EXAMINATION OF THE TRANSITIONS OF HOUSEHOLDS INTO AND OUT OF POVERTY IN TURKEY

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Examination of the Transitions of Households into and out of Poverty in Turkey[*]

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Abstract

Using a balanced panel drawn from Turkstat's Survey of Income and Living Conditions (SILC), we aim to identify the main determinants of Turkish households' entry into and exit from poverty. During the 4 year period (2007-2010) examined, the relative income poverty rate declined moderately, implying that households were more likely to exit than enter poverty. In addition to a descriptive analysis where poor, non-poor, entrant, and exitor households are compared in terms of basic household and household head characteristics, the empirical work involves the estimation of binary choice models that analyze the relative importance of these factors. Our models reveal that the employment status and schooling of the household head and household size are closely associated with poverty status changes. The probability of entry into poverty, for instance, is higher for larger households with many inactive/dependent members. However, model specifications that produce the best fit are the ones that take into account the *changes* in household composition and the amounts of income types received.

1. Introduction and Literature

The issue of poverty and the question of how poverty can be reduced are the essential themes of the economic literature. One of the most commonly studied aspects of the poverty issue is the entry and exit of households into and out of this undesirable state. Identifying the main factors beyond these transitions has the potential of providing valuable insights as to how poverty can be reduced through government policies and social welfare programs led by various institutions. The availability of longitudinal data in different countries around the world (especially in developing countries) have allowed for the analyses on poverty transitions.

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Bane and Ellwood's paper (published in 1986) is considered as one of the pioneering works in the literature on poverty transitions. Using Panel Study of Income Dynamics (PSID) data for the U.S., the study contributes to the literature by identifying events related to poverty spell beginnings and endings. They indicate that declines in household head's earnings, a transition to a female headed family, a new birth in the household, departure of an individual from household, declines in the unearned income of the households (i.e., transfer payments etc.) are critical events that might move households into poverty. Marriage, transfers, and increases in household head's income are found as main routes for moving out of poverty. Stevens (1995) extends the analysis of Bane and Ellwood and controls for the impact of education of household head on poverty transitions, and finds education as an additional factor for the likelihood of moving out of poverty as in many other studies.[1] However, in some cases, it is found that while higher education of the household head increases the probability of exiting poverty, it does not prevent re-entering poverty (Devicienti, 2002; Andriopoulou and Tsakloglou, 2011).

McKernan and Ratcliffe (2002) uses data obtained from PSID and find that having a child increases the likelihood of moving into poverty. On the other hand, Devicienti (2002) demonstrates that having children under the age of 6 reduces the risk of re-entering poverty, which is a reflection of poverty alleviation programs targeted at poor households in the UK in that period. Hence, having children can be a route of moving out of poverty of households in certain countries due to the child benefits received by poor households or other reasons. For instance, Andriopoulou and Tsakloglou (2011) find that while households with children dependents are less likely to exit poverty in the Netherlands, Italy, France, the UK, Greece, Portugal, and Spain; the opposite is the case for Denmark, Finland, Austria, and Ireland. Similarly, Valetta (2006) shows individuals living in households with two adults and children are less likely to exit poverty in Canada and the US.

On the other hand, Jarvis and Jenkins (1997) find that one of the groups that have persistently low income is single pensioners by focus on the dynamics of low income by using British Household Panel Survey. However, becoming a retiree increases the probability of moving out of poverty in certain countries (Dubois et. al., 2003).

Social transfers seem to have controversial effects on poverty transitions. While some studies indicate that receiving transfers has good consequences on poverty (Bane and

[1] (See Addabbo, 2000; McKernan and Ratcliffe, 2002; Cappellari and Jenkins, 2002; Devicienti, 2002; Cantó, 2003; Buddelmeyer and Verick, 2007; Polin and Raitano, 2012)

Ellwood, 1986), there are studies emphasizing that people receiving transfers can also be more likely to fall in poverty (Polin and Raitano, 2012).

Labor market events are also critical for poverty transitions. Despite the fact that being in employment is a pushing factor for moving out of poverty as indicated in many studies (For examples see: Devicienti, 2002; Andriopoulou and Tsakloglou, 2011), there are findings saying the number of workers in the household is not always statistically significant for poverty persistence. For instance, according to Cappellari and Jenkins (2002), the number of workers in the household has a large and significant association with initial poverty status rather than poverty persistence in Britain. However, the same condition is not valid for poverty entry rates, which are higher among people who are not involved in full time work as well as those who are younger, living in a household with single parent, with many children, or have no educational qualifications. On the other hand, according to Andriopoulou and Tsakloglou (2011), employment events are more related with poverty exits than unemployment events with poverty entries in EU countries. However, one should note that the impact of employment, income, and demographic events on poverty transition mostly depend on the type of welfare regime in a given country (Layte and Whelan, 2003).

Contrary to the findings indicating that female headed households are less likely to escape poverty or experience poverty persistence (Cappellari and Jenkins, 2002; Polin and Raitano, 2012), certain studies show that female headed households are not living in poor economic conditions. For instance, Devicenti (2002) finds that female headed households are not under significantly higher risk of having low income by using BHPS. Indeed, living in female headed household can be a way for moving out of poverty, but in the same time it has no effect on moving into poverty: According to Andriopoulou and Tsakloglou (2011), while the probability of exiting poverty decreases with female headship, there is no significant difference between re-entering rates of female headed and male headed households in certain EU countries. On the other hand, the puzzle becomes more complex with the finding that decreased mobility out of poverty is not easily explained by changes in the personal characteristics of female household heads (Stevens, 1995).

Even though several studies focusing on poverty phenomenon has been conducted in Turkey, there is a limited literature on poverty that uses Turkish data. The studies similar to our study that we are aware of are Seker (2011) and Seker and Dayioglu (2014). By using panel data from years 2006 to 2007 of SILC released by TurkStat, Seker (2011) analyzes the transitions into and out of poverty in Turkey during two-year period and investigates the trigger events for the transitions of individuals. In addition, she provides some individual and

household level characteristics of individuals who are moving into and out of poverty in a descriptive framework. She finds that changes in the income types (labor income, rental and property income, transfer payments) are most important events for the transitions. She notes that the characteristics of the transitory poor are similar to the characteristics of the non-poor. However, according to the findings, the characteristics of the persistent poor are considerably different: the group mostly comprises of less-educated individuals, casual or own account workers, individuals living in rural and individuals living in the households with few numbers of employed members. Our study differs from Seker (2011) in three ways: (i) by using the same survey, we analyze the poverty transitions of households during the 4 year period instead of the 2-year period, (ii) we observe the transitions of households "from 2007 to 08" "from 2008 to 09" and "from 2009 to 10", and (iii) we estimate binary choice models that control for the characteristics of household head, variables that measure change in household composition and the variables that measure the changes in monetary amounts.

On the other hand, using a 4-year balanced panel data obtained from SILC (2006-2009), Seker and Dayioglu (2014) analyzes the events related to poverty spell endings and beginnings by applying a duration analysis. They follow the pioneering path of Bane and Ellwood (1986) and find that a decline in household head's earnings is the most important event leading to poverty entries of individuals. The other next critical event for poverty entry is decline in other household members' earnings. However, the transitions due to the demographic events constitutes a little part.

Even though the duration of poverty spells and state dependence are two critical aspects that have been analyzed frequently in poverty transition literature by using spell analysis techniques and hazard models since poverty status in a year mostly depends on the poverty status in the previous year, it can be accurately analyzed only in case of the availability of longitudinal panel data.[2] Many studies cannot perform duration or spell analysis due the unavailability of longitudinal data.[3] Due to the fact that perform a duration analysis by using a 4-year panel data is somewhat a difficult and unreliable task, we choose another way to analyze the factors behind transitions in consecutive years during the 2007-

[2] (See the studies that use these techniques: Bane and Ellwood, 1986; Duncan et. al., 1993; Stevens, 1994, 1999; Canto, 1996; Oxley et. al., 2000; Devicienti, 2002; McKernan and Ratcliffe, 2002; Biewen, 2003, 2006; Cappellari and Jenkins, 2004; Fouarge and Layte, 2005; Poggi, 2007; Callens and Croux, 2009; Damioli, 2010; Andriopolou and Tsakloglou, 2011; Seker and Dayioglu, 2014)

[3] Several studies use binary choice models to estimate the probability of moving out of or into poverty (See Addabbo, 2000; Cappellari and Jenkins, 2002; Dubois et. al., 2003; Valetta, 2006; Polin and Raitano, 2012). On the other hand, certain studies use the multinomial logit model, which permits identifying more than two categories in analysis of poverty dynamics (See Lawson et al., 2006; McKay and Okidi, 2006).

2010 period and estimate binary choice models that control for various characteristics of the household head and the household in order to reveal the factors and main events behind the transitions of households into and out of poverty in Turkey. Hence, our study differs from the study of Seker and Dayioglu (2014).

In this section, we provided important findings and insights into poverty transitions in the poverty literature. The rest of the paper is organized as follows: Section 2 is devoted to the description of the data. Section 3 presents the empirical methodology and Section 4 discusses the findings from the empirical models. Section 5 concludes the paper by summing up the main findings in terms of policy recommendations.

2. Data

In order to explore the main factors behind transitions of households into and out of poverty in Turkey, we use data from the Survey of Income and Living Conditions Panel covering years 2007, 2008, 2009 and 2010.[4] The survey contains, beside standard socio-economic characteristics of households, detailed information on various kinds of incomes and pension payments received by each household member aged 15 and over years. The data distinguishes between the wage and salaries of employees and the entrepreneurial incomes of employers and the self-employed, which allows for the examination of the impact of the labor market earnings of individuals with different employment statuses on entry into and exit from poverty. In addition, respondents also report non-labor income (such as incomes obtained from social welfare programs, financial assets, and real estate rentals) that they received. This distinction between income types allows a poverty impact analysis to be performed using the changes in the amount of each type of income received by the households. The data also provides information on main activity of individuals in the previous calendar year. The reference period for income information is "the previous calendar year". For instance, income information of the 2006 refers to the income obtained in 2005. Also, the explanatory variables that we used are also pertaining to the previous calendar year. Thus, we do not permit a time inconsistency between variables in order to truly identify which events have led to poverty transitions of households.

