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Is Poverty a Cause or a Result of Poor Labor Market Performance in Turkey?

Ayse Aylin BAYAR[a§] and Serkan DEGIRMENCI[a]

[a] *Faculty of Management, Istanbul Technical University (ITU) and Economic and Social Research Centre (ESRC), ITU*

Abstract

The Turkish economy has shown great economic growth performance from 2000 onwards. Many main macroeconomic indicators show remarkable improvement, including poverty and income inequality. Although poverty has declined; it still has one of the highest ratios compared to other developing countries. In this respect, fighting against poverty and sustaining poverty alleviation are still very substantial issues for Turkey. Similarly, the labor force participation rate of females in the urban labor market has an increasing trend over this period. And, again the female labor force participation rate is one of the lowest ratios among OECD countries. With these examples in mind, this study tries to disentangle these disparate successes and challenges. We believe that Turkey is an appropriate case to explore these types of conflicts. The implications of the labor markets' performance on the economic welfare of society and the constraints of foregoing poverty at the outset of integration to the labor market constitute two research pillars of this inquiry. There are two nested relationships between poverty and labor markets. One of them is an individual's initial position on the face of poverty line before integrating to the labor market. Since the investment in human capital and job search processes are costly in nature, the initial income level and endowments become major determinants of this transition. The other relationship is that employment may not completely prevent the risk of being poor. Low-paid and informal jobs do create and extend in-work poverty. As a developing country, these are the questions that are still unresolved for Turkey. Using the annual cross-sectional micro data of the Income and Living Conditions Survey, this paper aims to empirically analyze the role of poverty on the participation of vulnerable sub-population groups (i.e. women and youth) into the labor market and to inquire into the importance of employment on poverty reduction for the selected years 2006, 2009 and 2011. The basic poverty measures are given in order to reveal the poor's' situation in the Turkish economy. The findings about the poverty level show that there is a decline. Besides, estimation results point out that being below the poverty line decreases the likelihood of being employed to some extent, and that in-work poverty strongly depends on the employment conditions that hold.

Keywords: Poverty, labor force participation
JEL Classification: D10, J22

§Corresponding author: Ayse Aylin Bayar, Faculty of Management, Department of Management Engineering, 34367 Macka – Istanbul / Turkey; Fax: +90-212-240 72 60; email: bayaray@itu.edu.tr.

1. INTRODUCTION

There has been a vast literature on the issues of economic growth, development process, inequality and poverty. Most studies find that at the early stages, economic growth can worsen inequality and raise the poverty for specific income groups. A key reason for this is the growing evidence that economic and financial crises hurt the poor most, because they often lack the means to protect themselves from adverse income and employment shocks (Agenor, 2002). However, as this process of growth continues over time, improvements on the level of income for all layers of society and a reduction of the national poverty rate are expected (Bulir, 2001).[2]

As a developing country, Turkey has undergone various structural transformations to achieve sustainable growth. Especially during the past couple of decades, as a developing country she has been going through a transformation process from an agrarian to an industrial economy. Within this process, many main macroeconomic indicators show remarkable improvement, including poverty and income inequality. Although there is a decline in the poverty ratio; it still remains one of the highest ratios compared to other developing countries. In this respect, fighting against poverty and sustaining poverty alleviation are still very substantial issues for Turkey.

Similar to other macroeconomic indicators, the labor participation rate of females in the labor market has an increasing trend over the last decade. However, Turkish female labor force participation rate is one of the lowest ratios among OECD countries. With all these in mind, this study tries to disentangle these disparate successes and challenges. We believe that Turkey is an appropriate case to explore these types of conflicts. The implications of labor markets' performance on the economic welfare of society and the constraints of foregoing poverty at the outset of integration into the labor market constitute two research pillars of this inquiry.

There are two nested relationships between poverty and labor markets. One of them is an individual's initial position on the face of the poverty line before integrating to the labor market. Since the investment in human capital and job search processes are costly in nature, initial income level and endowments become major determinants of this transition. The other is that employment may not stop the risk

[2] The main belief about the relationship between growth and poverty is that growth reduces the poverty. Everyone benefits from growth if the income of poorer individuals grows at the same rate as does the mean income. Ones who have an income that is under the poverty line will grow more rapidly than ones who have income much nearer to the poverty line. If economic growth is not distributed equally throughout the individuals, then reduction of poverty will be less or more if the incomes of the poor grow less or more than average.

of being poor. Low-paid and informal jobs do create and extend in-work poverty. As a developing country, these are the questions still unresolved for Turkey.

For the first relationship regarding participation in the labor market (and so for employment), it is widely evident, especially in the labor economics literature, that individualistic variables such as sex, age, marital status, urban/rural residence and level of education, as well as the demographic, social, and financial characteristics of the households affect the decision of an individual's labor supply both at intensive and extensive margins. However, we argue that these determinants of labor supply work in a different way according to the initial poverty level or the economic well-being of the household.[3]

Our expectation with that difference was also subject to a discussion in the literature that emphasizes the drawbacks of classical labor supply theory in considering the role of the poverty line. When household income falls below the poverty line, we expect that economic factors will dominate the decision to participate in the labor market and affect the probability of being employed. Since individuals below the poverty line are stressed by economic difficulties they are expected to work more than those above the poverty line (i.e., they have negative elasticity of labor supply). This is unlike the classical labor supply theory, which claims there will be positive labor supply elasticity at low wage levels (upward sloping portion of the canonical model).

The classic theory argues that at low levels of wages the substitution effect dominates the income effect, resulting in a positive elasticity of labor supply (raising wages raises labor supply). At high wage levels, the income effect dominates the substitution effect, resulting in a negative elasticity (raising wages reduces labor supply). As a result, the labor supply curve takes the C shape (backward bending) (Robins, 1930).

The drawback of this model is that it does not offer a clarification on whether, and to what extent, these effects differ at different levels of wages or income. Dessing (2002) shows how this traditional labor supply model fails to take into consideration

[3] The recent evidence also suggests that the distribution of the poor between rural and urban areas varies considerably across regions. There is a significant difference between the sources of income of the rural poor and the urban poor. For instance, in many developing countries like Turkey, the rural poor are predominantly self-employed and continue to rely on direct earnings from agricultural production as their main source of income, whereas the urban poor mainly gain their income from salaried employment and self-employment in small enterprises. Economic growth and external shocks affect these two groups in a very different way because of their different income characteristics. The rural poor are less vulnerable, whereas the urban poor more vulnerable to macroeconomic policy shocks in one country, the other way could be true for the other country. As for Turkey, unpaid family workers have a large share in the rural area and therefore we decide not to consider rural poverty in our investigations. We only focus on urban poverty and the employment relationship because we want to capture a more homogeneous distribution.

the behavior of workers who are living in the households under the poverty line. In practice, especially in the developing world, as wages fall, workers appear to work more to maintain a wage to sustain their lives, representing negative labor supply elasticity.

During the 1960s, there has been evidence of negative labor supply (long hours of work at low wage levels). This development resulted in a backward bending labor supply curve that occurs at low levels of income (Berg, 1961). Most of the research done during that period focused on farmers and peasants which were presumed to have different needs and desires, and therefore different preferences for work and leisure. According to Berg (1961), Myrdal (1971), and Lipton (1983), those workers had a preference for leisure over work and once they reached the minimum level of subsistence income, they reduce their work hours. Others such as Schultz (1964), Miracle and Fetter (1970), Gollas (1972) and Miracle (1976) suggested a different interpretation. They argued that poor living conditions at those times and high rates of mortalities were enough incentives for workers to go back home once they satisfied their minimum requirements.

Other researchers went a different route. Hanoch (1965), Barzel and McDonald (1973), and Sharif (1991), among others, employed the Cobb-Douglas utility function to explain the negative elasticity of supply at low wages; and while Sharma (1989) called it "deprived employment," Horton et al. (1994) called it "the added worker effect."

Dessing (2002) offers a different interpretation of negative labor supply elasticity. Unlike the reservation wage assumption of the conventional model, which is the primary factor in determining whether to participate in the labor market or not, the reversed S shaped model assumes that at very low levels of income, the family must devote all capable members to engage in labor market activities to cover their basic needs, and so they are in a kind of "forced employment."

At incomes below the subsistence level, only the income effect dominates, and leisure is considered a luxury good, producing a labor supply that is negatively sloped. When basic needs are met, the labor supply shrinks (backward bending portion). That is when workers decide to free some of their work time for leisure or home work.

The conventional labor supply model emerges when family income exceeds subsistence level. The labor supply curve slopes upward indicating a positive substitution effect, then slopes backward as a result of a negative income effect.

At extremely low levels of income, the family cannot cover expenses necessary to participate in the labor market (transportation, clothes, etc.), and as Dessing (2002) points out, in very exceptional cases, some family members may not be able to maintain the physical effort needed to complete the job and they are trapped into "forced unemployment."

This situation described by Dessing (2002) as "forced unemployment" is actually the main source of inquiry of the first part in the study. Our expectation is that individuals living in households below the poverty line face challenges involving employment in the labor market, and that these challenges are not solvable in the short-run. Especially, we guess that women and youth in those households are more vulnerable to these problems. Therefore, in line with Dessing (2002), we expect to find that being poor at a household level may hinder the employment of women and youth in Turkey. This is of course subject to an empirical analysis which we have also done.

Thus far, we emphasized that for the poor, whose main income generating asset is labor, employment in the labor market is crucial, since employment enables the poor to earn income to finance basic needs, including food, shelter and other requirements. However, whether employment in the labor market is important for poverty reduction depends on the level of labor income earned. The labor income in turn depends on several factors such as the level of education, occupation and the sector of employment.

For that second relationship as mentioned above, regarding the importance of employment on poverty reduction, the literature mostly considers the employment status as the strongest predictor of poverty. Since the first studies on poverty, employment was regarded as the best way out of such a situation (Rowntree 1918). It is hard to oppose the argument that employment considerably reduces poverty risk, but it should be note that employment does not solve all the problems of poverty. Also, in the current debate on activation, (Barbier 2005; van Berkel and Moller 2002) a job is perceived as the most effective prevention mechanism against falling into poverty, and at the same time as a panacea leading out of poverty.

Despite the fact that employment seems to be the best way out of poverty risk, it also should be recognized that being employed does not necessarily offer protection against poverty. In the relevant literature this so-called 'in-work poverty' which is a complex situation, as it does not refer to the absolute level of income that a single person obtains. Rather, it refers to the overall income of a household – in which at least one person works – in relation to the number of people dependent on that

household income. Therefore, in-work poverty may result from completely different reasons than poverty.

