



An empirical analysis of household education expenditures in Turkey



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ABSTRACT

Using Turkish Household Budget Surveys from 2003, 2007 and 2012, this paper investigates the determinants of household education expenditures within an Engel curve framework. In particular, we estimate Tobit regressions of real educational expenditures by income groups using a number of household characteristics (i.e. rural residence, employment status, age, educational attainment of the household head, household size, share of female students and primary school students in the household, and total number of students in the household) to examine if and to what extent the determinants of educational expenditures differ by income groups; income elasticities of educational spending evolves over time; and children from middle-class and poor families can benefit enough from educational opportunities. The estimated expenditure elasticities have lower values for the top- and the bottom-income quartiles while they have larger values for the middle-income quartiles. The results also show that for all income groups the expenditure elasticity of education increases over time, indicating that Turkish households allocates greater share of their budgets to education expenditures.

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1. Introduction

Turkey has a potential demographic window of opportunity for economic growth given that the share of working age population in total has been rising and expected to continue to do so until 2040s. The number of working age people is projected to expand by on average 800,000 each year in the coming decades. In order to reap the so-called demographic dividend potential, job creation performance of the economy should be capable of absorbing the new entrants into the labor market which necessitates enhancing their knowledge and skill levels through a high-quality education.

Despite some improvements over the recent years, Turkey's educational outlook is still bleak. Average years of schooling of adult population is only seven years, falling well below the levels in developed countries. Nevertheless, with the extension of compulsory education from five to eight years in 1997 and twelve years in 2011, new entrants to the market are expected to raise average years of schooling of the workforce in the near future. The introduction of 8-Year Basic Education Program in 1997 also contributed significantly to enrollment rates at elementary and

secondary schools which have reached comparable levels with those in developed economies. Notwithstanding, only little progress has been recorded on the qualitative front. According to the 2012 Program for International Student Assessment (PISA) report, Turkish students performed the second poorest after Mexico among OECD countries in math, science and reading tests. Henceforth, Turkey's next and topmost challenge now is to improve the quality and equity of its education system at all levels, which requires more and better investment. As a matter of fact, both public and private spending on education has been rising in Turkey. Thanks to the fiscal discipline secured after the 2001 economic crisis reducing the budget deficit, debt ratio, and public sector borrowing requirement, the government created a larger room for increasing its non-interest expenditures and started spending more on basic services such as health and education. Accompanied with the country's changing demographic structure and government's decision to extend the years of compulsory education, share of education expenditures in total government spending increased from 6.5% in 2002 to 9% in 2012.

In the meantime, private out of pocket spending on education has also grown. The share of education spending in households' total expenditures rose from 2% in 2003 to 2.4% in 2012. The reasons are mainly twofold. Firstly, per capita income more than tripled from 3000 USD in 2001 to approximately 11,000 USD in 2012, and the number of middle class households expanded by

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around twenty percent. New members of the middle class that are used to be poor started to spend more on education. Proportionately, the number of households, which can afford the cost of private education increased. Secondly, the government has undertaken initiatives to support private schooling, providing financial incentives to families. The Ministry of National Education (MoNE) subsidizes the per student cost of private kindergarten education by 2500 Turkish liras (TL), 3000 TL for private primary school, and 3500 for private high schools, which on average make up around twenty percent of full tuition. Respectively, the share of students attending private schools more than doubled from 1.74% to 4.13%, and the share of private schools rose from 2.97% to 7.18% from 2002–2003 to 2012–2013.

Against this framework, the aim of this paper is to investigate the determinants of household education expenditures and to see whether income elasticity of education expenditure has increased throughout the period in line with the ongoing privatization of the education system. In the event that privatization and subsidization policies have extended the gap in quality of education between the private and public schools, an income inequality in the long-run will be inevitable. As a matter of fact, recent evidence has shown that there exists a significant performance gap in favor of private schools (Aksit, 2007). Given the facts that intergenerational educational mobility in Turkey is one of the lowest among the OECD countries, with 66% of young people having only the same level of education as their parents and one's education level is one of the most important determinants of his/her income level, there is a high chance that the low level of intergenerational mobility in education would translate into a low level of intergenerational mobility in income, meaning that the children of poor families are destined to have lower income than children of affluent families in the future (Davies et al., 2005). Thus, the growth of private schooling could aggravate the already low levels of intergenerational mobility in education and income.