Table 1 presents the sample shares households classified according to their poverty statuses in each year. A household receiving an equivalent income that is less than 60 percent

[4] The survey has been annually conducted by Turkish Statistical Institute (TurkStat) since 2006. Even though the period under examination is a critical period since it includes the effects of 2008 global crisis, the latest available panel data that allows poverty transition analysis is the current data covers 2007-2010 period.

of the median household equivalent income in the data is classified as poor for the year in question.[5] Since a household can be either above or below the poverty line in each year. Hence, we have 16 different scenarios that can be observed. 68 percent of the households in the sample are above the poverty line in all survey years while 8.7 percent are poor in all 4 survey years. Households were initially non-poor in 2007 but enter poverty in a year and remain there until 2010 constitutes 6.2 percent of the sample. Another 7.2 percent of the sample comprises of households that are observed as poor in 2007 but exit poverty in a year and remain that way until 2010. Finally, households whose poverty status changes more than once make up 10 percent of the sample (Table 1).[6]

[5] Household net annual disposable income is calculated as the total of individual income of all members of the household (total of the in cash or in kind income such as salary-wage, daily wage, enterprises income, pension, widowed-orphan salary, old-age salary, unpaid grants, etc.), plus the total of yearly income for the household (such as real property income, unreturned benefits, incomes gained by household members less than age 15, etc.), and minus the taxes paid during the reference period of income and regular transfers to the other households or persons. In order to calculate equivalent income, we use modified OECD scale which gives a weight of 1 to the reference person in the household, 0.5 to other household members aged 14 and over, and 0.3 to each child aged less than 15. Then, the equivalent household disposable income is calculated by dividing household disposable income to this weight that is the sum of the weights of the individuals in the household. In accordance with the European Commission methodology, we use the relative income poverty approach and set the poverty line as the 60 percent of equivalent median household disposable income at national level. Official poverty rates released by TurkStat are calculated based on national poverty lines. However, when national lines are used in the calculation of poverty rates somewhat problematic in countries where regional income inequalities are remarkable, like Turkey. Income levels in the East regions of Turkey are lower compared to the West regions of Turkey. Drawing a national line assumes most of individuals living in the East regions as poor, which implies that there is an overestimation problem in poverty rates. On the other hand, it assumes a little proportion of individuals living in the West regions of Turkey as poor, which implies an underestimation problem. For this reason, the regional line for the calculation of poverty rates could be more accurate measurement of poverty, which means that one poverty line is calculated for each region. However, panel data structure of SILC does not provide regional information, so we could not use regional poverty lines. Instead, we identify individuals as poor by using a national poverty line.

[6] These households could have been excluded from the econometric work in order to identify the factors that lead to more permanent changes poverty status. Also, we could not include the analysis due to the small sample sizes.

Table 1: Categorization of households according to poverty status during 2007-10

	Poverty status in each year					
	2007	**2008**	**2009**	**2010**	**Frequency**	**Sample share (%)**
1	**No**	**No**	**No**	**No**	1,673	68.0
2	**No**	**No**	**No**	**Yes**	41	1.7
3	**No**	**No**	**Yes**	**Yes**	46	1.9
4	**No**	**Yes**	**Yes**	**Yes**	65	2.6
5	**No**	**No**	**Yes**	**No**	42	1.7
6	**No**	**Yes**	**No**	**No**	46	1.9
7	**No**	**Yes**	**No**	**Yes**	14	0.6
8	**No**	**Yes**	**Yes**	**No**	42	1.7
9	**Yes**	**No**	**No**	**Yes**	13	0.5
10	**Yes**	**No**	**Yes**	**No**	17	0.7
11	**Yes**	**No**	**Yes**	**Yes**	38	1.5
12	**Yes**	**Yes**	**No**	**Yes**	33	1.3
13	**Yes**	**No**	**No**	**No**	79	3.2
14	**Yes**	**Yes**	**No**	**No**	47	1.9
15	**Yes**	**Yes**	**Yes**	**No**	52	2.1
16	**Yes**	**Yes**	**Yes**	**Yes**	214	8.7
All					2,462	100

*"Yes" indicates being poor in a given year, conversely "No" corresponds to being non-poor in a given year.

3. Empirical Methodology

During the 4 year period that we considered, there are 3 different points in time at which households exit or enter poverty; namely 2008, 2009 and 2010. In the empirical work, we estimate binary choice models to identify the determinants of entry and exit at each of these three years. In other words, we compare non-poor (i.e. not poor in both two years) and entrant households; and, poor (i.e. poor in both two years) and exitor households with respect to various household characteristics that are assumed as closely related to factors behind poverty transitions of the households in the poverty literature. We expect to have impacts of the changes in the monetary amounts of income levels, the changes in household composition and home ownership status on poverty transitions of the households. For this reason, in the empirical work, we estimate various versions of our models that include (i) only control variables that reflect the current situation of the household (such as home ownership, household size etc.) (ii) variables that represent transition events in terms of changes in the household composition (such as change in the number of inactive adult, children, full-year workers), as well as homeownership status of the households (such as becoming home owner) (iii) variables that measure the changes in terms of monetary amounts of income types received by the households.

The control variables we make use of in the basic version of our model are the age, gender[7], marital status[8], years of schooling, and the part/full year employment status of the household head, household size, and dummy variables that indicate households that are home owners and recipients of wage and salary, entrepreneurial, rental/ asset, retirement and social welfare income.[9] In a slightly more complex variant of this specification (i.e. Model 1b), we replace the household size variable with the number of members falling into one of the six following categories: a full-year worker, a part-year worker, a retiree, an inactive adult or a child.[10]

In Model 2a, the household size variable used in Model 1a is replaced with the change observed in it from the previous year. In Models 2b, household size components used in Model 1b, are replaced with the change observed in it from the previous year. These variables are meant to reflect the changes in the composition of the household. The change in home ownership status is also considered as a potential determinant of poverty transitions. Since only a small number of households have lost their homes, the only dummy variables used are those that indicate new home owners and home owners in both years. On the other hand, we do not replace the dummy variables showing the recipiency of income types with the change in reception status since this would require the introduction of large number variables into the model.

Otherwise, the transition events can be measured as the changes in the amount of various types of income. In Model 3a, we use same control variables of household head that are used in the previous models as well as change in household size and changes in monetary amounts of labor, rental/ asset income, retirement, and social welfare income. In defining the transition events that are introduced in Model 3b, we tried to come up with the smallest number of variables that reflect both the changes in the composition of the household and the monetary gains or losses that are likely to be associated with them. These variables are the changes in the numbers of full and part year workers, retirees, unemployed, children and

[7] Gender is coded as 0=male and 1=female.

[8] Marital status is coded as 0=single (including widow, divorced, unmarried etc), and 1=married.

[9] The variable controlling for home ownership is derived from the variable showing imputed rents which are predicted annual figures home owners would have had to pay if they had rented the housing units they reside in. On the other hand, social welfare income is the sum of unemployment benefits (including severance payment), widowed-orphan and old-age salaries, unpaid grants, and child benefits, housing allowance, and benefits from other persons or households as unreturned benefits in cash or kind received by households.

[10] In other words, a household member could be one of these categories: a full-year worker, a part year worker, an inactive adult, a retiree or a child.

inactive adult.[11] Another potential determinant of poverty transitions is the change in home ownership status.

In Tables 2, 3 and 4, we observe the means of the explanatory variables by poverty status for each of the three two-year periods under examination. According to the 2007-08 figures, there are considerable differences with respect to household head characteristics across poor, non-poor, entrant, and exitor households. The years of schooling of the household head is the highest among the non-poor households. Non-poor households are also more likely to be headed by older individual. With respect to employment status, non-poor households are the least likely to be headed by an inactive adult or a part-year worker and the most likely to be headed by a full-year worker or a retiree.

The average household size in the full sample is close to 3.9 with figures of 5.8 and 3.4 in poor and non-poor households, respectively. These two types of households are at the opposite ends of the spectrum with respect to the number of children as well. While poor households have 2.5 children on average, the corresponding figure for the non-poor is only 1. The rate of home ownership is the lowest among the exitor households, but this group also has the highest rate of new home ownership. The rate of new home ownership is the lowest among entrant households. These suggest that becoming a home owner is critical for many low-income families in terms of making it over the poverty line. As expected, the rate of home ownership among non-poor households is higher than the rate among poor households.

In terms of receiving the various types of income, we find that households that enter poverty have the lowest rate of labor income reception. While recipiency of entrepreneurial income is the least common among the non-poor, social welfare income is the least common among the entrant households. Retirement and rental/asset incomes are the most commonly received by the non-poor families. In terms of the amounts of various types of income received, we observe that households that enter poverty have experienced declines in all types of income received (with the exception of retirement) while the exitor households have seen the largest amounts of increase in all types of income (especially labor income).

[11] The effect of household headship on poverty transitions is worth to be researched. In identifying the cases where household headship changes from one individual to another, it is also important to distinguish between situations where the change is due to the departure of the household head, the death of the household head, and a newcomer member becoming household head, as these situations are of different natures in terms of their possible impact on the likelihood of entering or exiting poverty. However, when we controlled for changes in household headship, we could not obtain significant results, possibly due to the small sample sizes.

Table 2: Means of variables: 2007-08

Variables	Poor	Exitor	Non-poor	Entrant	All
Household head characteristics					
Female	0.1	0.2	0.1	0.1	0.1
Age	45.3	45.2	49.8	48.1	48.8
Years of schooling	4.3	5.4	7.2	4.8	6.5
Marital status	0.9	0.9	0.8	0.9	0.9
Inactive adult	0.2	0.2	0.2	0.3	0.2
Part-year worker	0.3	0.2	0.1	0.3	0.2
Full-year worker	0.5	0.5	0.6	0.5	0.5
Retiree	0.0	0.0	0.2	0.0	0.2
Household characteristics					
Household size	5.8	4.3	3.4	4.5	3.9
Number of inactive adults	1.6	1.2	1.1	1.5	1.2
Number of part-year workers	0.7	0.6	0.3	0.5	0.4
Number of full-year workers	1.0	1.0	1.0	1.0	1.0
Children dependents	2.5	1.5	0.8	1.5	1.1
Number of retirees	0.0	0.0	0.3	0.1	0.2
Home owner	0.8	0.8	0.8	0.8	0.8
Recipiency of types of income					
Labor	0.7	0.7	0.6	0.5	0.6
Entrepreneurial	0.5	0.5	0.3	0.5	0.4
Social welfare	0.6	0.6	0.6	0.5	0.6
Retirement	0.1	0.2	0.4	0.2	0.3
Rental/asset	0.1	0.1	0.2	0.1	0.2
Change in monetary amounts of income types					
Labor	0.4	2.5	1.3	-0.7	1.1
Entrepreneurial	0.3	2.2	0.1	-1.3	0.2
Social welfare	0.0	0.8	0.2	-0.7	0.2
Retirement	0.1	0.2	0.5	0.1	0.4
Rental/asset	0.0	0.1	0.2	0.0	0.2
New owner	0.0	0.1	0.0	0.0	0.0
Home owner in both two periods	0.8	0.7	0.8	0.8	0.8
No. of observations	346	147	1802	167	2462

When we look at 2008-09 figures presented in Table 3, we do not observe a large difference between years of schooling of heads of exitor households and entrant households. The years of schooling of the household head is the largest among non-poor households, but is also large among exitor households. The figures corresponding to the employment status of household head show that poor and entrant households are more likely to be headed by an inactive adult. Exitor and non-poor households are more likely to be headed by a full-year worker. Being a social welfare income recipient is the most common among poor households. We observe that certain households enter poverty even though they have seen an increase in their rental/asset income. The rest of the findings are similar with the 2007-08 figures.

