



## Are Occupations of Parents Important? Evidence from Turkey

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### Abstract

This paper investigates the relationship between sons' working age and their fathers' income in Turkey. In addition, we investigated the relationship between sons' occupations and fathers' income in Turkey. It is a unique study because no such study has been previously conducted in Turkey, which is both a Muslim country and a developing country. Our data were acquired from the 2015 Income and Living Conditions Survey, which allows us to match the fathers and sons in the sample. Our results suggest that there is a strong relationship between a father's income and his son's age when he first becomes employed. In brief, wealthier sons begin working at an older age than do poorer sons. In addition, our results suggest that when a father's income increases, the probability of his son having the same occupation as his father decreases. This suggests that wealthier sons have more opportunities available when choosing their occupations.

**Keywords:** Intergenerational; Occupation; Mobility.

## 1. Introduction

Economists' interest in intergenerational occupational mobility is increasing. Currently, there is a focus on understanding the relationship between a parent's occupation and his offspring's occupation. Another issue economists are interested in is the relationship between a parent's income and his offspring's occupation. These relationships aid us in understanding whether wealthier children have better opportunities. If they do, we will have better tools to understand the mechanism behind the inequality.

We investigate the relationship between a son's age when he is first employed and his father's income. Our results indicate that there is a positive relationship. This means that when a father's income increases, the age at which his son is first employed increases, suggesting that poorer sons start to work at earlier ages than do wealthier ones.

In addition, we investigate the relationship between a son's occupation choice and his father's income. Our results suggest that when a father's income increases, the probability of his son having the same occupation decreases. This means that wealthier sons have more opportunities available when they choose their occupations.

The paper proceeds as follows. Section II describes previous literature on intergenerational occupational mobility. In Section III, the dataset is described. Section IV presents the methodology used in the study. Section V describes the main results, and Section VI summarizes and discusses the findings.

## 2. Literature Review

Treiman and Harry (2000), provide an extensive review of the literature on intergenerational occupational mobility. They divide the literature into four categories. According to their review, generation research first aimed to understand whether societies differ in their rate of occupational mobility between generations. Treiman and Harry (2000), note that researchers mistakenly concluded that observed mobility rates and patterns are basically similar in industrialized societies. Second, generation researchers attempted to answer the question of how intergenerational transmission of status occurs. Studies conducted in both the US and other countries found that education is an integral component of intergenerational status mobility. According to Treiman and Harry (2000), generation researchers next tried to create intergenerational occupational mobility tables using new econometric approaches, including log-linear and log-multiplicative analysis. Finally, generation research took on the shape it has currently.

In recent studies, researchers focus on the relationship between education and occupation status. Shavit and Müller (1997), use a meta-analysis approach for 13 countries. They focus on the relationship between a person's first job and the educational system. They reach several different conclusions; for example, the occupational returns to education are higher in countries that have nationally standardized school curricula. They claim that such curricula allow employers to rely on educational records.

In addition, Björklund and Markus (2000) calculate absolute mobility from a class mobility table. They find that Hungary has the highest mobility, with Sweden and Austria directly behind. The US is the fourth out of 11 countries in the study. Ireland has the lowest mobility among the countries studied.

Kerckhoff *et al.* (1985), compare the US and Britain. They use the Oxford Social Mobility Study (1972) for British data and the second cohort of the Occupational Change in a Generation (1973) for the US data. They find the US to have a more mobile society than Britain. Another study comparing the US and Britain is Long and Joseph (2007). They calculate the intergenerational occupational mobility in Britain and the US between 1850 and 1950. They find that the US had an exceptionally high mobility until the 1930s and that it lost its high mobility in the 1950s.

Erikson and John (1992), examine 12 countries and find the US and Britain roughly similar in intergenerational mobility. Grusky and Robert (1984), analyze 16 countries, including Britain and the U.S., and reach conclusions similar to those of Erikson and John (1992). In addition, Ganzeboom *et al.* (1989) analyze 35 countries and find a large variation in intergenerational mobility rates across those countries. They conclude that a hypothesis of common social fluidity is not correct.

