

Impact of Social Assistance on Labor Market Mobility

The Case of Turkey

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Abstract

This paper assesses the extent to which social assistance programs in Turkey impact the labor market behavior of those who receive benefits. Theoretically, the possible channels through which the receipt of social assistance may disincentivize work are quite clear, even if the substantial literature analyzing these dynamics is somewhat inconclusive. The analysis confirms that even when controlling for the relevant factors, social assistance beneficiaries are significantly more likely than non-beneficiaries to be unemployed or informally employed, and therefore less likely to be formally employed. Furthermore, among the unemployed, the probability of moving into informal employment is found to be significantly larger for beneficiaries than for non-beneficiaries. The paper concludes that there are potential

disincentive effects at play in the decision to work, but particularly in whether to work formally or informally. Finally, an interesting and perhaps counterintuitive finding is that beneficiaries who are inactive are less likely to stay inactive in comparison with non-beneficiaries, which suggests that social assistance may be playing an activation role rather than leading to increased dependency. This, coupled with the previous findings, would indicate that disincentives to work, based on current design parameters, may not be the primary concern. Rather, disincentives to formality may be the prevailing channel through which social assistance affects labor market outcomes. More attention to designing programs that are incentive-compatible with formal employment would be a useful next step for public policy in this area.

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Impact of Social Assistance on Labor Market Mobility: The Case of Turkey^{*}

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1 Introduction and Literature Review

Although social benefits tend to improve aggregate welfare by providing the vulnerable with direct income support, reduced work incentives and an increased tendency toward informal employment are considered among the potential unintended consequences if benefit programs are not soundly designed. Identification of these issues is important to the optimal development of social policies, as shown by Saez (2002).

Economic theory would predict the presence of reduced work incentives in response to social transfers through at least two channels, namely, income and price effects (Ellwood 1988; Moffitt 2002). First, social transfers provide additional income to households, which increases the consumption of normal goods, including leisure. As a result, more leisure time decreases the time devoted to work through an income effect. Second, accepting a job offer sometimes increases the marginal effective tax rate on the additional income due to the loss of social benefits, referred to as a price effect. For instance, if the amount that an unemployed person would additionally earn by starting a job is equal to the social benefits that he/she would lose, there would, in principal, be no reason to accept the offer. In other words, social benefits might tend to increase the minimum level of wage at which individuals would be willing to accept (reservation wage), leading to protracted duration of unemployment and a relatively slower transition from unemployment to employment. The extended duration of unemployment ultimately tends to depreciate human capital and detach active workers from labor force or eventuate in low-quality jobs. Another important aspect of social protection and labor markets is the potential interaction between informality and self-employment. The fact that households may tend to move to the informal sector, understate their income, and therefore still qualify for social benefits is often a cause for concern in the design of social assistance programs.

The Turkish economy has experienced a significant transformation over the course of the past decade, the period following the 2001 economic crisis. After the implementation of structural economic reforms, the economy grew at impressive rates; per capita income improved significantly and poverty fell substantially. In order to ensure that the new prosperity was shared across the population, the social protection system was reorganized and considerably expanded, which was partially responsible for the subsequent reduction in poverty (Azevedo and Atamanov 2014).

Despite a continued significant policy emphasis on social assistance, little is known about the impact of these assistance programs on welfare measures and labor markets in Turkey.¹ The purpose of this study is to fill this gap in the literature, particularly with regard to the relationship between receipt of benefits and labor market activity. Although Alcan, Can, and Pektaş (2015) provide some empirical evidence that social assistance beneficiaries are more likely to transition into the labor force and are less likely to transition into the formal sector, this study explores these issues in more detail covering a longer time period, and using disaggregated social assistance variables which permits the analysis of different types of benefits. We used the *Survey of Income and Living Conditions*, an individual-level annual panel data set, in our empirical analysis of the period between 2006 and 2013. The panel nature of the data set allowed us to study the transitions in the labor market statuses of individuals. We used the multinomial logit model for this purpose and estimated the role of social assistance programs in labor market transitions.

Our benchmark estimates implied that in comparison to non-beneficiaries, social assistance beneficiaries are significantly more likely to be unemployed or working informally and less likely to be formally employed. Among the unemployed, the probability of moving to informal employment is found to be significantly larger for beneficiaries than for non-beneficiaries. Another interesting result is that social assistance beneficiaries are more likely to enter the labor force in search of work, suggesting that benefits are not associated with increased dependency.

This is not the first study to supply evidence on the interaction between social assistance and labor market outcomes. There has been a substantial effort in the empirical literature to identify the effects of social benefits on labor market outcomes in order to provide guidance to policy makers on optimally designing benefits programs. Given the relatively more generous nature of social safety nets in developed countries and the limited data availability in the developing world, most of the early literature has been focused on developed country experience, particularly in the United States. A number of studies reviewed in Moffitt (2002) found a reduction in work effort by 10–50 percent among beneficiaries of various programs in the United States (Aid to Families with Dependent Children and negative income tax programs). For instance, Burtless (1986) estimates a moderate earnings and employment reduction among negative income tax program participants of 7 and 17 percent for men and women, respectively. More recently, Hoynes and Schanzenbach (2012) and

¹ There are a few exceptions, including Azevedo and Atamanov (2014) and Şeker and Dayıoğlu (2014), who examine the role of the social protection system in poverty dynamics.