Table 3: Means of variables: 2008-09

Variables	Poor	Exitor	Non-poor	Entrant	All
Household head characteristics					
Female	0.1	0.1	0.2	0.1	0.1
Age	47.5	46.1	50.4	49.1	49.6
Years of schooling	4.1	5.1	7.3	4.8	6.5
Marital status	0.9	0.9	0.8	0.9	0.9
Inactive adult	0.2	0.2	0.1	0.2	0.2
Part-year worker	0.3	0.3	0.1	0.2	0.2
Full-year worker	0.5	0.5	0.5	0.5	0.5
Retiree	0.0	0.1	0.2	0.1	0.2
Household characteristics					
Household size	5.7	4.4	3.4	4.7	3.9
Number of inactive adults	1.6	1.3	1.1	1.4	1.2
Number of part-year workers	0.7	0.6	0.4	0.5	0.4
Number of full-year workers	1.1	0.9	0.9	1.2	1.0
Children dependents	2.4	1.4	0.8	1.6	1.1
Number of retirees	0.0	0.1	0.3	0.1	0.2
Home owner	0.8	0.8	0.8	0.8	0.8
Recipiency of types of income					
Labor	0.7	0.6	0.6	0.5	0.6
Entrepreneurial	0.5	0.5	0.3	0.5	0.4
Social welfare	0.7	0.5	0.3	0.5	0.4
Retirement	0.2	0.2	0.4	0.2	0.4
Rental/asset	0.1	0.1	0.2	0.1	0.2
Change in monetary amounts of income types					
Labor	0.2	2.0	1.1	-1.1	0.9
Entrepreneurial	-0.1	1.6	0.2	-2.7	0.1
Social welfare	0.1	0.7	0.0	-0.6	0.1
Retirement	0.1	0.4	0.5	0.0	0.4
Rental/asset	0.0	0.2	0.2	0.1	0.2
New owner	0.0	0.0	0.0	0.0	0.0
Home owner in both two periods	0.8	0.7	0.8	0.8	0.8
No. of observations	373	140	1806	143	2462

The 2009-10 figures indicate that exitor and non-poor households are more likely to be home owner. Poor and entrant households are more likely to receive labor income. The rest of the findings exhibit similar patterns with the figures pertaining to the previous years.

Table 4: Means of variables: 2009-10

Variables	Poor	Exitor	Non-poor	Entrant	All
Household head characteristics					
Female	0.1	0.1	0.2	0.1	0.1
Age	49.1	48.4	51.4	46.2	50.6
Years of schooling	4.1	4.8	7.3	5.1	6.6
Marital status	0.9	0.9	0.8	0.9	0.9
Inactive adult	0.2	0.2	0.1	0.3	0.2
Part-year worker	0.2	0.2	0.1	0.3	0.1
Full-year worker	0.5	0.6	0.5	0.4	0.5
Retiree	0.0	0.1	0.2	0.1	0.2
Household characteristics	5.6	4.8	3.4	5.0	3.9
Household size					
Number of inactive adults	1.7	1.4	1.1	1.7	1.2
Number of part-year workers	0.7	0.5	0.3	0.7	0.4
Number of full-year workers	1.0	1.3	0.9	0.8	1.0
Children dependents	2.2	1.5	0.7	1.8	1.1
Number of retirees	0.0	0.1	0.3	0.1	0.2
Home owner	0.8	0.9	0.8	0.7	0.8
Recipiency of types of income					
Labor	0.6	0.6	0.6	0.6	0.6
Entrepreneurial	0.5	0.6	0.3	0.4	0.4
Social welfare	0.7	0.6	0.4	0.5	0.4
Retirement	0.2	0.2	0.4	0.2	0.4
Rental/asset	0.1	0.1	0.2	0.2	0.2
Change in monetary amounts of income types					
Labor	0.1	1.8	0.3	-3.1	0.2
Entrepreneurial	0.3	2.6	0.3	-3.3	0.3
Social welfare	0.4	0.9	0.1	-0.4	0.2
Retirement	0.1	0.5	0.4	-0.2	0.4
Rental/asset	0.0	0.1	-0.1	0.1	-0.1
New owner	0.0	0.0	0.0	0.0	0.0
Home owner in both two periods	0.8	0.8	0.8	0.7	0.8
No. of observations	363	153	1845	101	2462

4. Empirical Findings

The probit estimates for poverty exit and entry of the households are presented in Tables 5 through 10. The tables are organized such that the effect of an explanatory variable on both exit and entry in all three two-year periods can be observed across a single row of the table. If the variable in question has a statistically significant coefficient in more than one instance, we deduce this as evidence that it has significant effect on poverty transitions of the households.

In Table 5, where we controlled for household head characteristics, household size, and dummy variables for home owners and recipients of various types of income, we find that the model has more explanatory power in the exit equation with R-square values of around

0.2 as opposed to around 0.1 in the entry equation. The effects of age and marital status are not significant for poverty transitions. We find that female headed households are more likely to exit poverty (only significant for 2007-08), they are less likely to enter poverty. We find that the years of schooling of the household head has a positive effect on the probability of poverty exit, and a negative effect on entry, which are in line with many studies in the poverty transition literature.[12] We observe a negative effect of the full-year employment of the household head on poverty entry; which is line with Valetta (2006) and Buddelmeyer and Verick (2007). It has also a positive effect on the probability of poverty exit for the period 2007-08. Home ownership decreases the probability of moving into poverty. It also increases the probability of poverty exit, which is line with Polin and Raitano (2012) who find that home owners have higher exit probabilities. However its effect is not consistent over periods. On the other hand, household size has a very consistent negative effect on the probability of poverty exit, and a positive effect on entry, which imply that larger households are less likely to exit poverty and more likely to enter poverty.

With regard to the types of income received, we find that recipiency of labor, retirement or rental/asset income decreases the probability of moving into poverty. However, their effects on poverty exit are not that consistent, we only find a significant and positive effect of recipiency of rental/asset income on poverty exit for the 2008-09 period. On the other hand, the finding pertaining to retirement income may come as a surprise since households relying on this type of income are known to have difficulties in making ends meet.[13] However, we observe that these households relatively better off than the households that do not have such a steady source of income.

[12] (See Addabbo, 2000; McKernan and Ratcliffe, 2002; Cappellari and Jenkins, 2002; Devicienti, 2002; Cantó, 2003; Buddelmeyer and Verick, 2007; Polin and Raitano, 2012)

[13] This finding is line with that of Dubois et al (2003) from European Household Panel data.

Table 5: Determinants of poverty exit and entry (Model 1a)

	Poverty Exit			Poverty Entry		
Covariate	**2007-08**	**2008-09**	**2009-10**	**2007-09**	**2008-09**	**2009-10**
Household head:						
Female	0.932**	0.407	0.296	-0.556**	-1.180***	-0.870**
	(0.301)	(0.299)	(0.287)	(0.215)	(0.252)	(0.292)
Age	-0.052	0.070	-0.008	0.010	-0.046	-0.044
	(0.033)	(0.038)	(0.032)	(0.023)	(0.024)	(0.028)
Age sq.	0.060	-0.087*	0.004	-0.011	0.050*	0.030
	(0.034)	(0.039)	(0.031)	(0.023)	(0.022)	(0.027)
Married	-0.049	0.055	-0.308	0.185	0.045	-0.200
	(0.314)	(0.302)	(0.275)	(0.197)	(0.215)	(0.250)
Years of schooling	0.128***	0.067*	0.077**	-0.113***	-0.127***	-0.123***
	(0.027)	(0.028)	(0.027)	(0.018)	(0.020)	(0.022)
Part-year worker	0.318	0.066	0.128	0.120	0.022	0.063
	(0.230)	(0.213)	(0.209)	(0.173)	(0.194)	(0.211)
Full-year worker	0.527*	0.133	0.343	-0.582***	-0.491**	-0.559**
	(0.217)	(0.209)	(0.199)	(0.155)	(0.170)	(0.196)
Retiree	0.824	0.959*	0.563	-0.822***	-0.655**	-0.416
	(0.467)	(0.373)	(0.356)	(0.245)	(0.241)	(0.254)
Household size	-0.119***	-0.190***	-0.108***	0.152***	0.177***	0.214***
	(0.031)	(0.035)	(0.029)	(0.026)	(0.027)	(0.031)
Home owner	0.187	-0.062	0.458*	-0.255*	-0.148	-0.252
	(0.167)	(0.162)	(0.184)	(0.121)	(0.133)	(0.137)
Types of income:						
Labor	0.163	0.185	0.301	-0.453***	-0.432**	-0.424**
	(0.167)	(0.162)	(0.157)	(0.128)	(0.131)	(0.153)
Entrepreneurial	0.009	0.264	0.193	-0.009	0.069	-0.190
	(0.161)	(0.159)	(0.161)	(0.132)	(0.129)	(0.155)
Social welfare	-0.055	-0.134	0.039	-0.042	0.255*	0.105
	(0.135)	(0.135)	(0.133)	(0.103)	(0.111)	(0.123)
Retirement	0.088	0.400	0.174	-0.607***	-0.852***	-0.609***
	(0.218)	(0.206)	(0.193)	(0.143)	(0.155)	(0.182)
Rental/asset	-0.092	0.561*	0.056	-0.538***	-0.357*	-0.178
	(0.243)	(0.225)	(0.203)	(0.152)	(0.145)	(0.152)
Constant	-0.179	-1.688	-0.760	-0.455	0.551	0.938
	(0.839)	(0.965)	(0.867)	(0.616)	(0.659)	(0.756)
N	490	513	516	1959	1948	1941
pseudo R^2	0.126	0.120	0.065	0.210	0.238	0.229

Standard errors in parentheses
* p<.05, ** p<.01, *** p<.001

Moving on to Table 6, where the household size variable is replaced with a series of variables that indicate the number of members falling into six categories, we find that the number of children is significantly associated with both poverty exit and poverty entry. Having high number of children decreases the probability of poverty exit, while it increases the probability of poverty entry. In addition to the number of children, the number of inactive adults is also positively related with the probability of entry, which are line with Capellari and Jenkins (2002) and Devicienti (2002). Also, we observe that the number of full year and part year worker in the household increases the probability of poverty entry, while the number of retiree increases the probability of poverty exit. Parallel to this finding, recipiency of retirement income increases the probability of poverty exit. [14]

[14] The rest of the findings are mainly in line with those discussed above.

