Evaluating the Impact of 2008 Employment Subsidy Program In Turkey

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Abstract:

Using micro data from TurkStat Household Labor Force Survey, this study evaluates whether the employment subsidies introduced in 2008 have an impact on the employment probabilities by demographic groups. Using differences in differences methodology, we show that the females above 30 years of age has experienced a significant increase in their employment probability (i.e. 2.9 to 4.3 percentage points increase relative to males above 30 years of age) , whereas the females below 30 years of age and male below 30 years of age experienced much smaller increases, the sensitivity of which depends on the specifications.

1. Introduction

Active labor market policies (ALMPs) are widely exploited around the world and extensively analyzed in the literature. Depending on the policy makers' objective, the design and the target group of the programs differ significantly. These objectives might range from subsidizing the employment of a specific target group such as youth or women to providing support to employees in a relatively poor region of the country. In addition to aim of the program, the active labor market policies are classified by the tools that they use, 1)job creation policies, 2)Direct cost reducing subsidies to employers, 3) entrepreneurship incentive programs.

ALMPs are by definition the programs which are designed to help unemployed people in returning or joining to the labor market. These programs are widely used between First and Second World Wars (1918 – 1939) to reduce record levels of unemployment rates in the developed world. Although the results and success of ALMP are heavily criticized in the light of recent empirical evidences, many countries, which are led by European ones, continue to use these programs. The main concerns regarding the ALMPs are 1) the effects of these programs are only visible in the short

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term and 2) typically, the scope of the impact group is narrow. Detailed reviews on the issue can found in Heckman, LaLonde and Smith (1999), Greenberg, Michalopoulos and Robins (2003), and Bergemann ve van Ours (2008) and Kluve (2010).

A cost reducing subsidy targeting women and youth (aged between 18 and 29) employment became effective in July, 1st 2008 in Turkey. Although the program was introduced with one year participation period, an additional enactment extended the subsidy registration to June 30th 2010. The target group of the 2008 ALMP was women and the youth who are not working in a formal job during last six months and also are hired as additional workers to the preexisting number of the workers of the workplace. The policy takes the form of direct subsidy to employer by covering the employer part of the social security payment up to the amount corresponding to the minimum wage and so is identified as an example of the 2nd type of ALMPs in the above classification.

The design of the program is as follows: Once a person registered in the program, the employer share of social security payment is paid by government for five years in decreasing ratios. For the first year of the subsidy, employer share of social security payment corresponding to minimum wage is fully covered by the government. For the following four years, share of the government payment decreases 20 percent each year, resulting in 20 percent payment in the fifth year of employment and then the program terminates. Although the registration period to the program is two years, final payments are planned to be made in June, 2015 if anyone keeps the subsidized job till the end of the program.

This study evaluates whether the aforementioned employment subsidies introduced in Turkey in 2008 have a positive impact on the employment probabilities of the target groups via a differences in differences analysis. In doing so, Household Labor Force Survey data from 2004 to 2011 in yearly frequency is used.

2. Data and the Empirical Methodology
a. Data

In this study, we use micro data at annual frequency provided by TurkStat Household Labor Force Survey. In total this cross section data set between the years 2004 – 2011 has almost 4 million observations. This rich individual level data set allows us to control for a large set of individual characteristics affecting individuals' employment outcomes. All private households who are living in the territory of Republic of Turkey are covered in the survey Residents of schools, dormitories, kindergartens, rest homes for elderly persons, special hospitals, military barracks and recreation

quarters for officers are not covered.[2] After excluding the individuals younger than 15 years of age, our final sample covers XXX individuals in TURKSTAT Household Labor Force Survey in 2005-2011 period, of whom XX are female less than 30, YY are female more than 30, XX are male less than 30 and YY are male more than 30 . We weight individual data by the weights used by TURKSTAT, which are calculated based on population projections.[3] and the results are reported after the elimination of potential identifier questions[4].

b. Econometric Specification

The main econometric specification for diffs in diffs analysis is as follows:

$$y = \beta_0 + \beta_1 dT + \beta_2 dM_{<30} + \beta_3 dF_{<30} + \beta_4 dF_{\geq 30} + \delta_1\, dM_{<30} \cdot dT + \delta_2\, dF_{<30} \cdot dT$$

$$+\delta_3\, dF_{\geq 30} \cdot dT + \boldsymbol{\theta}' \boldsymbol{X} + \varepsilon.$$

y: Binary variable, which is taking the value of 1 if the person is working and 0 otherwise

dT: Binary variable showing the treatment period, takes 1 if the observation is in the treatment period, 0 otherwise.

$dM_{<30}$: Dummy variable taking value of 1 if the person is male and younger than 30 years old.

$dF_{<30}$: Dummy variable for less than 30 years old and female

$dF_{\geq 30}$: Dummy for female person who is 30 or older, takes 1 if the condition satisfied, 0 otherwise.

X: Other demographic and econometric variables possibly affecting person's employment conditions different than above ones: education, marital status, region dummies, regional unemployment, year fixed effects and finally interaction terms between female and other dummies.