Dague, DeLeire, and Leininger (2014) presented evidence on a significant reduction in employment and work hours as a result of the introduction of the food stamp and Medicaid programs. Several other papers, on the other hand, including Blau (2003), Currie (2003), Gruber (2003), and Olsen (2003), found no evidence of work disincentives for programs such as food stamps and nutrition benefits, childcare subsidies, or various in-kind programs.

The evidence from a number of recent studies on other countries is also inconclusive. On the one hand, Lemieux and Milligan (2007) examined the effects of a new policy in Quebec, Canada that tripled the benefits of a certain demographic group and found that the more generous benefits reduced employment significantly. The decline in the employment rate was found to be between 3 and 5 percent. Similarly, Fernandez and Saldarriaga (2014) found that the recipients of a conditional cash transfer (CCT) program (Juntos) in Peru reduced their involvement in the labor force by six to 10 hours per week, and Sahn and Alderman (1995) showed that a food subsidy program in Sri Lanka reduced the labor supply by 10 percent on average. Finally, Dabalén, Kiloic, and Wane (2008), using Albanian household-level panel data, demonstrated that the negative effect of social transfers on the supply of labor was sizable.

On the other hand, a number of other studies, including Skoufias and Di Maro (2008), Skoufias, Unar, and Gonzalez-Cossio (2008), and Freije, Bando, and Arce (2006), found no evidence of reduced work efforts in their evaluation of the CCT programs (Oportunidades-Progresá) and in-kind programs in Mexico. At the same time, these programs were found to be successful in reducing poverty and child labor. Alzua, Cruces, and Ripani (2012) examined the welfare programs of Mexico, Nicaragua, and Honduras and found small and insignificant effects on the labor supply, and Abdulai, Barrett, and Hoddinott (2005) examined Ethiopian household-level data and concluded that the food aid program had no disincentive effects.

On the interaction between social protection and informal employment, the empirical literature is almost silent except for a few recent studies in Latin American countries. For example, Bosch and Campos-Vasquez (2014) and Aterido, Hallward-Driemeier, and Pages (2011) found that the public health insurance program in Mexico (Seguro Popular) had significantly reallocated labor toward the

informal sector.² Azuara and Marinescu (2013) and Hernandez and Ramirez (2011), on the other hand, analyzed the impact of the same program on informality and find little or no overall effect.

Our work contributes to the literature by bringing additional evidence—from the emerging market of Turkey—on the interaction between social assistance programs and labor market status. In contrast to the previous studies that focused mainly on developed countries, the labor supply decisions of workers are more complicated in Turkey due to the sizable informal market and the wide availability of self/family employment. Turkey thus requires an analysis of the transition between several labor market statuses instead of only participatory choice, which is the primary margin that is examined in developed countries.

The rest of the paper is organized as follows. We present a brief description of the Turkish social assistance system in section 2, our methodology and dataset in section 3 and 4, the results in section 5, and finally our conclusions in section 6.

2 Overview of the Social Assistance System in Turkey

Social assistance is only a small component of the overall social protection system in Turkey. The system has historically been based on a traditional social insurance model whereby pensions, health insurance, disability benefits, are all linked to employment in the formal sector and are based on employer and employee contributions. The non-contributory system in Turkey developed much later. It provides support to the poorest segments of the population and has traditionally been much smaller, characterized by few programs and limited coverage. The informal economy in Turkey is still large, representing 35 percent of all employment in 2014.³ Given this large informal economy, the need to provide support to those falling outside of the contributory safety net to ensure that they are able to meet their basic needs and manage shocks has been critical.

Nevertheless, public social assistance has developed slowly in Turkey. The foundations of the current social assistance system were created in 1976 with the approval of Law 20224, which provided a small monthly benefit payment to the elderly or disabled poor, though coverage remained low. It

² Camacho et al. (2014) and Gasparini et al. (2009) find similar results for the cases of Colombia and Argentina, respectively.

³ Household Labor Force Statistics, TurkStat.

⁴ Law on the Payment of Pensions to Old-Aged Persons [65 years old and over] who are Destitute.

was supplemented in 1986 with Law 32945, which established the Social Assistance and Solidarity Foundation (SASF) as the primary institution for providing social assistance to poor citizens who remained outside the social insurance system. The government has increasingly utilized the SASF since the second half of the 1990s, as poverty began receiving more public attention in the face of a number of economic shocks (Murakami 2011).