Table 6: Determinants of poverty exit and entry (Model 1b)

	Poverty Exit			Poverty Entry		
Covariate	**2007-08**	**2008-09**	**2009-10**	**2007-08**	**2008-09**	**2009-10**
Household head:						
Female	1.014**	0.414	0.430	-0.571**	-1.246***	-0.854**
	(0.310)	(0.304)	(0.292)	(0.220)	(0.256)	(0.302)
Age	-0.081*	0.043	-0.042	0.024	-0.032	-0.029
	(0.035)	(0.041)	(0.035)	(0.025)	(0.025)	(0.030)
Age sq.	0.080*	-0.066	0.031	-0.020	0.038	0.020
	(0.035)	(0.041)	(0.033)	(0.024)	(0.023)	(0.028)
Married	0.074	0.093	-0.217	0.147	0.025	-0.195
	(0.325)	(0.307)	(0.277)	(0.201)	(0.217)	(0.259)
Years of schooling	0.121***	0.063*	0.074**	-0.118***	-0.127***	-0.127***
	(0.028)	(0.028)	(0.028)	(0.019)	(0.020)	(0.022)
Part-year worker	0.291	-0.005	0.330	0.246	0.108	-0.009
	(0.264)	(0.241)	(0.245)	(0.203)	(0.228)	(0.247)
Full-year worker	0.369	0.385	0.213	-0.425*	-0.586**	-0.264
	(0.251)	(0.243)	(0.219)	(0.176)	(0.189)	(0.222)
Retiree	-5.149	1.010	0.770	-0.388	-0.853*	-0.515
	(0.000)	(0.711)	(0.832)	(0.532)	(0.367)	(0.387)
Household size components:						
Inactive adults	-0.078	-0.093	-0.037	0.180***	0.123*	0.235***
	(0.065)	(0.062)	(0.057)	(0.051)	(0.052)	(0.051)
Part-year workers	0.026	-0.007	-0.177	-0.011	0.017	0.231*
	(0.104)	(0.106)	(0.107)	(0.094)	(0.101)	(0.106)
Full-year workers	0.106	-0.278**	0.098	-0.017	0.183**	-0.093
	(0.078)	(0.107)	(0.073)	(0.068)	(0.059)	(0.092)
Child dependents	-0.217***	-0.257***	-0.175***	0.213***	0.240***	0.290***
	(0.047)	(0.048)	(0.042)	(0.041)	(0.045)	(0.052)
Retirees	5.879***	-0.127	-0.116	-0.298	0.299	0.292
	(0.475)	(0.604)	(0.740)	(0.480)	(0.267)	(0.303)
Home owner	0.164	-0.041	0.451*	-0.245*	-0.146	-0.225
	(0.171)	(0.164)	(0.186)	(0.123)	(0.134)	(0.139)
Recipiency of income:						
Labor	0.024	0.110	0.336*	-0.314*	-0.376**	-0.328*
	(0.175)	(0.171)	(0.166)	(0.136)	(0.137)	(0.164)
Entrepreneurial	-0.148	0.304	0.120	0.133	0.057	-0.031
	(0.175)	(0.174)	(0.177)	(0.142)	(0.137)	(0.167)
Social welfare	-0.010	-0.119	0.075	-0.053	0.273*	0.105
	(0.138)	(0.137)	(0.136)	(0.104)	(0.112)	(0.125)
Retirement	0.065	0.433*	0.136	-0.561***	-0.840***	-0.559**
	(0.224)	(0.209)	(0.197)	(0.150)	(0.160)	(0.195)
Rental/asset	-0.049	0.562*	0.066	-0.567***	-0.374*	-0.202
	(0.247)	(0.228)	(0.205)	(0.155)	(0.147)	(0.156)
Constant	0.645	-1.108	-0.026	-0.948	0.211	0.338
	(0.882)	(1.032)	(0.936)	(0.653)	(0.697)	(0.808)
N	490	513	516	1959	1948	1941
pseudo R^2	0.151	0.134	0.084	0.221	0.244	0.248

Standard errors in parentheses
* p<.05, ** p<.01, *** p<.001

In Table 7, we observe that education has the largest impact on poverty entry and exit, while households headed by a full-year worker are less likely to move into poverty, the coefficients are not significant in the exit equation (except for the 2007-08 period). Also, we observe a more consistent effect of being a retiree on the probability of poverty exit and entry. The change in household size a has negative effect on the probability of poverty exit for 2007-08 and a positive effect on poverty entry for 2008-09 period, but its coefficient is insignificant

in both exit and entry equations of other periods. Being home owner has a positive effect on the probability of poverty exit for the 2008-2009 period, while becoming home owner is expectedly significant and negative for the exit equations. Similar to the findings obtained previous models, we observe that while households receiving labor, retirement, rental income are less likely to move into poverty. We would also like to note that the effects of labor and rental/asset income are not consistent as the effect of retirement income.

Table 7: Determinants of poverty exit and entry (Model 2a)

	Poverty Exit			**Poverty Entry**		
Covariate	**2007-08**	**2008-09**	**2009-10**	**2007-08**	**2008-09**	**2009-10**
Household head:						
Female	1.041***	0.585*	0.393	-0.597**	-1.355***	-0.968***
	(0.307)	(0.292)	(0.286)	(0.212)	(0.252)	(0.278)
Age	-0.072*	0.037	-0.022	0.025	-0.030	-0.033
	(0.034)	(0.036)	(0.031)	(0.023)	(0.024)	(0.027)
Age sq.	0.087*	-0.045	0.023	-0.030	0.029	0.014
	(0.034)	(0.037)	(0.030)	(0.022)	(0.022)	(0.026)
Married	-0.108	-0.116	-0.351	0.372	0.152	0.053
	(0.324)	(0.294)	(0.273)	(0.194)	(0.211)	(0.232)
Years of schooling	0.144***	0.090***	0.090***	-0.126***	-0.143***	-0.137***
	(0.027)	(0.027)	(0.027)	(0.018)	(0.020)	(0.021)
Part-year worker	0.407	0.068	0.203	0.054	-0.059	-0.072
	(0.232)	(0.207)	(0.208)	(0.170)	(0.191)	(0.201)
Full-year worker	0.534*	0.137	0.366	-0.631***	-0.500**	-0.714***
	(0.218)	(0.202)	(0.198)	(0.152)	(0.167)	(0.187)
Retiree	0.959*	0.965**	0.629	-0.802***	-0.717**	-0.523*
	(0.465)	(0.369)	(0.352)	(0.237)	(0.239)	(0.248)
Change in household size	-0.209*	-0.121	-0.075	0.109	0.243***	-0.113
	(0.086)	(0.064)	(0.074)	(0.063)	(0.062)	(0.079)
Recipiency of income:						
Labor	0.031	-0.007	0.155	-0.301*	-0.302*	-0.124
	(0.163)	(0.154)	(0.151)	(0.122)	(0.129)	(0.140)
Entrepreneurial	-0.009	0.182	0.102	0.150	0.182	0.098
	(0.162)	(0.154)	(0.158)	(0.125)	(0.125)	(0.139)
Social welfare	-0.052	-0.223	-0.040	-0.030	0.252*	0.141
	(0.136)	(0.130)	(0.131)	(0.101)	(0.109)	(0.119)
Retirement	0.052	0.262	0.064	-0.596***	-0.876***	-0.561**
	(0.213)	(0.196)	(0.187)	(0.141)	(0.154)	(0.175)
Rental/asset	-0.260	0.338	0.021	-0.481**	-0.289*	-0.086
	(0.248)	(0.211)	(0.199)	(0.147)	(0.142)	(0.144)
New home owner	1.273***	0.313	1.348*	-0.167	-0.029	
	(0.382)	(0.425)	(0.567)	(0.490)	(0.393)	Omitted
Home owner in both two periods	0.015	-0.120	0.388*	-0.206	-0.074	-0.193
	(0.168)	(0.161)	(0.183)	(0.120)	(0.133)	(0.133)
Constant	-0.373	-1.733	-0.942	-0.371	0.810	1.300
	(0.865)	(0.948)	(0.858)	(0.611)	(0.649)	(0.740)
N	490	513	516	1959	1948	1909
pseudo R^2	0.128	0.071	0.048	0.184	0.213	0.171

Standard errors in parentheses
* p<.05, ** p<.01, *** p<.001

When we replace the household size variable with a series of variables that indicate the number of members falling into six categories, we find that the probability of poverty exit

decreases with the increases in the number of inactive adult in the household and the probability of poverty entry increases with the increases in the number of inactive adult (Table 8). Interestingly, although households receiving retirement payment are less likely to move into poverty, the increase in the number of retirees in the household increases the probability of poverty entry (for the 2008-09 period).

Table 8: Determinants of poverty exit and entry (Model 2b)