The existing micro-level studies on the working poor point at a crucial characteristic feature of in-work poverty (Nollmann 2009; Peña-Casas and Latta 2004): There are different angles to look at the working poor. On the one hand, they can be regarded as poor persons who are working, on the other as working persons who are poor. Each perspective has far-reaching consequences for the undertaken research: Studies following the latter perspective -working but poor- often stress the relevance of labour-market related factors. The most relevant factors underlined in the literature are family size and structure, part-time work resulting in low earnings, unqualified jobs resulting in low earnings, and unstable jobs. Therefore, the literature shows that in-work-poverty is crucially linked to the status of employment.

In the present study, we also investigate the conditions of being working poor from the perspective of employment, and ask how employment matters for in-work-poverty, controlling for the household characteristics.

The present paper is organized as follows. In the next section the important issues in measuring poverty will be discussed. And also, in the same section we briefly provide the methodology of measuring poverty and explain the methodology that our empirical investigation relies on. Section 3 reveals the data and the empirical results of our investigation. And finally section 4 focuses on some concluding remarks and discussion.

2. METHODOLOGY

Poverty and the measurement of the poverty is a critical point for developing countries. As mentioned before, within the ongoing development process, many countries have to deal with poverty and inequality problems. Therefore, the definitions of poverty and measurement issues have to be discussed more carefully in order to prevent the adverse effects of this developing process.

The first important issue about the poverty relies on its definition. Poverty is defined as a status of a person whose social welfare level is below the minimum level of a

certain living standard of a society determined by some absolute or relative measures.[4]

Before exploring the methodology of the poverty measures, some other crucial issues about measuring poverty will be discussed in this section. As these issues have an impact on the estimations, they play an important role for choosing the right measure for poverty. The *first issue* is to determine the unit of measurement for poverty. In many empirical analyses, households are chosen for this purpose. When we examine the surveys for Turkey, it is seen that surveys include individual and household level data separately. Therefore, data for individuals' and households' total income is available. As for sure, poverty studies for a particular country have to be for the individuals, however at that point, it should be mention that, in a particular household, there may be some individuals who do not have any income who may benefit from the incomes of the other individuals in the household. Therefore, this reality should be taken into account when estimating poverty measures. With this respect, in the literature, most empirical studies take households as the unit of analysis and measure poverty by using overall household disposable income.

The *second issue* is how to handle the different scale of households. This implies that aggregate household income must be adjusted with respect to household size by determining an appropriate *equivalent scale*. The empirical literature suggests various methods of scale adjustment based on the size of households.[5] In the literature there are two different ways of calculating the equivalent scale.[6] In order to make a comparison with the other developing countries, we employ the most commonly used one which is calculated as follows:

[4] More recently, poverty is defined with a multidimensional concept. Not only insufficient income but also lack of access to adequate health services and sanitation, a high degree of illiteracy, and deprivation of basic rights and security are taken into consideration while measuring the poverty level (World Bank, 2000). With the multidimensional poverty, the dimension of the human capital interact in many important ways; for instance, improvements in health conditions lead to higher productivity and enhance the ability of workers to increase their incomes. Nevertheless, in this present paper rather the multidimensional one, we focus on the income poverty.

[5] The equivalent scale is used as a tool to assess individual equivalent disposable income measure.

[6] In order to gain space for the paper, we only mention about the equivalent scale which we used in the calculation of inequalities in the main text. Other equivalent scale is calculated as follows: $N = 1 + \alpha(s_A - 1) + \beta s_K$ where s_A and s_k are the number of adults and children in the household and α and β are their own constant parameters, respectively.

$$N = S^e, \qquad 0 \leq e \leq 1 \tag{1}$$

where S is the household size, e is the elasticity of the rate of scale with respect to household size.[7] In this research, the practice of OECD (1998) is followed and is used to convert the disposable income of households to disposable income per equivalent individual.[8] Then, the disposable income per equivalent individuals is calculated as follows:

$$Y_{ij} = R_i / S^e \tag{2}$$

where R_i and Y_{ij} stand for household income and disposable income per equivalent individual.

Finally, the *third issue* is the choice of an appropriate measure of poverty. For our investigation we employed some common poverty measures that have been used very often in the empirical literature[9]. One of them is head-count ratio (P_0), and the others are the poverty gap ratio (P1) and the Foster-Greer-Thorbecke (P2). The *last important issue* is to identify the poor among the whole population. The problem of this identification is simply resolved by selecting a properly defined poverty line. However, there exists a debate going on to define the poverty line in the literature. Any poverty measure constructed with respect to different poverty lines may cause different poverty rates. Mainly, the poverty line is identified in two different ways, namely the absolute and relative poverty line. The absolute poverty line is determined by calculating the cost of the minimum food requirement of individuals, which is a necessity for sustaining life. There exist different aspects when determining the relative poverty line. Generally one portion of median income (40%, 50% and 60%) is accepted as the poverty line. In the literature, there is not a consensus about the right portion of the median income. In this present work, we employ the relative poverty approach and the poverty line is determined to be the equivalent of 50% of the median disposable income per equivalent individual.[10]

[7] Equation (1) is one of the commonly used ways of calculating an equivalent scale measure in the literature. In one extreme case where there is equal unity, no economies of scale exist and a family of two requires twice as much disposable income as a family of one to reach the same level of welfare. At the other extreme situation where *e* equals zero, economies of scale are perfect, so that a household of two, or for that matter a household of any number, can live exactly as well as a household of one with no increase in their disposable income (Burkhauser *et al.,* 1996). Recent studies on income equality and poverty have used the equivalence scale, which is calculated as in equation (1), and the value of *e* varies slightly between 0.50 and 0.55. OECD (1998) and Atkinson (1995), for example, used 0.5 as a scale value of *e* in the studies for OECD and EU countries respectively.

[8] In this research, the value of 0.5 is employed as elasticity of scale for obtaining the individual equivalent income.

[9] See Kakwani, 1980; Foster et al, 1984; Atkinson 1987, Ravallion, 1994.

[10] Generally the 2.5% proportion of total population is taken as the critical rate for absolute poverty in comparison with the internationally comparable one dollar per day poverty line for Turkey (World Bank, 2000).

a) Measures of Poverty

The common poverty measurements that are used in the empirical analysis are the headcount ratio (P_0), the poverty gap (P1), and the squared poverty gap (P2). They are the first three measures of the Foster-Greer-Thorbecke (FGT) class of poverty measures. The general formula for FGT class of poverty measures depends on a parameter α which takes a value of zero for the headcount, one for the poverty gap, and two for the squared poverty gap in the following expression:

$$P_\alpha = \frac{\sum_{i=1}^{q}\left(1-\frac{y_i}{z}\right)^\alpha}{N} \qquad (3)$$

where N is the size of the sample, z is the poverty line, $(1-y_i)$ is the poverty gap and α is a parameter.

Head-count ratio (P0) shows the simplest way of measuring poverty. This ratio is the proportion of the population whose income level is lower than the pre-determined poverty line.[11]

The poverty gap (P1) measures the extent to which individuals fall below the poverty line as a proportion of the poverty line. This ratio measures the incidence of poverty as it shows the proportion of the individuals who earns less than a given absolute level of income (or in other words, the poverty line). As this gap is a measure of the poverty deficit of the whole population, it is considered to represent the depth of poverty.[12,13]

The squared poverty gap (P2) averages the squares of the poverty gaps relative to the poverty line. This ratio measures the severity of poverty. While the poverty gap ratio measures the distance of the poor from the poverty line, the squared poverty gap measures the square of that distance. For this reason, this gap is a weighted measure and gives more weight to the very poor and therefore this gap takes into account the inequality among the poor.

[11] The headcount ratio (headcount index (P_0) is very common and popular, as it is very easy to understand and measure. However, this ratio is not a good indicator for the poor's' situation in the economy, because it does not indicate how poor the poor are.

[12] The poverty gap is a very useful measurement to assess how much resources would be needed to alleviate poverty through cash transfers perfectly targeted to the poor. For instance, if the poverty gap is equal to 0.40, this means that the cash transfer needed to lift the poor out of poverty each poor person represents 40 percent of the poverty line.

[13] The poverty gap can be expressed in a different way. It could be written as a product of income gap ratio and the headcount index. Poverty gap=Income Gap Ratio*Headcount Index. However, income gap ratio is not a good poverty indicator because it is defined only on the population that is poor, while the poverty gap is defined over the population as a whole.

b) Logistic Regression Model

In this paper, logistic regression analysis is preferred to examine the link between employment and poverty. The logistic regression is used because it allows two discrete outcomes. It is more informative because it enables us to explore probabilities of different possible outcomes of a categorically distributed dependent variable, given a set of independent variables.[14] The common formula of the logistic regression could be written as follows:

$$F(\beta_0 + \beta_1 * X) = \Lambda(\beta_0 + \beta_1 * X) = \Pr(Y_i = 1 \setminus X) = \frac{e^{\beta_0 + \beta_1 * X}}{1 + e^{\beta_0 + \beta_1 * X}} \quad (4)$$

where Y is the dependent variable that takes only 0 or 1 (binary choice) and X is the independent variables.

In this work, first employment is taken as a dependent variable, whereas being under the poverty line, gender, age, education level, homeownership, the education level of household head, and the presence of a child under the age of 4 are the independent variables.

3. DATA AND EMPIRICAL RESULTS

This section aims both to explore the basic descriptive statistics for the data and to investigate the empirical results of the link between the poverty level and employment. Therefore, after presenting a brief general descriptive summary of the Turkish labor market and total household structure of Turkey based on the survey data, the nested relationships between poverty and the labor market will be investigated. As mentioned before, we employ a logistic regression technique to examine the effects of the separate independent variables.

For this research, we use the Income and Living Conditions Survey conducted by the Turkish Statistical Institute (TurkStat) for the years 2006, 2009 and 2011. The data set comprises the information collected through a survey conducted within different parts of the country, and is conducted as a multi-stage stratified cluster sampling.[15]

[14] Independent variables can have binary, real or categorical values.
[15] In the SILC, the entire of the all settlements within the borders of the Republic of Turkey were included within the scope/sample selection. However, the population in the aged home, elderly house, prisons, military barracks, private hospitals, hotels and child care centers together with the immigrant population were excluded out of the scope (SILC, 2011).