The government of the Justice and Development Party, known by its Turkish initials as the AK Party, made social assistance a consistent priority over the past decade. Immediately following the establishment of the new government in 2003, the flagship universal health insurance program for the poor (previously known as the Green Card Program) was rapidly expanded, and a large number of new programs, including the provision of coal and food and a CCT program, were established. Education programs were also implemented in order to facilitate access to basic education, including free textbooks, school lunches, and a transport and shelter subsidy. In 2005, following the adoption of the Turkish Disability Act, the disability pension under Law 2022 was significantly increased and a new Home Care Support Program for those caring for incapacitated relatives at home was implemented. Housing programs were implemented in 2006 and 2009. New pensions for the widows and families of soldiers serving compulsory military service were implemented in 2012 and 2013, respectively. Coverage has therefore rapidly increased, with programs now providing support, in the majority of cases in cash, to roughly 3 million discrete households.

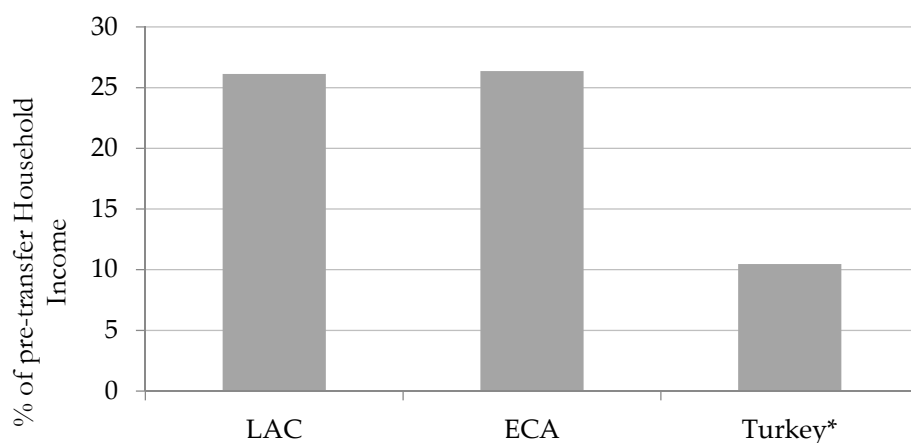
This has led to a significant increase in spending for social assistance. Spending as a share of GDP increased from 0.57 percent in 2003 to 1.28 percent in 2013 (Ministry of Development, 2016). Although the Universal Health Insurance Program continues to be the single largest program and an important one in terms of overall spending, the collection of programs providing direct cash assistance (and, in limited cases, in-kind assistance), including the various pensions, food and coal support, the CCT, and home care, has grown most rapidly.

Turkey's social assistance system is highly targeted, with no universal cash benefits. In practice, targeting is broadly structured as follows. First, many programs apply a categorical filter, requiring, for example, that recipients be either elderly, disabled, from households with children, etc. Second, an income assessment is made to determine if households are poor. For a number of programs that provide one-off support, such as the coal, food, and education material programs as well as the elderly

⁵ Law on Social Assistance and the Solidarity Fund.

and disabled pensions, the income cut-off requires that households have a per capita income that is less than one-third of the minimum wage. If the income of the household is deemed to have risen above this threshold, it loses access to the benefit. For most of the regular programs that provide ongoing support, such as the programs for the widows and families of soldiers and the CCT programs, the requirement is that the household should have no formal income (i.e., that the household is not registered in the social security system). The government has begun to introduce a series of measures that try to reduce the impact of a sudden loss of benefits on a household, with the aim of improving the incentives of household members to work. In 2015, for example, a change was made such that if a household member who receives the CCT benefit finds a job, the household is entitled to keep receiving those benefits for an additional year.

Figure 1. Adequacy of Social Assistance Benefits by Poorest Quintile (%)



Source: The Atlas of Social Protection Indicators of Resilience and Equity (ASPIRE) (database), World Bank, Washington, DC (accessed March 20, 2015), <http://datatopics.worldbank.org/aspire>.

Several features of the design of social assistance in Turkey suggest that there may be significant impacts on household decision making in selecting benefits over employment, or in selecting employment in the informal sector over that in the formal sector. These include the fact that (i) access to benefits is dependent on income earned, (ii) in some programs, if a household member is working in the formal sector s/he is disqualified from eligibility, and (iii) benefits are removed in their entirety should income rise above a relatively low threshold. An important consideration in determining whether these impacts are likely to be sizable is the value of benefits provided. Notwithstanding the rapid increases in spending over the past decade, the overall value of benefits provided to households remains low. Figure 1 uses survey data from Turkey and other comparator countries to estimate the value of benefits as a percent of pre-transfer household income. For Turkey, the value of benefits is

relatively low at just over 10 percent,⁶ compared to 26 percent in the case of both Latin American countries (LAC) and Europe and Central Asia (ECA) country comparators (footnote comparators). Given this low level of benefits, one would expect the marginal effective tax rate on a household moving from benefits into formal employment to be quite low (all else being equal).