	Poverty Exit			Poverty Entry		
Covariate	**2007-08**	**2008-09**	**2009-10**	**2007-08**	**2008-09**	**2009-10**
Household head:						
Female	0.977**	0.571	0.404	-0.588**	-1.216***	-0.892**
	(0.314)	(0.294)	(0.288)	(0.213)	(0.254)	(0.283)
Age	-0.067	0.039	-0.019	0.026	-0.041	-0.042
	(0.035)	(0.037)	(0.032)	(0.023)	(0.024)	(0.028)
Age sq.	0.079*	-0.047	0.020	-0.030	0.041	0.024
	(0.035)	(0.038)	(0.031)	(0.022)	(0.023)	(0.026)
Married	-0.134	-0.118	-0.289	0.352	0.186	0.042
	(0.331)	(0.298)	(0.279)	(0.195)	(0.215)	(0.235)
Years of schooling	0.137***	0.091***	0.089**	-0.125***	-0.137***	-0.135***
	(0.028)	(0.027)	(0.027)	(0.018)	(0.020)	(0.021)
Part-year worker	0.346	0.073	0.063	0.094	0.194	0.209
	(0.242)	(0.215)	(0.224)	(0.182)	(0.206)	(0.225)
Full-year worker	0.462*	0.105	0.304	-0.565***	-0.352*	-0.523**
	(0.227)	(0.209)	(0.201)	(0.158)	(0.177)	(0.198)
Retiree	0.958	1.137**	0.890*	-0.828***	-0.734**	-0.382
	(0.502)	(0.410)	(0.385)	(0.246)	(0.266)	(0.271)
Change in the number of household size components:						
Inactive adults	-0.318**	-0.182*	-0.140	0.157	0.373***	0.056
	(0.104)	(0.087)	(0.093)	(0.085)	(0.080)	(0.100)
Part-year workers	-0.057	-0.167	0.029	0.043	0.050	-0.253*
	(0.129)	(0.103)	(0.112)	(0.097)	(0.097)	(0.108)
Full-year workers	0.036	-0.137	-0.041	-0.004	0.178	-0.198
	(0.136)	(0.107)	(0.126)	(0.094)	(0.099)	(0.110)
Child dependents	-0.100	-0.029	-0.041	0.154	0.148	-0.109
	(0.137)	(0.104)	(0.109)	(0.101)	(0.105)	(0.132)
Retirees	-0.558	-0.763	-0.640	0.433	0.701**	-0.013
	(0.444)	(0.472)	(0.366)	(0.250)	(0.255)	(0.244)
Recipiency of income:						
Labor	-0.062	-0.003	0.130	-0.309*	-0.274*	-0.101
	(0.167)	(0.157)	(0.154)	(0.124)	(0.130)	(0.142)
Entrepreneurial	-0.018	0.188	0.078	0.130	0.198	0.103
	(0.164)	(0.155)	(0.160)	(0.127)	(0.127)	(0.142)
Social welfare	-0.076	-0.243	-0.004	-0.025	0.258*	0.152
	(0.138)	(0.132)	(0.133)	(0.101)	(0.111)	(0.120)
Retirement	0.020	0.207	0.012	-0.591***	-0.868***	-0.581**
	(0.218)	(0.199)	(0.190)	(0.141)	(0.154)	(0.178)
Rental/asset	-0.197	0.362	-0.011	-0.473**	-0.316*	-0.073
	(0.249)	(0.212)	(0.202)	(0.148)	(0.145)	(0.146)
New home owner	1.254**	0.345	1.307*	-0.245	0.009	
	(0.386)	(0.432)	(0.566)	(0.509)	(0.392)	
Home owner in both two periods	0.021	-0.101	0.383*	-0.200	-0.074	-0.160
	(0.170)	(0.162)	(0.184)	(0.121)	(0.134)	(0.136)
Constant	-0.301	-1.790	-0.950	-0.443	0.808	1.239
	(0.887)	(0.963)	(0.876)	(0.614)	(0.657)	(0.751)
N	490	513	516	1959	1948	1909
pseudo R^2	0.149	0.077	0.059	0.188	0.230	0.188

Standard errors in parentheses
* p<.05, ** p<.01, *** p<.001

In the equation for poverty entry and exit presented in Table 9, we use change in monetary amounts of income types received by household as well as household head characteristics and change in household characteristics. We observe greater explanatory power with R-square values of around 0.40 in the exit equation and around 0.22 in the entry equation. We still find that years of schooling of household head has positive effect on poverty exit and negative effect on poverty entry. Change in household size has similar effect with years of schooling of household head. While becoming home owner has positive effect on the probability of poverty exit. As expected, becoming home owner has no significant effect on the probability of moving into poverty but has a positive effect on the probability of poverty exit. While the increases in labor, entrepreneurial, social welfare and retirement income increases the probability of poverty exit, declines in those types increases the probability of poverty entry. However, we observe change in rental/ asset income does not have a consistent effect such that: we find a positive and significant effect on poverty exit for the 2008-09 and 2009-10 periods, while there is a negative and significant effect on poverty entry only for the 2007-08 period. Consequently, almost all of the coefficients measuring the changes in monetary amounts of income types are significant and have effects on both poverty exit and entry, which means that income events are more closely related with poverty transitions of households in Turkey compared to the labor market events. These findings are line with in many studies from different countries (See Bane and Ellwood, 1986; Cantó, 2003; Layte and Whelan, 2003; Valetta, 2006; Neilson et al., 2008; Seker, 2011; Polin and Raitano, 2012; Seker and Dayioglu, 2014).

Table 9: Determinants of poverty exit and entry (Model 3a)

	Poverty Exit			Poverty Entry		
Covariate	**2007-08**	**2008-09**	**2009-10**	**2007-08**	**2008-09**	**2009-10**
Household head:						
Female	0.726	0.564	0.280	-0.525*	-1.106***	-0.718**
	(0.406)	(0.328)	(0.321)	(0.209)	(0.240)	(0.277)
Age	-0.176***	-0.032	-0.063	0.012	-0.067**	-0.060*
	(0.043)	(0.043)	(0.034)	(0.023)	(0.023)	(0.028)
Age sq.	0.193***	0.034	0.063	-0.020	0.053*	0.033
	(0.043)	(0.042)	(0.032)	(0.023)	(0.022)	(0.027)
Married	-0.613	-0.280	-0.544	0.373	-0.051	0.083
	(0.414)	(0.322)	(0.314)	(0.197)	(0.207)	(0.244)
Years of schooling	0.105**	0.117***	0.083**	-0.139***	-0.164***	-0.173***
	(0.035)	(0.034)	(0.031)	(0.019)	(0.020)	(0.023)
Part-year worker	0.478	0.186	0.299	0.024	-0.156	-0.029
	(0.320)	(0.253)	(0.241)	(0.171)	(0.183)	(0.203)
Full-year worker	0.738*	0.315	0.576**	-0.504***	-0.418**	-0.524**
	(0.301)	(0.234)	(0.222)	(0.148)	(0.156)	(0.187)
Retiree	1.152*	1.269**	1.118**	-1.109***	-1.139***	-0.813***
	(0.556)	(0.457)	(0.394)	(0.223)	(0.223)	(0.241)
Change in household size	-0.537***	-0.307***	-0.218*	0.202**	0.309***	0.027
	(0.126)	(0.076)	(0.087)	(0.069)	(0.061)	(0.080)
Change in the monetary amount of income:						
Labor	0.450***	0.335***	0.210***	-0.050***	-0.057***	-0.056***
	(0.047)	(0.037)	(0.027)	(0.008)	(0.010)	(0.009)
Entrepreneurial	0.414***	0.294***	0.227***	-0.030***	-0.022***	-0.029***
	(0.051)	(0.037)	(0.029)	(0.007)	(0.004)	(0.007)
Social welfare	0.453***	0.411***	0.247***	-0.156***	-0.109***	-0.087***
	(0.072)	(0.057)	(0.046)	(0.024)	(0.026)	(0.022)
Retirement	0.407***	0.488***	0.173**	-0.128**	-0.047*	-0.049**
	(0.107)	(0.084)	(0.053)	(0.040)	(0.019)	(0.017)
Rental/asset	-0.041	0.527**	0.849**	-0.072*	-0.015	0.023
	(0.215)	(0.166)	(0.297)	(0.030)	(0.030)	(0.030)
New home owner	1.286*	0.046	1.261*	-0.018	-0.090	
	(0.500)	(0.489)	(0.635)	(0.507)	(0.425)	
Home owner in both two periods	0.208	-0.129	0.090	-0.260*	-0.066	-0.134
	(0.215)	(0.188)	(0.197)	(0.120)	(0.132)	(0.141)
Constant	1.174	-1.223	-0.133	-0.251	1.946**	1.934**
	(1.096)	(1.127)	(0.976)	(0.619)	(0.632)	(0.730)
N	490	513	516	1959	1948	1909
pseudo R^2	0.496	0.405	0.304	0.218	0.223	0.233

Standard errors in parentheses
* p<.05, ** p<.01, *** p<.001

When we replace the change in household size with change in household size components, we find that the increases in the numbers of inactive adults, full-year, part-year workers or retirees decrease the probability of poverty exit, which is line with Buddelmeyer and Verick (2007); while their effects on poverty entry are in the opposite direction but not consistent. Indeed, we would like to expect a positive effect of the number of full-year worker on the probability of poverty exit. When we consider the labor market structure in Turkey, we concern that this finding might be due to the effect of agricultural employment. Our variable with relation to employment status covers both agricultural and non-agricultural employment. In Turkey, agricultural product has still mostly done by unpaid family workers in family

enterprises. Therefore, to be involved in agricultural employment might decrease the probability of poverty exit. For this reason, we concerned that the finding in relation to negative effect of an increase in the number of full-year household members on the probability of poverty exit might be due to this effect of agricultural employment. In order to capture the pure effect of the non-agricultural employment on the poverty transitions, we run a model that includes a variable showing to be full-year worker in non-agricultural employment. In this model, we find that the number of full-year worker has a negative effect on the probability of poverty exit for 2007-08 period as well. However, the effect is insignificant for the other periods compared (See App 1).[15] The findings related to income events are line with the findings obtained from Model 3a, which are presented in Table 9.

[15] While 26.1 percent of part-year workers are involved in agricultural employment, this rate is 38.8 percent among full-year workers in 2010.

Table 10: Determinants of poverty exit and entry (Model 3b)

	Poverty Exit			Poverty Entry		
Covariate	**2007-08**	**2008-09**	**2009-10**	**2007-08**	**2008-09**	**2009-10**
Household head:						
Female	0.710	0.596	0.288	-0.517*	-1.010***	-0.663*
	(0.404)	(0.336)	(0.321)	(0.209)	(0.242)	(0.279)
Age	-0.174***	-0.037	-0.060	0.012	-0.075**	-0.070*
	(0.044)	(0.044)	(0.035)	(0.023)	(0.024)	(0.028)
Age sq.	0.191***	0.043	0.060	-0.020	0.062**	0.043
	(0.044)	(0.044)	(0.033)	(0.023)	(0.022)	(0.027)
Married	-0.667	-0.332	-0.522	0.355	-0.023	0.077
	(0.415)	(0.334)	(0.318)	(0.197)	(0.209)	(0.245)
Years of schooling	0.096**	0.127***	0.084**	-0.138***	-0.159***	-0.170***
	(0.036)	(0.035)	(0.031)	(0.018)	(0.020)	(0.023)
Part-year worker	0.491	0.422	0.293	0.069	0.068	0.199
	(0.332)	(0.276)	(0.259)	(0.186)	(0.199)	(0.228)
Full-year worker	0.860**	0.490	0.570*	-0.458**	-0.321	-0.410*
	(0.306)	(0.253)	(0.226)	(0.155)	(0.168)	(0.196)
Retiree	1.381*	1.620**	1.235**	-1.131***	-1.164***	-0.720**
	(0.588)	(0.530)	(0.426)	(0.231)	(0.244)	(0.260)
Change in the number of household size components:						
Inactive adults	-0.634***	-0.386***	-0.251*	0.218*	0.420***	0.149
	(0.149)	(0.116)	(0.107)	(0.089)	(0.080)	(0.101)
Part-year workers	-0.811***	-0.609***	-0.250	0.119	0.169	-0.068
	(0.204)	(0.141)	(0.132)	(0.106)	(0.099)	(0.112)
Full-year workers	-0.968***	-0.679***	-0.260	0.094	0.315**	0.030
	(0.220)	(0.157)	(0.153)	(0.105)	(0.103)	(0.115)
Child dependents	-0.243	-0.003	-0.163	0.233*	0.186	-0.056
	(0.185)	(0.123)	(0.126)	(0.105)	(0.104)	(0.135)
Retirees	-1.512*	-1.921**	-0.563	0.487	0.673**	0.055
	(0.762)	(0.676)	(0.442)	(0.258)	(0.242)	(0.241)
Change in the monetary amount of income:						
Labor	0.494***	0.386***	0.211***	-0.047***	-0.056***	-0.054***
	(0.052)	(0.043)	(0.029)	(0.008)	(0.010)	(0.009)
Entrepreneurial	0.447***	0.332***	0.225***	-0.028***	-0.021***	-0.029***
	(0.055)	(0.042)	(0.029)	(0.007)	(0.004)	(0.007)
Social welfare	0.454***	0.445***	0.245***	-0.158***	-0.110***	-0.088***
	(0.074)	(0.060)	(0.046)	(0.024)	(0.026)	(0.023)
Retirement	0.467***	0.556***	0.169**	-0.130**	-0.051**	-0.047**
	(0.128)	(0.096)	(0.054)	(0.040)	(0.019)	(0.017)
Rental/asset	-0.004	0.695***	0.824**	-0.069*	-0.017	0.021
	(0.252)	(0.174)	(0.302)	(0.030)	(0.031)	(0.031)
New home owner	1.245*	0.197	1.290*	-0.087	-0.094	
	(0.520)	(0.498)	(0.639)	(0.526)	(0.429)	
Home owner in both two periods	0.189	-0.068	0.102	-0.252*	-0.063	-0.106
	(0.216)	(0.198)	(0.199)	(0.121)	(0.133)	(0.143)
Constant	1.130	-1.427	-0.217	-0.326	1.969**	1.988**
	(1.108)	(1.184)	(0.988)	(0.622)	(0.641)	(0.739)
N	490	513	516	1959	1948	1909
pseudo R^2	0.510	0.436	0.306	0.220	0.236	0.241