Empirical Results

Table 1 reports the brief descriptive summary of households such as the sample size, mean annual income per household and some general measures of poverty.

According to the general descriptive summary statistics in Table 1, the sizes of households in the surveys seem to be stable, and vary from 10,000 and 15,000 whereas the sample size (individuals that are in the sample) varies from 42,000 to 56,000. These numbers make the estimations more comparable over time. The mean households size for the three investigated years are around the value of four. The mean annual income per household appears to increase steadily over time and it is around 13,000 TL in 2006 and reaches 23,000 TL in 2009. The mean equivalent annual incomes per household are around, respectively, 7,600 TL and 13,000 TL for the same years.

Table 1 - General Summary of the Samples

	2006	2009	2011
Total			
Sample Size	42795	45362	56438
Sample Household Size	10920	11870	15024
Median Household Size	4	4	4
Mean Household size	3.91	3.82	3.76
Mean annual income per household	13884.3	19696.7	23025
Mean equivalent annual income per hh	7635.3	10947.5	12883.5
Urban Households (%)	60.6	63.7	66.6
Head-Count Ratio	18.5	16.5	15.2
Poverty Gap Ratio	6.04	4.78	4.28
Foster-Greer-Thorbecke	2.79	2.08	1.80
The Poverty Line (1/2 of median value)	2802.2	4142.5	4769,9

Source: Authors calculations from the data set of TurkStat for the year 2006, 2009 and 2011.

When the whole economy is examined in order to compare the urban households over time, it is seen that the number urban households are higher than rural households for every investigated years. The percentage of urban households is slightly different over the years; it varies from 60% to 66% from 2006 to 2009.

The general poverty measures for the whole sample are also revealed in the same table. The estimates of head-count ratio of the economy over time show that, the poverty level seems to have slightly improved from 2006 to 2011. About 16% of total population lived below the poverty line in the year 2006, whereas for the years 2009 and 2011 nearly 16% and 15% of total population lived below the poverty line. However, this index does not show the severity of poverty. Although the ratio improved over the years, the depth of the poor could worsen for the country. Therefore, more explanatory poverty measures are also given. When we compare the

poverty gap ratios for the same years, there is also an improvement in these ratios. The poverty gap ratio is respectively around 6%, 5% and 4.3%. The squared poverty gap ratios also point out an improvement in poverty. The ratio declined from 2.79% to 1.80% over time. As this ratio takes into account the weighted measure, it shows the inequality of the poor. Therefore an improvement in this index means that the policies that target poverty alleviation are successful.

Table 2 reveals some main descriptive statistics for individuals both below and above the poverty line for the investigated years. It is seen from Table 2 that the sample size of the economy both for the individual base and the household base for the ones lived below the poverty line is lower than the ones that lived above. When we compare the ones living below the poverty line over the time, the number of people seems to slightly rise. When we compare the mean household size of the ones below the poverty line and above the poverty line, it is revealed that households under the poverty line are higher than the others.

Table 2.A.: Descriptive Statistics for Individuals Below the Poverty Line

	2006		**2009**		**2011**	
	Frqency	**%**	**Frqency**	**%**	**Frqency**	**%**
Sample Size	9466		9642		10466	
Household Size	1911		1966		2148	
Gender						
Male	4541	47.97	4585	47.55	5156	48.35
Female	4925	52.03	5057	52.45	5508	51.65
Age Groups						
Age 00-04	1297	13.70	1,316	13.65	1343	12,74
Age 05-11	2061	21.77	1,981	20.55	2158	20,47
Age 12-14	767	8.10	786	8.15	927	8,80
Age 15-19	853	9.01	917	9.51	1060	10,06
Age 20-24	555	5.86	569	5.90	626	5,94
Age 25-29	563	5.95	626	6.49	669	6,35
Age 30-34	730	7.71	689	7.15	754	7,15
Age 35-39	574	6.06	675	7.00	747	7,09
Age 40-44	523	5.53	502	5.21	547	5,19
Age 45-49	332	3.51	345	3.58	434	4,12
Age 50-54	294	3.11	296	3.07	298	2,83
Age 55-59	230	2.43	234	2.43	225	2,13
Age 60-64	164	1.73	176	1.83	199	1,89
Age 65+	523	5.53	530	5.50	553	5,25
Education						
Illiterate	1,621	30.65	1,568	28.25	1,599	26.03
Literate	737	13.93	842	15.17	966	15.73
Primary School	1,974	37.32	1,944	35.03	1,971	32.09
Secondary School	637	12.04	846	15.24	1,156	18.82
High School	196	3.71	220	3.96	268	4.36
Technical High School	106	2.00	99	1.78	136	2.21
University	18	0.34	31	0.56	47	0.77
Social Security Coverage	*239*	*11.25*	*343*	*14.40*	*481*	*20.24*
Marital Status						

Never Married	1218	23.03	1,343	24.20	1541	25.09
Married	3672	69.43	3,800	68.47	4087	66.53
Live Separated	32	0.61	--	--	386	6.28
Widowed	326	6.16	331	5.96	87	1.42
Divorced	41	0.78	76	1.37	42	0.68

Table 2.A. Continued

	2006	**2009**	**2011**		**2006**	**2009**
	Frqency	**%**	**Frqency**	**%**	**Frqency**	**%**
Employment Status	***2124***		***2382***		***2377***	
Paid	392	18.46	426	17.88	572	24.06
Casual Employee	487	22.93	491	20.61	595	25.03
Employer	26	1.22	24	1.01	20	0.84
Self Employed	632	29.76	693	29.09	602	25.33
Unpaid Family Worker	587	27.64	748	31.40	588	24.74
Employment Type	***4767***		***5020***		***5552***	
Full-Time Worker	1687	35.39	1,869	37.23	1958	35,27
Part-Time Worker	437	9.17	481	9.58	407	7,33
Searching for a job	344	7.22	443	8.82	463	8,34
Continuing his/her education	256	5.37	306	6.10	477	8,59
Retired	15	0.31	30	0.60	43	0,77
Seasonal Worker	92	1.93	11	0.22		
Disabled	252	5.29	249	4.96	308	5,55
Housekeeping	1601	33.59	1,578	31.43	1816	32,71
Other	83	1.74	53	1.06	80	1,44
Households Size: Child under 4 years old	836	43.75	839	42.68	896	41.71
Labor Force Participation	2124	44.56	2367	47.15	2372	42.72
Regional Areas						
Istanbul (Istanbul)	183	1.93	177	1.84	214	2.01
Bati Marmara (West Marmara)	326	3.44	388	4.02	357	3.35
Ege (Algerian)	629	6.64	552	5.72	578	5.42
Dogu Marmara (East Marmara)	209	2.21	210	2.18	300	2.81
Bati Anadolu (West Anatolia)	373	3.94	342	3.55	406	3.81
Akdeniz (Mediterranean)	1044	11.03	902	9.35	971	9.11
Orta Anadolu (Central Anatolia)	406	4.29	622	6.45	542	5.08
Bati Karadeniz (West Black Sea)	660	6.97	530	5.50	486	4.56
Dogu Karadeniz (East Black Sea)	276	2.92	268	2.78	230	2.16
Kuzey Dogu Anadolu (Northeast Anatolia)	1256	13.27	1,295	13.43	1410	13.22
Orta Dogu Anadolu (Middleeast Anatolia)	1252	13.23	1,719	17.83	1903	17.85
Guney Dogu Anadolu (Southeast Anatolia)	2852	30.13	2,637	27.35	3267	30.64

Table 2.B.: Descriptive Statistics for Individuals Above the Poverty Line

	2006	2009	2011		2006	2009
	Frqency	**%**	**Frqency**	**%**	**Frqency**	**%**
Household Size	9009		9904		12876	
Gender						
Male	16305	48.92	17596	49.26	22481	49.11
Female	17024	51.08	18124	50.74	23292	50.89
Age Groups						
Age 00-04	2647	7.94	2967	8.31	3483	7,71
Age 05-11	3915	11.75	3954	11.07	5020	11,11
Age 12-14	1701	5.10	1781	4.99	2431	5,38
Age 15-19	3016	9.05	2992	8.38	3831	8,48
Age 20-24	2693	8.08	2820	7.89	3320	7,35
Age 25-29	2569	7.71	3185	8.92	3654	8,09
Age 30-34	2440	7.32	2650	7.42	3630	8,04
Age 35-39	2291	6.87	2492	6.98	3330	7,37
Age 40-44	,443	7.33	2441	6.83	3045	6,74
Age 45-49	2206	6.62	2470	6.91	3156	6,99
Age 50-54	1930	5.79	2153	6.03	2737	6,06
Age 55-59	1576	4.73	1752	4.90	2256	4,99
Age 60-64	1255	3.77	1213	3.40	1757	3,89
Age 65+	2647	7.94	2850	7.98	3525	7,80
Education						
Illiterate	3062	12.30	2977	11.03	3,758	10.88
Literate	1793	7.20	1896	7.03	2,517	7.29
Primary School	9968	40.04	9920	36.76	12,054	34.90
Secondary School	3738	15.01	4501	16.68	6,304	18.25
High School	2639	10.60	2971	11.01	3,493	10.11
Technical High School	1802	7.24	2154	7.98	2,661	7.71
University	1895	7.61	2570	9.52	3,748	10.85
Social Security Coverage	5160	47.37	6565	54.58	9207	59.17
Marital Status						
Never Married	6071	24.38	6324	23.43	8015	23.21
Married	16904	67.90	18467	68.42	23605	68.35
Live Separated	89	0.36	--	--	2117	6.13
Widowed	1516	6.09	1689	6.26	672	1.95
Divorced	317	1.27	509	1.89	126	0.36
Employment Status	**10892**		**12028**		**15559**	
Paid	5217	47.9	6,254	52.00	8654	55.62
Casual Employee	797	7.32	905	7.52	1126	7.24
Employer	641	5.89	548	4.56	669	4.30
Self Employed	2231	20.48	2306	19.17	2797	17.98
Unpaid Family Worker	2006	18.42	2015	16.75	2313	14.87
Employment Type	**22260**		***24143***		***30694***	
Full-Time Worker	9782	43.94	10732	44.45	14027	45,7
Part-Time Worker	1110	4.99	1217	5.04	1468	4,8
Searching for a job	812	3.65	1202	4.98	1150	3,7
Continuing his/her education	1612	7.24	1865	7.72	2681	8,7
Retired	1400	6.29	1534	6.35	1982	6,5

