith level of schooling in the wage equation and n_i is the number of years of schooling at the ith level.

11. Psacharopoulos (1994) reported lower returns in the noncompetitive public sector than in the competitive private sector for a group of countries. Assaad (1997) found higher returns in public than in private sector at the primary and secondary levels of schooling but lower returns in public than in private at the university and post-graduate levels in Egypt. Terrell (1993) in Haiti, Kanellepoulos (1997) in Greece and Lassibille (1998) in Spain also found lower returns to schooling in public than in the private sector.

12. Tansel (2000) finds that uncovered wage earners have much lower wages than the covered wage earners.

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Table 1: Maximum Likelihood Multinomial Logit Estimates of Employment Sector Choice of Men,

Variable	Public Administration		State Owned Enterprises		Covered Private Sector Wage Earners		Other Employment	
	Marginal Effect	t-Ratio[a]	Marginal Effect	t-Ratio[a]	Marginal Effect	t-Ratio[a]	Marginal Effect	t-Ratio[a]
Experience	0.0082	26.6	0.0125	28.9	0.0123	27.7	0.0175	21.5
Experience Square (x10^{-3})	-0.1471	25.7	-0.2243	28.1	-0.2861	31.5	-0.249	17.2
Educational Attainment:[b]								
Middle School	0.0438	17.2	0.0239	8.2	-0.0062	1.4	-0.1917	20.3
High School	0.072	22.8	0.0436	14.2	0.014	3.2	-0.1349	13.4
Voc. High School	0.0789	18.1	0.0643	11.1	0.056	6.3	-0.1809	7.1
University	0.0994	22.7	0.0463	10	0.0334	4.8	-0.103	5.6
Unearned Income (x10^{-7})	-0.503	3.1	-0.211	0.9	-1.54	2.8	-5.16	5.3
Unearned HH Income(x10^{-7})	-2.53	4.4	-2.58	3	-1.42	2.1	0.652	0.5
Per Capita Land	-0.0016	6.4	-0.0033	7.1	-0.0015	3.7	0.007	12.3
Other Public [b]	0.1023	15.2	-0.0655	1.7	-0.0476	1.2	-0.2996	4
Other SOE [b]	-0.0058	0.3	0.159	13	-0.0601	1.1	-0.408	4.2
Other Private [b]	-0.0186	2	-0.0164	1.5	0.1904	26.4	-0.2308	8.6
Urban Location [b]	-0.0076	4.5	0.0084	3.3	0.0591	14.5	-0.1991	28.1
Regions: [b]								
Aegean	0.0097	3.2	-0.0021	0.5	-0.0025	0.5	0.0358	2.9
Mediterranean	0.0105	3.8	-0.0024	0.7	-0.056	11.4	0.0519	4.6
Central Anatolia	0.0234	8.7	0.0128	3.7	-0.0349	7.7	-0.0493	4.4
Black Sea	0.017	6.3	0.025	7.4	-0.0629	12.2	0.0226	2
East Anatolia	0.0358	12.9	0.0237	6.8	-0.1043	17	0.032	2.8
South East Anatolia	0.013	4.3	0.0108	3	-0.1007	16.7	0.0457	4
Constant	-0.1645	25.3	-0.2148	25.5	-0.1594	20	0.2843	16.5
Log-Likelihood	-34,376							
Chi2(120)	11,999							
PseudoR2	0.2388							
Sample Size	33,641							

Source: Author's calculations based on the 1994 Household Expenditure Survey.

Notes: a: The absolute value of the asymptotic t-ratios.

b: Dummy variables

The equations also included dummy variables for different months of the year in which the interviews were implemented. They are not reported for brevity. Other Public, Other SOE and Other Private are dummy variables which indicate presence of other household members working in these sectors.

