

**CHANGING RETURNS TO EDUCATION FOR MEN AND WOMEN IN A  
DEVELOPING COUNTRY: TURKEY, 1994-2005\***

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**Abstract:**

The main objective of this paper is to evaluate the changes in returns to schooling during the past ten years in Turkey. While doing this, particular attention is paid to the use of comparable data sets over time and application of the same methodology to these data sets. This approach enables an assessment of the changes in private returns to schooling over time recently by different levels of education, for men and women. The results indicate four points. First, OLS and the Heckman two-step estimates are about the same for men. While for women the Heckman two-steps estimates are larger than the OLS estimates. Second, the returns to education estimates for women are higher than that of men throughout the period considered by about two to five percentage points. Third, returns to education declined significantly from 1994 to the 2002. Fourth, the returns to education for men did not change much throughout the period 2002-2005 while that for women declined by five percent from 2002 to 2003 and one percent from 2004 to 2005. The labor market changes responsible for the declines in returns to education over time were first, the increase in compulsory level of schooling from five to eight years in 1997 and second, the severe economic crisis experienced in 2001.

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## **1. Introduction**

Labor markets and educational systems may be evaluated from the point of view of their being efficient and equitable. The first step in doing this is to examine the productivity of similar workers with different levels of schooling. Such analysis will highlight the contribution of education to the economy and development. Last few decades have witnessed an increase in the application and availability of surveys of random samples of household both in developed and developing countries. These surveys typically included information on a number of socio-economic characteristics of individuals such as age, education, wages and earning. Such surveys are used to estimate wage equations and returns to schooling. A survey of the estimates of returns to schooling includes Psacharopoulos (1985, 1994) and recently Psacharopoulos and Patrinos (2004). Previous studies on returns to schooling are provided by Tansel (1994 and 1996). These studies use the 1987 Household Income and Expenditure Survey and 1989 Household Labor Force Survey respectively. The main findings of these studies are that the returns to schooling increase by level of education and that the returns to schooling for men and women are about the same in Turkey. Tansel (2005) uses 1994 Household Income and Expenditure Survey and provides further evidence that the returns to schooling in the public sector are lower than those in the private sector. Tansel and Bircan(2009) examined the returns to education in Turkey at different quantiles of the wage distribution.

The main objective of this paper is to evaluate the changes in the returns to schooling during the past ten years in Turkey (1994-2005). While doing this, particular attention is paid to the use of comparable data sets over time and application of the same methodology to these data sets. This approach enables an assessment of the changes in private returns to schooling

over time recently by different levels of education, for men and women. OLS and Heckman selectivity corrected estimates are presented. In selectivity correction first, selection into wage earner sample is considered. Next, selection into different sectors of work included public administration, state owned enterprises, formal private sector and informal private sector. OLS and selectivity corrected estimates are presented for each of these sectors.

The results indicate four points. First, OLS and the Heckman two-step estimates are about the same for men while for women the Heckman two-steps estimates are larger than the OLS estimates. Second, the returns to education estimates for women are higher than that of men throughout the period considered by about two to five percentage points. Third, returns to education declined significantly from 1994 to 2002. Fourth, the returns to education for men did not change much throughout the period 2002-2005 while that for women declined by five percent from 2002 to 2003 and one percent from 2004 to 2005. A comparison of the returns to different levels of schooling indicated the following conclusions. First of all, return estimates increase by level of schooling. Returns to vocational high schools are higher than to general high schools. There are substantial returns to two-year university education as it is observed in 2002 and after. In some cases the returns to two year university education are higher than those to four-year university education. Finally returns to women's education are higher than the returns to men's education at almost all levels of schooling. The increase in the compulsory level of schooling from five to eight years in 1997 and the severe economic crisis of 2001 are responsible for the decline in returns to education during the period considered. Further, results with regards to level of education and sector of work are also presented.

This paper is organized as follows. Section 2 gives information about the educational system in Turkey and about the recent economic developments. Section 3 provides the conceptual framework and the methodology used in the paper. The data used and its salient features are discussed in Section 4. Estimation results are presented in Section 5 first with years of education then with different levels of education. Section 6 gives concluding remarks.

## **2. Institutional and Economic Setting**

### **2.1 Educational System of Turkey**

Until the educational reform of 1997 the compulsory level of schooling was only five years covering the primary school. The reform implemented at that time increased the compulsory level of schooling to eight years covering the five year of primary and the three year of middle schooling. Secondary education includes three or four years of General High Schools and three or four years of Vocational High Schools. Tertiary education includes two years of study which offers an Associate Degree and four to six years of study depending on the program which offers a Bachelors' Degree. Associate Degrees emphasize vocational skills<sup>1</sup>. There are also post graduate degrees of Masters and Ph.D degrees. Education at all levels are provided by the public free of tuition except that there is a nominal tuition fee at the tertiary level. There are private schools at all levels. Access to the better private and public (Anatolian) high schools is based on nationwide examinations taken at the ends of sixth, seventh and eight years of study.

Access to universities is highly selective and based on the competitive nationwide entrance examination. There have been some changes in this examination over time although

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<sup>1</sup> Two-year programs first started in 1976 in 15 provinces under the auspices of the Ministry of National Education. In 1982, they became part of the universities with the establishment of Higher Education Council. Students are selected with the national, competitive university entrance examination.

the basic format remained the same. Raw examination score is used to obtain a weighted score via a complex scheme by combining a number of factors such as prospective student's high school type and high school performance and an indicator of the average performance of applicants from that high school in the entrance examination. In 1992, twenty-five new universities were established which expanded university education opportunities significantly. Before the 1997 educational reform, most students dropped out of the educational tract at the end of primary school with grade 5. With the increase of compulsory education to eight years covering middle school, it is observed that high school enrollments increased (Tunalı and Yulet, 2009). This increased the competition at the doors of the universities along with the increase in the number of universities. Thus we can talk about an increase in the supply of educated labor at all levels of education over time.