Seasonal Worker	78	0.35	33	0.14		
Disabled	526	2.36	542	2.24	709	2,3
Housekeeping	6486	29.14	6673	27.64	8345	27,2
Other	454	2.04	345	1.43	333	1,1
Households Size: Child under 4 years old	2114	23.47	2352	23.75	2887	22.41

Table 2.B. Continued

	2006	**2009**	**2011**		**2006**	**2009**
	Frqency	**%**	**Frqency**	**%**	**Frqency**	**%**
Labor Force Participation	10892	48.93	12008	49.74	15538	50.62
Regional Areas						
Istanbul (Istanbul)	4010	12.03	4753	13.31	5,752	12.57
Bati Marmara (West Marmara)	2426	7.28	2375	6.65	2,741	5.99
Ege (Algerian)	4246	12.74	4832	13.53	6,137	13.41
Dogu Marmara (East Marmara)	2791	8.37	3078	8.62	3,864	8.44
Bati Anadolu (West Anatolia)	3060	9.18	3350	9.38	4,367	9.54
Akdeniz (Mediterranean)	3109	9.33	3493	9.78	4,699	10.27
Orta Anadolu (Central Anatolia)	2570	7.71	2505	7.01	3,118	6.81
Bati Karadeniz (West Black Sea)	2516	7.55	2412	6.75	3,362	7.34
Dogu Karadeniz (East Black Sea)	2141	6.42	1885	5.28	1,934	4.23
Kuzey Dogu Anadolu (Northeast Anatolia)	2360	7.08	2109	5.90	3,034	6.63
Orta Dogu Anadolu (Middleeast Anatolia)	2042	6.13	2492	6.98	3,280	7.17
Guney Dogu Anadolu (Southeast Anatolia)	2058	6.17	2436	6.82	3,485	7.61

Source: Authors calculations from the data set of TurkStat for the year 2006, 2009 and 2011.

When we compare the age groups of the individuals for two the different groups, it is revealed that the percentage under the age of 11 are higher for individuals below the poverty line. These results indicate that, households that are below the poverty line seem to have more children than the other group. This is true for all investigated years.

It is also seen from table 2 that, individuals above the poverty line are more educated than the others. The individuals below the poverty line mostly have a primary level of schooling or are illiterate (37.3% and 30.65% for 2006 and 32.09% and 27.04% for 2011), whereas individuals above the poverty line have a higher education level. The percentage that graduated from a university is extremely low for individuals that are below the poverty line. This percentage is around 0.5% whereas the percentage of the other individuals who are above the poverty line is around 7% for all years. When gender differential between the two groups is considered, it is seen that the share of females for both groups are high. Besides, the labor force participation ratios for the individuals below the poverty line are around 45% for all years, whereas it is around 50% for the ones who are above the poverty line. This result unfolds two important issues for the Turkish economy. One of them is the low

labor force participation ratio. As seen from the table, for both groups the participation ratios are very low compared with developed countries. And the other one is that even through the labor force participation of individuals below the poverty line is nearly same as the ones above the poverty line, they are still under the poverty line. This result points out a clue about in-work poverty in Turkey. Another striking point that the table reveals is about the social security coverage of the individuals who are in the labor force. The results show that for the individuals below the poverty line, only 11.25% of individuals have a social coverage for the year 2006 and 20.24% for the year 2011. These ratios are extremely low and indicate that most of the workers are in the informal sector. The social coverage ratio is around 50% for the ones that are above the poverty line. Actually, even for the ones above the poverty line, this ratio is still low when we compare these results with the other country cases.

When we examine the employment status of individuals, it is seen that individuals below the poverty line are mainly unpaid family workers and self-employed. Nearly 60% of the total individuals consist of these two groups for all the investigated years. On the contrary, half of the total individuals are paid workers for the individuals above the poverty line.

Comparing individuals in the context of employment type shows that nearly 35% of the individuals have a full time job for the individuals below the poverty line, whereas this ratio is 45% for the other group. This result indicates that even though one third of the individuals have a full time job, they still could not avoid poverty. Another important issue that is revealed from employment type is the results for the housekeeping.[16] The ratio of the housekeeping is around 33% and 28% for individuals below and above the poverty line, respectively.

Regional differences of the individual who are below and above the poverty line indicate that, poor individuals mostly live in the Mediterranean, North East Anatolia, Middle East Anatolia, and South East Anatolia regions. The highest ratio of the poor is especially seen in the South East region. It is nearly 30% for all investigated years. The individuals above the poverty line mostly live in Istanbul and the Aegean part of Turkey. The ratio of individuals is around 12% for all investigated years for both regional areas.

[16] This situation provides evidence of limited accessibility for females to work for Turkey. Especially for the eastern part of Turkey, women are mostly housewives instead of working at a particular job. The low ratio of female workers for the overall sample of Turkey basically results from a limited education and some discriminatory treatment in favor of males. Especially, in the eastern part of Turkey, girls could not reach sufficient education because of their gender, mainly because of religious beliefs and uneducated families.

In the present paper, the primary concern is to investigate the two nested relationships between poverty and labor markets. One relationship that we attempt to reveal is the effect of individuals' initial position (whether below the poverty line or not) before integrating the labor market.[17] As to capture this, a logistic regression model in which we take employment as a dependent variable and being below the poverty line and other human capital variables as independent variables is applied. Table 3a and Table 3b show the results of logit regressions for this purpose.

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Gender (Being a male)	1.804***	1.743***	1.885***
	(0.000)	(0.000)	(0.000)
***Education Level*[1]			
Primary School	0.292***	0.851***	0.279***
	(0.000)	(0.000)	(0.000)
High School	0.591***	1.341***	0.815***
	(0.000)	(0.000)	(0.000)
University	1.865***	2.526***	1.864***
	(0.000)	(0.000)	(0.000)
Marital Status			
Married	0.293***	0.299***	0.278***
	(0.000)	(0.000)	(0.000)
***Age Groups*[2]			
Age (20-24)	1.053***	0.978***	1.340***
	(0.000)	(0.000)	(0.000)
Age (25-29)	1.583***	1.779***	2.117***
	(0.000)	(0.000)	(0.000)
Age (30-34)	1.856***	2.002***	2.347***
	(0.000)	(0.000)	(0.000)
Age (35-39)	1.653***	1.903***	2.385***
	(0.000)	(0.000)	(0.000)
Age (40-44)	0.807***	1.560***	2.155***
	(0.000)	(0.000)	(0.000)
House Ownership			
Owner	-0.152***	-0.237***	-0.293***
	(0.000)	(0.000)	(0.000)
Household Head Education Level*[3]			
Primary School	3.917***	2.917***	1.659***
	(0.000)	(0.000)	(0.000)
High School	3.930***	2.873***	1.630***
	(0.000)	(0.000)	(0.000)
University	3.664***	2.648***	1.354***
	(0.000)	(0.000)	(0.000)
Employment Status of Other Individuals within the Household			

[17] In order to reveal more explanatory results, we employ a logistic regression model only for urban areas. Table 2 shows the differences between the positions of the poor over the regional areas. The labor force attachments of the individuals in rural and urban areas differ from each other. Individuals in the rural areas are more likely to work as an unpaid family worker or be self-employed, whereas the ones in urban areas are paid workers. The poor's' initial position and the decision regarding labor supply is made with different motivation.

Employed	4.021***	3.310***	2.304***
	(0.000)	(0.000)	(0.000)
Having a Child under 4 years old			
Child (00-04)	-0.0588***	-0.0729***	-0.0395***
	(0.000)	(0.000)	(0.000)

Table 3.A. Parameter Estimates from Logit Regression: Regular Employment Function

Table 3.A. Continued

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Regional Areas[4]			
Istanbul	0.652***	0.275***	0.248***
	(0.000)	(0.000)	(0.000)
Bati Marmara (West Marmara)	0.916***	0.541***	0.402***
	(0.000)	(0.000)	(0.000)
Ege (Algerian)	0.472***	0.286***	0.371***
	(0.000)	(0.000)	(0.000)
Dogu Marmara (East Marmara)	0.785***	0.188***	0.242***
	(0.000)	(0.000)	(0.000)
Bati Anadolu (West Anatolia)	0.257***	0.220***	0.243***
	(0.000)	(0.000)	(0.000)
Akdeniz (Mediterranean)	0.415***	0.146***	0.281***
	(0.000)	(0.000)	(0.000)
Orta Anadolu (Central Anatolia)	0.182***	0.116***	0.173***
	(0.000)	(0.000)	(0.000)
Bati Karadeniz (West Black Sea)	0.488***	0.419***	0.543***
	(0.000)	(0.000)	(0.000)
Dogu Karadeniz (East Black Sea)	0.751***	0.362***	0.525***
	(0.000)	(0.000)	(0.000)
Kuzey Dogu Anadolu (Northeast Anatolia)	0.265***	0.157***	0.253***
	(0.000)	(0.000)	(0.000)
Orta Dogu Anadolu (Middleeast Anatolia)	-0.155***	0.0622***	-0.0509***
	(0.000)	(0.000)	(0.000)
Constant	-6.447***	-6.422***	-5.255***
	(0.000)	(0.000)	(0.000)
Observations	23,521,282	24,746,717	37,049,856

p values in parentheses *** p<0.01, ** p<0.05, * p<0.1; Dependent Variable: Employment [1] illiterate; [2] Age 15-19; [3] illiterate; [4] Guney Dogu Anadolu (Southeast Anatolia) are excluded from the logit model to prevent the collinearity problem

Table 3a show the parameter estimation results for a regular labor supply function. We first apply this regression in order to take the estimation results as a control tool. By employing this control regression, we are able to examine whether the impact of being below the poverty line on employment is significant or not. Our findings for the estimated logistic regression for a regular labor supply function reveal that all independent variables (being a male, education levels, being married, different age groups, being a house owner, household head education level, being employed by other individuals within the household, having a small child and different regional areas) have a statistically significant effect on employment. This proves the importance of all the variables on the employment of the individuals.

As observed from Table 3a, the male dummy variable coefficient is positive for all years, and this result shows that being a male will increase the opportunity of employment over a female who has the same level of experience, job tenure, education and other human capital issues.

