THE IMPACT OF EXTENDING NON-COMPULSORY SCHOOLING
ON SCHOOLING AND EMPLOYMENT OUTCOMES OF YOUTH

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ON SCHOOLING AND EMPLOYMENT OUTCOMES OF YOUTH**

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ABSTRACT

THE IMPACT OF EXTENDING NON-COMPULSORY SCHOOLING
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This study examines the impact of an increase in the duration of non-compulsory upper secondary education from three to four years on the schooling and employment outcomes of youth. We use micro-data from various rounds of Household Labor Force Surveys of Turkey and a Difference-in-Difference design where we exploit the variation across birth cohorts in policy exposure for identification. Our first analysis involves looking at how school enrollment of 15-18-year-olds changes as a result of the policy. Furthermore, we investigate whether the birth cohorts affected by the policy have higher school attainment as measured by attainment of at least a high school degree. Our analysis on education is followed by the policy effect on employment and time-use, where we divide youth into four mutually exclusive groups according to their enrollment and employment status. The results show that the policy increases enrollment in any education level and upper secondary education by 4.7 to 6.7 and 6.2 to 7.9 percentage points (pp), respectively. The effect is significantly different across genders and settlement types. Furthermore, the policy decreases the probability of

attaining upper secondary education or more schooling by 4.5 to 4.7 pp. The policy reduces the employment of 15-18-year-olds by 0.8 pp. The policy also changes the time-use patterns of the youth: the probability of being enrolled only increases by 4.8 to 6.0 pp, the probability of being employed only and being engaged in neither of the two activities decreases by 0.7 to 1.3 pp and 4.0 to 5.4 pp, as a result of the policy.

Keywords: Non-compulsory education, Employment, Youth, Time-use, Turkey

ÖZ

ZORUNLU OLMAYAN EĞİTİMDE SÜRE UZATIMI REFORMUNUN
GENÇLERİN EĞİTİM VE İSTİHDAMI ÜZERİNE ETKİLERİ

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Bu çalışma, zorunlu olmayan ortaöğretim süresinin üç yıldan dört yıla çıkarılmasının, gençlerin eğitim ve istihdamı üzerindeki etkisini incelemektedir. Bu amaç doğrultusunda Türkiye Hanehalkı İşgücü Anketinin çeşitli yıllarının mikro verileri ile Farkların Farkı metodolojisi kullanılmaktadır. İlk analizimiz, politika sonucunda 15-18 yaşındakilerin okula devamının nasıl değiştiğini incelemeyi içeriyor. Devamında, politikanın politikadan etkilenen doğum kuşaklarının lise derecesine sahip olup olmamalarını nasıl etkilediğini araştırıyoruz. Bunu takiben politikanın gençlerin istihdamı üzerindeki etkisine bakıyoruz. Son olarak, politika sonucunda gençlerin zaman kullanımını, gençleri eğitim ve istihdam durumlarına göre birbirini dışlayan dört gruba ayırdığımız şekilde inceliyoruz. Sonuçlar, politikanın herhangi bir eğitim düzeyindeki eğitim görmedeki artışın 4.7 - 6.7 yüzde puan ve lise düzeyindeki eğitim görmedeki artışın 6.2 - 7.9 yüzde puan olduğunu göstermektedir. Etki, cinsiyetler ve yerleşim türleri arasında anlamlı olarak ölçüde fark göstermektedir. Lise eğitimini tamamlama olasılığı ise politika ile 4.5 - 4.7 yüzde puan düşmektedir. Ardından, politikanın 15 ila 18 yaş arası istihdam üzerindeki etkisi incelendiğinde, 0.8 yüzde

puanlık bir azalma tespit edilmektedir. Son olarak, politikanın gençliğin zaman kullanımı üzerindeki etkisi incelendiğinde şu sonuçlar bulunmaktadır: politika, sadece okula gitme olasılığını 4.8 - 6.0 yüzde puan artırırken, sadece istihdam edilme olasılığını 0.7 - 1.3 yüzde puan ve her iki faaliyette de yer almama olasılığını 4.0 - 5.4 yüzde puan arasında azaltmaktadır.

Anahtar Kelimeler: Zorunlu olmayan eğitim, İstihdam, Gençler, Zaman kullanımı, Türkiye

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LIST OF ABBREVIATIONS

DD   Difference in Difference

DHS   Demographic and Health Survey

Eurostat   European Union Statistical Office

HLFS   Household Labor Force Survey

ILO   International Labour Organization

IV   Instrumental Variable

ISCED   International Standard Classification of Education

MONE   Ministry of National Education

NUTS   Nomenclature of territorial units for statistics

OECD   Organisation for Economic Co-operation and Development

OLS   Ordinary Least Squares

RD   Regression Discontinuity Design

TDHS   Turkish Demographic and Health Survey

TurkStat   Turkish Statistics Institute

UNESCO   United Nations Educational, Scientific and Cultural Organisation

CHAPTER 1

INTRODUCTION

Educating youth, apart from its private benefits to individuals receiving education, has social benefits for the society at large. The development of skills required in the labor market through schooling serves both ends by increasing individuals' wages and national income. Although schooling's importance is generally well understood, various factors, from economic hardship to myopic foresight, cause youth to drop out of school and enter the labor market at a young age, especially in less developed countries. Therefore, there are fewer well-educated people in the workforce, impeding the development of these countries (Eubanks & Eubanks, 2009).