## **2.2 Recent Economic Developments in Turkey**

There were several major crisis in the Turkish economy since the 1990s. First crisis occurred in 1991 due to the adverse effects of the Gulf War when rate of growth and investments dropped to zero. The second crisis occurred in 1994 when GDP dropped by 6.1 percent, inflation and interest rates soared and the Turkish lira was devalued by 70 percent against the US dollar. All followed by a stabilization program in April 1994. Third crisis occurred in 1999. Two major events adversely affected the Turkish economy. One was due to the delayed effect of the Russian crisis. The other was the two major earthquakes which occurred in the industrial heartland of the country killing thousands and destroying establishment. Fourth, with the outflow of capital a severe financial crisis followed in 2001. Exchange rate increased and inflation soared. A large number of banks went bankrupt. Turkey was listed as one of the developing countries with the largest foreign debt. Interest payments increased to 45 percent of the budget with concomitant reductions in the education and health

expenditures. The per capita GDP declined by 9.6 percent in 2001 but recovered quickly in 2002 with a growth rate of 8 percent and continued to be high in the ensuing years. However, the labor market impact of the 2001 crisis was large. Unemployment increased and remained high. This is dubbed as “jobless growth”. Employment declined and remained below the pre-crisis level. In 2004, in the urban areas, unemployment rate reached 16 percent and that of the educated youth was 30 percent. There were slight declines in unemployment rates in 2005-2007. Finally, the Turkish economy was adversely affected by the global crisis during the second half of 2008. GDP dropped by 6.5 percent in the last quarter of 2008 and unemployment rate was 14 percent. The rate of growth of GDP was less than one percent for 2008. During the first quarter of 2009 GDP dropped by 14.7 percent although subsequent drops in the following quarters were smaller. In December 2009 unemployment rate was 13.5 percent and the numbers unemployed reached to 3.4 million.

### **3. Conceptual Framework and Methodology**

T. W. Schultz (1961) was the first economist to relate part of the modern economic growth to changing composition of the labor force by noting the differentials in productivity of the workers by gender, experience and schooling. In this study the conceptual framework used is the human capital model of earnings determination. This framework is developed by Mincer (1958 and 1974) and Becker (1975). According to this model wage differences among individuals are the result of the differences in their schooling, training and work experience. Accordingly, log hourly wages are postulated to depend on schooling, experience and other exogenous socio-economic factors. In the estimation of the wage equations, experience is computed as age minus the number of years of schooling minus the age of entry into school (Mincer, 1974).

As it is well known there is the sample selection problem in estimating wage equations. The issue of using a subpopulation rather than a random sample in the estimation of the wage equation is extensively treated in the literature recently. Biases are likely to result if this issue is ignored and OLS is used. In Turkey (urban) the labor force participation of women is very low by international standards (Tansel, 2002). As previous literature on returns to schooling shows the selectivity correction as wage earner participation is important particularly for women (Schultz, 1988, 1993 and 1995). Analysis in this study will take this into account by providing selectivity corrected estimates and assess the role of selectivity in explaining differences in returns between genders.

A general discussion of econometric models of self-selection and their estimation is found in Maddala (1983) and a recent review is given in Vella (1998). This issue will be addressed in two ways. First, the process generating the observation on wage earners will be postulated (Heckman, 1974). Thus the estimation will involve a two-stage statistical procedure. In the first step, the probit for wage earner selection equation is estimated. In the second step, using the Inverse Mills Ratio (calculated using the wage-earner selection equation) the selectivity corrected wage equation will be estimated. According to this model observed wage differences among individuals are the result of labor productivity differences due to the human capital they possess and their work experience. Following wage equation is postulated.

$$\text{Log } W = \beta'X + \varepsilon \quad (1)$$

where  $X$  includes education, post schooling experience, training and other exogenous socio-economic factors, and  $\varepsilon$  is the random error term. This relationship is observed only for wage earners which is a subpopulation rather than a random sample. Biases are likely to result if it is treated as a random sample. We need a process generating the observations on wage

earners. People become wage earners when their expected wage exceeds the opportunity cost of alternative activities. The probability of participating in wage employment is determined by the difference between the market wage offer and productivity in alternative nonwage activities (Heckman, 1974). This is represented by the following wage earner choice relationship:

$$W^* = \alpha'V + u \quad (2)$$

where  $W^*$  is an unobserved variable reflecting a person's occupational choice into wage employment.  $V$  is a vector of individual, household or community characteristics that influence this choice and  $u$  is a random error term. The observed counterpart of  $W^*$  is a binary variable,  $W$  which is equal to one if  $W^*$  is positive and consequently the person is a wage earner and zero otherwise. We have the following probit specification:

$$\text{Prob}(W = 1) = \text{Prob}(u > \alpha'V) = F(\alpha'V)$$

where  $F$  is the cumulative density function of  $u$ . Schultz (1990 and 1991) suggests use of unearned income or property income as identifying variables in the probit equation.

Next step is the estimation of returns to schooling by sector of work. The sectors considered are Public Administration, State Owned Enterprises (SOE), Formal Private Sector and Informal Private Sector and the Other Sector. In the first step, multinomial logit equation for selection into the five sectors is estimated. In the second step, Mincerian wage equations are estimated for each of these sectors by taking into account selection into these sectors. 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 logit model for the probability that the individual chooses alternative  $j$  as follows.

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

where  $Z$  is a vector of explanatory variables affecting sectoral choice,  $\alpha_j$  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:

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

$\phi$  is the standard normal density function and  $\Phi$  is the standard normal distribution function. In the second stage, the estimated  $\lambda_j$  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.

#### 4. The Data

The data used in this study come from the household surveys conducted by the Turkish Statistical Institute (TURKSTAT). The 1994 survey is referred to as Income and Consumption Expenditures Survey (HICES). There were no other surveys conducted until 2002. Since 2002 the surveys are carried out every year although on a smaller scale and referred to as Household Budget Surveys (HBS). This study uses the 1994 survey and the 2002-2005 surveys. All of those surveys are based on stratified multistage nationwide samples

covering urban and rural settlements. In this study we consider female and male wage earners, 15-65 years of age who worked in the survey month and/or reported positive income for that month.

The wage earnings include monthly cash and in-kind payments and bonuses from the main job and from the second job when it is applicable. The monthly earnings is deflated by using the monthly consumer price index (CPI) with base 1987. The monthly CPI is available for 19 cities and seven geographic rural and urban regions. The real hourly wages is obtained by dividing the real monthly earnings first by 4.3 and next, by the reported weekly hours of work.