The education variable also has positive effect on employment for all years. For the overall sample, primary schooling level brings an advantage to the individuals as

compared to others. The same is true for all other subcategories. The highest effect on employment is from the university level dummy variable. Besides, being married also has a positive effect on employment. This means individuals who are married are more likely to become attached to the labor force than other individuals. All different age categories have a positive effect on the employment. Having a small child in the household has a negative impact on the employment. This result is consistent with the expectations, as female participation in labor force mostly depends on the having a child in Turkey, and once women have a child they may decide not to participate in the labor force. The effects of each different regional area have a positive effect on employment, except the Middle East Anatolian part. Only this regional area has a negative impact on employment.

Table 3.B. Parameter Estimates from Logit Regression: Below the Poverty Line

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Below the poverty line	-0.323***	-0.241***	-0.131***
	(0.000)	(0.000)	(0.000)
Gender (Being a male)	1.808***	1.747***	1.888***
	(0.000)	(0.000)	(0.000)
***Education Level*[1]**			
Primary School	0.261***	0.822***	0.267***
	(0.000)	(0.000)	(0.000)
High School	0.546***	1.294***	0.798***
	(0.000)	(0.000)	(0.000)
University	1.811***	2.477***	1.843***
	(0.000)	(0.000)	(0.000)
Marital Status			
Married	0.295***	0.296***	0.275***
	(0.000)	(0.000)	(0.000)
***Age Groups*[2]**			
Age (20-24)	1.044***	0.966***	1.342***
	(0.000)	(0.000)	(0.000)
Age (25-29)	1.575***	1.764***	2.118***
	(0.000)	(0.000)	(0.000)
Age (30-34)	1.855***	1.992***	2.348***
	(0.000)	(0.000)	(0.000)
Age (35-39)	1.644***	1.891***	2.389***
	(0.000)	(0.000)	(0.000)
Age (40-44)	0.795***	1.542***	2.159***
	(0.000)	(0.000)	(0.000)
House Ownership			
Owner	-0.175***	-0.251***	-0.300***
	(0.000)	(0.000)	(0.000)
Household Head Education Level[3]			
Primary School	3.941***	2.935***	1.659***
	(0.000)	(0.000)	(0.000)
High School	3.924***	2.875***	1.626***
	(0.000)	(0.000)	(0.000)
University	3.654***	2.638***	1.350***
	(0.000)	(0.000)	(0.000)
Employment Status of Other Individuals within the Household			
Employed	4.013***	3.303***	2.299***
	(0.000)	(0.000)	(0.000)
Having a Child under 4 years old			
Child (00-04)	-0.0463***	-0.0680***	-0.0325***
	(0.000)	(0.000)	(0.000)

Table 3.B. Continued

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Regional Areas[4]			
Istanbul	0.543***	0.218***	0.212***
	(0.000)	(0.000)	(0.000)
Bati Marmara (West Marmara)	0.826***	0.491***	0.371***
	(0.000)	(0.000)	(0.000)
Ege (Algerian)	0.3723***	0.241***	0.338***
	(0.000)	(0.000)	(0.000)
Dogu Marmara (East Marmara)	0.681***	0.134***	0.208***
	(0.000)	(0.000)	(0.000)
Bati Anadolu (West Anatolia)	0.157***	0.176***	0.211***
	(0.000)	(0.000)	(0.000)
Akdeniz (Mediterranean)	0.341***	0.120***	0.256***
	(0.000)	(0.000)	(0.000)
Orta Anadolu (Central Anatolia)	0.0861***	0.0745***	0.142***
	(0.000)	(0.000)	(0.000)
Bati Karadeniz (West Black Sea)	0.414***	0.385***	0.512***
	(0.000)	(0.000)	(0.000)
Dogu Karadeniz (East Black Sea)	0.657***	0.315***	0.494***
	(0.000)	(0.000)	(0.000)
Kuzey Dogu Anadolu (Northeast Anatolia)	0.185***	0.141***	0.238***
	(0.000)	(0.000)	(0.000)
Orta Dogu Anadolu (Middleeast Anatolia)	-0.240***	0.0723***	-0.0665***
	(0.000)	(0.000)	(0.000)
Constant	-6.272***	-6.300***	-5.195***
	(0.000)	(0.000)	(0.000)
Observations	23,521,282	24,724,268	37,049,856

p values in parentheses *** p<0.01, ** p<0.05, * p<0.1; Dependent Variable: Employment [1] illiterate; [2] Age 15-19; [3] illiterate; [4] Guney Dogu Anadolu (Southeast Anatolia) are excluded from the logit model to prevent the collinearity problem

Table 3b shows the estimation results of the logistic regression model with the independent variable of being below the poverty line. All the variables in the table are statistically significant for all investigated years. In all years' regression outcomes, it is seen that being below the poverty line leads to a negative impact on the employment of the individuals for the urban areas. This result is consistent with the expectations. Being below the poverty line could cause some difficulties in being employed for the individual. Since the human capital and job search process is a costly in nature, these individuals' initial position plays a major role on employment. The higher ratio of poor leads to a lower employment in the population. The estimation results of the other human capital and endowments variables give the same results as in Table 3a.

For the second purpose, we use another logistic regression model. Table 3c shows the results of this investigation. As we want to explore whether employment may or may not help individuals avoid the risk of being poor, the estimation results will explain the importance of employment on poverty reduction. In one respect, in

order to avoid poverty, individuals will benefit from being employed. Therefore, we use a logistic regression where being below the poverty line is the dependent variable, and being employed is the independent variable. We expect to find a positive sign for the employment variable. This means higher employment will lead to lower poor individuals.

Table 3.C. Parameter Estimates from Logit Regression: Employment

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Employment	-0.369***	-0.297***	-0.158***
	(0.000)	(0.000)	(0.000)
Gender (Being a male)	0.232***	0.264***	0.464***
	(0.000)	(0.000)	(0.000)
***Education Level*[1]			
Primary School	-0.915***	-0.955***	-0.684***
	(0.000)	(0.000)	(0.000)
High School	-1.794***	-2.330***	-1.301***
	(0.000)	(0.000)	(0.000)
University	-3.492***	-3.184***	-3.312***
	(0.000)	(0.000)	(0.000)
Marital Status			
Married	-0.0363***	-0.164***	-0.546***
	(0.000)	(0.000)	(0.000)
***Age Groups*[2]			
Age (20-24)	-0.423***	-0.709***	0.339***
	(0.000)	(0.000)	(0.000)
Age (25-29)	-0.582***	-1.006***	0.102***
	(0.000)	(0.000)	(0.000)
Age (30-34)	-0.433***	-0.725***	0.182***
	(0.000)	(0.000)	(0.000)
Age (35-39)	-0.549***	-0.912***	0.489***
	(0.000)	(0.000)	(0.000)
Age (40-44)	-0.560***	-1.112***	0.527***
	(0.000)	(0.000)	(0.000)
House Ownership			
Owner	-0.878***	-0.835***	-0.942***
	(0.000)	(0.000)	(0.000)
Household Head Education Level[3]			
Primary School	0.429***	0.380***	-0.117***
	(0.000)	(0.000)	(0.000)
High School	0.0722***	0.361***	-0.528***
	(0.000)	(0.000)	(0.000)
University	0.247***	-0.606***	-0.517***
	(0.000)	(0.000)	(0.000)
Employment Status of Other Individuals within the Household			
Employed	-0.345***	-0.462***	-0.678***
	(0.000)	(0.000)	(0.000)
Having a Child under 4 years old			
Child (00-04)	0.498***	0.313***	0.739***
	(0.000)	(0.000)	(0.000)

Table 3.C. Continued

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Regional Areas[4]			
Istanbul	-2.657***	-2.711***	-2.819***
	(0.000)	(0.000)	(0.000)
Bati Marmara (West Marmara)	-1.707***	-2.150***	-1.911***
	(0.000)	(0.000)	(0.000)
Ege (Algerian)	-1.812***	-1.654***	-2.314***
	(0.000)	(0.000)	(0.000)
Dogu Marmara (East Marmara)	-2.093***	-2.264***	-2.391***
	(0.000)	(0.000)	(0.000)
Bati Anadolu (West Anatolia)	-2.034***	-1.529***	-2.008***
	(0.000)	(0.000)	(0.000)
Akdeniz (Mediterranean)	-1.114***	-0.818***	-1.207***
	(0.000)	(0.000)	(0.000)
Orta Anadolu (Central Anatolia)	-1.831***	-1.118***	-1.700***
	(0.000)	(0.000)	(0.000)
Bati Karadeniz (West Black Sea)	-1.146***	-1.204***	-1.792***
	(0.000)	(0.000)	(0.000)
Dogu Karadeniz (East Black Sea)	-1.439***	-1.444***	-1.869***
	(0.000)	(0.000)	(0.000)
Kuzey Dogu Anadolu (Northeast Anatolia)	-1.228***	-0.549***	-0.597***
	(0.000)	(0.000)	(0.000)
Orta Dogu Anadolu (Middleeast Anatolia)	-1.286***	-0.0885***	-0.599***
	(0.000)	(0.000)	(0.000)
Constant	1.473***	1.882***	0.775***
	(0.000)	(0.000)	(0.000)
Observations	23,521,282	24,724,268	37,049,856

p values in parentheses *** p<0.01, ** p<0.05, * p<0.1; Dependent Variable: Employment [1] illiterate; [2] Age 15-19; [3] illiterate; [4] Guney Dogu Anadolu (Southeast Anatolia) are excluded from the logit model to prevent the collinearity problem

On the contrary, the estimation results show that being employed has a negative impact on being below the poverty line. This means that higher employment will lead fewer individuals to be below the poverty line. Actually this is not a surprising result, but it is inconsistent with our expectation. Employment enables the poor to earn sufficient income to finance its basic needs; therefore it is reasonable to find a negative sign for this variable. Employment is one of the best ways to avoid poverty, but one also has to keep in mind that in some developing countries employment does not prevent individuals from being impoverished. Especially when we consider vulnerable groups like females or young individuals, there exists in-work poverty. Therefore we wonder if these estimation results will be different or not for these groups, and we separately employ logit regression model for females and young individuals aged from 15 to 19.