Breen and Goldthorpe (2001), use a 7x7 matrix to investigate the rates of intergenerational class mobility for 1958 and 1970 in Britain. They find that the pattern of relative mobility did not change between those two years. In addition, Breen and Goldthorpe (2001), point out that the effects of educational achievement on the relative mobility chances of men and women diminished.

Furthermore, Causa and Åsa (2010) find that Southern European countries and Luxembourg are relatively immobile on most indicators, including wage persistence, secondary and post-secondary education persistence, etc. On the other hand, the Nordic countries are more mobile.

Yaish and Robert (2012), find that social mobility varies considerably cross-nationally for 20 democratic countries. In addition, they find that cross-national variation in social mobility is positively correlated with per-capita GDP. Yaish and Robert (2012), conclude that wealthier societies have higher levels of social mobility than poorer countries.

Sjogren (2000), investigates the intergenerational occupational mobility in Sweden and finds that people are more sensitive to economic incentives if they are engaged in different occupations from their parents. In addition, Sjogren (2000) notes that an individual's occupational choice, where the individual has a poorer background, is more sensitive to economic incentives.

Constant and Zimmermann (2003), investigate the relationship between parents' occupations and their offspring's occupations in Germany. They find that Germans choose occupations similar to their fathers' occupations when the father is in the white collar or professional industries. However, Constant and Zimmermann (2003) find that immigrants' occupational choice is not influenced by their fathers' occupations.

Di Pietro and Peter (2003), investigate the relationship between the occupational status of parents and their offspring in Italy. They find that a mother's occupational status has a small impact on her children's achievement; however, a father's occupational status has a larger impact on his children's achievement.

There are few studies focusing on developing countries; one example is Emran and Shilpi (2011), which calculates the intergenerational occupational mobility for Nepal and Vietnam. The study finds that the intergenerational occupational mobility is lower among women in both countries and that Vietnam has higher mobility than Nepal.

Turning to the intergenerational income mobility literature regarding Turkey, there is only one study, Mercan (2012). He finds that Turkey is a highly mobile society. His estimates of intergenerational earnings elasticity are approximately 0.1. In addition, Ozdural (1993) investigates the relationship between income and parental education in Turkey. She finds that if a father's level of education increases by one year, his daughter's income will decrease by 4 percent. She did not find any education effect on sons.

### 3. Data

The Turkish Statistical Institute's (TUIK) Income and Living Conditions Survey (ILCS) from 2015 provided the data for this study. ILCS is a nationally representative dataset. Each year, the ILCS includes approximately 12,800 household members. The ILCS data are well-suited for this study because the data come from a national probability sample. Therefore, it avoids sample homogeneity. Additionally, we are able to observe the income of fathers and both sons' and fathers' occupations in the ICLS. Therefore, we may conduct an intergenerational analysis.

Despite these advantages, the ILCS also has several limitations that may cause errors in the estimations. First, all fathers and sons live in the same house. Therefore, we cannot observe sons who left the home. It is obvious that this causes selection bias. In addition, the dataset is not longitudinal. This means that we have only one year of data to analyze. This limitation makes the study vulnerable to transitory earnings shocks. Finally, age and education variables are recorded in intervals rather than in actual values.

The sample includes 1,492 father-son pairs. The sons in the sample are children who reported an occupation in 2015. The son sample is restricted to the group born before 1991, ensuring that the youngest son was 17 years old in 2015.

Fathers are defined as the male heads of the households that the sons inhabited in 2015. In the survey, men who are older than 65 are recorded as being 65 years old. We also included individuals at the upper end of the age range in the sample.

Table 1 shows summary statistics of age, earnings, and the job dummy for 2015. The sample size is 1,492. The average income for fathers is approximately 8.78 and the average age of fathers is approximately 47.34. The job

dummy is a dummy variable. It has a value of 1 if the son and the father have the same occupation. The average of the job dummy is 0.12. In the survey, ages are recorded in intervals. Although older sons are preferable for the analysis, the average age of sons is approximately 20.

