Wage Inequality and Wage Mobility in Turkey

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Making use of a simple comparison of cross sectional wage inequality may result in loss of information regarding the welfare of workers. Particularly, cross sectional estimates of inequality ignore the role of wage mobility i.e the movement of workers along their income distribution. In this context, wage mobility can play a critical role in the context of income inequality that it can improve equalization of earnings over time presenting a high degree of equality opportunity (Buchinsky and Hunt, 1999). Thus wage mobility may particularly impact the redistributive policies of the government. The general evidence from the related literature is that wage mobility leads reduction of inequality (e.g. Cardoso 2006, Dickens 2000, Gottschalk and Semeeding, 2000). There is a limited number of country studies on the determinants of wage mobility in the literature. And evidence on Turkey in this area is even scarce. To our knowledge this is the first study taking wage inequality and wage mobility in consideration together for Turkey. The purpose of this paper is thus to fill in this gap and to investigate wage inequality within the context of wage mobility and furthermore to examine the determinants of mobility in Turkey.

Examining wage inequality and wage mobility in Turkey is very important since she exhibits one of the largest income inequality measures in the world. Although the Gini index of income inequality has been declining recently, it was 40.4 percent in 2011 (TurkStat, 2011). Thus, income inequality is one of the most controversial issues in Turkey which has the most unequal income distribution among European Union countries as well. After the high economic growth period from 2005 to 2007 which result in a 10 percent increase in income per capita, Turkey experienced the global economic crisis. During the crisis period the Turkish economy started to contract from the second quarter of 2008 and the contraction reached its deepest point in the first quarter of 2009, raising unemployment rate dramatically. Therefore, investigating the wage inequality and wage mobility over the given period may put light on the socio economic consequences of business cycles i.e. help to learn who

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profited/lost most from the expansion/contraction periods, while it will undoubtedly have important implications in terms of redistributive policies in Turkey. Our study will also find which demographic or educational groups experience higher wage inequality and/or higher wage mobility during the period in question. These findings will indicate the demographic and educational groups that the policy makers should primarily pay attention to and will be useful in terms of reducing wage inequality and increasing wage mobility in Turkey.

In this context, using data from Income and Living Conditions Surveys (SILC) collected by TurkStat we investigate not only the extent of wage inequality and wage mobility but also the determinants of wage mobility in Turkey. Utilizing four year panels over the period 2005-2010 we shed some further light on the wage mobility and wage inequality taking the crisis period in consideration.

While income inequality can be measured by wage differentials between and within demographic groups such as age, gender and education level, wage mobility can be decomposed into its between- and within-group differences as well. In this scope, we search wage inequality and wage mobility for different demographic groups and decompose it into its between and within components.

We use different measures of wage inequality. First of all, we use the 20th/80th, 15th/50th and, 50th/85th percentiles in order to investigate the patterns at the middle, lower and upper part of the wage distribution respectively. In order to shed further light on wage inequality we also apply wage inequality measures that take into account the entire wage distribution each of which focuses on specific parts of the wage distribution (Cowell, 2011). The first one is the widely used Gini index:

$$I_{Gini} = \frac{1}{2N^2\bar{y}} \sum_{i=1}^{N} \sum_{j=1}^{N} |y_i - y_j|$$

Where $y_i(y_j)$ is the income of individual $i(j)$, $\bar{y}$ is the average income of the population and N is the number of individuals in the population.

Other inequality measures we utilize search for different parts of the earnings distribution. In contrast to Gini which is particularly sensitive to the middle of the distribution, the Theil index is sensitive to inequality of both tails of the wage distribution.

$$I_{Theil} = \frac{1}{N} \sum_{i=1}^{N} \frac{y_i}{\bar{y}} \log\left(\frac{y_i}{\bar{y}}\right)$$

We also employ mean log deviation which is also known as Theil's L measure. It is particularly sensitive to the lower tail of the distribution.

$$I_{MLD} = \frac{1}{N} \sum_{i=1}^{N} \log \left(\frac{y_i}{\bar{y}} \right)$$

We further decompose the Theil measures of inequality across different subgroups of the population. We define three classes of demographic subgroups for our analyses. The first one reveals the gender differences. The second class comprises of three subgroups according to the age of individuals (15-24, 25-54, 55-65). And the third class is constituted by three subgroups according to the education level of individuals as high-skilled, medium-skilled and low-skilled. Accordingly, the between-group components are due to the differences in observable demographic characteristics while within-group components remain unexplained.

In order to capture the dynamic components in wage distribution we calculate a mobility index following Buchinsky and Hunt (1999) by which we measure the percentage reduction in single year inequality when earnings are averaged over T years.

$$M = 1 - \frac{I(\frac{1}{T} \sum_{t=1}^{T} y_t)}{\sum_{t=1}^{T} \eta_t I(y_t)}$$

Where η is the earnings occuring in year t as proportion of total earnings occuring in the T year time horizon, y_t is the vector of individual wages in year t.

Similar to inequality indices we decompose our mobility measure into its within and between-group components. And in order to put further evidence on wage mobility and its determinants, we examine individual transitions between the deciles of the wage distribution throughout our analysis period. After we devide the distribution of each year into deciles, we compose transition matrices to capture the patterns of wage mobility over time. And then we investigate these corresponding transition probabilities explicitly employing a multinominal logit model. As controls we consider individual characteristics (gender, age, education level, marital status), household characteristics (number of children and elderly in the house, employment status of the partner), and job related characteristics (occupation etc.).

We expect that this study will provide useful information about the structure and dynamics of the labor market in Turkey. It will also provide information about the socioeconomic groups that are adversely affected by the global crisis while examining this issue before, during and after the crisis. Further the study will also provide a guide to the policy makers about which demographic or socioeconomic groups experience high or low wage inequality and high or low wage mobility. Identifying these groups will be useful for the policy makers.

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