Standard errors in parentheses
* p<.05, ** p<.01, *** p<.001

5. Conclusion

In this study, we analyze which types of events and factors moved the households out of and into poverty in the years 2007-2010 in Turkey. We presented the results by 2-year period in order to analyze the robustness of the results. Descriptive findings revealed that non-poor households are more likely to be headed by an individual with higher years of schooling, a full-year worker, or a retiree and less likely to be headed by an inactive adult or a part-year worker. Given the high rate of homeownership among the non-poor and the high rate of new home ownership among the exiting households and the low rate among entrant households, we conclude that becoming a home owner is critical for many low-income families in terms of making it over the poverty line. We also find that households that enter poverty have the lowest rate of labor income reception; and entrepreneurial and social welfare incomes are the least common among the non-poor whereas retirement and rental/asset incomes are the most common. The general pattern in terms of the amounts of various types of income received is that movements into poverty are closely related with declines in almost all types of income, while movements out of poverty are closely related with increases in almost all types of income.

We also run a series of probit models by considering three different points in time when households exit or enter poverty; namely 2008, 2009, and 2010. The findings indicate that the years of education of the household head, home ownership, while household size has a negative effect on the probability of poverty exit, and a positive effect on entry. The increases in the number of inactive adults, full-year and part-year workers reduce the probability of poverty exit. As for the findings in relation to changes in monetary amounts of other income types, we find that income events are critically important for the poverty transitions in Turkey. We find that the increases in monetary amounts of labor, entrepreneurial, social welfare and retirement incomes positively affect the poverty exits of the households and negatively affect poverty entry. In addition, rental and asset income has also positive effect on the probability of poverty exit, its effects is not consistent.

Even though Turkey has made considerable progress to reduce poverty over the past years, the findings contribute to the debate on the effectiveness and limitation of current poverty reduction strategies & policies in Turkey. Therefore, the findings might offer valuable insights in relation to policies that aim to reduce poverty.

First of all, poverty reduction should be seen as an essential issue, requires everyone's attention and mainstreamed into the national policies and actions in accordance with international development goals. With regard to the critical findings in terms of policy

implications, the years of schooling seems as far as the most important factor behind poverty exit in Turkey. This finding indicates to the necessary of focusing on the current education policies and education system. The quality of education and opportunity inequality in education differs among regions of Turkey. Especially, education quality in the East regions of Turkey is lower than the West of Turkey. In this regard, current education policies should be revised and policies that reduce regional differences in quality of education and opportunity inequality in education should be designed with their effective implementation in order to be poor, to prevent poverty entry and to increase the probability of poverty exit.

On the other hand, we found that poor families are typically larger, corresponding to high fertility among poor households. High poverty and high fertility may create a vicious poverty cycle in the next generation. Because children living in poor families do not seem to face equal opportunity in education and are also exposed to lack of nutrition and power due to poor economic conditions. Children growing up in poverty can still confront various disadvantages in their adulthood. When they enter the labor force at every stage of schooling, those poor children might have low educational attainments compared to the other classmates or peers. Hence, they may enter into a poverty cycle that that can be difficult to break. All things considered, welfare policies should consider the families with young children and their mothers for ensuring prosperity of future generations and for providing sustainable development. Policies should be designed to increase the prevalence of preschool education that makes enormous contributions to children's years of schooling and educational attainments. Also, policies for conditional cash transfers or nutritional support to poor families with young children could help to exit poverty and also prevent children growing up in poor families to enter labor market at their early ages, which positively influence their years of schooling.

On the other hand, the findings underline the critical aspects of labor market in Turkey. As we criticized before, we find that the increase in number of inactive household member decreases the probability of poverty exit and increases the probability of poverty entry. So, inactivity can be seen as one of the causes of poverty entry. In this regard, the government might revise job creations schemes as well as active labor market policies to increase employability (such as *via* education and training). In addition, labor market participation (especially female labor force participation) should be encouraged by w*elfare-to-work* schemes.

Interestingly, the findings show that the increases in the number of full-year workers in a household have negative effects on the probability of exiting and becoming retired

individual increases the probability of exiting. As for the finding regarding retired individuals, common belief in Turkey is that retired people cannot able to make ends meet easily and suffer from poverty. However, the reverse findings bring certain question marks concerning the effectiveness and limitations of labor market regulations (such as retirement payments, retirement age, minimum wage) and demonstrate that we need to deepen research on Turkish labor market.

On the other hand, the findings with regard to the change in monetary amounts of income types emphasize that poverty reduction policies and actions should not only focus on structural and steady factors but also focus on the flowing factors like changes in income received by the households. In this context, policies that aim to increase the income of the poor have critical importance in terms of precluding poverty entry and encouraging poverty exit of the households in Turkey. These policies could centre on changing factor inputs to increase the level or price of output of the poor: land (land reform, subsidies, etc), labor (increasing participation rates (*via* kindergartens, population policy); eliminating barriers to labor market entry; improving workplace health and safety; developing labor-using techniques of production; minimum wage and child labor legislation); physical capital and financial capital (Shaffer, 2008). Finally, we found that monetary gains in social welfare income increase the probability of poverty exit. This finding highlights the significance of the policies that provide direct payments to low-income families (cash payments, child benefits, pensions for widows, etc).

Appendix

App 1: Marginal effects (Model 1a)

	Poverty Exit			Poverty Entry		
Covariate	**2007-08**	**2008-09**	**2009-10**	**2007-08**	**2008-09**	**2009-10**
Household head:						
Female	0.35**	0.14	0.11	-0.04***	-0.04***	-0.03***
	(0.115)	(0.110)	(0.108)	(0.010)	(0.007)	(0.006)
Age	-0.02	0.02	-0.00	0.00	-0.00	-0.00
	(0.011)	(0.012)	(0.011)	(0.002)	(0.002)	(0.001)
Age sq.	0.02	-0.03*	0.00	-0.00	0.00*	0.00
	(0.011)	(0.012)	(0.010)	(0.002)	(0.001)	(0.001)
Married	-0.02	0.02	-0.11	0.01	0.00	-0.01
	(0.106)	(0.090)	(0.103)	(0.014)	(0.014)	(0.017)
Years of schooling	0.04***	0.02*	0.03**	-0.01***	-0.01***	-0.01***
	(0.009)	(0.008)	(0.009)	(0.002)	(0.001)	(0.001)
Part-year worker	0.11	0.02	0.04	0.01	0.00	0.00
	(0.081)	(0.067)	(0.073)	(0.018)	(0.013)	(0.012)
Full-year worker	0.17*	0.04	0.12	-0.06***	-0.03**	-0.03*
	(0.070)	(0.065)	(0.066)	(0.017)	(0.013)	(0.012)
Retiree	0.31	0.36*	0.21	-0.05***	-0.03***	-0.02*
	(0.182)	(0.144)	(0.141)	(0.010)	(0.009)	(0.008)
Household size	-0.04***	-0.06***	-0.04***	0.01***	0.01***	0.01***
	(0.010)	(0.010)	(0.010)	(0.003)	(0.002)	(0.002)
Home owner	0.06	-0.02	0.14**	-0.03	-0.01	-0.02
	(0.051)	(0.051)	(0.050)	(0.014)	(0.011)	(0.010)
Labor	0.05	0.06	0.10*	-0.04**	-0.03**	-0.02*
	(0.053)	(0.048)	(0.051)	(0.014)	(0.011)	(0.010)
Entrepreneurial	0.00	0.08	0.07	-0.00	0.00	-0.01
	(0.053)	(0.049)	(0.054)	(0.012)	(0.009)	(0.007)
Social welfare	-0.02	-0.04	0.01	-0.00	0.02*	0.01
	(0.045)	(0.043)	(0.045)	(0.009)	(0.009)	(0.007)
Retirement	0.03	0.13	0.06	-0.05***	-0.05***	-0.03**
	(0.074)	(0.073)	(0.069)	(0.011)	(0.010)	(0.009)
Rental/asset	-0.03	0.20*	0.02	-0.04***	-0.02**	-0.01
	(0.076)	(0.085)	(0.070)	(0.008)	(0.007)	(0.006)
Observations	490	513	516	1,959	1,948	1,941

Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05

App 2: Marginal effects (Model 1b)