## **5. Estimation Results**

### **5.1 Estimation Results with Years of Education**

Table 1 gives the OLS and selectivity corrected estimates of the returns to education by gender. In all cases the selectivity terms were statistically significant. The results indicate that the returns to women's education is larger than for men's by about two to five percent. These differences are statistically significant in all of the years. The results also indicate that the returns to school estimates with Heckman Two-Step Estimation are much larger than the returns to education estimates with OLS method. This is especially evident for women while for men the differences between the two methods are not significant. For instance the returns estimates for women are respectively, 18, 13, 13, 13.5 and 12 percents for the years 1994, 2002, 2003, 2004 and 2005 while the same estimates with Heckman two step estimates are respectively, 48, 21, 15, 15 and 16 percents. From these estimates we can observe that the returns for women have declined after 2002. The decline is statistically significant from the

twenty one percent level in 2002 to fifteen percent level in 2003. There was also a decline for men but by smaller amounts from 13 percent in 1994 to 10 percent in 2005. The 2001 was a year of economic crises. The GDP declined by about 9 percent in real terms which was the highest decline in the history of the Republic. After 2003 the returns to education for women remained about the same in 2004 and 2005 with one percent increase in 2005.

Table 2 gives the OLS and selectivity corrected estimates of the returns to education by sector and gender. In all cases of sector of work selection, the selectivity terms are statistically significant. In all of the sectors we observe a decline in returns to education from 1994 to 2005. In the public administration the returns to female education are somewhat higher than to men's education. The same observation is made in the State Owned Enterprises (SOE) sector. In the formal private sector The returns to men and women are similar in 1994, 2002 and 2003 and somewhat higher for men than women in 2004 and 2005. In the informal sector, returns to women and men are about the same in 2002 and 2003 but higher for women in 1994, 2004 and 2005. The lowest returns are observed in the informal sector for both males and females.

## **5. 2 Estimation Results with Levels of Education**

Table 3 shows the OLS and selectivity corrected estimates of returns to education at different levels of schooling for females. Table 4 shows the same for males. In all cases the selectivity terms were statistically significant. In general selectivity corrected estimates are higher than the OLS estimates at all levels of schooling. This difference is more obvious in the case of females than in the case of males. Several things are noteworthy. First of all, returns to education estimates increase by level of schooling.

Highest returns are achieved at the university level for both men and women at all years. This is in contrast to the diminishing returns to education hypothesis. I can advance two possible reasons for the high returns at the university level. First of all, the supply of university educated labor is restricted by the capacity of the limited number of universities relative to the demand. Second, due to the highly competitive nature of the nationwide university entrance examination the students selected to enter a university program are high ability individuals. Since my analysis does not control for this selection process and for the ability of the individuals the returns at the university level are high.

Second, there are significant declines in returns between 1994 and 2002 at all levels of education. After 2002 the pattern of change is less clear. The largest declines took place at all levels of education and a smaller one at the university level. The declines may be due to the increase in the relative supply of educated labor and the decrease in the relative demand for labor due to the 2001 economic crisis and its adverse labor market effects in the following years.

Third, the returns to vocational high school are significantly higher than the returns to general high school for both men and women. This is a salient feature of the returns to education in Turkey and in conformity with previous studies in Turkey (Tansel, 1994; 1996 and 2005). However, it is in contrast to the general pattern observed in most of the countries (Psacharopoulos, 1985 and 1994).

Fourth, there are substantial returns to two-year university education. Data was not available on the two-year university category in 1994. In some cases the returns to two-year university education are higher than those to the four-year university education. Finally

returns to women's education are higher than the returns to men's education at almost all levels of schooling. I refrain from interpreting the returns to master level of schooling because this category include both the masters degree holders and the doctorate holders. Further the cells for this level of education are rather small for correct suitable interpretation especially in the case of women.

Table 5 shows the selectivity corrected estimates of returns to education by sector of work and level of education for females. Table 6 shows the same for males. In this case I did not present the OLS estimates, since in the sector selection equation, the selectivity terms were statistically significant in all cases. The results are similar to the case where only years of education is used. I note in particular, the decline in the returns to schooling from 1994 to 2002 in all sectors of work for both men and women.

Finally I present the Appendix Tables where first the OLS estimates of the Mincerian wage equations and next, the second step wage equations of the Heckman two-step method are shown for all the years. Table A61 gives the OLS Estimates of wage equations with years of education by gender, for the pooled sample, 1994-2005. Table A62 OLS estimates of wage equations with levels of education by gender, for the pooled sample, 1994-2005. These tables indicate substantial declines in the coefficients of years of education from 1994 to the post 2002 period and also in the coefficients of the different levels of schooling form 1994 to the post 2002 period. However, the coefficient estimates did not differ much among each other during the post 2002 period in both cases.

## 5. Conclusion

In this paper returns the education estimates in Turkey are provided for men and women for the years 1994, 2002-2005. These estimates are provided by using both the OLS and the Heckman two-step estimation methods. There are four main conclusions. First, the results indicate that the Heckman two-step estimates of returns the education for men are about the same as those with the OLS estimates while for women the Heckman two-step estimate of returns the education are higher than those with the OLS estimates. This is especially evident in the 1994 and 2002 which was the year after the 2001 crises. For the years 2003, 2004, 2005 the returns are higher by about two to four percentage points with the Heckman method. These results make senses since the labor force participation of women is much lower than that of men in Turkey especially in the urban areas.

Second, the results indicate that women's return to education is higher than that of men by about two to three percent with OLS estimates. The difference is somewhat higher about two to five percent with the Heckman estimates.

Third, the results indicate that the returns estimates declined substantially from 1994 to the 2002-2005 period. Further, the results indicate that returns the men's education did not change much during the period 2002-2005 except a one percent decline in 2005 with both the OLS and the Heckman's methods. The returns the women education also did not change much except a one percent decline in 2005 with the OLS method. With the Heckman method there were significant declines of about five percent from 2002 to 2003 and by about one percent from 2003 to 2004 and 2004 to 2005.

Finally when the returns to different levels of education are considered following conclusions emerge. First of all, return estimates increase by level of schooling. Returns to vocational high schools are higher than to general high school. There are substantial returns to two-year university education which did not exist in 1994. In some cases the returns to two year university education are higher than those to four-year university education. Finally returns to women's education are higher than the returns to men's education at almost all levels of schooling.

The decline in the returns to education during the 2002-2005 period compared to 1994 is due to the increase in the years of compulsory schooling from five to eight years in 1997. The second factor that may be responsible for this decline is the 2001 economic crisis which caused a decline in labor demand as compared to the supply. Even in the case of women there may have been an increase in their labor supply with the added worker affect due to the economic crisis.