Economies increasingly need an advanced workforce equipped with competencies, knowledge, and workplace skills that cannot be developed only by primary schools. In that matter, secondary education is the first base to attain the technical, academic, and life skills necessary for youth around the world. Therefore, it contributes to economic growth and social capital formation by preparing youth for higher education and the labor market (World Bank, 2005).

At the beginning of the 21st century, Turkey was committed to accession to the European Union. In line with the set of goals and objectives in the field of education agreed upon by the European Union and Turkey, the upper secondary education was redefined. In 2005, the duration of education was increased from three-years in general and vocational and technical high schools to four-years.

In this thesis, we investigate the impact of an increase in the duration of non-compulsory upper secondary education on the educational attainment and employment of individuals aged between 15 and 18. We will utilize the education reform in 2005 that extended non-compulsory secondary education from three to four years. We further investigate the effect of policy on gender and urban vs. rural areas. Traditionally, girls and rural children lag behind boys and urban children, and therefore, it is of concern whether the policy has differential effects on children's subgroups.

We firstly concentrate on the educational outcomes of the policy. We are particularly interested in 15-18-year-olds enrollment at any education level, enrollment in upper secondary education, and graduation from upper secondary education. The main questions concerning educational outcomes are:

- Does the extension of non-compulsory education significantly affect the enrollment of youth? If so;
  - Does it increase or decrease the enrollment rate?
  - Does the effect vary by age groups (15, 16, 17, and 18), gender, and settlement type (urban-rural)?
- Does the extension of non-compulsory education significantly affect enrollment in upper secondary education?
  - Does it increase or decrease the enrollment rate?
  - Does the effect vary by age groups (15, 16, 17, and 18), gender, and settlement type (urban and rural)?
- Does the extension of non-compulsory education significantly affect the rate of graduation from upper secondary education?
  - Does it increase or decrease the graduation rate?
  - Does the effect vary by age groups (20, 21, 22, 23, and 24), gender, and settlement type (urban-rural)?

Our second area of inquiry is the labor market outcomes of the policy on youth. In this context, we investigate the change in the probability of employment of the 15 – 18-year-olds. We ask the following questions:

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- Does the extension of non-compulsory education significantly affect youth's probability of employment? If so;
    - Does it increase or decrease the employment rate?
    - Does the effect vary by age groups (15, 16, 17, and 18), gender, and settlement type (urban-rural)?

Our final concern is 15 – 18-year-olds' joint time-use. To this end, we divide youth into four groups according to their enrollment and employment status: those who attend school only (without being employed), those who are employed only (without attending school), those who both attend school and are employed, and those who are engaged in neither of the two activities. The main question concerning joint time-use are:

- Does the extension of non-compulsory education significantly affect 15-18-year-olds joint time-use? If so;
    - How does it affect their joint time use?
    - Does the effect vary by age groups (15, 16, 17, and 18), gender, and settlement type (urban-rural)?

In order to unravel the research questions, we use the nationally representative Turkish Household Labor Force Survey (HLFS) microdata for Turkey, conducted by the Turkish Statistical Institute (TurkStat). This survey includes information on the respondent's educational attainment and labor force outcomes. The survey also includes personal characteristics information such as age, sex, marital status, settlement type, settlement region, and household size. We use 2004 - 2018 waves of the Turkish HLFS.

Starting in the late 90s, the Turkish government has introduced a number of school reforms. In 1997, the Turkish government implemented an education reform that extended compulsory education from 5 to 8 years. The reform affected those who were born on and after 1987. In 2012, with the introduction of another education reform, compulsory education was extended to 12 years. Those who were born on and after 1998 were affected by this reform. In between the two reforms, the government

introduced the 2005 reform that extended upper secondary schooling, which was non-compulsory at the time, from 3 to 4 years. Since we are only interested in understanding the sole effect of the 2005 education reform, we include youth who are all affected by the 1997 reform but unaffected by the 2012 reform.

Using the 2004 - 2018 waves of the Turkish HLFS, two samples are constructed. For the main analysis on enrollment and employment of 15-18-year-olds, we use the 2004 – 2013 waves of HLFS. For the analysis on graduation, we use the sample that contains 20 - 24-year-olds from the 2007 – 2018 waves of Turkish HLFS.

Beginning from the 2005 - 2006 school year, all upper secondary education institutions' duration was redefined as at least four years for the incoming students. The reform affected those who began their upper secondary education in the 2005 - 2006 school year. Those who were already enrolled in upper secondary education before the 2005 - 2006 school year followed the former three-year curriculum. Thus, those who were born on and after 1991 were affected by the reform. In our empirical analysis, we use a Difference in Difference (DD) design, where we identify the policy effect by using the fact that not all youth cohorts were affected by the reform. The estimations are conducted using Ordinary Least Squares (OLS).

This study contributes to the literature by analyzing the 2005 policy change in Turkey that increased the duration of non-compulsory upper secondary education from three to four years and attempts to reveal enrollment, employment, and joint time-use outcomes of the policy. In contrast to studies that examine Turkey's compulsory schooling changes with 1997 and 2012 education policies, this thesis evaluates a non-compulsory change in upper secondary education.

The thesis is organized as follows. Chapter 1 is an introduction. Chapter 2 presents a literature review, where we first discuss the theoretical arguments on education as an investment activity following the economics literature. In this context, human capital theory and screening hypothesis are reviewed. This is followed by a discussion on empirical literature on schooling. Chapter 3 first presents the institutional setting of the Turkish national education system. An overview of the Turkish national education

system, upper secondary education between 1997 and 2005, the 2005 education reform, and schooling outcomes before and after the education reform are discussed. In the second part of Chapter 3, we discuss youth employment in Turkey and youth employment before and after the reform. Chapter 4 introduces the data and variables used in this study, presents the identification strategy and descriptive statistics. Chapter 5 presents the empirical results. Chapter 6 concludes.