Table 2: Maximum Likelihood Multinomial Logit Estimates of Employment Sector Choice of Women, Turkey, 1994

Variable	Public Administration		State Owned Enterprises		Covered Private Sector Wage Earners		Other Employment	
	Marginal Effect	t-Ratio[a]	Marginal Effect	t-Ratio[a]	Marginal Effect	t-Ratio[a]	Marginal Effect	t-Ratio[a]
Experience($\times 10^{-3}$)	0.1037	4.4	0.4863	7.7	0.3077	4.1	3.4477	7.3
Experience Square ($\times 10^{-6}$)	-2.58	4.7	-8.62	6.9	-13.10	7.6	-52.70	6.7
Educational Attainment:								
Middle School	0.0009	4.5	0.0050	6.5	0.0024	2.6	-0.0964	10.6
High School	0.0015	4.4	0.0094	9.8	0.0093	9.2	-0.0468	5.0
Voc. High School	0.0018	4.3	0.0085	6.6	0.0108	6.3	-0.0979	3.3
University	0.0022	4.3	0.0124	9.1	0.0164	9.5	0.1029	5.4
Unearned Income ($\times 10^{-10}$)	-1.2300	0.3	-3.23	0.1	41.80	0.6	-675.00	-0.5
Unearned HH Income($\times 10^{-8}$)	-0.0634	0.8	-1.80	2.3	-0.5040	0.8	-105.0	9.3
Per Capita Land (($\times 10^{-4}$)	-0.0118	0.3	-0.7390	1.0	0.5970	4.1	17.155	9.0
Other Public	0.0013	3.9	0.0015	0.8	-0.0006	0.2	-0.204	2.9
Other SOE	-0.0158	na	0.0131	8.8	-0.0029	0.5	-0.213	3.0
Other Private($\times 10^{-3}$)	-0.0714	0.5	-2.1988	1.1	15.5822	11.4	-27.327	1.9
Urban Location ($\times 10^{-3}$)	-0.0994	1.7	-0.2897	0.5	2.1636	2.9	-283.170	62.6
Regions: ($\times 10^{-3}$)								
Aegean	0.1220	1.9	-0.0391	0.1	2.1503	2.9	47.346	6.8
Mediterranean	-0.0076	0.1	0.6637	1.0	-2.7697	3.3	11.359	1.7
Central Anatolia	0.0134	0.2	-1.2460	1.7	-5.8749	5.8	-33.951	5.1
Black Sea	0.2376	3.0	1.3596	2.1	-4.6833	4.8	83.043	13.0
East Anatolia	0.0943	1.4	-0.9470	1.2	-12.7237	7.7	19.111	2.9
South East Anatolia	0.0602	0.8	-2.2574	2.2	-14.4420	7.7	-73.144	10.4
Constant	-0.0028	4.3	-0.0212	9.3	-0.0242	10.5	-0.059	6.1
Log-Likelihood	-19,425							
Chi2(120)	18,027							
PseudoR2	0.3170							
Sample Size	38.135							

Source: See Table 1.
Notes: See Table 1.

Table 3: Selectivity Corrected Estimates of Wage Equations of Men, Turkey, 1994						
	Public Administration		State Owned Enterprises		Covered, Private Wage Earners	
Variables	Coefficient	t-Ratio[a]	Coefficient	t-Ratio[a]	Coefficient	t-Ratio[a]
Experience	0.0191	4.24	0.0763	11.92	0.0958	26.61
Experience Square	-0.0002	2.12	-0.0011	9.21	-0.0016	20.67
Educational Attainment:						
Primary School	-	-	0.0851	1.25	0.1208	2.21
Middle School	0.0312	0.83	0.1927	2.54	0.3087	4.96
High School	0.2912	7.21	0.4467	5.82	0.7083	11.39
Voc. High School	0.4376	7.96	0.6109	6.41	0.7944	9.94
University	0.8114	16.49	0.7893	9.1	1.4700	20.2
Urban Location	0.1369	5.76	0.2769	8.45	0.1639	5
Regions:						
Aegean	0.0806	1.87	-0.1153	-2.1	-0.2505	7.89
Mediterranean	0.0102	0.25	-0.1140	2.29	-0.2467	6.47
Central Anatolia	0.0815	2.16	0.0158	0.34	-0.2153	6.37
Black Sea	-0.0224	0.57	-0.0427	0.95	-0.3431	8.35
East Anatolia	0.1165	3.07	0.0867	1.89	-0.2441	4.66
Southeast Anatolia	0.0411	0.92	-0.0124	-0.25	-0.3255	6.45
Selection Term	0.0155	0.69	0.0191	0.53	0.0805	3.24
Constant	6.2157	59.54	5.5272	36.25	4.8751	57.52
R-Square	0.3480		0.2072		0.3260	
F(K, N-K-1)	55.57		23.20		67.03	
Root MSE	0.4609		0.5822		0.6367	
Sample Size	2,623		2,335		3,631	