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Table 1. OLS and Selectivity Corrected Estimates of Returns to Education by Gender ; 1994-2005, Turkey (%)								
			Female			Male		
			OLS	Corrected	No.obs.	OLS	Corrected	No.obs.
1994			<b>17.63</b>	<b>48.48</b>	<b>2861</b>	<b>12.36</b>	<b>12.79</b>	<b>13657</b>
2002			<b>13.13</b>	<b>21.44</b>	<b>1344</b>	<b>11.45</b>	<b>11.82</b>	<b>5698</b>
2003			<b>13.36</b>	<b>15.1</b>	<b>3298</b>	<b>11.6</b>	<b>11.73</b>	<b>13101</b>
2004			<b>13.63</b>	<b>14.66</b>	<b>1275</b>	<b>10.92</b>	<b>11.24</b>	<b>4503</b>
2005			<b>12.23</b>	<b>15.84</b>	<b>1315</b>	<b>10.07</b>	<b>10.27</b>	<b>4672</b>

**Notes:** The numbers are the estimates of the coefficients of the “Years of Schooling” in the Mincerian wage equations given in Appendix Tables A1-A5, and A6-A10 for the selectivity corrected estimates. All coefficient estimates are statistically significant at 5 percent level or better.

Table 2. OLS and Selectivity Corrected Estimates of Returns to Education by Sector and

Gender ; 1994-2005, Turkey (%)						
	Female			Male		
Public Administration	OLS	Corrected	No.obs.	OLS	Corrected	No.obs.
1994	13.3	14.22	920	8.58	8.97	2897
2002	8.56	7.8	249	9.12	10.22	857
2003	8.47	8.2	696	7.37	7.42	2100
2004	6.2	7.22	233	6.08	6.3	716
2005	6.92	7.05	242	6.9	7.03	668
SOE	OLS	Corrected	No.obs.	OLS	Corrected	No.obs.
1994	8.47	9.74	293	8.88	9.06	2530
2002	11.36	11.22	77	6.16	6.16	459
2003	12.62	12.78	150	7.8	7.77	1149
2004	7.52	11	54	5.79	6.06	371
2005	14.4	15.57	53	6.44	6.74	359
Formal Private Sector	OLS	Corrected	No.obs.	OLS	Corrected	No.obs.
1994	10.46	10.65	740	12.03	11.69	3654
2002	11.01	11.07	418	10.65	10.69	2081
2003	9.35	9.42	1013	9.94	9.83	4851
2004	8.8	8.24	413	9.61	9.62	1743
2005	6.1	6.15	379	8.63	8.66	1842
Informal Private Sector	OLS	Corrected	No.obs.	OLS	Corrected	No.obs.
1994	5.14	6.05	908	4.51	4.2	4429
2002	6.1	5.2	562	5.48	5.25	2094
2003	5.59	5.54	1370	6.3	4.82	4496
2004	8.24	8.55	554	6.24	5.94	1584
2005	6.44	6.2	635	4.46	5.41	1753

**Notes:** The numbers are the estimates of the coefficients of the “Years of Schooling” in the Mincerian wage equations given in Appendix Tables A21-A25 for OLS estimates of females, A26-A30 for OLS estimates of males, and A31-A35 for selectivity corrected estimates for females, A36-A40 for the selectivity corrected estimates of males.

Table 3. OLS and Selectivity Corrected Estimates of Returns to Education for Females; 1994-2005, Turkey (%)								
		Primary	Middle	High	Vochigh	Twoyear <sup>a</sup>	University <sup>b</sup>	Master <sup>c</sup>
1994	OLS	<b>9.44</b>	<b>10.02</b>	<b>24.33</b>	<b>32.16</b>	-	<b>20.68-14.81</b>	<b>56.92</b>
	Corrected	<b>9.92</b>	<b>14.38</b>	<b>42.94</b>	<b>60.78</b>	-	<b>41.17-27.78</b>	<b>53.86</b>
2002	OLS	<b>1.44</b>	<b>8.69</b>	<b>14.88</b>	<b>18.54</b>	<b>23.44-17.96</b>	<b>20.32-17.56</b>	<b>8.44</b>
	Corrected	<b>2.44</b>	<b>8.03</b>	<b>23.97</b>	<b>33.19</b>	<b>44.63-30.81</b>	<b>34.68-27.77</b>	<b>25.15</b>
2003	OLS	<b>2.11</b>	<b>7.93</b>	<b>13.03</b>	<b>20.63</b>	<b>24.74-13.34</b>	<b>21.63-15.93</b>	<b>11.98</b>
	Corrected	<b>2.1</b>	<b>7.96</b>	<b>13.27</b>	<b>21.17</b>	<b>25.59-13.75</b>	<b>22.13-16.21</b>	<b>11.92</b>
2004	OLS	<b>2.49</b>	<b>12.29</b>	<b>14.79</b>	<b>21.90</b>	<b>19.32-8.66</b>	<b>17.29-11.97</b>	<b>28.26</b>
	Corrected	<b>2.52</b>	<b>12.57</b>	<b>15.24</b>	<b>22.69</b>	<b>20.84-9.66</b>	<b>18.38-12.79</b>	<b>28.85</b>
2005	OLS	<b>4.36</b>	<b>7.57</b>	<b>9.45</b>	<b>20.01</b>	<b>25.79-9.97</b>	<b>22.54-14.63</b>	<b>1.29</b>
	Corrected	<b>4.84</b>	<b>8.48</b>	<b>11.68</b>	<b>25.00</b>	<b>36.31-16.32</b>	<b>28.64-18.65</b>	<b>2.10</b>

**Notes:** The numbers are the estimates of the coefficients of the “Years of Education Level” in the Mincerian wage equations given in Appendix Tables A11-A15, and A6-A10 for the selectivity corrected estimates.

a: The first number in these cells refer to the returns to the two-year university over general high school while the second number in these cells refer to the returns to the two-year university over vocational/technical high school.

b: The first number in these cells refer to the returns to the university over general high school while the second number in these cells refer to the returns to the two-year university over vocational/technical high school.

c: The numbers in the column are returns for a masters plus Ph. Dr. degrees over university education. In general masters degree takes two years.