CHAPTER 2

LITERATURE REVIEW

2.1 Theoretical Literature Review

An individual's decision for educational attainment is a major inquiry for researchers. The literature is divided in the interpretation of this decision process. Investment in education can be regarded as a way to promote productivity, increasing one's wages in the labor market in the context of human capital theory, or it can be regarded as a mechanism signaling the productivity of employees in a market with imperfect information in the context of signaling theory. In this chapter, the theoretical literature review of both will be presented.

2.1.1 Human Capital Theory

The introduction of human capital theory dates back to the 1960s. Schultz (1959, 1962) put forward the *Human Wealth Hypothesis* to explain cross-country income differences. He draws the conclusion that human capital accumulation through education and on-the-job training is the neglected explanatory factor of economic growth. Nobel laureate Gary S. Becker later introduced the theoretical formulation of human capital. Becker (1962, 1964) both theoretically and empirically analyzed the effects of introducing various forms of investments in people on their monetary and non-monetary income.

The prevailing narrative of human capital theory presumes that individuals are rational optimizing agents regarding their lifetime earnings. Individuals' lifetime earnings are determined by their discount rate, duration of their time in the labor market, and their wages. Mathematically, let ω_t denote the earnings that accrued at time t, r gives the worker's rate of discount, and T denotes the number of years that earnings accrued. Then, the present value of lifetime earnings is:

$$PV_{LT} = \frac{\omega_1}{(1+r)^1} + \frac{\omega_2}{(1+r)^2} + \ldots + \frac{\omega_T}{(1+r)^T} \qquad (2.1)$$

present value of lifetime earnings   *discounted value of wage earned at time 1*   *discounted value of wage earned at time 2*   *discounted value of wage earned at time T*

Furthermore, in this set-up, the marginal productivity of an individual dictates his/her earnings as perfectly competitive firms set the wage rate equal to the value of the marginal product, which is equal to the marginal product of labor multiplied by the price of output (Borjas, 1996). Thus, individuals' ability to invest in themselves in the form of education, training, or other forms of knowledge allows them to increase their marginal productivity and, consequently, their wages (Becker, 1993).

Suppose an individual attends an education program in which the duration is defined by τ. As a result of this educational attainment, her marginal productivity, thus her wages increase from ω to φ, that is $\varphi > \omega$. Furthermore, there is a direct cost associated with attaining education. Let κ denote the yearly direct cost of attending an education program. In this case, the present value of lifetime earnings is:

$$PV_{LT}^{ed} = -\frac{\kappa_1}{(1+r)^1} - \ldots - \frac{\kappa_3}{(1+r)^\tau} + \frac{\varphi_4}{(1+r)^{\tau+1}} + \ldots + \frac{\varphi_T}{(1+r)^T} \qquad (2.2)$$

present value of lifetime earnings   *discounted value of cost accrued at time 1*   *discounted value of cost accrued at time τ*   *discounted value of wage earned at time τ+1*   *discounted value of wage earned at time T*

Overall, the decision to invest in human capital rests upon weighing costs and benefits of investment. Note that the cost of schooling is not limited to directs costs as shown in 2.2 but also forgone earnings for the duration of schooling, assuming that the individual does not combine the two activities (i.e., work and schooling) or combines them imperfectly so that there is still a loss in market earnings for the duration of schooling. In 2.2, the assumption is that school is a full-time activity. Therefore, since an individual maximizes her present value of lifetime earnings, the individual will enroll in the education program as long as investments made in education increase the present value of lifetime earnings.

In other words, if the present value of the higher wages earned after the end of education to time T net costs of attending school is higher than the present value of previous wages earned from time 1 to time T, the individual gains from attending school. Mathematically,

$$\underbrace{\sum_{t=\tau}^{T}\frac{\varphi_t}{(1+r)^t}}_{\substack{present\\value\\of\ post-\\education\\earnings}} - \left(\underbrace{\sum_{t=1}^{T}\frac{\omega_t}{(1+r)^t}}_{\substack{present\\value\\of\ pre-\\education\\earnings}} + \underbrace{\sum_{t=1}^{\tau}\frac{\kappa_t}{(1+r)^t}}_{\substack{present\\value\\of\ direct\\costs\ of\\education}}\right) > 0 \qquad (2.3)$$

In maximizing the present value of lifetime earnings, five conditions need further clarification as to these could be the cause of differences in enrollment levels. These are the discount rate (r), the difference in wages $(\varphi - \omega)$, cost of education (κ), time in the labor market $(T - \tau)$, and the borrowing constraint.

The first one is the discount rate. The discount rate captures the individual's relative valuation of present consumption versus future consumption (Fisher, 1930). In this sense, the discount rate is also known as the rate of time preference. Becker and Mulligan (1997) suggest a systematic difference in the discount rate of individuals with regards to their income level. That is, the importance of current needs outweighs the needs in the future for someone in reduced circumstances.

The discount rate plays a deciding role in education investments. The likelihood of investing in education decreases as the discount rate gets higher. This is because the return on investment in education is attained in the distant future. While this motivates those who are more future-oriented to invest in education, for those who value the present more than the future, the opposite is true (Borjas, 1996; Lawrence, 1991).