Source: Author's calculations based on the 1994 Household Expenditure Survey.

Notes: K is the number of independent variables, N is the sample size. The equations also included dummy variables for different months of the year in which the interviews were implemented. They are not reported for brevity. In the public administration the base category for educational attainment is the group of illiterates, nongraduates and primary school graduates while in the state owned enterprises and covered private sector, the base category is illiterates and literate but nongraduates. For the regions, Marmara is the base category.

a: absolute value of the asymptotic t-ratios.

Table 4: Selectivity Corrected Estimates of Wage Equations of Women, Turkey, 1994						
	Public Administration		State Owned Enterprises		Covered, Private Wage Earners	
Variables	Coefficient	t-Ratio[a]	Coefficient	t-Ratio[a]	Coefficient	t-Ratio[a]
Experience	0.0159	2.06	0.0608	5.22	0.0652	9.15
Experience Square (10^{-3})	-0.392	0.17	-1.1026	4.09	-1.3759	7.64
Educational Attainment:						
Primary School	-	-	0.0322	0.18	0.1075	0.96
Middle School	0.3289	2.54	-0.0262	0.12	0.1851	1.46
High School	0.5250	4.27	0.2915	1.43	0.5449	4.43
Voc. High School	0.6746	5.18	0.0896	0.33	0.8055	4.97
University	1.1194	8.69	0.5296	2.39	1.4328	10.63
Urban Location	0.0745	1.61	0.0200	0.18	0.0246	0.37
Regions:						
Aegean	0.0405	0.70	-0.1558	1.11	-0.2024	3.66
Mediterranean	-0.0508	0.88	-0.2055	1.65	-0.2637	3.82
Central Anatolia	-0.0525	0.93	0.0149	0.10	-0.1342	1.63
Black Sea	-0.0582	1.07	-0.0484	0.41	-0.2237	2.79
East Anatolia	0.0288	0.48	-0.1061	0.71	-0.4224	2.85
Southeast Anatolia	-0.0208	0.27	0.0565	0.29	0.4385	2.46
Selection Term	0.0209	0.91	0.0886	1.93	0.0173	0.51
Constant	6.0185	37.14	6.1055	20.51	5.2188	32.52
R-Square	0.4063		0.2321		0.3682	
F(K, N-K-1)	24.12		3.08		15.96	
Root MSE	0.4195		0.5986		0.5746	
Sample Size	907		292		739	

Source: See Table 3.
Notes : See Table 3.

Table 5
Expected Wages by Sector of Employment and Gender, Turkey, 1994[a]
(Turkish Lira per hour)