Table 4. OLS and Selectivity Corrected Estimates of Returns to Education for Males; 1994-2005, Turkey(%)								
		Primary	Middle	High	Vochigh	Twoyear <sup>a</sup>	University <sup>b</sup>	Master <sup>c</sup>
1994	OLS	4.31	8.56	15.17	20.29	-	15.99-12.16	26.46
	Corrected	4.21	8.28	18.83	21.55	-	16.6-12.31	27.60
2002	OLS	6.84	7.94	11.13	13.71	12.68-8.82	18.33-16.39	20.50
	Corrected	6.84	7.21	12.14	15.67	14.33-9.04	18.98-16.33	22.60
2003	OLS	3.88	7.12	12.72	16.50	18.34-12.66	16.54-13.7	21.20
	Corrected	3.9	7.1	12.89	16.92	18.83-12.79	16.69-13.67	21.53
2004	OLS	8.6	5.27	11.69	16.21	15.58-8.8	16.19-12.8	24.61
	Corrected	8.75	4.94	12.22	17.52	16.95-8.9	16.63-12.66	25.11
2005	OLS	5.12	4.68	10.13	14.99	20.18-12.92	17.05-13.42	19.99
	Corrected	5.2	4.64	10.24	15.22	20.53-13.07	17.22-13.49	20.04

**Notes:** The numbers are the estimates of the coefficients of the “Years of Education Level” in the Mincerian wage equations given in Appendix Tables A1-A5, and A6-A10 for the selectivity corrected estimates.

a: The first number in these cells refer to the returns to the two-year university over general high school while the second number in these cells refer to the returns to the two-year university over vocational/technical high school.

b: The first number in these cells refer to the returns to the university over general high school while the second number in these cells refer to the returns to the two-year university over vocational/technical high school.

Table 5. Selectivity Corrected Estimates of Returns to Education for Females by Level of Education and by Sector, Turkey, 1994-2005.

Public Adm.	Primary	Middle	High	Vochigh	Twoyear	University	Master	No
1994	-	<b>3,97</b>	<b>19.64</b>	<b>13.03</b>	-	<b>15.14-13.16</b>	-	<b>915</b>
2002	-	<b>14.91</b>	<b>negative</b>	<b>negative</b>	<b>17.57-17.03</b>	<b>11.63-11.36</b>	<b>2.23</b>	<b>249</b>
2003	-	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>10.94-6.77</b>	<b>5.35</b>	<b>691</b>
2004	-	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>190</b>
2005	-	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>242</b>
SOE	Primary	Middle	High	Vochigh	Twoyear	University	Master	No
1994	<b>ns.</b>	<b>ns.</b>	<b>21.49</b>	<b>in.</b>	-	<b>8.09-19.64</b>	-	<b>293</b>
2002	<b>ns.</b>	<b>ns.</b>	<b>21.67</b>	<b>17.49</b>	<b>neg.- 5.03</b>	<b>neg.- 2.24</b>	<b>12.26</b>	<b>77</b>
2003	<b>negative</b>	<b>22.19</b>	<b>9.57</b>	<b>8.19</b>	<b>15.63-17.69</b>	<b>7.38-8.41</b>	-	<b>119</b>
2004	<b>negative</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	-	<b>53</b>
2005	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	-	<b>53</b>
Formal Private	Primary	Middle	High	Vochigh	Twoyear	University	Master	No
1994	<b>ns.</b>	<b>ns.</b>	<b>12.23</b>	<b>negative</b>	-	<b>22.54-19.73</b>	-	<b>740</b>
2002	<b>ns.</b>	<b>ns.</b>	<b>11.13</b>	<b>12.55</b>	<b>8.92-6.79</b>	<b>20.12-19.06</b>	<b>16.18</b>	<b>418</b>
2003	<b>negative</b>	<b>3.92</b>	<b>8.05</b>	<b>7.87</b>	-	<b>18.43-18.57</b>	<b>13.57</b>	<b>980</b>
2004	<b>negative</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>14.31-11.41</b>	<b>27.42</b>	<b>413</b>
2005	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>ns.</b>	<b>14.6-14.46</b>	<b>12.07</b>	<b>379</b>
Informal Private	Primary	Middle	High	Vochigh	Twoyear	University	Master	No
1994	<b>6.09</b>	<b>ns.</b>	<b>11.23</b>	<b>ns.</b>	-	<b>20.22-23.48</b>	-	<b>908</b>
2002	<b>ns.</b>	<b>ns.</b>	<b>9.93</b>	<b>12.82</b>	<b>36.03-31.69</b>	<b>25.26-23.09</b>	-	<b>562</b>
2003	<b>negative</b>	<b>1.96</b>	<b>5.93</b>	<b>2.86</b>	<b>10.32-14.93</b>	<b>ns.</b>	-	<b>1117</b>
2004	<b>ns.</b>	<b>6.51</b>	<b>7.75</b>	<b>12.90</b>	<b>4.09-neg.</b>	<b>25.99-22.12</b>	<b>33.21</b>	<b>554</b>
2005	<b>ns.</b>	<b>4.32</b>	<b>1.50</b>	<b>10.85</b>	<b>15.56-1.54</b>	<b>29.68-22.67</b>	<b>ns.</b>	<b>635</b>

**Notes:** - indicates no observation is available in the cell.

ns. indicates that the coefficient estimate is statistically insignificant at 5 percent level.

All other coefficient estimates are statistically significant at 5 percent level.



Table 6. Selectivity Corrected Estimates of Returns to Education for Males by Level of Education and by Sector, Turkey, 1994-2005.

Public Adm.	Primary	Middle	High	Vochigh	Twoyear	University	Master	No.obs.
1994	-	ns.	7.89	10.95	-	12.79-10.50	8.81	2872
2002	-	2.36	7.31	8.36	10.35-8.77	11.65-10.86	13.94	857
2003	-	1.42	4.04	6.00	12.93-9.99	10.04-8.57	6.61	2100
2004	-	2.05	0.14	4.54	12.18-5.58	8.92-5.63	14.55	716
2005	-	ns.	4.36	5.63	9.18-7.27	9.32-8.37	9.26	668
SOE	Primary	Middle	High	Vochigh	Twoyear	University	Master	No.obs.
1994	ns.	5.65	11.72	16.81	-	11.86	26.56	2512
2002	7.51	4.61	8.24	11.51	neg.-neg.	5.28-2.83	2.43	459
2003	ns.	2.24	9.05	15.78	17.85-7.74	15.23-10.17	negative	1149
2004	17.65	negative	8.57	16.20	14.03-2.58	10.48-4.75	-	371
2005	11.09	1.95	5.37	35.96	23.65-13.72	8.22-13.02	-	365
Formal Private	Primary	Middle	High	Vochigh	Twoyear	University	Master	No.obs.
1994	2.93	5.43	16.25	20.95	-	18.72-15.19	41.47	3476
2002	7.25	4.13	11.74	14.05	10.91-7.45	21.71-19.98	19.86	2081
2003	3.67	4.52	0.09	13.99	18.34-10.85	18.75-15	26.91	4851
2004	9.09	2.92	9.73	14.84	6.55-neg	18.87-15.03	19.29	1743
2005	ns.	2.09	8.16	14.12	20.35-11.41	19.43-14.96	29.85	1842
Informal Private	Primary	Middle	High	Vochigh	Twoyear	University	Master	No.obs.
1994	ns.	3.46	7.86	negative	-	10.47-17.16	-	4374
2002	3.83	2.19	6.88	5.22	7.79-10.28	16.76-18	39.37	2094
2003	1.35	ns.	9.13	8.77	14.68-15.23	15.29-15.72	17.65	4496
2004	6.26	0.27	9.63	4.67	14.4-21.85	11.93-15.66	28.80	1584
2005	3.33	2.76	7.33	6.16	9.87-11.63	16.43-17.3	5.75	1753