The second condition is the rate of increase in wages with respect to the level of educational attainment. The positive link between educational attainment and wages are well established in the literature. Nevertheless, an additional year of educational attainment does not reflect an evenly increase in wages; instead, each additional year of schooling delivers less and less increase in wages. That is, the law of diminishing returns applies to the returns to education. The wages for schooling levels are determined by the market and can be shown by a wage-schooling locus (Borjas, 1996).

The third condition is the direct cost of education. Individuals might face different cost schedules for obtaining an education at the same level. For instance, the number of schools available is less for those who live in sparsely populated regions; thus, they face higher transportation costs. In this sense, it is argued that those who live in rural areas encounter significant barriers to access education, especially at the secondary and tertiary education levels (Alston & Kent, 2003).

The fourth condition is the time spent in the labor market. The present value of lifetime earnings is directly correlated with the time spent in the labor market. Thus, investments in education are expected to be low for those who would spend less time in the labor market. This is one of the convictions in the literature regarding low levels of investment in education by females compared to males. Interruptions due to childbearing and child care reduces the time women spend in the labor market. Furthermore, career interruptions may bring about deterioration in skills, further reducing expected wages. Labor market discrimination against women – if exists – may also cause lower educational returns for women.

The fifth condition is the borrowing constraint. It is not reasonable to assume that all can cover the costs associated with education at their request. The environmental

conditions, specifically family wealth, have crucial roles in the determination of one's investment in education (Beegle et al., 2009). Becker (1993) suggests that the availability of funds is the most important cause of differences in opportunities, and investments in education are higher among those who have favorable conditions.

The empirical considerations of earnings concerning years of schooling in the human capital theory context began with Becker and Chiswick's (1966) simple regression analysis. This estimation function was later improved by Mincer (1974) what is become known as *Mincer earnings function*. This function estimates the logarithm of earnings by the sum of years of schooling and labor market experience.

$$\ln \omega \;=\; \ln \omega_0 \;+\; \alpha \cdot s \;+\; \beta \cdot t \;+ c \cdot t^2 \tag{2.4}$$

| *log of worker's wage rate* | *intercept earning for no education no experience* | *years of schooling* | *years of labor market experience* | *quadratic on years of labor market experience* |

2.1.2 Screening

The screening hypothesis relies on the view that the labor market is characterized by imperfect and asymmetric information. To further clarify, an individual has information on their marginal productivity; however, an employer has no information regarding the individual's productivity before hiring.

Nobel laureate Michael Spence (1973) theorized an individuals' decision in the labor market with imperfect and asymmetric information in his paper *Job Market Signaling*. Spence differentiated observable human attributes as the ones that they can alter and ones they cannot. Immutable attributes such as age, sex, and race are called indices. The attributes that individuals are able to alter, such as their educational attainment, are called signals. Spence perceives indices and signals as a way of information transfer from an individual to an employee.

In this framework, employees set wages according to their expectations of the marginal productivity of job applicants. The applicants' indices and signals identify the expected marginal productivity, and consequently, wages. Therefore, to attain higher wages, individuals need to improve their signals most commonly in the form of higher educational attainment, taking into account the costs associated with it. These costs are referred to as signaling costs. The signaling cost for more productive individuals is assumed to be less since they need to spend less time achieving the higher signal thanks to their higher productivity.

The role of education in the screening hypothesis is not the individuals' way to improve their productivity as in the context of human capital theory. Instead, education enables employees to identify preexisting attributes of individuals. Blaug (1985) suggests that firms use screening to eliminate or reduce recruiting costs. In this context, what matters for individuals is to certify their educational attainment. The higher returns affiliated with individuals' documentation of their productivity in the form of degrees or diplomas are called the sheepskin effect in the return to education (Hungerford & Solon, 1987). It is suggested that the sheepskin effect is distinct for different types of educations (Jaeger & Page, 1996).

Lange and Topel (2006) discuss that the role of education in identifying individuals' productivity differs according to years spent in the labor market. They argue that using education as a filtering mechanism occurs at the labor market entry; afterward, the sheepskin effect diminishes. Though schooling predicts productivity, the variance in earnings would be expected to increase over the life cycle within any schooling group (Wolpin, 1977).

2.2 Empirical Literature Review

In this section, we first review the studies that analyze the effect of education on lifetime earnings within the context of both the human capital theory and screening hypothesis. Then, we present findings and explanations of deviations from optimal investment decisions. Next, we discuss studies that address the determinants of schooling. Discussions on schooling gaps follow. We conclude the chapter with discussions on institutional changes in schooling.

2.2.1 Investment (and Underinvestment) in Education

Whether it is regarded as a productivity enhancive investment or as a mechanism signaling productivity, the pattern of increasing income with education is well documented. We first present the review of returns to investment in the education of several countries compiled by Psacharopoulos and Patrinos (2004) and in Turkey context by Aydemir and Kırdar (2017). Then, we review the studies on the sheepskin effect of high school diploma as discussed by Clark and Martorell (2014), Park (1999), Battistin and Nadai (2014), Brunello and Miniaci (1999), Aakvik et al. (2010), and Mazrekaj et al. (2019).

Following, we will present empirical findings on why some individuals underinvest in their schooling. The studies by Oreopuolos (2007, 2009) empirically show that individuals underinvest in their schooling and present several explanations as to why they underinvest. Next, we present Jensen's (2010) findings on the effect of an inaccurate perception of returns to education on underinvestment in education.