Table 3.D. Parameter Estimates from Logit Regression:: Employment (By Female)

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Employment	0.354***	0.278***	-0.0146***
	(0.000)	(0.000)	(0.000)
***Education Level*[1]			
Primary School	-0.987***	-1.204***	-0.712***
	(0.000)	(0.000)	(0.000)
High School	-2.018***	-2.534***	-1.331***
	(0.000)	(0.000)	(0.000)
University	-3.863***	-3.791***	-3.588***
	(0.000)	(0.000)	(0.000)
Marital Status			
Married	-0.309***	-0.307***	-0.727***
	(0.000)	(0.000)	(0.000)
***Age Groups*[2]			
Age (20-24)	-0.368***	-0.675***	0.445***
	(0.000)	(0.000)	(0.000)
Age (25-29)	-0.686***	-0.898***	0.167***
	(0.000)	(0.000)	(0.000)
Age (30-34)	-0.366***	-0.680***	0.356***
	(0.000)	(0.000)	(0.000)
Age (35-39)	-0.623***	-1.054***	0.574***
	(0.000)	(0.000)	(0.000)
Age (40-44)	-0.537***	-1.234***	0.476***
	(0.000)	(0.000)	(0.000)
House Ownership			
Owner	-0.809***	-0.828***	-0.961***
	(0.000)	(0.000)	(0.000)
Household Head Education Level[3]			
Primary School	0.352***	0.603***	-0.0129***
	(0.000)	(0.000)	(0.002)
High School	-0.282***	0.968***	-0.452***
	(0.000)	(0.000)	(0.000)
University	---	-0.355***	-0.623***
	---	(0.000)	(0.000)
Employment Status of Other Individuals within the Household			
Employed	-0.681***	-0.688***	-0.642***
	(0.000)	(0.000)	(0.000)
Having a Child under 4 years old			
Child (00-04)	0.513***	0.340***	0.782***
	(0.000)	(0.000)	(0.000)

Table 3.D. continued

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Regional Areas[4]			
Istanbul	-2.461***	-2.634***	-2.667***
	(0.000)	(0.000)	(0.000)
Bati Marmara (West Marmara)	-1.519***	-2.141***	-1.832***
	(0.000)	(0.000)	(0.000)
Ege (Algerian)	-1.515***	-1.543***	-2.198***
	(0.000)	(0.000)	(0.000)
Dogu Marmara (East Marmara)	-1.891***	-2.289***	-2.264***
	(0.000)	(0.000)	(0.000)
Bati Anadolu (West Anatolia)	-1.816***	-1.429***	-1.857***
	(0.000)	(0.000)	(0.000)
Akdeniz (Mediterranean)	-0.851***	-0.666***	-1.170***
	(0.000)	(0.000)	(0.000)
Orta Anadolu (Central Anatolia)	-1.650***	-0.875***	-1.580***
	(0.000)	(0.000)	(0.000)
Bati Karadeniz (West Black Sea)	-0.988***	-0.977***	-1.850***
	(0.000)	(0.000)	(0.000)
Dogu Karadeniz (East Black Sea)	-1.331***	-1.323***	-1.669***
	(0.000)	(0.000)	(0.000)
Kuzey Dogu Anadolu (Northeast Anatolia)	-1.075***	-0.543***	-0.592***
	(0.000)	(0.000)	(0.000)
Orta Dogu Anadolu (Middleeast Anatolia)	-1.241***	-0.247***	-0.658***
	(0.000)	(0.000)	(0.000)
Constant	1.584***	2.084***	0.768***
	(0.000)	(0.000)	(0.000)
Observations	11,700,161	12,346,599	18,781,587

p values in parentheses *** p<0.01, ** p<0.05, * p<0.1; Dependent Variable: Employment [1] illiterate; [2] Age 15-19; [3] illiterate; [4] Guney Dogu Anadolu (Southeast Anatolia) are excluded from the logit model to prevent the collinearity problem

The estimation results for the same regressions for females (15-19 year-old) are given in table 3d. The results indicate that for female individuals, being employed has a positive impact on the being below the poverty line. This result leads to the conclusion that in-work poverty is common for these individuals. Employment cannot prevent females from being impoverished. Even if they have a job; they are not able to improve their income level. Our findings are true for the years of 2006 and 2009. For the year 2011, being employed for females has a positive effect on being below the poverty line. When we examine the other human capital variables, it is seen that all subcategories of the education level have a negative effect on being below the poverty line. This means that being educated helps individuals avoid poverty. This conclusion is also valid for being married and for different age category variables. Having a child less than 4 years old leads females to remain below the poverty line. It also has a positive impact on being below the poverty line.

Table 3.E. Parameter Estimates from Logit Regression:: Employment (By Female)

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Employment	0.00293	0.234***	0.241***
	(0.000)	(0.000)	(0.000)
Gender (Being a male)	0.0566***	0.0245***	0.0283***
	(0.000)	(0.000)	(0.000)
***Education Level*[1]			
Primary School	-0.717***	-0.434***	-0.587***
	(0.000)	(0.000)	(0.000)
High School	-1.596***	-1.518***	-1.479***
	(0.000)	(0.000)	(0.000)
University	-3.141***	-2.441***	-3.037***
	(0.000)	(0.000)	(0.000)
Marital Status			
Married	-0.108***	-0.434***	-0.786***
	(0.000)	(0.000)	(0.000)
House Ownership			
Owner	-0.562***	-0.587***	-0.627***
	(0.000)	(0.000)	(0.000)
Household Head Education Level[3]			
Primary School	-0.148***	-0.247***	0.365***
	(0.000)	(0.000)	(0.000)
High School	-0.762***	-0.164***	0.218***
	(0.000)	(0.000)	(0.000)
University	1.306***	0.131***	-0.786***
	(0.000)	(0.000)	(0.000)
Employment Status of Other Individuals within the Household			
Employed	-0.405***	-0.348***	-0.836***
	(0.000)	(0.000)	(0.000)
Having a Child under 4 years old			
Child (00-04)	0.424***	0.332***	0.785***
	(0.000)	(0.000)	(0.000)
Regional Areas[4]			
Istanbul	-2.993***	-3.087***	-2.721***
	(0.000)	(0.000)	(0.000)
Bati Marmara (West Marmara)	-1.655***	-1.739***	-2.298***
	(0.000)	(0.000)	(0.000)
Ege (Algerian)	-1.688***	-1.994***	-2.539***
	(0.000)	(0.000)	(0.000)
Dogu Marmara (East Marmara)	-2.117***	-2.608***	-2.312***
	(0.000)	(0.000)	(0.000)
Bati Anadolu (West Anatolia)	-2.061***	-1.751***	-1.887***
	(0.000)	(0.000)	(0.000)
Akdeniz (Mediterranean)	-1.072***	-0.915***	-1.202***
	(0.000)	(0.000)	(0.000)
Orta Anadolu (Central Anatolia)	-1.898***	-1.408***	-1.515***
	(0.000)	(0.000)	(0.000)
Bati Karadeniz (West Black Sea)	-1.222***	-1.293***	-1.760***
	(0.000)	(0.000)	(0.000)
Dogu Karadeniz (East Black Sea)	-1.638***	-1.712***	-2.002***
	(0.000)	(0.000)	(0.000)
Kuzey Dogu Anadolu (Northeast Anatolia)	-1.042***	-0.249***	-0.603***
	(0.000)	(0.000)	(0.000)
Orta Dogu Anadolu (Middleeast Anatolia)	-0.793***	-0.292***	-0.613***
	(0.000)	(0.000)	(0.000)
Constant	1.200***	1.042***	1.345***
	(0.000)	(0.000)	(0.000)
Observations	9,872,265	9,796,586	8,219,011

p values in parentheses *** p<0.01, ** p<0.05, * p<0.1; Dependent Variable: Employment [1] illiterate; [2] Age 15-19; [3] illiterate; [4] Guney Dogu Anadolu (Southeast Anatolia) are excluded from the logit model to prevent the collinearity problem

When the same exercise is done for young individuals who are aged between 15 and 19 years old, the estimation results are given in table 3d. The results show that for younger individuals, being employed has a positive impact on the being below the poverty line. Being employed could not stop the risk of being poor for young individuals. The other variables' results are same as the previous logistic regression estimations.

Table 4a-4e show the marginal effects of parameter estimates from these logistic regression models.

Table 4.A. Marginal Effects of Parameter Estimates from Logit Models: Regular Emp Func

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Gender (Being a male)	0.404***	0.404***	0.415***
	(0.000329)	(0.000295)	(0.000228)
***Education Level*[1]			
Primary School	0.0695***	0.209***	0.0653***
	(0.000897)	(0.000908)	(0.000605)
High School	0.140***	0.319***	0.191***
	(0.000906)	(0.000852)	(0.000587)
University	0.429***	0.516***	0.433***
	(0.000819)	(0.000537)	(0.000566)
Marital Status			
Married	0.0688***	0.0730***	0.0638***
	(0.000461)	(0.000432)	(0.000273)
***Age Groups*[2]			
Age (20-24)	0.256***	0.239***	0.323***
	(0.000521)	(0.000475)	(0.000365)
Age (25-29)	0.376***	0.410***	0.479***
	(0.000543)	(0.000438)	(0.000289)
Age (30-34)	0.432***	0.450***	0.517***
	(0.000570)	(0.000446)	(0.000265)
Age (35-39)	0.390***	0.430***	0.519***
	(0.000626)	(0.000481)	(0.000261)
Age (40-44)	0.198***	0.364***	0.482***
	(0.000767)	(0.000553)	(0.000284)
House Ownership			
Owner	-0.0360***	-0.0581***	-0.0684***
	(0.000322)	(0.000300)	(0.000227)
Household Head Education Level[3]			
Primary School	0.679***	0.556***	0.393***
	(0.000284)	(0.000300)	(0.000368)
High School	0.663***	0.548***	0.386***
	(0.000277)	(0.000307)	(0.000378)
University	0.605***	0.501***	0.326***
	(0.000339)	(0.000453)	(0.000648)
Employment Status of Other Individuals within the Household			
Employed	0.761***	0.674***	0.496***
	(0.000236)	(0.000241)	(0.000195)
Having a Child under 4 years old			
Child (00-04)	-0.0139***	-0.0179***	-0.00916***
	(0.000377)	(0.000378)	(0.000288)