	Poverty Exit			Poverty Entry		
Covariate	**2007-08**	**2008-09**	**2009-10**	**2007-08**	**2008-09**	**2009-10**
Household head:						
Female	0.38**	0.14	0.16	-0.03***	-0.04***	-0.02***
	(0.116)	(0.111)	(0.112)	(0.009)	(0.007)	(0.006)
Age	-0.03*	0.01	-0.01	0.00	-0.00	-0.00
	(0.012)	(0.012)	(0.012)	(0.002)	(0.002)	(0.001)
Age sq.	0.03*	-0.02	0.01	-0.00	0.00	0.00
	(0.012)	(0.012)	(0.011)	(0.002)	(0.002)	(0.001)
Married	0.02	0.03	-0.08	0.01	0.00	-0.01
	(0.102)	(0.088)	(0.101)	(0.014)	(0.014)	(0.016)
Years of schooling	0.04***	0.02*	0.02**	-0.01***	-0.01***	-0.01***
	(0.009)	(0.009)	(0.009)	(0.002)	(0.001)	(0.001)
Part-year worker	0.10	-0.00	0.12	0.02	0.01	-0.00
	(0.092)	(0.073)	(0.089)	(0.024)	(0.018)	(0.012)
Full-year worker	0.12	0.12	0.07	-0.04*	-0.04**	-0.01
	(0.081)	(0.074)	(0.073)	(0.017)	(0.015)	(0.011)
Retiree	-0.30***	0.37	0.29	-0.03	-0.04**	-0.02
	(0.024)	(0.273)	(0.326)	(0.030)	(0.011)	(0.011)
Household size components:						
Inactive adults	-0.03	-0.03	-0.01	0.02***	0.01*	0.01***
	(0.021)	(0.019)	(0.019)	(0.004)	(0.004)	(0.003)
Part-year workers	0.01	-0.00	-0.06	-0.00	0.00	0.01*
	(0.034)	(0.032)	(0.036)	(0.008)	(0.007)	(0.005)
Full-year workers	0.03	-0.08**	0.03	-0.00	0.01**	-0.00
	(0.026)	(0.032)	(0.024)	(0.006)	(0.004)	(0.004)
Child dependents	-0.07***	-0.08***	-0.06***	0.02***	0.02***	0.01***
	(0.015)	(0.014)	(0.014)	(0.004)	(0.003)	(0.003)
Retirees	0.78***	-0.04	-0.04	-0.03	0.02	0.01
	(0.020)	(0.168)	(0.248)	(0.040)	(0.018)	(0.015)
Home owner	0.05	-0.01	0.14**	-0.02	-0.01	-0.01
	(0.052)	(0.051)	(0.050)	(0.013)	(0.011)	(0.009)
Recipiency of income:						
Labor	0.01	0.03	0.11*	-0.03*	-0.03*	-0.02
	(0.057)	(0.051)	(0.052)	(0.013)	(0.011)	(0.009)
Entrepreneurial	-0.05	0.09	0.04	0.01	0.00	-0.00
	(0.057)	(0.052)	(0.059)	(0.013)	(0.009)	(0.008)
Social welfare	-0.00	-0.04	0.03	-0.00	0.02*	0.01
	(0.045)	(0.042)	(0.045)	(0.009)	(0.009)	(0.006)
Retirement	0.02	0.14	0.05	-0.04***	-0.05***	-0.03**
	(0.075)	(0.074)	(0.069)	(0.011)	(0.010)	(0.009)
Rental/asset	-0.02	0.20*	0.02	-0.04***	-0.02**	-0.01
	(0.078)	(0.086)	(0.071)	(0.008)	(0.007)	(0.006)
Observations	490	513	516	1,959	1,948	1,941

Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05

App 3: Marginal effects (Model 2a)

	Poverty Exit			Poverty Entry		
Covariate	**2007-08**	**2008-09**	**2009-10**	**2007-08**	**2008-09**	**2009-10**
Household head:						
Female	0.39***	0.21	0.14	-0.04***	-0.05***	-0.03***
	(0.113)	(0.113)	(0.110)	(0.010)	(0.007)	(0.006)
Age	-0.02*	0.01	-0.01	0.00	-0.00	-0.00
	(0.011)	(0.012)	(0.011)	(0.002)	(0.002)	(0.002)
Age sq.	0.03*	-0.01	0.01	-0.00	0.00	0.00
	(0.011)	(0.012)	(0.010)	(0.002)	(0.002)	(0.002)
Married	-0.04	-0.04	-0.13	0.03*	0.01	0.00
	(0.114)	(0.100)	(0.104)	(0.012)	(0.012)	(0.013)
Years of schooling	0.05***	0.03***	0.03***	-0.01***	-0.01***	-0.01***
	(0.009)	(0.009)	(0.009)	(0.002)	(0.001)	(0.001)
Part-year worker	0.14	0.02	0.07	0.01	-0.00	-0.00
	(0.083)	(0.068)	(0.075)	(0.017)	(0.012)	(0.011)
Full-year worker	0.18*	0.04	0.12	-0.06***	-0.04**	-0.05***
	(0.072)	(0.065)	(0.066)	(0.018)	(0.014)	(0.014)
Retiree	0.37*	0.36**	0.24	-0.05***	-0.03***	-0.02**
	(0.174)	(0.140)	(0.139)	(0.011)	(0.009)	(0.009)
Change in household size	-0.07*	-0.04	-0.03	0.01	0.02***	-0.01
	(0.029)	(0.020)	(0.025)	(0.006)	(0.005)	(0.005)
Recipiency of income:						
Labor	0.01	-0.00	0.05	-0.03*	-0.02*	-0.01
	(0.054)	(0.050)	(0.050)	(0.013)	(0.010)	(0.009)
Entrepreneurial	-0.00	0.06	0.03	0.01	0.01	0.01
	(0.054)	(0.049)	(0.053)	(0.013)	(0.010)	(0.009)
Social welfare	-0.02	-0.07	-0.01	-0.00	0.02*	0.01
	(0.046)	(0.043)	(0.045)	(0.010)	(0.009)	(0.008)
Retirement	0.02	0.09	0.02	-0.05***	-0.06***	-0.03**
	(0.073)	(0.069)	(0.065)	(0.012)	(0.010)	(0.010)
Rental/asset	-0.08	0.12	0.01	-0.04***	-0.02*	-0.00
	(0.071)	(0.078)	(0.068)	(0.009)	(0.007)	(0.008)
New home owner	0.48***	0.11	0.50**	-0.01	-0.00	
	(0.125)	(0.159)	(0.168)	(0.035)	(0.026)	
Home owner in both two periods	0.00	-0.04	0.12*	-0.02	-0.01	-0.01
	(0.056)	(0.054)	(0.053)	(0.014)	(0.010)	(0.010)
Observations	490	513	516	1,959	1,948	1,909

Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05

App 4: Marginal effects (Model 2b)

	Poverty Exit			Poverty Entry		
Covariate	**2007-08**	**2008-09**	**2009-10**	**2007-08**	**2008-09**	**2009-10**
Household head:						
Female	0.37**	0.21	0.15	-0.04***	-0.04***	-0.03***
	(0.118)	(0.114)	(0.111)	(0.010)	(0.007)	(0.006)
Age	-0.02	0.01	-0.01	0.00	-0.00	-0.00
	(0.011)	(0.012)	(0.011)	(0.002)	(0.002)	(0.002)
Age sq.	0.03*	-0.02	0.01	-0.00	0.00	0.00
	(0.012)	(0.012)	(0.010)	(0.002)	(0.001)	(0.001)
Married	-0.05	-0.04	-0.10	0.03*	0.01	0.00
	(0.117)	(0.101)	(0.105)	(0.012)	(0.011)	(0.013)
Years of schooling	0.05***	0.03***	0.03**	-0.01***	-0.01***	-0.01***
	(0.009)	(0.009)	(0.009)	(0.002)	(0.001)	(0.001)
Part-year worker	0.12	0.02	0.02	0.01	0.01	0.01
	(0.086)	(0.071)	(0.077)	(0.019)	(0.018)	(0.018)
Full-year worker	0.15*	0.03	0.10	-0.06**	-0.02	-0.03*
	(0.074)	(0.067)	(0.068)	(0.018)	(0.013)	(0.013)
Retiree	0.36	0.43**	0.34*	-0.05***	-0.03***	-0.02
	(0.189)	(0.147)	(0.147)	(0.011)	(0.009)	(0.010)
Change in the number of household size components:						
Inactive adults	-0.11**	-0.06*	-0.05	0.01	0.02***	0.00
	(0.034)	(0.028)	(0.032)	(0.008)	(0.006)	(0.006)
Part-year workers	-0.02	-0.05	0.01	0.00	0.00	-0.01*
	(0.043)	(0.033)	(0.038)	(0.009)	(0.006)	(0.006)
Full-year workers	0.01	-0.04	-0.01	-0.00	0.01	-0.01
	(0.045)	(0.034)	(0.043)	(0.009)	(0.007)	(0.006)
Child dependents	-0.03	-0.01	-0.01	0.01	0.01	-0.01
	(0.046)	(0.034)	(0.037)	(0.010)	(0.007)	(0.008)
Retirees	-0.19	-0.25	-0.22	0.04	0.05**	-0.00
	(0.148)	(0.152)	(0.124)	(0.023)	(0.017)	(0.014)
Recipiency of income:						
Labor	-0.02	-0.00	0.04	-0.03*	-0.02*	-0.01
	(0.056)	(0.050)	(0.051)	(0.013)	(0.010)	(0.008)
Entrepreneurial	-0.01	0.06	0.03	0.01	0.01	0.01
	(0.055)	(0.049)	(0.054)	(0.013)	(0.010)	(0.009)
Social welfare	-0.03	-0.08	-0.00	-0.00	0.02*	0.01
	(0.046)	(0.044)	(0.045)	(0.010)	(0.009)	(0.008)
Retirement	0.01	0.07	0.00	-0.05***	-0.05***	-0.03**
	(0.073)	(0.069)	(0.065)	(0.012)	(0.010)	(0.010)
Rental/asset	-0.06	0.13	-0.00	-0.04***	-0.02*	-0.00
	(0.074)	(0.079)	(0.068)	(0.009)	(0.007)	(0.008)
New home owner	0.47***	0.12	0.49**	-0.02	0.00	
	(0.128)	(0.163)	(0.174)	(0.031)	(0.026)	
Home owner in both two periods	0.01	-0.03	0.12*	-0.02	-0.01	-0.01
	(0.056)	(0.054)	(0.053)	(0.014)	(0.010)	(0.010)
Observations	490	513	516	1,959	1,948	1,909

Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05

App 5: Marginal effects (Model 3a)