However, Turkey's system also provides important non-monetized benefits, such as access to the subsidized Green Card Program, which also impact household decision making around the trade-offs between benefits and formal sector work. Previous work by Angel-Urdinola et al. (2009) concluded that even though social assistance transfers in Turkey do indeed display some features that could potentially influence workers' sector choice, in practice this is not the case. Focusing particularly on the impact of the Green Card Program and its potential effects on informality, the authors found that there was no evidence of an "informality" discontinuity at the income eligibility threshold, suggesting that the Green Card Program is not affecting sector choice.

3 Methodology: Multinomial Logit Model

We use multinomial logit specification to identify the relationship between social assistance and labor market outcomes in Turkey. The multinomial logit model is designed to handle discrete phenomena that include (J) categories or alternatives, where $J > 1$ (Davidson and Mackinnon 2003).

We use multinomial logit specification to identify the relationship between social assistance and labor market outcomes in Turkey. The multinomial logit model is designed to handle discrete phenomena that include (J) categories or alternatives, where $J > 1$ (Davidson and Mackinnon 2003). For an economic phenomenon with a discrete nature, the multinomial logit model is a convenient tool of expression. As the labor market outcomes that we investigate in this study could be clearly defined in a discrete manner, there is a vast opportunity to benefit from the multinomial logit setup in order to analyze the subject in question.

In our case, we divided the Turkish civilian population (14+) into four different labor market statuses in line with the literature and also considering the idiosyncrasy of the Turkish Labor Market, namely; formal employed, informal employed, unemployed, and out of the labor force. We then

⁶ Calculated as the percent of the total pre-transfer income for those households that report receiving transfers.

analyzed the effect of social assistance on labor market outcomes, in both a static and a dynamic framework.

In the static model, we simply estimated the individual probability distribution of to be located in any one of these labor market categories, conditional on social assistance.

As for the dynamic case, we analyzed the transitions between labor market statuses in order to reveal existing patterns in labor market flows related with social assistance. To do this, we categorized individuals by their initial labor market classifications. Then, for each subsample of initial status, we estimated the individual probability distribution of transition into four terminal statuses (including staying in the initial status), conditional on social assistance. In order to control for individual characteristics that would be related both to being a beneficiary of social assistance and to the transition behavior of the individual, we added other control variables to the regression. These control variables were selected based on the existing literature.

The general form of the multinomial logit model is as follows:

$$P(Y_i = l) = \frac{\exp(W_{il}B_l)}{\sum_{j=1}^J \exp(W_{ij}B_j)}$$

In the static model, $P(Y_i = l)$ represents the probability of being located in statute l for individual i , where l takes values from 1 to J , and J is the number of alternative labor market states.

In the dynamic case, for individual i in a given initial labor market status, $P(Y_i = l)$ represents the probability of transition to terminal status l (“ $l=1$ ” simply represents staying in the initial status). W_{ij} is the vector of explanatory variables related to individual i and labor market status j , with k_j number of elements. B_j is the vector of parameters, with k_j number of elements.

In our case, individual specific explanatory variables do not vary with respect to labor market status. In other words, for the same individual, explanatory variables are independent from the potential locations in the static case (or transition directions in the dynamic case). Therefore, for a given individual i , the vector W_{ij} is said to be invariant of alternatives. For instance, the education level of an individual does not alter with respect to possible labor market statuses in which the individual in question can be located (or is transiting to). This implies that $W_{ij} = X_i$ for $j=1, 2, 3, 4$, where X_i represents the set of explanatory variables related to individual i . Therefore, in our case, we reach the following reduced form of the model:

$$P(Y_i = l) = \frac{\exp(X_i B_l)}{\sum_{j=1}^4 \exp(X_i B_j)}$$

For models of this sort, it is not possible to determine each one of the J parameter vectors independently; therefore, for the base category, where $j=1$, B_j is restricted to 0 and the remaining J-1 parameter vectors are determined. Also, regarding the model, the following identity holds:

$$\frac{P(Y_i=l)}{P(Y_i=s)} = \frac{\exp(X_i B_l)}{\exp(X_i B_s)}$$

Therefore, if we set $s = 1$, given that B_j is restricted to 0 for $j=1$, then:

$$\frac{P(Y_i=l)}{P(Y_i=1)} = \exp(X_i B_l)$$

This implies, by taking the logarithm of each side, we end up with the following equation:

$$\log\left(\frac{P(Y_i=l)}{P(Y_i=1)}\right) = X_i B_l.$$

Therefore, the log odds of being located in (or transiting to) status l relative to being located in (or transiting to) base status (where $j=1$) is a linear function of model parameters. The estimated coefficients are the effects of unit changes in the explanatory variables on the log-odd ratio. The non-linear structure of the model should thus be taken into account while interpreting the estimated coefficients (Ray 1973). The estimated coefficients present the direct relationship between the explanatory variables and the log-odd ratios, while they show indirect effects on the location (transition) probabilities. In order to solve this problem, the changes in probabilities resulting from the changes in explanatory variables are calculated at the point where the explanatory variable vector takes its average value. The coefficients calculated by this method are termed “average marginal effects,” and each marginal effect measures the effect of the change in the explanatory variable it is related to, where all other variables take their sample average values.