Variables	Public Administration		State Owned Enterprises[a]		Covered Private Sector	
	Men	Women	Men	Women	Men	Women
Average Individual	879.4	877.9	936	648.6	429.4	354.1
Experience:						
Five years	715.1	758.3	450.5	471.1	223.1	294.3
Ten years	775.2	818.7	606.8	587.9	320.5	367.7
Fifteen years	832.1	882.1	773	694.3	425.9	428.9
Twenty years	884.5	948.6	931.5	776.1	523.5	466.9
Twenty-five years	930.9	1018.1	1061.7	820.9	595.2	474.6
Thirty years	970.2	1090.6	1144.5	821.7	626	450.3
Thirty-five years	1001.2	1165.9	1166.9	778.4	609.1	398.8
Educational Attainment:						
Non graduate	601.5	388.2	741.4	531.4	312.2	241.7
Primary School	-	-	807.2	548.8	352.3	269.1
Middle School	620.6	539.3	899	517.7	425.2	290.8
High School	804.9	656.2	1158.9	711.3	634	416.8
Voc. High School	931.7	762	1365.7	581.3	691	540.9
University	1354.1	1188.9	1632.4	902.5	1357.9	1012.8
Sample Size	2,623	907	2,335	292	3,631	739

Source: Author's calculations based on wage equation estimates in Tables 3 and 4.

Notes: a. In the computation of the expected wages the selection terms are ignored. Therefore, they represent the expected wages in each sector for a randomly drawn individual from the population. For each category the expected wages are computed at the

Table 6
Decomposition of Public-Private Wage Differentials by Gender, Turkey, 1994

Wage Differential	Mean Log Wage Differential Between Public Administration and Covered Private Sector Workers		Mean Log Wage Differential Between State Owned Enterprises and Covered Private Sector Worker	
	Men	Women	Men	Women
Total mean Differential	0.625	0.895	0.700	0.751
Component	1.341	0.800	0.652	0.887
Attributable to:	0.406	0.593	0.172	0.148
Constant Term	−1.029	−0.485	−0.045	−0.429
Endowments	−0.092	−0.013	−0.079	0.146
Coefficients				
Selection	0.312	0.315	0.607	0.457
Total Unexplained Differential[a]				

Source: Author's calculations based on the wage equation estimates in
        Tables 3 and 4.
Notes : Each of the components are evaluated at the sample means of the
        variables.
a: Total Unexplained differential is the sum of the components attributable
   to the constant term and the coefficients.

Table 7
Decomposition of Male-Female Wage Differentials by Sector of Work, Turkey, 1994

Wage Differential	Mean Log Wage Differential Between Male and Female Workers		
	Public Administration	State Owned Enterprises	Covered Private Sector
Total Mean Differential	0.003	0.222	0.273
Components Attributable to:			
Constant Term	0.196	-0.577	-0.347
Endowments	-0.103	0.082	0.073
Coefficients	-0.093	0.865	0.466
Selection	0.002	-0.148	0.081
Total Unexplained Differential[a]	0.103	0.288	0.119

Source: See Table 6.
Notes : See Table 6.

Table 8
Private Rates of Return to Schooling by Sector of Work and Gender, Turkey, 1994 (Percent)

Schooling Attainment	Men			Women		
	Public Adm.	State Owned Enterprises	Covered Private Sector	Public Adm.	State Owned Enterprises	Covered Private Sector
Primary School	–	1.70	2.42*	–	0.64	2.15
Middle School	1.04	3.59*	6.26*	10.96*	-1.95	2.58
High School	8.67*	8.47*	13.32*	6.54*	10.59	11.99*
Voc. High School	13.55*	13.94*	16.19*	11.52*	3.86	20.68*
University[a]	13.01*	8.57*	19.04*	14.86*	5.95*	22.20*
University[b]	9.35*	4.46*	16.89*	11.12*	11.00*	15.68*

Source: Author's calculations based on wage equation estimates in Tables 3 and 4.
Notes: a: For university education after high school.
        b: For university education after vocational high school.
        *: Indicates significance at five percent level or better.