## 4. Methodology

We used two different methods: an OLS and a probit model. When we investigate the relationship between a father's income and his son's age when he his first employed, we use an OLS model. The model is:

$$J^{\text{Son}} = \alpha + \omega Y^{\text{Father}} + \varphi A + \varepsilon \quad (1)$$

$J^{\text{Son}}$  is the son's age when he first became employed,  $Y^{\text{Father}}$  is the logarithm of father's income, and vector  $A$  includes control variables, such as the sons' and fathers' ages, the square of those respective ages, and their education levels.

In addition, we estimate the occupational match between fathers and sons in the following regression:

$$D^{\text{Son}} = \alpha + \beta Y^{\text{Father}} + \psi A + \varepsilon \quad (2)$$

$D^{\text{Son}}$  is a dummy variable. It has a value of 1 if a son and his father have the same occupation.  $Y^{\text{Father}}$  is the logarithm of income of the father and vector  $A$  includes control variables, such as the sons' and fathers' ages, the square of those respective ages, and their education levels.

## 5. Results

Table 2A displays  $\beta$  estimates from the marginal probit estimation from equation (2), in which  $D^{\text{Son}}$  is a dummy variable that has a value of 1 if the son and his father had the same occupation in 2015. In addition,  $Y^{\text{Father}}$  is the natural logarithm of the father's annual earnings in 2015. Table 2A shows that  $\beta$  is -0.03. This suggests that when a father's income increases, the probability that his son has the same occupation decreases. This means that the wealthier sons have more opportunities.

Table 2B displays  $\omega$  estimates from the OLS estimation from equation (1), in which  $J^{\text{Son}}$  is the son's age when he his first employed. In addition,  $Y^{\text{Father}}$  is the father's income in 2015. Table 2B shows that  $\omega$  is 0.57. This suggests that when a father's income increases, his son's age of first employment increases but the coefficient is not statistically significant at usual levels. It suggests that wealthier sons start to work at older ages.

## 6. Conclusion

This paper investigated the relationship between fathers' income and their sons' age at first employment in Turkey. We used a simple OLS for the analysis. We found that when a father's income increases, the age at which his son is first employed increases. When we analyzed the intergenerational occupational mobility between sons and fathers, we found that when a father's income increases, the probability that his son has the same occupation decreases in Turkey.

This study has several limitations. One obvious limitation is that the dataset is not longitudinal. Therefore, our estimates may suffer from the effect of transitory earnings shocks. In addition, all fathers and sons in the sample live in the same house, meaning that our analysis excludes sons who left the home.

Even though it has some limitations, the present study is the first attempt to calculate intergenerational occupational mobility in Turkey. Our results suggest that wealthier sons have more opportunities in Turkey.

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Table-1. Summary statistics

	Mean	S.D.	Min	Max
Father's Income	20106.15	19325.03	210.00	286436.10
Father's Age	54.86	9.41	30.00	90.00
Father's Education	5.53	3.82	0.00	16.00
Job Dummy <sup>1</sup>	0.27	0.44	0.00	1.00
Son's Age	25.30	7.33	15.00	68.00
Son's Education	9.37	4.05	0.00	16.00
n	3,304			
<sup>1</sup> 1 means the father and the son have the same occupation.				

Table-2. The Results

2.A $\beta$ estimates from the probit <sup>1</sup>	Coefficient	S.E.
Father's Income	-0.03***	0.01
Father's Age	0.04***	0.01
The Square of Father's Age	0.00***	0.00
Father's Education	0.01***	0.00
Son's Age	-0.01***	0.01
The Square of Son's Age	0.00***	0.00
Son's Education	-0.01***	0.00
n	3,304	
2.B $\omega$ estimates from the OLS	Coefficient	S.E.
Father's Income	-0.05	0.01
Father's Age	0.03	0.06
The Square of Father's Age	-0.00	0.00
Father's Education	0.11***	0.02
Son's Age	0.69***	0.04
The Square of Son's Age	-0.00***	0.00
Son's Education	0.34***	0.01
Constant	2.50***	1.53
n	3,304	
*** $p < 0.01$ ** $p < 0.05$ * $p < 0.10$		
<sup>1</sup> 1 means the father and the son have the same occupation.		