Models are estimated using maximum-likelihood estimation (MLE) methodology. Average marginal effects are then calculated using the estimated parameters.

4 Data

In order to profile the relationship between labor market outcomes and social assistance in Turkey, we used the *Survey on Income and Living Conditions* (SILC) that has been conducted annually by the Turkish Statistical Institute (TurkStat) since 2006. It provides information on labor market statuses and also detailed socioeconomic data on the Turkish population, covering demographics as well as household and income-related variables.

The SILC is designed in a novel fashion that allows for a specific individual to be followed for up to four years. It is conducted for four subsamples in each year, and each year the oldest subsample is replaced with a new one. Due to this rotating design, in any given year, of the individuals partaking in the survey, 75 percent can be traced back for two years, 50 percent for three years, and 25 percent for the previous four years.

Results of the SILC are published annually in both cross-section and panel formats. The samples are assigned with survey weights to be representative of the segments of the non-institutionalized Turkish population⁷. The panel component of the SILC is presented in a way that allows for the construction of three different balanced panel data sets from each year's survey, namely, two-, three-, and four-year dimensional panels. Each balanced panel is assigned with corrected survey weights to represent the whole population. The two-year panel, which consists of the observations for the previous two years, includes 75 percent of all the individuals partaking in the latest year's survey. The three- and four-year panels include 50 and 25 percent of individuals, respectively.

The SILCs are designed to produce reliable measures of social and economic inequality, poverty, and income distribution. Additionally, surveys offer a wide array of information on the labor market profiles and demographic characteristics of the individuals.

Using SILC data, we are able to classify each individual based on his/her labor market profile, such that we can identify if the individual is employed, unemployed, or inactive, and if employed, whether formally or informally. Within the scope of this paper, we divided the 14+ non-institutionalized Turkish population into four labor market categories, namely, formal-employed, informal-employed, unemployed, and inactive. We classified the individuals as employed if they had

⁷ Non-institutionalized population comprises all the population excluding the residents of schools, dormitories, kindergartens, rest homes for elderly persons, special hospitals, military barracks and recreation quarters for officers.

worked at least one hour in the reference week. Among the non-employed, those individuals looking for a job during the previous four weeks and able to start work within two weeks were classified as unemployed. The remaining individuals were classified as inactive. In terms of formality, we regarded employees who are registered with the social security agency for their current job as formal-employed, while those not registered in the system were considered to be informal-employed.

As to the demographic characteristics of the participants, the survey includes questions on age, gender, marital status, education, number of children, and residence. Besides these demographic variables, SILC includes a diverse set of household income–related variables that allow us to determine whether the household receives any kind of social benefits.

Given the aim of this paper, which is to profile the relationship between labor market outcomes and social assistance in Turkey, we utilized SILCs in both a static and dynamic framework. In the static approach, we used the SILC 2013 cross section to estimate the relationship between the current labor status of an individual and the variables of interest. For 14+ individuals, SILC 2013 contains 47,827 observations. We weighted the observations with corresponding coefficients to achieve full representation of the Turkish labor market.

In the case of the dynamic approach, we estimated the relationship between annual labor market transitions and the relevant variables by utilizing the panel component of the SILCs. Ideally, the relationship would be estimated by using the observations on the latest possible transition period, namely, 2011–12. In this setup, we would utilize the two-year balanced panel component of the 2012 survey and be able to use corrected sample weights to gather countrywide representation.

However, one particular characteristic of the nature of labor market transitions limits the operational implementation of this approach. In point of fact, individuals generally show a great deal of inertia in moving from their initial position over the short term. For instance, 90 percent of individuals initially employed or inactive continued in that same status one year later; only the remaining 10 percent moved in different directions from their initial status.⁸ Thus, there is scarce mobility in the labor market, which makes it difficult to identify a statistically significant relationship with a limited sample size.

⁸ Alcan, Can, and Pektaş (2015) provide transition probabilities in more detail.

Table 1. Multinomial Logit Estimation with 2013 SILC (Marginal Effects at Average): Aggregated Social Assistance

	FE	IE	U	OLF	Avg. X
Avg. P.	0.2467	0.2288	0.0458	.4785	
Household (HH) Income (log)	0.1594***	-0.0188***	-0.0216***	-0.1189***	10.1361
Aggregate Social Assistance	-0.0971***	0.0869***	0.0206***	-0.0104	0.1399
Number of Obs.	47,828	Design Df	47,827	Population Size	50,604,002
F-Stat.	288.19	P>F	0.0000		

Notes: FE = formal employed, IE = informal employed, U = unemployed, and OLF = out of the labor force. Control variables: age, gender, marital status, education, number of children, home ownership, family status (extended family in household), and spatial difference (living in urban or rural area). Coefficients are significant at 1 percent (***), 5 percent (**), 10 percent (*). Avg. X: the average values of explanatory variables. Since the effects of explanatory variables on dependent variables vary along the explanatory variable vector X resulting from the nonlinear nature of the multinomial logit model, we estimated the effect coefficients around the sample average of X.