We use data from 2003, 2007 and 2012 Turkish Household Budget Surveys, and estimate Tobit regressions of real educational expenditures by income groups using a number of household characteristics (i.e. rural residence, employment status, age, educational attainment of the household head, household size, share of female students and primary school students in the household, and total number of students in the household). In particular, we seek to find out whether the determinants of educational expenditures differ by income groups; to what extent and in which direction, if income elasticities of educational expenditures have evolved over time; and children from middle-class and poor families were able to benefit enough from the expansion of educational opportunities. To this end, we employed two functional specifications of Engel curves: the double logarithmic form and the Working-Leser form.

The contribution of this study is threefold. First, the paper focuses on the demand for education rather than the supply-side factors which have drawn rather more interest in the literature. Moreover, we concentrate on the determinants of educational expenditures unlike traditional studies which typically consider the determinants of educational attainment. As pointed out by Qian and Smyth (2011), educational attainment depends also on the child's personal characteristics, such as performance at school (child's ability), hence only partially explains the demand for education. Whereas, focusing on education expenditures has the advantage that it directly reflects parents' willingness to pay for improving their children's educational opportunities. Second and to the best of our knowledge, there are only a few studies on the determinants of educational expenditures in Turkey (Tansel, 2002; Tansel and Bircan, 2006). Third, unlike existing studies which employ OLS or standard logistic regression models, this paper is conducted using a Tobit model which considers and corrects for the possible left-censoring in the data given the fact that many poor families are in fact characterized by zero educational expenditures.

In the remainder of the paper, an overview of education expenditures in Turkey is presented in Section 2. Section 3 reviews existing literature, and Section 4 describes the data and model. Then, Section 5 presents the empirical results and discussion. Last section concludes.

2. A brief account of education expenditures in Turkey

With an aim to profit from its demographic window of opportunity, the government has been consistently increasing the amount spent on education both in absolute terms and as a share of central government budget since 2003 (Fig. 1). Central government's education expenditures increased from 10 billion TL (7% of total) in 2003 to more than 55 billion TL (13% of total) in 2014. The majority of the increased education budget was spent on building more schools and classrooms. The number of new classrooms built has increased by more than 230,000 since 2002. The need for extra classrooms emerged mainly after the reforms that extended the number of years of compulsory education. The cost of the most recent education reform act called 4 + 4 + 4 is calculated as more than 50% of the central government's education budget in 2012.

Despite the increase in education expenditures of the central government, education expenditure per student both in primary and secondary level are significantly lower than the OECD average (Fig. 2).

In majority of OECD countries, the share of private sources in total education expenditures is less than it is in Turkey (Fig. 3). In 2011, 13% of all education expenditures are made by households. High share of private expenditures in total is a major underlying

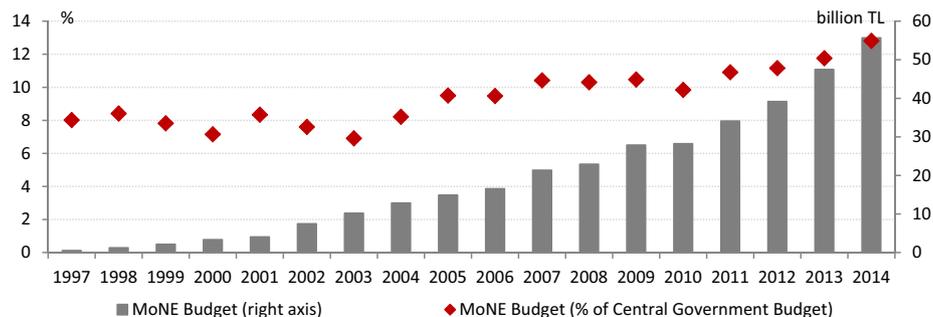


Fig. 1. Central government's education expenditures (TL and % of central government budget). Source: MoNE.

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