Psacharopoulos and Patrinos (2004) review the available estimates of returns of schooling and cross country empirical patterns. They find that both private and social returns to primary education are larger than returns to secondary education in developing countries. Furthermore, returns to education with economic development; that is, both private and social returns are higher in less developed countries.

By employing a fuzzy regression discontinuity design, Aydemir and Kırdar (2017) estimate return to schooling in Turkey, exploiting the exogenous variation in schooling introduced by the 1997 reform. Their key finding is that returns to schooling for females are higher than males, as Schultz (2002) suggested. They estimated 7 to 8 percent return from an extra year of schooling for females, and 2 to 2.5 percent returns for males. They attribute the estimated low returns of schooling to two reasons. The first one is the flatness of wage-schooling locus between primary (five-year) and lower secondary education, which is targeted by the 1997 education reform. The marginal returns to lower secondary, upper secondary and university diploma as compared to a primary education diploma are estimated for males as 6, 14, and 19 percent, respectively. The corresponding figures for females are 6, 21, and 48 percent. These figures suggest a convex wage-schooling locus, as opposed to what has been suggested as concave by Psacharopoulos (1985). Their second explanation for low wage returns to schooling is that they only capture the productivity effect of three more years of schooling in the absence of sheepskin effect due to the redefinition of diplomas.

Clark and Martorell (2014) employ data from the Texas district of the United States to test the signaling value of a high school diploma. They find no positive impact of a high school diploma on returns. On the contrary, Park (1999) shows evidence on the sheepskin effect of a high school diploma by nine percent in the United States setting. Similar results are found for different countries. The sheepskin effect of a high school diploma is estimated at 26 percent in the United Kingdom (Battistin & Nadai, 2014), 42 percent in Italy (Brunello & Miniaci, 1999), and between 22 and 25 percent in Norway (Aakvik et al., 2010)

Mazrekaj et al. (2019) analyze the effect of upper secondary education diploma by comparing private rate of returns of high school dropouts to graduates who entered the labor market but not higher education in the Flemish region of Belgium. Their estimation yields the following returns to a high school diploma; minus 12 percent for males, 23 percent for females, and no returns on average. They further estimate returns to schooling by educational track, i.e. general vs. vocational and technical high schools, and find higher returns for vocational educational diploma compared to

vocational education dropouts, and lower returns for general education diploma compared to general education dropouts.

Using data from Canada, United States, United Kingdom and Northern Ireland, Oreopoulos (2007) estimates the effect of an extra year of compulsory schooling of these countries on individuals' lifetime wealth. He finds an approximately 15 percentage point increase with an extra year of compulsory schooling. According to the findings, he argues that pecuniary school costs do not exceed the gains for those who drop out of high schools. Aside from the difficulty in accounting for non-pecuniary costs, he associates the dropout's behavior with them being myopic, that is, being focused on the present time and thus perceiving the importance of immediate costs from schooling as higher and heavily discounting potential gains from schooling.

Oreopuolos (2009) present several explanations for dropout behavior. According to the author, abhorring school is one of the motivations behind leaving school. Downplaying or ignoring future benefits of schooling, in other words being myopic about the future, is another factor that causes youth to drop out early. Cultural values or peer pressures that belittle schooling is another explanatory factor. He also suggests that a misprediction of future benefits might also be the reason for dropping out of the school. Moreover, he argues that the educational attainment difference between low-income and high-income families might be attributed to systematical lower gain predictions from schooling.

Jensen (2010) argues that schooling decisions are not determined by market returns, rather perceived returns. He further argues the inaccuracy of these perceptions. Using data from the Dominican Republic, the author estimates the perceived returns and market returns to secondary school and randomly provides information on market returns. He finds that perceived returns to secondary school are meager compared to measured market returns. Furthermore, Jensen estimates an increase of 0.25 to 0.30 more years of schooling over the next four years among those informed about the market returns to education.

2.2.2 Determinants of Schooling

As discussed in Section 2.1.1, the discount rate, cost of education, time in the labor market, different returns to earnings with respect to years of schooling and borrowing constraint are among the factors affecting individuals' optimum investment decision to education. In addition, empirical studies show that socio-economic factors either through above mentioned factors or other means determine one's schooling level.

Parental education plays an important role in determining a child's educational outcomes. The educational outcomes of the children whose parents have more schooling tend to be better, as discussed by Oreopoulos et al. (2006). In addition, there is a correlation between a child's schooling level and parent's schooling level, as shown by Hertz et al. (2007), and in Turkey context by Tansel (2015), Aydemir and Yazıcı (2019), and Tansel (2002). Furthermore, we present Dayioğlu et al.'s (2009) discussion of the role of sibship size, birth order and sibling sex composition on school enrollment, and Smits and Hoşgör's (2006) discussion of family background characteristics on enrollment.

Oreopoulos et al. (2006) study the causal effect of parental education across generations using the United States' compulsory school laws as instruments. They find that the probability of a child repeating a grade decreases by 2 to 4 percentage points with an additional year of education of the parents. They further estimate that this effect is smaller among more highly educated parents. They conclude with the diminishing returns of intergenerational return to education with an increase in the parent's education level.

Using a sample of 42 countries, Hertz et al. (2007) estimate the correlation between parental education and child's education. They further analyze the 50-year trends in intergenerational educational attainment. They report that the correlation between parents' and children's education level is around 0.4 and steady for the past fifty years. The correlation coefficients for South America, Western Europe, and the United States are 0.60, 0.40, and 0.46, respectively.