In order to overcome this issue, we ignored the panel weights of the SILCs and tried to maximize the sample variation by combining all the accessible observations on the annual transitions contained within the different SILC panels. In order to construct our final data set, we began by extracting all the transition observations that occurred within the available SILC panels. For example, we got observations on the 2009–10, 2010–11, and 2011–12 transitions from the 2012 panel, and the 2008–09, 2009–10, and 2010–11 transitions from the 2011 panel. We repeated this process for all the available panels, from the 2008 to the 2012 panels. As can be seen, transition observations of a particular year can overlap for different SILC panels. Therefore, for a particular year, we picked transitions from the SILC panel that included the highest number of observations for that transition period. Combining these, we ended up with a pooled sample of pseudo-cross sections that contain yearly transitions of 2006–07, 2007–08, 2008–09, 2009–10, 2010–2011, and 2011–12, respectively. The resulting data set contained 97,418 observations.

5 Estimation Results

The effect of social assistance on the status of individuals in the Turkish labor market was investigated through various multinomial regressions. First, we estimated the probability that an individual would remain in one of the four labor market statuses, which are defined as formal-employed, informal-employed, unemployed, and out of the labor force, by using the 2013 SILC data set. Also using this data set, we were able to disaggregate social assistance into three categories: social assistance received for children, for housing, and for other social services. Only social assistance provided by the

government was considered. In all the analyses, benefiting from the literature (Alcan, Can, and Pektaş 2015; Tansel and Kan 2012), we added the control variables that would be correlated with both the social assistance status and the labor market status of the individuals. The control variables included income, gender, age, marital status, level of education, number of children, home ownership, and family status.

Table 2. Multinomial Logit Estimation with 2013 SILC (Marginal Effects at Average): Disaggregated Social Assistance

	FE	IE	U	OLF	Avg. X
Avg. Probability.	0.9292	0.0265	0.0195	0.0245	
HH Income (log)	0.1573***	-0.0188***	-0.0209***	-0.1175***	10.1361
Child Social Assistance	-0.1295***	0.0759***	0.0252***	0.0283**	0.0762
Housing Assistance	-0.0812	0.0474	0.0044	0.0293	0.0010
Other Social Assistance	-0.0487***	0.0495***	0.0132***	-0.0140	0.1084
Number of Obs.	47828	Design Df	47827	Population Size	50604002
F-Stat.	255.32	P>F	0.0000		

Notes: FE = formal employed, IE = informal employed, U = unemployed, and OLF = out of the labor force. Control variables: age, gender, marital status, education, number of children, home ownership, family status (extended family in household), and spatial difference (living in urban or rural area). Coefficients are significant at 1 percent (***), 5 percent (**), 10 percent (*). Avg. X: the average values of explanatory variables. Due to the nonlinear nature of the multinomial logit model, the effects of explanatory variables on dependent variables vary along the explanatory variable vector X. Therefore, we estimated the effect coefficients around the sample average of X.

The initial static analysis indicated that social assistance beneficiaries are less likely to be formally employed and more likely to be informally employed or unemployed. There was no evidence that they are more likely to be out of the labor force altogether, whether or not being in the labor force is correlated with beneficiary status (aggregate) (see table 1). However, disaggregation with respect to benefit types revealed that child assistance beneficiaries are more likely to be out of the labor force; they also have a lower probability of working as formal employed and a higher probability of working informally (see table 2).

We then used all the transitions from the SILC panels over the period 2006–12 (as described in section 4) in order to assess the transition behavior of individuals and how this relates to their social assistance status. In this analysis, we aggregated all social assistance programs delivered by the government. Our main finding from the transition analysis is that individuals are more likely to transition into informal employment if they are recipients of social assistance, no matter what their initial status is.

Table 3: Pooled Multinomial Transition Estimation Results (Marginal Effects at Average) for All Transitions (2006–07/2007–08/2008–09/2009–10/2010–11/2011–12)

Panel (a)	Transitions from Formal Employed (FE)				
	FE to FE	FE to IE	FE to U	FE to OLF	Avg. X
Avg. P.	0.9211	0.0307	0.0214	0.0266	
HH Income (log)	0.0210***	-0.0112***	-0.0079***	-0.0018	9.96231
Aggregate Social Assistance	-0.0216***	0.0154***	.0052793	.0008393	0.1010
Number of Obs.	16531	LR Chi2(57)	1310.41	P>Chi2	0
Log Likelihood	-6.924				

Panel (b)	Transitions from Informal Employed (IE)				
	IE to FE	IE to IE	IE to U	IE to OLF	Avg. X
Avg. P.	0.0438	0.8322	0.0234	0.1004	
HH Income (log)	0.0069***	0.0025	-0.0056***	-0.0038	9.3525
Aggregate Social Assistance	-0.0201***	0.0194***	0.0067***	-0.0060	0.3646
Number of Obs.	19545	LR Chi2(57)	2531	P>Chi2	0
Log Likelihood	-13087	Pseudo R2	0.0882		