**Notes:** - indicates no observation is available in the cell.

ns. indicates that the coefficient estimate is statistically insignificant at 5 percent level.

All other coefficient estimates are statistically significant at 5 percent level.

## APPENDIX TABLES:

**Table A. 1. OLS Estimates of Wage Equations With Years of Education,  
Turkey, 2002**

	Total		Male		Female	
	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>
<b>Female</b>	-0.0799	0.99				
<b>Experience</b>	0.0774	26.29	0.0775	26.5	0.0638	12.1
<b>Experience<sup>2</sup></b>	-0.0011	17.08	-0.0011	17.22	-0.0009	7.53
<b>Female*Experience</b>	-0.0130	2.22				
<b>Female*Experience<sup>2</sup></b>	0.0002	1.24				
<b>Years of School</b>	0.1142	42.76	0.1145	43.16	0.1313	26.14
<b>Female*Years of School</b>	0.0176	3.2				
<b>Urban Location</b>	0.0390	1.39	0.0336	1.11	0.0653	0.88
<b>Constant</b>	12.4566	223.79	12.4533	215.03	12.3752	104.75
<b>F (K,N-K-1)</b>	140.07		124.15		39.7	
<b>R-squared</b>	0.3329		0.3148		0.3867	
<b>Adj. R-squared</b>	0.3306		0.3122		0.377	
<b>Root MSE</b>	0.6933		0.6882		0.7134	
<b>Sample Size</b>	7,042		5,698		1,344	

Source: Household Income and Expenditure Survey, 2002.

**Table A.2. OLS Estimates of Wage Equations With Years of Education, Turkey, 2003**

	Total		Male		Female	
	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>
<b>Female</b>	0.0021	0.04				
<b>Experience</b>	0.0776	40.75	0.0775	41.49	0.0504	15.46
<b>Experience2</b>	-0.0011	27.94	-0.0011	28.45	-0.0007	9.24
<b>Female*Experience</b>	-0.0275	7.67				
<b>Female*Experience2</b>	0.0005	5.78				
<b>Years of School</b>	0.1158	68.56	0.1160	69.73	0.1336	40.5
<b>Female*Years of School</b>	0.0195	5.71				
<b>Urban Location</b>	0.1317	5.39	0.1110	4.27	0.2352	3.43
<b>Regions:</b>						
<b>Marmara</b>	-0.2458	13.23	-0.2454	11.72	-0.2535	6.27
<b>Aegean</b>	-0.3007	15.89	-0.2944	13.79	-0.3189	7.78
<b>Mediterranean</b>	-0.4370	22.48	-0.4245	19.55	-0.4902	11.2
<b>Central Anatolia</b>	-0.2826	15.34	-0.2862	14.08	-0.2618	5.96
<b>Black Sea</b>	-0.3170	15.38	-0.2937	12.87	-0.4229	8.77
<b>East Anatolia</b>	-0.2837	11.48	-0.2898	10.92	-0.2445	3.59
<b>Southeast Anatolia</b>	-0.4323	19.55	-0.4317	18.21	-0.4057	6.4
<b>Constant</b>	12.7745	323.07	12.7694	313.03	12.7857	140.47
<b>F-statistics</b>	286		241.78		77.88	
<b>R-squared</b>	0.3727		0.3569		0.417	
<b>Adj. R-squared</b>	0.3714		0.3554		0.4116	
<b>Root MSE</b>	0.6488		0.6367		0.6923	
<b>Sample Size</b>	16,399		13,101		3,298	

Source: Household Income and Expenditure Survey, 2003.

**Table A. 3. OLS Estimates of Wage Equations With Years of Education, Turkey, 2004**

	Total		Male		Female	
	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>
<b>Female</b>	-0.0810	0.93				
<b>Experience</b>	0.0765	24.32	0.0763	25.03	0.0415	7.54
<b>Experience2</b>	-0.0011	17.51	-0.0011	17.99	-0.0005	3.7
<b>Female*Experience</b>	-0.0349	5.93				
<b>Female*Experience2</b>	0.0007	5.45				
<b>Years of School</b>	0.1089	37.83	0.1092	39.11	0.1363	24.9
<b>Female*Years of School</b>	0.0289	5.13				
<b>Urban Location</b>	0.1076	4.9	0.0888	3.75	0.1964	3.53
<b>Constant</b>	12.8090	237.91	12.7969	235.4	12.7384	126.14
<b>F-statistics</b>	111.78		93.55		33.48	
<b>R-squared</b>	0.3442		0.3245		0.381	
<b>Adj. R-squared</b>	0.3411		0.321		0.3696	
<b>Root MSE</b>	0.6494		0.6288		0.7155	
<b>Sample Size</b>	5,778		4,503		1,275	

Source: Household Income and Expenditure Survey, 2004.

**Table A. 4. OLS Estimates of Wage Equations With Years of Education, Turkey, 2005**

	Total		Male		Female	
	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>
<b>Female</b>	-0.0910	1.14				
<b>Experience</b>	0.0739	25.21	0.0741	27.06	0.0427	7.25
<b>Experience2</b>	-0.0011	18.37	-0.0011	19.72	-0.0006	4.52
<b>Female*Experience</b>	-0.0312	5.51				
<b>Female*Experience2</b>	0.0005	4.12				
<b>Years of School</b>	0.0999	36.01	0.1007	38.78	0.1223	21.95
<b>Female*Years of School</b>	0.0254	4.81				
<b>Urban Location</b>	0.1444	6.89	0.1146	5.31	0.2815	4.65
<b>Constant</b>	-0.8189	17	-0.8012	17.35	-1.0021	9.56
<b>F-statistics</b>	117.22		104.8		29.41	
<b>R-squared</b>	0.3383		0.3315		0.3337	
<b>Adj. R-squared</b>	0.3355		0.3284		0.3223	
<b>Root MSE</b>	0.6366		0.5938		0.7666	
<b>Sample Size</b>	5,987		4,672		1,315	

Source: Household Income and Expenditure Survey, 2005.