Tansel (2015) studies the intergenerational educational mobility in Turkey using the Adult Education of Survey of 2007. She finds a strong association between parent and child education, albeit with a declining trend. This relationship is said to be stronger for those whose parents have poor educational backgrounds. She estimates that the probability of attaining a university degree is five percent for children born to fathers with primary or less education and 70 to 80 percent for children born to fathers with a university education. She further finds the relationship between children's educational attainment to be more closely related to maternal than paternal education.

By using the development level of each province in Turkey, Aydemir and Yazıcı (2019) measure the intergenerational educational mobility. In addition to their self-conducted household survey across Turkey, which contains respondents' educational status, labor market status, and cultural attitudes, they use the Turkish Ministry of Development's Socio-economic development index for 2011. They find that females' educational outcomes are less dependent on their parents' educational outcomes in more developed regions; however, no such relationships exist for males. Furthermore, they find a stronger positive association between intergenerational education mobility and the development level of place of residence during early childhood compared to the development level of place of residence during adolescence.

Tansel (2002) investigates the determinants of school attainment at the primary, middle, and high school levels of 14- to 19-year-olds in Turkey using the 1994 Household Budget Survey microdata and ordered probit models. The effect of household permanent income and parents' education level is found to be significant determinants of the schooling attainment of the child at all levels of schooling, more strongly for females than males. Although the schooling attainment of those living in the urban location is significantly higher overall, the schooling attainment is lower for those who live in underdeveloped parts within an urban location.

Smits and Hoşgör (2006) conducts a similar study where they analyze the impact of family background characteristics on Turkey's schooling outcomes using the 1998 Turkish Demographic and Health Survey. They find that the major explanatory factors for girls' participation in primary school are the number of brothers they have, the

education of both parents, and whether or not the mother was able to speak Turkish. The probability of non-enrollment in primary education for females with mothers who do not speak in Turkish is six times higher than those whose mothers do. Contrarily, for male enrollment in primary education, they find no effect of mother's education or mother's Turkish language proficiency. The major explanatory factors for boy's participation in primary school are the father's education level, the household's income, and the presence of brothers. The authors' findings suggest that boys' participation in primary education is not affected by the number of sisters they have.

Dayioğlu et al. (2009) investigate the role of sibship size, birth order and sibling sex composition on children's school enrollment using the 1998 round of the Turkish Demographic and Health Survey. Considering that sibship size and schooling are jointly determined, they use an instrumental variable (IV) estimation method where twin births are used as an instrument for the number of siblings. They find no causal impact of sibship size on schooling outcomes of children. Moreover, birth order is found to be an affecting factor; if family income is not classified as the wealthiest. They find that the educational outcomes of earlier-born and the later-born children are better compared to the middle-born children. The birth order impact is found to be parabolic when all children are taken into account but linear when the eldest child is dropped from the sample. The effect of sibling sex composition differs by household income level and gender. Male schooling outcomes are impervious to the sex composition of siblings. On the other hand, while the number of brothers increases the schooling outcomes for females in wealthier families, the fraction of male siblings has adverse effects on the schooling outcomes of females in low-income families. The authors argue that a lower probability of female enrollments in low-income families can be attributed to scarce financial resources.

2.2.3 Schooling Gaps

The literature shows evidence of persistent differences in schooling among different subgroups. The most commonly known form of difference is the gender gap in schooling. Especially in developing and less developed countries, female schooling

rates are lower than males. Similarly, disparities in schooling can also be observed with respect to settlement types and ethnicities within a country. Here, we will review studies analyzing the schooling gaps.

Glick (2008) argues that nonexperimental studies' treatment of girls' schooling as more sensitive to costs than boys' might not be valid. The author justifies this view by stating that girls might be facing non-pecuniary costs, i.e., psychological costs, that boys do not face. He exemplifies by stating that parents might be unwilling to allow girls to travel long distances to schools. Another argument Glick puts forward is that there could be a stronger demand for girls to participate in the house works. Thus, distance to school affects girls' education by reducing the time available for work. Overall, he argues that the distance to school constraints girls' education more than boys. Thus, the author suggests increasing the number of available schools locally to narrow the gender gap in schooling without explicitly targeting girls.

Lewis and Lockheed (2008) associate the persistent gender gap in some countries despite the increase in girls' enrollments to the degree of social exclusion within the countries. According to the authors, the gender gap prevails among countries with a history of marginalization and seclusion towards women. They associate this with marginalized groups remain outside of the mainstream economy in these countries and thus, limiting their labor market outcomes and knowledge about education. Although this affects both males and females negatively, the effect is more prominent among females since their opportunities in labor markets are limited, and they are less likely to enroll at any education in poor quality schools, state Lewis and Lockheed.

Using Demographic and Health Survey data from 38 developing countries in six developing-country regions, Grant and Behrman (2010) investigate the emergence of gender gaps in school enrollment and grade completion across the educational life course of 6- to 18-year-olds. They find that the probability of school enrollment among females is lower than males for the regions of South Asia, West/North Asia, South/East Africa, and West/Central Africa. However, ever-enrolled females either equal or better at schooling progress than males for all regions and all age groups except for those 16- to 18-year-olds in South Asia and West/North Africa. Additionally, the

authors emphasize that the female advantages in schooling are remarkably higher in Latin America and Southeast Asia. Considering their near-universal school enrollments, the authors suggest that female advantages in schooling are not due to the selectivity issue. That is, female advantages in schooling cannot be associated with the argument that girls are more successful since those girls who attend school come from households with greater preferences for girls' schooling or household with more resources.