Appendix Table: Means and Standard Deviations of Variabes by Sector and Gender, Turkey, 1994

Variables	Public Administration				State Owned Enterprises				Covered, Private Wage Earners			
	Male		Female		Male		Female		Male		Female	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
Ln Hourly Wage[a]	6.7972	0.57	6.7943	0.54	6.8726	0.65	6.6509	0.65	6.1722	0.77	5.8994	0.71
Experience	20.9767	9.18	14.7993	6.95	23.9002	9.57	18.1336	11.46	19.2754	10.54	13.3681	10.41
Experience Square	524.21	436.09	267.21	235.21	662.76	496.12	459.74	521.46	482.61	511.32	286.89	424.13
Educatioanl Attainment[c]												
Non-graduate	0.0065	0.08	0.14	0.03	0.0253	0.16	0.0205	0.14	0.14	0.16	0.0189	0.14
Primary School	0.1571	0.36	0.0176	0.13	0.5101	0.50	0.2226	0.42	0.5905	0.49	0.4060	0.49
Middle School	0.1342	0.34	0.0430	0.20	0.1512	0.36	0.1199	0.33	0.1278	0.33	0.1177	0.32
High School	0.3302	0.47	0.3341	0.47	0.1979	0.40	0.4	0.49	0.1482	0.36	0.2815	0.45
Voc. High School	0.0511	0.22	0.1092	0.31	0.0385	0.19	0.0377	0.19	0.0347	0.18	0.0365	0.19
University	0.3168	0.47	0.4939	0.50	0.0617	0.24	0.493	0.35	0.29	0.22	0.0934	0.29
Unearned Income[a]	11447.41	40791.03	5602.42	15898.70	8639.81	28108.74	3535.28	6342.11	4623.17	25218.15	2972.72	28108.74
Unearned HH Income[a]	2436.76	16709.95	15333.70	56728.28	1439.44	11631.06	8529.61	21382.15	3767.92	29220.19	11631.06	50248.30
Per Capita Land (dekars)[b]	0.4182	3.64	0.4711	3.70	0.4065	5.59	02.600	2.60	0.6382	5.83	1.8838	26.47
Other Public[c]	0.1857	0.40	0.5127	0.52	0.0004	0.02	0.0103	0.10	0.0041	0.03	0.0041	0.06
Other SOE[c]	0.0008	0.03	0.00080	0.00	0.0535	0.26	0.2979	0.51	0.0006	0.02	0.0014	0.04
Other Private[c]	0.0030	0.06	0.0055	0.07	0.060	0.08	0.08	0.08	0.2341	0.54	0.5575	0.74
Urban Location[c]	0.8136	0.39	0.8886	0.31	0.8210	0.38	0.8562	0.35	0.8527	0.35	0.8606	0.35
Regions[c]:												
Marmara	0.0835	0.28	0.1003	0.30	0.1229	0.33	0.1507	0.36	0.2795	0.45	0.3234	0.47
Aegean	0.0926	0.29	0.1466	0.35	0.0801	0.27	0.1233	0.33	0.1876	0.39	0.2815	0.45
Mediterranean	0.1308	0.34	0.1521	0.36	0.1152	0.32	0.1884	0.39	0.1272	0.33	0.1475	0.35
Central Anatolia	0.2009	0.40	0.1775	0.38	0.1645	0.37	0.1164	0.32	0.1757	0.38	0.1028	0.30
Black Sea	0.1628	0.37	0.2348	0.42	0.2090	0.41	0.2705	0.45	0.1066	0.31	0.1042	0.31
East Anatolia	0.2463	0.43	0.1378	0.34	0.1807	0.38	0.1062	0.31	0.0587	0.24	0.0244	0.15
Southeast Anatolia	0.0831	0.28	0.0507	0.22	0.1276	0.33	0.0445	0.21	0.0647	0.25	0.0162	0.13
Selection Term	1.1598	0.70	0.8042	0.83	1.6163	0.45	1.9868	0.93	1.3654	0.56	1.7179	0.79
Sample Size	2,623		907		2,335		292		3,631		739	

Source: Author's calculations using 1994 Household Expenditure Survey
Notes: a: Measured in 1987 Turkish Liras.
b: One dekar is thousand square meters or .247 acres.
c: indicates dummy variables

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