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[2] *For more information about the survey, see TURKSTAT website.*
[3] *Until year 2009, the population projections were calculated based on the general population censuses. In 2007, "Address Based Population Registration System" (ABPRS) was established and there exists some differences in the distribution of population by age, sex and regions in ABPRS compared to the censuses. New population projections have started to be used in HLFS results starting from January 2009 onwards and in order to obtain comparability, besides the annual results of 2004, annual and periodic results for 2005-2008 terms were revised by the new population projections.*
[4] Questions and placing people into groups have been changing in some years but the data are harmonized in a way that groups and information become consistent over the sample period.

3. Results

The results presented in Table (1) state that the treatment has operated most visibly for older women. The effects for the other groups are either non-existent or negligibly small.

Parameter of Interest	Estimate	Standard Error	$p-value$
2008			
β_1	-0,001	0,008	0,952
δ_1	0,011*	0,006	0,067
δ_2	0,011	0,013	0,412
δ_3	0,029***	0,010	0,004
2009			
β_1	0,001	0,008	0,873
δ_1	0,006	0,006	0,297
δ_2	0,019	0,015	0,191
δ_3	0,043***	0,010	0,000

Tablo(1) – Estimation Results: Baseline Specifications * significant at 10%; ** significant at 5%; *** significant at 1%. The models have been estimated with probit. The regressions have been weighted with approriate sampling weights provided by THLFS. The corresponding marginal effects are reported in the tables. The reported standard errors are clustered at NUTS2 level. The number of observations is 2876518.

Table (2) presents the counterfactual results from the placebo treatments, using which we estimate the effects of the program as if it has been implemented in 2007 and 2010. This counterfactual exercise does not yield a significant effect. We interpret this as a sign of the relevance of our estimates; because if other forces were operating in the background, we would probably get similar results under the placebo treatments.

Parameter of Interest	Estimate	Standard Error	p – value
2007			
β_1	-0,004	0,007	0,596
δ_1	0,017***	0,005	0,002
δ_2	-0,005	0,007	0,441
δ_3	0,007	0,007	0,304
2010			
β_1	-0,005	0,009	0,571
δ_1	0,006	0,005	0,250
δ_2	-0,002	0,008	0,778
δ_3	0,009	0,007	0,181

Tablo(2) – Estimation Results: Placebo Tests: * significant at 10%; ** significant at 5%; *** significant at 1%. The models have been estimated with probit. The regressions have been weighted with approriate sampling weights provided by THLFS. The corresponding marginal effects are reported in the tables. The reported standard errors are clustered at NUTS2 level. The number of observations is 2876518.

In Tables (3a)-(3b), we report our estimates for education categories rather than gender. We construct two education categories: "high-school and above" and "below high-school". The results for the former category are reported in Table (3a) and those for the latter are reported in Table (3b). We find that the treatment have operated most significantly for uneducated older females and for educated younger men. Considering with our findings in Table (1), our analysis yield the basic result that older uneducated females have benefited the employment program the most.

Parameter of Interest	Estimate	Standard Error	p - value
2008			
β_1	-0,019***	0,007	0,004
δ_1	0,027***	0,009	0,003
δ_2	0,028***	0,011	0,010
δ_3	0,026**	0,012	0,034
2009			
β_1	0,002	0,008	0,819
δ_1	0,016	0,010	0,134
δ_2	-0,006	0,014	0,677
δ_3	0,001	0,012	0,923

Tablo(3a) – The Results for the Individuals with High-School Education and Above: * significant at 10%; ** significant at 5%; *** significant at 1%. The models have been estimated with probit. The regressions have been weighted with approriate sampling weights provided by THLFS. The corresponding marginal effects are reported in the tables. The reported standard errors are clustered at NUTS2 level. The number of observations is 715934.

Parameter of Interest	Estimate	Standard Error	p - value
2008			
β_1	-0,006	0,009	0,522
δ_1	0,003	0,006	0,684
δ_2	0,006	0,017	0,721
δ_3	0,022*	0,013	0,083
2009			
β_1	-0,002	0,009	0,842
δ_1	-0,001	0,006	0,933
δ_2	0,036***	0,014	0,008
δ_3	0,051***	0,012	0,001

Tablo(3b) – The Results for the Individuals Below High-School Education: * significant at 10%; ** significant at 5%; *** significant at 1%. The models have been estimated with probit. The regressions have been weighted with approriate sampling weights provided by THLFS. The corresponding marginal effects are reported in the tables. The reported standard errors are clustered at NUTS2 level. The number of observations is 2160584.

As a side note, the findings presented here and Deidda, Di Liberto, Foddi ve Sulis (2012) study on another ALMP conducted during 2006-2008 in Sardinia, Italy are remarkably similar. Via a propensity score matching approach for treated and untreated workers, they show that the policy has positive effects for both job finding probabilities and treated workers' earning streams. In their study, the authors show the program was especially effective in helping uneducated older women and young educated men in finding jobs. Similar results are also reported in Gerfin and Lechner (2002).

4. Concluding Remarks

As a result, 2008 ALMP is found to be effective especially for women who are older than 30 and have no high school or above diploma. Although the effects of the program on men employment probabilities are limited, among this group the most profound positive effect is found for young and educated men who have high school or higher degrees. These results are in line with the previous findings in the literature which examines the similar ALMPs' result empirically. In terms of promoting participation to the labor market by underrepresented groups, this policy is found to be successful. Since, both uneducated-older women and educated-young men are positively affected, in addition to the short run results, the overall impacts of the program might stick in the long run.

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