Orazem & King (2008) studies the schooling of 7–11, 12–14, and 15–17-year-old age group in 70 developing countries. They find that the gender gap is small in both urban and rural areas for a 7–11-year-old age group. However, as they age, the gender gap widens. They estimate that the gender gap exceeds 10 percent for 15–17-year old age group in about half the countries. Furthermore, the gap is more prominent in rural areas. They also find higher gaps for female enrollment in South Asian and African countries. The authors also find that urban-rural are gaps are generally larger than gender gaps.

Kırdar (2009) reviews the ethnic disparities in school enrollments both at the level of enrollment and at the timing of dropout in Turkey. After controlling for the location of residence and family characteristics, he finds that the gaps between the enrollment rates of ethnic Turks and ethnic Kurds and Arabs vanish for males. For females, on the other hand, the enrollment gap between ethnic Turks and ethnic Kurds persists even after controlling for regional and family characteristics and mother's proficiency in Turkish. He finds that the probability of non-enrollment is 38 percent higher for Kurdish females. Kırdar points out that the timing of dropout for ethnic Kurdish males is at an earlier age, after controlling for regional and family characteristics, and it disappears after also accounting for mother's proficiency in Turkish. He also finds that the gap in the timing of dropout for ethnic Kurdish females is still pervasive even after accounting for all control variables.

2.2.4 Institutional Changes in Schooling

Whether it is a school construction program or an extension in compulsory education, institutional changes in schooling are typically motivated to increase children's educational outcomes. The effect of policies differs by country settings. Moreover, the effect might be more nonuniform among genders or urban and rural areas within a country. Here, we will review the studies that analyze the effect of institutional changes on various schooling outcomes. We will put special emphasis on Turkey's 1997 and 2012 education reforms, which extended the duration of compulsory schooling from five to eight, and eight to twelve years, respectively.

Duflo (2001) investigates the effect of newly constructed primary schools on years of schooling and private returns using the Indonesian governments' school construction program in 1973–1974 and 1978–1979. She estimates a 0.12 to 0.19 increase in years of schooling for each new school constructed per 1,000 children and 0.25 to 0.40 years of schooling on average. Furthermore, among the first cohort who were fully exposed to the program, she finds 1.5 to 2.7 percent in earnings. The overall increase in earnings due to the school construction program is estimated as 3.0 to 5.4 percent. Finally, Duflo measures the economic returns to education of the program as 6.8 to 10.6 percent.

Compulsory schooling laws are effective in compelling some students that normally would not attend to receive extra years of schooling and earn higher wages (J. D. Angrist & Krueger, 1991). The more restrictive compulsory schooling law is, the higher the educational attainment rate in post-compulsory education (Oreopoulos, 2009).

In the 1980s, Chinese policymakers implemented an education reform that extended compulsory primary education from five to six years. Eble and Hu (2019) find that the increase in primary compulsory education increases the post-primary educational attainment. Additionally, this policy change's labor market outcome is an increase in the income for all but most significantly for disadvantaged groups; women and the least educated. Eble and Hu estimates an overall 2.6 percent monthly income return of the education reform with their Regression Discontinuity (RD) approach using the data

from China Family Panel Studies. Whereas Fang et al. 's (2012) IV estimation yields, on average yearly 20 percent return, using the data from the China Health and Nutrition Survey. Du et al. (2020) finds the narrowing gender gap effect in educational attainment from the policy change, as well as leading to more egalitarian gender role attitudes using the data from the China General Social Survey,.

Fischer et al. (2017) employ Sweden's two distinct education reforms in the 1930s and the 1940s, which extended the length of term and years of compulsory schooling to evaluate the long term labor market effect of the two policies. They find considerable increases in earnings due to longer average term length. However, their estimation of the rate of return concerning compulsory schooling reform yields minor or zero returns.

Turkey's 1997 education reform is well studied in the literature due to both its extension of compulsory education and alteration of the signaling effect through redefining the acquisition of diplomas. The reform extended the compulsory years of schooling from five to eight years. A basic education diploma was given to those students who completed eighth grade, instead of two diplomas as before for five-year primary education and three-year lower secondary education diplomas.

The effects of the 1997 education reform on schooling outcomes of children are studied by Kırdar, Dayıoğlu, and Koç (2016) using the 2003 and 2008 rounds Turkish Demographic and Health Surveys. The authors are particularly interested in understanding how the policy has changed the urban-rural and the gender gap in school attainment. The authors expect to find a higher policy impact in rural areas and for girls. Although the new policy decreases the cost of schooling in both urban and rural areas, the decrease in schooling cost is argued to be higher in rural areas due to the nature of the implementation of the policy. Furthermore, they argue that the price elasticity of schooling demand is higher for girls. With the notion that the policy affects more where the price elasticity of schooling is high, it is expected girls would be more affected by the decrease in the costs of education, which as a result, is expected to decrease the gender gap.