Table 4.A. Continued

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Regional Areas[4]			
Istanbul	0.158***	0.0680***	0.0585***
	(0.000658)	(0.000576)	(0.000467)
Bati Marmara (West Marmara)	0.225***	0.134***	0.0972***
	(0.00107)	(0.000948)	(0.000743)
Ege (Algerian)	0.115***	0.0710***	0.0889***
	(0.000757)	(0.000669)	(0.000534)
Dogu Marmara (East Marmara)	0.193***	0.0466***	0.0576***
	(0.000783)	(0.000673)	(0.000538)
Bati Anadolu (West Anatolia)	0.0619***	0.0544***	0.0577***
	(0.000751)	(0.000663)	(0.000536)
Akdeniz (Mediterranean)	0.101***	0.0361***	0.0669***
	(0.000758)	(0.000671)	(0.000533)
Orta Anadolu (Central Anatolia)	0.0438***	0.0287***	0.0410***
	(0.000982)	(0.000896)	(0.000700)
Bati Karadeniz (West Black Sea)	0.120***	0.104***	0.132***
	(0.000937)	(0.000857)	(0.000700)
Dogu Karadeniz (East Black Sea)	0.185***	0.0900***	0.128***
	(0.00126)	(0.00123)	(0.00101)
Kuzey Dogu Anadolu (Northeast Anatolia)	0.0643***	0.0390***	0.0604***
	(0.00133)	(0.00130)	(0.00110)
Orta Dogu Anadolu (Middleeast Anatolia)	-0.0361***	0.0153***	-0.0118***
	(0.000971)	(0.00101)	(0.000755)
Observations	23,521,282	24,724,268	37,049,856

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

The results from the Table 4a indicate that being male brings a 40.4%, 40.4% and 41.5% increase in the probability of employment, for the years 2006, 2009 and 2011, respectively. When we examine the education level variables, having a higher education increases the employment possibilites of individuals. This result is also true for age level variables. However, one exception is applied for the age of 30-35 and 40-44 year old individuals. With the higher age level, the impact is lowered when we compared it with the younger ones. Also, the higher education level of the household head brings an increase in the probability of employment. Besides, having a child under 4 years old brings around a 15% decrease in the probability of employment for all investigated years. The highest contribution the to probability of employment is the result from the West Marmara region for the years 2006 and 2009, and the West Black Sea region for the year 2011.

Table 4b reveals that, being below the poverty line brings a 7%, 6% and 3% decrease in the probability of employment for all years, respectively. In the control group, the marginal effect of being male on employment is nearly same as here. Again, higher education level leads an increase in the probability of employment.

Table 4.B. Marginal Effects of Parameter Estimates from Logit Models: Below Poverty line

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Below the poverty line	-0.0739***	-0.0583***	-0.0301***
	(0.000515)	(0.000520)	(0.000424)
Gender (Being a male)	0.405***	0.405***	0.416***
	(0.000329)	(0.000295)	(0.000228)
***Education Level*[1]			
Primary School	0.0621***	0.202***	0.0625***
	(0.000900)	(0.000913)	(0.000606)
High School	0.129***	0.309***	0.187***
	(0.000912)	(0.000864)	(0.000590)
University	0.419***	0.510***	0.429***
	(0.000842)	(0.000553)	(0.000574)
Marital Status			
Married	0.0692***	0.0723***	0.0631***
	(0.000461)	(0.000433)	(0.000273)
***Age Groups*[2]			
Age (20-24)	0.254***	0.237***	0.323***
	(0.000523)	(0.000477)	(0.000365)
Age (25-29)	0.375***	0.407***	0.479***
	(0.000545)	(0.000440)	(0.000289)
Age (30-34)	0.432***	0.448***	0.517***
	(0.000571)	(0.000448)	(0.000265)
Age (35-39)	0.388***	0.427***	0.520***
	(0.000629)	(0.000484)	(0.000261)
Age (40-44)	0.195***	0.361***	0.483***
	(0.000768)	(0.000557)	(0.000283)
House Ownership			
Owner	-0.0413***	-0.0615***	-0.0700***
	(0.000324)	(0.000302)	(0.000228)
Household Head Education Level[3]			
Primary School	0.681***	0.558***	0.392***
	(0.000282)	(0.000299)	(0.000368)
High School	0.663***	0.548***	0.385***
	(0.000278)	(0.000307)	(0.000378)
University	0.604***	0.500***	0.325***
	(0.000341)	(0.000456)	(0.000649)
Employment Status of Other Individuals within the Household			
Employed	0.761***	0.673***	0.495***
	(0.000237)	(0.000242)	(0.000196)
Having a Child under 4 years old			
Child (00-04)	-0.0109***	-0.0167***	-0.00754***
	(0.000379)	(0.000379)	(0.000289)

Table 4.B. Continued

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Regional Areas[4]			
Istanbul	0.131***	0.0538***	0.0499***
	(0.000686)	(0.000590)	(0.000481)
Bati Marmara (West Marmara)	0.203***	0.122***	0.0895***
	(0.00110)	(0.000960)	(0.000749)
Ege (Algerian)	0.0903***	0.0598***	0.0807***
	(0.000776)	(0.000676)	(0.000545)
Dogu Marmara (East Marmara)	0.167***	0.0330***	0.0493***
	(0.000812)	(0.000682)	(0.000549)
Bati Anadolu (West Anatolia)	0.0376***	0.0436***	0.0500***
	(0.000764)	(0.000669)	(0.000545)
Akdeniz (Mediterranean)	0.0826***	0.0296***	0.0608***
	(0.000767)	(0.000673)	(0.000538)
Orta Anadolu (Central Anatolia)	0.0205***	0.0184***	0.0337***
	(0.000983)	(0.000897)	(0.000704)
Bati Karadeniz (West Black Sea)	0.101***	0.0959***	0.124***
	(0.000946)	(0.000863)	(0.000708)
Dogu Karadeniz (East Black Sea)	0.162***	0.0784***	0.120***
	(0.00128)	(0.00124)	(0.00102)
Kuzey Dogu Anadolu (Northeast Anatolia)	0.0446***	0.0349***	0.0569***
	(0.00132)	(0.00130)	(0.00110)
Orta Dogu Anadolu (Middleeast Anatolia)	-0.0552***	0.0178***	-0.0153***
	(0.000956)	(0.00101)	(0.000754)
Observations	23,521,282	24,724,268	37,049,856

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

Having a child under 4 years old brings around a 2% decrease in the probability of employment. When we compare these marginal effect results with the control group, it is seen that having a child is slightly higher than these results. Also, all subcategories of the age level lead an increase to the probability of employment. Individuals between the age of 40 and 44 years old have the lowest contribution to the probability of employment. When the regional areas are examined closely, the findings show that all regional areas, except the Middle East Anatolia part brings an increase in the probability of employment. The highest contribution comes from the West Marmara region (brings a 20.3% increase) for the year 2006 and West Black sea region (brings a 12.4% increase) for the year 2011.

Table 4c reveals the results of the effect of being employed on being below the poverty line. The findings point out that being employed brings a 2.2%, 1.4% and 0.5% decrease in the probability of being below the poverty line for the years 2006, 2009 and 2011, respectively.

Table 4.C. Marginal Effects of Parameter Estimates from Logit Models: EMPLOYMENT

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Employment	-0.0223***	-0.0138***	-0.00574***
	(0.000137)	(0.000104)	(7.16e-05)
Gender (Being a male)	0.0141***	0.0123***	0.0172***
	(0.000133)	(9.87e-05)	(6.91e-05)
***Education Level*[1]**			
Primary School	-0.0528***	-0.0404***	-0.0238***
	(0.000158)	(0.000119)	(7.66e-05)
High School	-0.110***	-0.122***	-0.0451***
	(0.000215)	(0.000222)	(8.52e-05)
University	-0.0869***	-0.0681***	-0.0544***
	(0.000106)	(8.95e-05)	(6.86e-05)
Marital Status			
Married	-0.00222***	-0.00773***	-0.0220***
	(0.000151)	(0.000120)	(7.69e-05)
***Age Groups*[2]**			
Age (20-24)	-0.0229***	-0.0269***	0.0141***
	(0.000131)	(8.95e-05)	(0.000111)
Age (25-29)	-0.0304***	-0.0363***	0.00388***
	(0.000137)	(9.31e-05)	(9.47e-05)
Age (30-34)	-0.0234***	-0.0278***	0.00713***
	(0.000151)	(0.000103)	(0.000100)
Age (35-39)	-0.0285***	-0.0328***	0.0216***
	(0.000148)	(9.75e-05)	(0.000124)
Age (40-44)	-0.0286***	-0.0375***	0.0237***
	(0.000153)	(9.18e-05)	(0.000135)
House Ownership			
Owner	-0.0542***	-0.0397***	-0.0377***
	(0.000104)	(8.30e-05)	(6.56e-05)
Household Head Education Level[3]			
Primary School	0.0300***	0.0203***	-0.00414***
	(0.000236)	(0.000173)	(8.32e-05)
High School	0.00451***	0.0192***	-0.0162***
	(0.000241)	(0.000225)	(7.79e-05)
University	0.0166***	-0.0223***	-0.0155***
	(0.00101)	(0.000330)	(0.000276)
Employment Status of Other Individuals within the Household			
Employed	-0.0206***	-0.0216***	-0.0251***
	(0.000108)	(8.49e-05)	(6.07e-05)
Having a Child under 4 years old			
Child (00-04)	0.0324***	0.0156***	0.0331***
	(0.000116)	(9.33e-05)	(8.56e-05)

Table 4.C. Continued

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Regional Areas[4]			
Istanbul	-0.114***	-0.0886***	-0.0718***
	(0.000120)	(9.79e-05)	(7.40e-05)
Bati Marmara (West Marmara)	-0.0554***	-0.0461***	-0.0346***
	(8.36e-05)	(6.34e-05)	(4.53e-05)
Ege (Algerian)	-0.0658***	-0.0472***	-0.0456***
	(8.34e-05)	(6.72e-05)	(5.13e-05)
Dogu Marmara (East Marmara)	-0.0689***	-0.0553***	-0.0446***
	(8.22e-05)	(6.85e-05)	(4.96e-05)
Bati Anadolu (West Anatolia)	-0.0696***	-0.0447***	-0.0411***
	(8.32e-05)	(6.74e-05)	(4.86e-05)
Akdeniz (Mediterranean)	-0.0481***	-0.0293***	-0.0303***
	(8.28e-05)	(7.08e-05)	(4.54e-05)
Orta Anadolu (Central Anatolia)	-0.0582***	-0.0339***	-0.0331***
	(7.91e-05)	(7.59e-05)	(4.45e-05)
Bati Karadeniz (West Black Sea)	-0.0457***	-0.0355***	-0.0341***
	(9.00e-05)	(7.30e-05)	(4.49e-05)
Dogu Karadeniz (East Black Sea)	-0.0502***	-0.0379***	-0.0330***
	(0.000106)	(8.69e-05)	(4.94e-05)
Kuzey Dogu Anadolu (Northeast Anatolia)	-0.0460***	-0.0203***	-0.0169***
	(0.000112)	(0.000132)	(8.54e-05)
Orta Dogu Anadolu (Middleeast Anatolia)	-0.0481***	-0.00397***	-0.0171***
	(8.95e-05)	(0.000141)	(6.55e-05)
Observations	23,521,282	24,724,268	37,049,856

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

However, being a male brings an increase in the probability of being below the poverty line. The education level variables show that each subcategory of education brings a decrease in the probability of being poor. The highest contribution of being educated comes from the high school level for all years. Graduating from high school brings an 11% and 5% decrease for the years 2006 and 2011, respectively. Similar findings also come from the head of household education levels. Having a child under the age 4 brings a 4% increase in the probability of being poor.