Panel (c)	Transitions from Unemployed (U)				
	U to FE	U to IE	U to U	U to OLF	Avg. X
Avg. P.	0.1881	0.2322	0.2826	0.2968	
HH Income (log)	0.0567***	-0.0376***	-0.0078	-0.0112	9.25886
Aggregate Social Assistance	-0.1164***	0.0955***	0.0034	0.0174	0.3352
Number of Obs.	3242	LR Chi2(57)	1310.41	P>Chi2	0
Log Likelihood	-4017	Pseudo R2	0.1003		

Panel (d)	Transitions from Out-of-Labor Force (OLF)				
	OLF to FE	OLF to IE	OLF to U	OLF to OLF	Avg. X
Avg. P.	0.0438	0.8322	0.0234	0.1004	
HH Income (log)	0.0009**	-0.0080***	-0.0028***	0.0099***	9.39764
Aggregate Social Assistance	-0.0028***	0.0244***	0.0018	-0.0234***	0.2339
Number of Obs.	35679	LR Chi2(57)	3081.50	P>Chi2	0
Log Likelihood	-14952	Pseudo R2	0.0934		

Notes: Control variables: Year dummies for the period of 2007–12, age, gender, marital status, education, number of children, home ownership, and family status (extended family in household). Coefficients are significant at 1 percent (***), 5 percent (**), 10 percent (*). Avg. X: the average values of explanatory variables. Due to the nonlinear nature of the multinomial logit model, the effects of explanatory variables on dependent variables vary along the explanatory variable vector X. Therefore, we estimated the effect coefficients around the sample average of X.

Table 3 compares the transition behavior of social assistance beneficiaries and non-beneficiaries. First, the fourth column of panel (d) sheds light on the case of Turkey in the ongoing discussion about

the interaction between activation and social assistance. The estimation results indicate that among those categorized as inactive, beneficiaries are less likely to stay in this status in comparison to non-beneficiaries, which suggests an activation role for social assistance rather than increased dependency.

The first three panels of table 3 reveal interesting results regarding the details of interaction between labor force status and social assistance. Among the formally employed, beneficiaries are less likely to stay in their initial status and more likely to move into informal employment, whereas among the informally employed, beneficiaries are more likely to stay informal or move into unemployment and less likely to move into formal sector (panels a, b). Among the unemployed and the inactive, beneficiaries are less likely to move into formal employment and more likely to move into informal employment in comparison to non-beneficiaries (panels c, d). These results suggest that the activation role of social assistance is more pronounced in the informal sector.

We also investigated whether transition behavior has changed over time by dividing the sample into two sub-periods. We divided the aggregate sample at the point which the economic crisis had occurred in order to see if there are any significant breaks in parameters related with transition behavior. The first period included the transitions over 2006–07 and 2007–08, and the second over 2009–10, 2010–11, and 2011–12. A comparison of the estimation results of both periods does not provide large differences in terms of the transition behavior of individuals in relation to the social assistance system. However, those who are informally employed are significantly more likely to stay in their initial status after the crisis in comparison to pre-crisis period, suggesting decreased labor market mobility after the crisis.(see table A1 and A2).

6 Conclusion

In this paper, we have attempted to assess to what extent social assistance affects the labor market behavior of those who receive benefits. Theoretically, the possible channels through which the receipt of social assistance may disincentivize work are quite clear, even if the substantial empirical literature analyzing these dynamics is somewhat inconclusive. This highlights the fact that the country effects and, perhaps more importantly, a program-specific design elements are likely to be determinant in whether or not these work disincentives play out in practice.

In reviewing the design of the social assistance system in Turkey, it seems clear *prima facie* that there should be cause for concern. The level of household income is a determining factor in the distribution of almost all benefits in Turkey, unlike in other countries where there is a mix of both income-targeted and universal programs. Moreover, the immediate removal of benefits should income pass a relatively minor threshold limits the recipient's incentive to transition from benefits to work. Finally, the fact that in some programs, work in the formal sector, at any level, disqualifies individuals from eligibility suggests that this may contribute further to informal activity.

Our analysis confirms that even when controlling for the relevant factors, social assistance beneficiaries are significantly more likely than non-beneficiaries to be unemployed or informally employed and are therefore less likely to be formally employed. Moreover, among the unemployed, the probability of moving to informal employment is found to be significantly larger for beneficiaries than for non-beneficiaries. Our conclusion is that there are potential disincentive effects at play both with regard to the decision to work and whether to work formally.

Finally, an interesting and perhaps counterintuitive finding is that inactive beneficiaries are less likely to stay inactive in comparison to non-beneficiaries, which suggests that social assistance may be playing an activation role rather than leading to increased dependency. This, coupled with our previous findings, would indicate that disincentives to work, based on current design parameters, may not be the primary concern. Rather, disincentives to formality may be the prevailing channel through which social assistance affects labor market outcomes. More attention to designing programs that are incentive compatible with formal employment would be a useful next step for public policy in this area.