**Table A.1b. Heckman Second Step Estimates of Wage Equations with Years of Education, Turkey, 2002**

	Total		Male		Female	
	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>
<b>Female</b>	-0.3036656	-3.28				
<b>Experience</b>	0.1013697	18.03	0.0943511	17.37	0.0805058	10.63
					-	
<b>Experience2</b>	-0.0015766	-13.23	-0.001427	-12.41	0.0013197	-7.4
<b>Female*Experience</b>	-0.0320543	-4.58				
<b>Female*Experience2</b>	0.000544	3.62				
<b>Years of School</b>	0.1194361	40.83	0.1182238	41.33	0.2143974	8.99
<b>Female*Years of School</b>	0.0367154	5.44				
<b>Urban Location</b>	0.0774328	2.63	0.057907	1.85	0.2479845	2.52
<b>Lambda</b>	0.2781288	5.03	0.195429	3.69	0.9638785	3.58
<b>Constant</b>	11.96854	106.67	12.11053	110.48	9.898838	14.04
<b>Sample Size</b>	25204		11814		13390	

**Table A.2b. Heckman Second Step Estimates of Wage Equations with Years of Education, Turkey, 2003**

	Total		Male		Female	
	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>
<b>Female</b>	-0.0535726	-0.99				
<b>Experience</b>	0.0839841	32.86	0.0831922	33.23	0.0556477	13.73
<b>Experience2</b>	-0.0012548	-23.44	-0.0012382	-23.63	-0.0007958	-8.67
<b>Female*Experience</b>	-0.0319396	-8.48				
<b>Female*Experience2</b>	0.0005451	6.63				
<b>Years of School</b>	0.1173376	67.44	0.1173459	68.59	0.1510246	17.52
<b>Female*Years of School</b>	0.0243283	6.67				
<b>Urban Location</b>	0.1420986	5.78	0.120274	4.6	0.2685618	3.82
<b>Lambda</b>	0.0685316	3.77	0.0602289	3.39	0.1876019	2.19
<b>Regions:</b>						
<b>Marmara</b>	-0.246563	-13.27	-0.2468798	-11.79	-0.2504056	-6.17
<b>Aegean</b>	-0.3041873	-16.06	-0.2995267	-14	-0.3162658	-7.69
<b>Mediterranean</b>	-0.4412034	-22.66	-0.4282946	-19.7	-0.5020074	-11.35
<b>Central Anatolia</b>	-0.2908307	-15.67	-0.2900283	-14.25	-0.3130467	-6.27
<b>Black Sea</b>	-0.3297893	-15.79	-0.3037322	-13.2	-0.4699482	-8.88
<b>East Anatolia</b>	-0.2969086	-11.9	-0.2985525	-11.2	-0.312477	-4.17
<b>Southeast Anatolia</b>	-0.4419396	-19.85	-0.4372748	-18.41	-0.4650512	-6.74
<b>Constant</b>	12.64682	242.83	12.65697	240.78	12.28369	49.76
<b>Sample Size</b>	66313		30127		36186	

**Table A.3b. Heckman Second Step Estimates of Wage Equations with Years of Education, Turkey, 2004**

	Total		Male		Female	
	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>	Coefficient	t- Ratio <sup>1</sup>
<b>Female</b>	-0.180579	-1.92				
<b>Experience</b>	0.0876507	16.9	0.0871702	17.21	0.0453515	6.15
<b>Experience2</b>	-0.0013749	-12.95	-0.0013646	-13.17	-0.0005311	-3.32
<b>Female*Experience</b>	-0.0420529	-6.53				
<b>Female*Experience2</b>	0.0008391	6.08				
<b>Years of School</b>	0.1120595	35.95	0.1123666	37.1	0.1466259	10.11
<b>Female*Years of School</b>	0.0368114	5.8				
<b>Urban Location</b>	0.1251271	5.46	0.106976	4.34	0.2137844	3.58
<b>Lambda</b>	0.1292361	2.71	0.1265347	2.7	0.1223085	0.77
<b>Constant</b>	12.56643	120.24	12.55391	119.3	12.42268	29.46
<b>Sample Size</b>	21995		10007		11988	



**Table A. 4b. Heckman Second Step Estimates of Wage Equations with Years of Education, Turkey, 2005**

	Total		Male		Female	
	Coefficient	t- Ratio <sup>1</sup>	Coefficien t	t- Ratio <sup>1</sup>	Coefficien t	t- Ratio <sup>1</sup>
<b>Female</b>	-0.21292	-2.43				
<b>Experience</b>	0.088383	17.17	0.080608	16.73	0.056025	7.3
<b>Experience2</b>	-0.00143	-13.37	-0.00126	-12.71	-0.00093	-5.21
<b>Female*Experience</b>	-0.04083	-6.47				
<b>Female*Experience2</b>	0.000706	5.14				
<b>Years of School</b>	0.104246	33.98	0.102706	35.75	0.158361	11.2
<b>Female*Years of School</b>	0.034831	5.83				
<b>Urban Location</b>	0.164284	7.52	0.12249	5.55	0.352518	5.28
<b>Lambda</b>	0.165925	3.43	0.075097	1.65	0.444995	2.79
<b>Constant</b>	-1.11226	-11.31	-0.93323	-10.09	-2.12751	-5.09
<b>Sample Size</b>	21322		9580		11742	