To reveal the effect of being employed on the probability of being poor for females, the logistic regression model findings are given in Table 4d. It is seen from the table that, for females, being employed brings a 3% and 2% increase in the probability of being below the poverty line. These findings show that females who are attached to the labor market are below the poverty line. Being employed could not help them to avoid poverty. The other finding for this logistic regression is similar to the previous one. For instance, while being educated brings a decrease, having a child under 4 years old brings an increase in the probability of being poor. These results are true for all investigated years.

Table 4.D. Marginal Effects of Parameter Estimates from Logit Models: Female

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Employment	0.0258***	0.0144***	-0.000565***
	(0.000295)	(0.000203)	(0.000131)
Education Level[1]			
Primary School	-0.0656***	-0.0557***	-0.0268***
	(0.000216)	(0.000164)	(9.92e-05)
High School	-0.122***	-0.123***	-0.0454***
	(0.000243)	(0.000244)	(9.91e-05)
University	-0.0914***	-0.0738***	-0.0559***
	(0.000111)	(0.000109)	(7.64e-05)
Marital Status			
Married	-0.0215***	-0.0156***	-0.0320***
	(0.000228)	(0.000167)	(0.000118)
Age Groups[2]			
Age (20-24)	-0.0223***	-0.0272***	0.0204***
	(0.000200)	(0.000133)	(0.000171)
Age (25-29)	-0.0383***	-0.0349***	0.00689***
	(0.000191)	(0.000136)	(0.000147)
Age (30-34)	-0.0221***	-0.0275***	0.0157***
	(0.000220)	(0.000144)	(0.000165)
Age (35-39)	-0.0348***	-0.0383***	0.0278***
	(0.000205)	(0.000131)	(0.000195)
Age (40-44)	-0.0303***	-0.0421***	0.0222***
	(0.000224)	(0.000124)	(0.000196)
House Ownership			
Owner	-0.0545***	-0.0411***	-0.0410***
	(0.000154)	(0.000120)	(9.82e-05)
Household Head Education Level[3]			
Primary School	0.0272***	0.0381***	-0.000500***
	(0.000565)	(0.000438)	(0.000166)
High School	-0.0167***	0.0721***	-0.0145***
	(0.000732)	(0.000743)	(0.000216)
University	----	-0.0148***	-0.0186***
	----	(0.000827)	(0.000746)
Employment Status of Other Individuals within the Household			
Employed	-0.0433***	-0.0332***	-0.0248***
	(0.000176)	(0.000133)	(8.96e-05)
Having a Child under 4 years old			
Child (00-04)	0.0364***	0.0177***	0.0376***
	(0.000174)	(0.000138)	(0.000129)

Table 4.D. Continued

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Regional Areas[4]			
Istanbul	-0.115***	-0.0888***	-0.0725***
	(0.000173)	(0.000140)	(0.000109)
Bati Marmara (West Marmara)	-0.0576***	-0.0482***	-0.0361***
	(0.000139)	(9.51e-05)	(6.96e-05)
Ege (Algerian)	-0.0648***	-0.0472***	-0.0470***
	(0.000130)	(9.99e-05)	(7.70e-05)
Dogu Marmara (East Marmara)	-0.0720***	-0.0580***	-0.0458***
	(0.000127)	(0.000102)	(7.41e-05)
Bati Anadolu (West Anatolia)	-0.0718***	-0.0448***	-0.0419***
	(0.000128)	(0.000102)	(7.28e-05)
Akdeniz (Mediterranean)	-0.0436***	-0.0262***	-0.0316***
	(0.000137)	(0.000110)	(6.89e-05)
Orta Anadolu (Central Anatolia)	-0.0609***	-0.0303***	-0.0340***
	(0.000127)	(0.000126)	(6.83e-05)
Bati Karadeniz (West Black Sea)	-0.0457***	-0.0326***	-0.0369***
	(0.000149)	(0.000117)	(6.77e-05)
Dogu Karadeniz (East Black Sea)	-0.0530***	-0.0379***	-0.0335***
	(0.000174)	(0.000137)	(7.90e-05)
Kuzey Dogu Anadolu (Northeast Anatolia)	-0.0469***	-0.0210***	-0.0179***
	(0.000182)	(0.000190)	(0.000125)
Orta Dogu Anadolu (Middleeast Anatolia)	-0.0519***	-0.0108***	-0.0195***
	(0.000138)	(0.000181)	(9.32e-05)
Observations	11,700,161	12,346,599	18,781,587

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

At last, the marginal effects parameter estimates for young individuals are given in table 4e. It is seen that being employed brings a 0.01% increase in the probability of being poor for all years. These findings also indicate that young individuals who are aged between 15 and 19 are still below the poverty line, even though they have a job.

Table 4.E. Marginal Effects of Parameter Estimates from Logit Models: Youth

	(2006)	(2009)	(2011)
VARIABLES	**Coefficients**	**Coefficients**	**Coefficients**
Employment	0.000234***	0.0173***	0.0151***
	(0.000240)	(0.000221)	(0.000246)
Gender (Being a male)	0.00453***	0.00175***	0.00170***
	(0.000192)	(0.000171)	(0.000166)
***Education Level*[1]**			
Primary School	-0.0505***	-0.0276***	-0.0287***
	(0.000256)	(0.000259)	(0.000257)
High School	-0.159***	-0.151***	-0.138***
	(0.000518)	(0.000601)	(0.000811)
University	-0.0955***	-0.0805***	-0.0725***
	(0.000135)	(0.000143)	(0.000132)
Marital Status			
Married	-0.00845***	-0.0278***	-0.0379***
	(0.000223)	(0.000187)	(0.000161)
House Ownership			
Owner	-0.0472***	-0.0443***	-0.0390***
	(0.000195)	(0.000182)	(0.000171)
Household Head Education Level[3]			
Primary School	-0.0111***	-0.0159***	0.0256***
	(0.000580)	(0.000530)	(0.00107)
High School	-0.0452***	-0.0110***	0.0143***
	(0.000460)	(0.000479)	(0.000496)
University	0.174***	0.00985***	-0.0339***
	(0.00462)	(0.00146)	(0.00146)
Employment Status of Other Individuals within the Household			
Employed	-0.0331***	-0.0256***	-0.0537***
	(0.000224)	(0.000203)	(0.000215)
Having a Child under 4 years old			
Child (00-04)	0.0366***	0.0258***	0.0589***
	(0.000232)	(0.000234)	(0.000290)
Regional Areas[4]			
Istanbul	-0.147***	-0.133***	-0.111***
	(0.000174)	(0.000158)	(0.000174)
Bati Marmara (West Marmara)	-0.0729***	-0.0663***	-0.0608***
	(0.000157)	(0.000140)	(0.000124)
Ege (Algerian)	-0.0846***	-0.0809***	-0.0762***
	(0.000145)	(0.000133)	(0.000129)
Dogu Marmara (East Marmara)	-0.0903***	-0.0896***	-0.0725***
	(0.000138)	(0.000129)	(0.000128)
Bati Anadolu (West Anatolia)	-0.0915***	-0.0744***	-0.0655***
	(0.000139)	(0.000133)	(0.000127)
Akdeniz (Mediterranean)	-0.0620***	-0.0493***	-0.0494***
	(0.000152)	(0.000147)	(0.000127)
Orta Anadolu (Central Anatolia)	-0.0802***	-0.0610***	-0.0522***
	(0.000139)	(0.000144)	(0.000128)
Bati Karadeniz (West Black Sea)	-0.0635***	-0.0580***	-0.0559***
	(0.000161)	(0.000148)	(0.000129)
Dogu Karadeniz (East Black Sea)	-0.0720***	-0.0650***	-0.0568***
	(0.000170)	(0.000156)	(0.000143)
Kuzey Dogu Anadolu (Northeast Anatolia)	-0.0561***	-0.0161***	-0.0282***
	(0.000199)	(0.000298)	(0.000254)
Orta Dogu Anadolu (Middleeast Anatolia)	-0.0476***	-0.0187***	-0.0289***
	(0.000185)	(0.000218)	(0.000184)
Observations	9,872,265	9,796,586	8,219,011

Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

4. CONCLUSION

The main purpose of this paper is twofold. First, it is to reveal the impact of position vis-à-vis the poverty line on the employment of individuals. Second, it is to investigate the conditions of being in the working poor from the perspective of employment by showing how employment effects in-work-poverty, controlling for household characteristics. In short, the main motivation of this study is to investigate whether poverty is a cause or a result of poor labor market performance in Turkey.

In this respect, simple statistical tabulations and logit regression models are used for the empirical estimations. Overall, what we observed in the data is that the employment likelihood of individuals who are the members of households which are positioned below the poverty line is smaller than of the individuals who belong to wealthier households, comparatively. This is clear even in the raw data (see Table 2). However, this situation that prevents any individual from to be employed is not as common in our operational sample. The findings point out that being below the poverty line for an individual leads to a decrease in the probability of being employed. That result is consistent with our expectation. As the human capital and job search process are costly, their initial position prevents themselves from becoming employed. Nevertheless, it is not so much wrong to say that the negative effect of living in a household with subsistence level on the employment is strong for those people after controlling for the individual and household characteristics included in a given canonical labor supply model. Besides, the estimation results for the vulnerable individuals (such as young individuals and females) reveal the fact that even though they are attached to the labor force by employment, they were not able to avoid poverty.

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