	Poverty Exit			Poverty Entry		
Covariate	**2007-08**	**2008-09**	**2009-10**	**2007-08**	**2008-09**	**2009-10**
Household head:						
Female	0.25	0.18	0.10	-0.03***	-0.04***	-0.02***
	(0.154)	(0.117)	(0.116)	(0.009)	(0.006)	(0.006)
Age	-0.05***	-0.01	-0.02	0.00	-0.00**	-0.00*
	(0.012)	(0.011)	(0.011)	(0.002)	(0.001)	(0.001)
Age sq.	0.06***	0.01	0.02	-0.00	0.00*	0.00
	(0.012)	(0.011)	(0.010)	(0.002)	(0.001)	(0.001)
Married	-0.21	-0.08	-0.19	0.02*	-0.00	0.00
	(0.156)	(0.102)	(0.120)	(0.010)	(0.014)	(0.010)
Years of schooling	0.03**	0.03***	0.03**	-0.01***	-0.01***	-0.01***
	(0.010)	(0.009)	(0.010)	(0.001)	(0.001)	(0.001)
Part-year worker	0.15	0.05	0.10	0.00	-0.01	-0.00
	(0.103)	(0.072)	(0.084)	(0.014)	(0.009)	(0.009)
Full-year worker	0.21*	0.08	0.18**	-0.04**	-0.03*	-0.03*
	(0.084)	(0.062)	(0.068)	(0.014)	(0.011)	(0.010)
Retiree	0.42*	0.46**	0.42**	-0.05***	-0.04***	-0.02***
	(0.209)	(0.170)	(0.144)	(0.008)	(0.007)	(0.006)
Change in household size	-0.15***	-0.08***	-0.07*	0.02**	0.02***	0.00
	(0.036)	(0.020)	(0.027)	(0.006)	(0.004)	(0.004)
Change in the monetary amount of income:						
Labor	0.13***	0.09***	0.07***	-0.00***	-0.00***	-0.00***
	(0.014)	(0.010)	(0.009)	(0.001)	(0.001)	(0.000)
Entrepreneurial	0.12***	0.08***	0.07***	-0.00***	-0.00***	-0.00***
	(0.015)	(0.010)	(0.010)	(0.001)	(0.000)	(0.000)
Social welfare	0.13***	0.11***	0.08***	-0.01***	-0.01***	-0.00***
	(0.021)	(0.016)	(0.015)	(0.002)	(0.002)	(0.001)
Retirement	0.12***	0.13***	0.05**	-0.01***	-0.00*	-0.00**
	(0.031)	(0.023)	(0.017)	(0.003)	(0.001)	(0.001)
Rental/asset	-0.01	0.14**	0.27**	-0.01*	-0.00	0.00
	(0.061)	(0.045)	(0.094)	(0.002)	(0.002)	(0.001)
New home owner	0.47**	0.01	0.47*	-0.00	-0.01	
	(0.180)	(0.135)	(0.215)	(0.040)	(0.023)	
Home owner in both two periods	0.06	-0.04	0.03	-0.02	-0.00	-0.01
	(0.056)	(0.053)	(0.060)	(0.013)	(0.009)	(0.008)
Observations	490	513	516	1,959	1,948	1,909

Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05

App 6: Marginal effects (Model 3b)

	Poverty Exit			Poverty Entry		
Covariate	**2007-08**	**2008-09**	**2009-10**	**2007-08**	**2008-09**	**2009-10**
Household head:						
Female	0.24	0.19	0.10	-0.03***	-0.03***	-0.02***
	(0.152)	(0.119)	(0.116)	(0.009)	(0.006)	(0.006)
Age	-0.05***	-0.01	-0.02	0.00	-0.00**	-0.00*
	(0.012)	(0.011)	(0.011)	(0.002)	(0.001)	(0.001)
Age sq.	0.05***	0.01	0.02	-0.00	0.00**	0.00
	(0.012)	(0.011)	(0.010)	(0.002)	(0.001)	(0.001)
Married	-0.22	-0.10	-0.18	0.02*	-0.00	0.00
	(0.157)	(0.107)	(0.121)	(0.010)	(0.013)	(0.010)
Years of schooling	0.03**	0.03***	0.03**	-0.01***	-0.01***	-0.01***
	(0.010)	(0.009)	(0.010)	(0.001)	(0.001)	(0.001)
Part-year worker	0.15	0.12	0.10	0.01	0.00	0.01
	(0.106)	(0.083)	(0.090)	(0.016)	(0.013)	(0.014)
Full-year worker	0.24**	0.13	0.18**	-0.04**	-0.02	-0.02
	(0.083)	(0.066)	(0.069)	(0.014)	(0.011)	(0.010)
Retiree	0.50*	0.58***	0.46**	-0.05***	-0.04***	-0.02***
	(0.204)	(0.171)	(0.148)	(0.008)	(0.007)	(0.006)
Change in the number of household size components:						
Inactive adults	-0.18***	-0.10***	-0.08*	0.02*	0.03***	0.01
	(0.041)	(0.030)	(0.034)	(0.007)	(0.006)	(0.004)
Part-year workers	-0.23***	-0.16***	-0.08	0.01	0.01	-0.00
	(0.055)	(0.036)	(0.042)	(0.009)	(0.006)	(0.005)
Full-year workers	-0.27***	-0.18***	-0.08	0.01	0.02**	0.00
	(0.060)	(0.041)	(0.049)	(0.008)	(0.007)	(0.005)
Child dependents	-0.07	-0.00	-0.05	0.02*	0.01	-0.00
	(0.052)	(0.032)	(0.040)	(0.009)	(0.006)	(0.006)
Retirees	-0.42	-0.50**	-0.18	0.04	0.04**	0.00
	(0.216)	(0.175)	(0.141)	(0.021)	(0.015)	(0.011)
Change in the monetary amount of income:						
Labor	0.14***	0.10***	0.07***	-0.00***	-0.00***	-0.00***
	(0.015)	(0.011)	(0.009)	(0.001)	(0.001)	(0.000)
Entrepreneurial	0.12***	0.09***	0.07***	-0.00***	-0.00***	-0.00***
	(0.016)	(0.011)	(0.010)	(0.001)	(0.000)	(0.000)
Social welfare	0.13***	0.12***	0.08***	-0.01***	-0.01***	-0.00***
	(0.021)	(0.016)	(0.015)	(0.002)	(0.002)	(0.001)
Retirement	0.13***	0.14***	0.05**	-0.01***	-0.00**	-0.00**
	(0.037)	(0.025)	(0.017)	(0.003)	(0.001)	(0.001)
Rental/asset	-0.00	0.18***	0.26**	-0.01*	-0.00	0.00
	(0.071)	(0.046)	(0.096)	(0.002)	(0.002)	(0.001)
New home owner	0.45*	0.06	0.48*	-0.01	-0.01	
	(0.193)	(0.151)	(0.213)	(0.036)	(0.022)	
Home owner in both two periods	0.05	-0.02	0.03	-0.02	-0.00	-0.00
	(0.056)	(0.053)	(0.060)	(0.013)	(0.009)	(0.007)
Observations	490	513	516	1,959	1,948	1,909

Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05

App 7: Determinants of poverty exit and entry (Model 3b)

	Poverty Exit			Poverty Entry		
Covariate	**2007-08**	**2008-09**	**2009-10**	**2007-08**	**2008-09**	**2009-10**
Household head:						
Female	0.399	0.323	0.691	-0.655**	-1.032***	-0.213
	(0.377)	(0.333)	(0.363)	(0.238)	(0.264)	(0.272)
Age	-0.099*	-0.120**	-0.045	-0.031	-0.104***	-0.073*
	(0.040)	(0.043)	(0.036)	(0.027)	(0.026)	(0.028)
Age sq.	0.093*	0.109**	0.051	0.015	0.087***	0.049
	(0.040)	(0.041)	(0.034)	(0.025)	(0.024)	(0.026)
Married	-0.410	-0.795*	-0.023	0.262	-0.070	0.345
	(0.399)	(0.332)	(0.355)	(0.219)	(0.220)	(0.256)
Years of schooling	0.052	0.075*	0.061	-0.163***	-0.121***	-0.166***
	(0.031)	(0.036)	(0.032)	(0.023)	(0.020)	(0.023)
Part-year non-agricultural worker	-0.137	-0.034	0.222	-0.194	0.037	0.421
	(0.282)	(0.282)	(0.270)	(0.206)	(0.209)	(0.229)
Full-year non-agricultural worker	0.372	0.231	0.489	-0.870***	-0.488**	-0.272
	(0.280)	(0.299)	(0.274)	(0.187)	(0.184)	(0.213)
Retiree	1.471***	1.639***	0.784*	-0.784***	-0.846***	-0.172
	(0.430)	(0.427)	(0.377)	(0.218)	(0.236)	(0.236)
Change in the number of household size components:						
Inactive adults	-0.368**	-0.337**	-0.129	0.182	0.473***	0.353***
	(0.128)	(0.130)	(0.119)	(0.100)	(0.088)	(0.097)
Part-year workers	-0.348*	-0.453**	0.001	0.192	0.128	0.081
	(0.155)	(0.141)	(0.138)	(0.111)	(0.097)	(0.106)
Full-year workers	-0.460*	-0.282	-0.239	0.194	0.221	0.221
	(0.217)	(0.237)	(0.221)	(0.122)	(0.117)	(0.125)
Child dependents	0.010	-0.120	0.065	0.365**	0.111	0.108
	(0.192)	(0.132)	(0.178)	(0.119)	(0.125)	(0.132)
Retirees	-1.040	-1.405**	0.001	0.461	0.512*	0.044
	(0.662)	(0.511)	(0.416)	(0.255)	(0.249)	(0.224)
Change in the amount of income:						
Labor	0.405***	0.345***	0.196***	-0.053***	-0.058***	-0.053***
	(0.049)	(0.043)	(0.030)	(0.009)	(0.011)	(0.009)
Entrepreneurial	0.346***	0.357***	0.207***	-0.027***	-0.013*	-0.035***
	(0.053)	(0.046)	(0.038)	(0.008)	(0.005)	(0.009)
Social welfare	0.372***	0.427***	0.263***	-0.156***	-0.113***	-0.069**
	(0.065)	(0.059)	(0.052)	(0.027)	(0.027)	(0.023)
Retirement	0.419***	0.374***	0.263***	-0.109*	-0.043*	-0.035*
	(0.102)	(0.083)	(0.078)	(0.044)	(0.020)	(0.017)
Rental/asset	0.355**	0.619***	0.412	-0.063	-0.047	0.002
	(0.124)	(0.141)	(0.282)	(0.034)	(0.032)	(0.015)
New home owner	0.305	0.091	0.958	-0.205	-0.219	
	(0.433)	(0.477)	(0.548)	(0.552)	(0.444)	
Home owner in both two periods	-0.019	-0.030	0.025	-0.301*	-0.253	-0.342*
	(0.185)	(0.205)	(0.200)	(0.140)	(0.134)	(0.138)
Constant	0.734	1.596	-1.085	1.257	2.721***	1.735*
	(1.004)	(1.163)	(1.056)	(0.748)	(0.685)	(0.784)
N	440	431	430	1629	1637	1607
pseudo R^2	0.419	0.436	0.287	0.256	0.249	0.241

Standard errors in parentheses
* p<.05, ** p<.01, *** p<.001

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