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Annex

Table A1: Pooled Transitions before the Great Recession (Marginal Effects at Average): (2006–07/2007–08)

	Transitions from Formal Employed (FE)				Avg. X
	FE to FE	FE to IE	FE to U	FE to OLF	
Avg. P.	0.9172	0.0344	0.0199	0.0284	
Household (HH) Income (log)	0.0183***	-0.0077*	-0.0097***	-0.0008	9.59151
Aggregate Social Assistance	-0.0260	0.0259**	0.0018	-0.0017	0.0813
Number of Obs.	3332	LR Chi2(57)	1310.41	P>Chi2	0
Log Likelihood	-1447	Pseudo R2	0.0946		

	Transitions from Informal Employed (IE)				Avg. X
	IE to FE	IE to IE	IE to U	IE to OLF	
Avg. P.	0.0629	0.8073	0.0243	0.1053	
HH Income (log)	0.0150***	-0.0006	-0.0036	-0.0107*	9.0413
Aggregate Social Assistance	-0.0140*	0.0151	0.0100***	-0.0111	0.2903
Number of Obs.	5193	LR Chi2(57)	642.41	P>Chi2	0
Log Likelihood	-3735	Pseudo R2	0.0792		

	Transitions from Unemployed (U)				Avg. X
	U to FE	U to IE	U to U	U to OLF	
Avg. P.	0.1557	0.2992	0.2521	0.2928	
HH Income (log)	0.0697***	-0.0424*	-0.0039	-0.0234	.877636
Aggregate Social Assistance	-0.1146***	0.0909*	-0.0073	0.0309	0.2954
Number of Obs.	687	LR Chi2(57)	277.67	P>Chi2	0
Log Likelihood	-801	Pseudo R2	0.1477		

	Transitions from Out-of-Labor Force (OLF)				Avg. X
	OLF to FE	OLF to IE	OLF to U	OLF to OLF	
Avg. P.	0.0077	0.0733	0.0123	0.9065	
HH Income (log)	-0.0002	-0.0054*	-0.0038***	0.0094***	8.9386
Aggregate Social Assistance	-0.0043***	0.0306***	0.0002	-0.0266***	0.1932
Number of Obs.	8998	LR Chi2(57)	873.34	P>Chi2	0
Log Likelihood	-3987	Pseudo R2	0.0987		

Notes: Control variables: year dummies for 2007 and 2008, age, gender, marital status, education, number of children, home ownership, and family status (extended family in household). Coefficients are significant at 1 percent (***), 5 percent (**), 10 percent (*).

Table A2: Pooled Transitions after the Great Recession (Marginal Effects at Average): (2009–10/2010–11/2011–12)

	Transitions from Formal Employed (FE)				
	FE to FE	FE to IE	FE to U	FE to OLF	Avg. X
Avg. P.	0.9292	0.0265	0.0195	0.0245	
HH Income (log)	0.0225***	-0.0122***	-0.0078***	-0.0023	10.0856
Aggregate Social Assistance	-0.0224***	0.0108**	0.0076*	0.0038	0.0980
Number of Obs.	12061	LR Chi2(57)	807.56	P>Chi2	0
Log Likelihood	-4683	Pseudo R2	0.0794		
	Transitions from Informal Employed (IE)				
	IE to FE	IE to IE	IE to U	IE to OLF	Avg. X
Avg. P.	.0395	0.8408	0.0219	0.0976	
HH Income (log)	0.0043**	0.0047	-0.0072***	-0.0018	9.51893
Aggregate Social Assistance	-0.0205***	0.0167**	0.0052**	-0.0015	0.3811
Number of Obs.	12492	LR Chi2(57)	1718.43	P>Chi2	0
Log Likelihood	-8129	Pseudo R2	0.0956		
	Transitions from Unemployed (U)				
	U to FE	U to IE	U to U	U to OLF	Avg. X
Avg. P.	0.2039	0.2175	0.2805	0.2979	
HH Income (log)	0.0624***	-0.0350***	-0.0126	-0.0146	9.4459
Aggregate Social Assistance	-0.1160***	0.1089***	0.0038	0.0032	0.3390
Number of Obs.	2262	LR Chi2(57)	577.09	P>Chi2	0
Log Likelihood	-2828	Pseudo R2	0.0926		
	Transitions from Out-of-Labor Force (OLF)				
	OLF to FE	OLF to IE	OLF to U	OLF to OLF	Avg. X
Avg. P.	0.0109	0.0501	.0162	0.9226	
HH Income (log)	0.0012*	-0.0117***	-0.0020**	0.0126***	9.6264
Aggregate Social Assistance	-0.0027**	0.0215***	0.0033*	-0.0220***	0.2420
Number of Obs.	23342	LR Chi2(57)	1825.96	P>Chi2	0
Log Likelihood	-9499	Pseudo R2	0.0877		

Notes: Control variables: year dummies from 2010 to 2012, age, gender, marital status, education, number of children, home ownership, and family status (extended family in household). Coefficients are significant at 1 percent (***), 5 percent (**), 10 percent (*).