Table A61. OLS Estimates of Wage Equations With Years of Education by Gender, Turkey, 1994-2005				
	Females		Males	
Inhrwagey~05	Coef.	t ratio	Coef.	t ratio
y2002	<b>1.623.424</b>	<b>16.12</b>	<b>1.223.669</b>	<b>14.97</b>
y2003	<b>1.687.594</b>	<b>21.06</b>	<b>1.248.407</b>	<b>29.53</b>
y2004	<b>1.749.841</b>	<b>15.97</b>	<b>1.396.833</b>	<b>22.96</b>
y2005	<b>1.890.196</b>	<b>18.1</b>	<b>1.552.173</b>	<b>26.67</b>
exper	<b>0.0948503</b>	<b>21.88</b>	<b>0.1267324</b>	<b>63.57</b>
exper2	<b>-0.0013534</b>	<b>-13.82</b>	<b>-0.0018898</b>	<b>-47.33</b>
exper2002	<b>-0.0307439</b>	<b>-4.11</b>	<b>-0.0624425</b>	<b>-10.49</b>
exper2003	<b>-0.0457454</b>	<b>-7.86</b>	<b>-0.0490631</b>	<b>-16.37</b>
exper2004	<b>-0.0539656</b>	<b>-7</b>	<b>-0.0495062</b>	<b>-11.79</b>
exper2005	<b>-0.0525209</b>	<b>-6.85</b>	<b>-0.0519399</b>	<b>-12.86</b>
exper22002	<b>0.0004449</b>	<b>2.65</b>	<b>0.0009781</b>	<b>7.44</b>
exper22003	<b>0.0007036</b>	<b>5.37</b>	<b>0.0007668</b>	<b>12.4</b>
exper22004	<b>0.0009103</b>	<b>5.3</b>	<b>0.0007242</b>	<b>8.34</b>
exper22005	<b>0.0007626</b>	<b>4.36</b>	<b>0.0007453</b>	<b>8.91</b>
yschool	<b>0.1765915</b>	<b>45.5</b>	<b>0.1239308</b>	<b>66.57</b>
yschool2002	<b>-0.0449861</b>	<b>-6.45</b>	<b>0.0079392</b>	<b>1.41</b>
yschool2003	<b>-0.0406431</b>	<b>-7.48</b>	<b>-0.0068225</b>	<b>-2.53</b>
yschool2004	<b>-0.039319</b>	<b>-5.37</b>	<b>-0.0145291</b>	<b>-3.78</b>
yschool2005	<b>-0.0505343</b>	<b>-7.18</b>	<b>-0.0217707</b>	<b>-5.76</b>
urban	<b>0.1566861</b>	<b>6.41</b>	<b>0.0704817</b>	<b>6.8</b>
_cons	<b>-2.826.853</b>	<b>-48.25</b>	<b>-2.351.472</b>	<b>-81.23</b>
No.obs.	<b>10093</b>		<b>37277</b>	
F( 20, 10072)	<b>422.1</b>		<b>1268.65</b>	
Prob > F	<b>0</b>		<b>0</b>	
R-squared	<b>0.456</b>		<b>0.4051</b>	
Adj R-squared	<b>0.4549</b>		<b>0.4048</b>	
Root MSE	<b>0.83144</b>		<b>0.76463</b>	

**Table A62. OLS Estimates of Wage Equations With Levels of Education by Gender, Turkey, 1994-2005**

	Female		Male	
Inhrwagey~05	Coef.	t ratio	Coef.	t ratio
y2002	1.782.383	13.71	1.391.268	13.43
y2003	1.843.256	17.59	1.226.498	21.95
y2004	1.821.026	13.54	1.199.243	15.31
y2005	1.928.663	14.86	1.483.922	19.64
exper	0.098472	22.6	0.130982	64.82
exper2	-0.001563	-15.33	-0.002027	-49.34
exper2002	-0.032338	-4.23	-0.06446	-10.46
exper2003	-0.047489	-7.94	-0.053709	-17.67
exper2004	-0.052407	-6.58	-0.056666	-13.18
exper2005	-0.056189	-7.07	-0.058272	-14.12
exper22002	0.000462	2.64	0.000918	6.66
exper22003	0.000738	5.38	0.0008754	13.88
exper22004	0.000919	5.12	0.0008878	9.95
exper22005	0.000882	4.86	0.0008822	10.32
primary	0.464161	6.91	0.1897861	6.55
primary2002	-0.383741	-3.35	-0.115919	-1.28
primary2003	-0.312158	-3.36	0.0741405	1.55
primary2004	-0.322513	-2.78	0.2574587	3.85
primary2005	-0.244531	-2.16	0.0761512	1.17
middle	0.727458	8.73	0.4580468	13.56
middle2002	-0.37861	-2.64	-0.107113	-0.95
middle2003	-0.320988	-2.83	0.0263846	0.5
middle2004	-0.222193	-1.57	0.1529853	2.06
middle2005	-0.262965	-1.9	-0.042475	-0.6
high	1.491.404	20.59	0.9260962	28.14
high2002	-0.700668	-5.53	-0.136587	-1.34
high2003	-0.69171	-6.84	-0.066207	-1.27
high2004	-0.547902	-4.29	0.0306159	0.42
high2005	-0.743079	-5.95	-0.20591	-2.9
vochigh	1.749.698	18.56	1.056.102	22.32
vochigh2002	-0.860124	-5.67	-0.168549	-1.41
vochigh2003	-0.754977	-5.96	-0.086099	-1.31
vochigh2004	-0.600649	-3.69	0.0385688	0.45
vochigh2005	-0.675178	-4.42	-0.188255	-2.23
tuniversity	2.325.028	31.74	1.549.555	43.58
tuniver~2002	-0.844688	-6.73	-0.070335	-0.7
tuniver~2003	-0.779009	-7.75	-0.106906	-1.95
tuniver~2004	-0.755501	-5.9	-0.047476	-0.62
tuniver~2005	-0.778116	-6.32	-0.226073	-3.05
master	3.453.603	9.23	2.079.116	12.88
master2002	-1.643.798	-3.76	-0.270271	-1.03
master2003	-1.485.262	-3.68	-0.070516	-0.39
master2004	-1.246.945	-2.76	0.0110793	0.05
master2005	-174.081	-3.7	-0.267861	-1.12
urban	0.169885	6.99	0.076438	7.41
_cons	-2.438.887	-31.34	-1.961.864	-54.54
No.obs		10093	No.obs	37277
F( 45, 10047)		196,53	F(45,37231)	577,32
Prob > F	= 0.0000	Prob > F	= 0.0000	

<b>R-squared</b>	<b>=</b>	0.4682	<b>R-squared</b>	<b>=</b>	0.4110
<b>Adj R-squared</b>	<b>=</b>	0.4658	<b>Adj R-squared</b>	<b>=</b>	0.4103
<b>Root MSE</b>	<b>=</b>	.8231	<b>Root MSE</b>	<b>=</b>	.7611