Kırdar et al. study the following outcomes: school enrollment by gender in urban areas, by gender in rural areas, by rural/urban residence for males, and rural/urban residence for females. Firstly, the analysis by gender in urban areas shows no robust differential effect of policy in urban areas. Further, they indicate that the effect of policy on post-compulsory schooling is weak for urban females compared to urban males. Overall, the policy does not contribute to reducing the gender gap in the new extended compulsory schooling levels. Furthermore, it worsens the gender gap in the completion of high school grade levels through stronger spill-over effects for boys. Secondly, the analysis by gender in rural areas shows the policy to be useful in terms of increasing the number of females completing compulsory schooling by up to 70 percent. However, it does not help narrow the gender gap in schooling. Thirdly, the analysis by urban/rural residence for males shows increasing enrollment in compulsory schooling of males both in rural and urban areas due to the policy. The increase in rural areas is higher, which shows that the policy effectively narrowed the gap. Fourthly, the analysis by urban/rural residence for females finds a narrowing schooling gap, but the effect is higher for females than males. Lastly, the authors carry out an analysis of completed years of schooling. They find 0.4 to 0.5 years increase at age 15 and 0.7 to 0.8 years at age 17 for urban males and females, and 1.0 to 1.0 years at age 15 and 1.3 to 1.4 years at age 17 for rural males and females.

Tumay (2020) estimates the effect of 97 education reform on enrollment in post-compulsory education using the 2013 Turkey Demographic and Health Survey and linear regression discontinuity design. He finds a 5.3 percentage point increase in high school enrollment. He discusses that no significant effect of the reform on enrollment in high school education is observed in rural areas due to the lack of appropriate educational facilities. In addition, the difference in schooling achievement between female respondents and their parents is used to evaluate intergenerational educational mobility. That is, a dummy variable is created if the individual's education exceeds his or her parent's highest educational achievement. Tumay finds a statistically significant six percentage point increase in enrollment of females whose mothers did not graduate from high school. Similarly, he finds a 3.3 percentage point increase in enrollment of females whose father did not graduate high school.

Dayıoğlu (2005) tracks the changes in child labor and schooling in Turkey before and after the 1997 education reform using the 1994 and 1999 rounds of Child Labor Surveys. Within a bivariate probit framework, where schooling and employment decisions of children are modeled together as joint decisions, the author estimates the correlation coefficient between child labor and schooling in 1994 and 1999 as -0.733 and -0.803, respectively. The increasing magnitude is attributed to the extension of compulsory schooling from five to eight years, an increase in the legal working age from 12 to 15 in 1998, and changes in the cost and benefit structures of work and schooling. Additionally, a growing negative impact of household poverty on the enrollment of female children over time is emphasized by the author.

Dayıoğlu and Kırdar (2020) examine the effect of the 1997 education reform on child labor in Turkey using the Child Labor Surveys of Turkey. They find 4.8 percentage points decrease in employment among 12- to 17-year old children. Furthermore, the decrease in employment is statistically significant for both genders and is estimated at 5.4 and 4.9 percentage points for females and males, respectively. The impact is larger for those who live in rural areas. They estimate an 11.7 percent decrease in employment in rural areas for the same age group. The authors also find a significant negative policy effect on wage workers in urban areas. The probability of wage work falls by 1.8 and 2.3 percentage points for females and males in urban areas, respectively.

Prior to the 2012 education reform, the Turkish educational system was composed of five-years of compulsory primary, three years of compulsory lower secondary education, and four-years of non-compulsory upper secondary education. Basic education and upper secondary education diploma were given to those students who completed eighth and twelfth grades, respectively. 2012 reform extended compulsory education from eight to twelve years. It redefined the education levels as four-years of primary, four-years of lower-secondary, and four-years of upper secondary education. The acquisition of diploma was changed to a single diploma, which is given to those who completed the twelfth grade.

Erten and Keskin (2019) examine the changes in schooling and labor market outcomes of the 2012 education reform in Turkey using the 2015 round of the Household Labor Force Survey. Their sample includes children whose birth is in the interval 30 months before and after January 1998, the cutoff point. For identification, Erten and Keskin use fuzzy Regression Discontinuity design with an intent-to-treat specification. The effect of policy on high school attendance is estimated as 5.4 percentage points for all, 2.9 percentage points for females, and 5.0 percentage points for males. Furthermore, 3.2 and 5.0 percentage points fall is estimated for the total employment of females and males, respectively. The decrease in paid employment for females is 1.8 percentage points, whereas, for males, the decrease is by 4.1 percentage points. The authors further investigate heterogenous RD treatment effects by pre-reform regional poverty rates. For females whose household income level is above the median, the policy effect on high school attendance is 5.4 percentage points. In contrast, for females whose household income is below the median, the effect is 4.0 percentage points. The opposite is observed for males. For males whose household income level is above the median, the policy effect is 5.4 percentage points, whereas for males whose household income level is below the median, the effect 6.0 percentage points.

The policies in 1997 and 2012 redefined compulsory education from five-to-eight and eight-to-twelve years in Turkey, respectively. In this thesis, we study a policy where the redefinition of duration is on a non-compulsory education. In addition, the policy extended the duration of formal education, which was not the case for the 1997 and 2012 policies. We contribute the literature by examining the educational, labor force, and time-use outcomes exploiting the change in the duration of non-compulsory upper secondary education from three to four years.

CHAPTER 3

INSTITUTIONAL SETTING

3.1 Turkish National Education System

3.1.1 Overview of the Turkish National Education System

The Turkish National Education System is composed of two main sections: formal and non-formal education. Formal education includes pre-school, primary, secondary, and higher education institutions. Non-formal education covers the instruction of individuals who have never entered the formal education system or who have dropped out of the formal schooling system. It aims to provide economic, social, and cultural developments in line with the individuals' interests, wishes, and abilities.

The Turkish National Education System is compatible with the International Standard Classification of Education (ISCED). ISCED is a framework developed by the United Nations Educational, Scientific and Cultural Organisation (UNESCO). This framework enables the comparison of statistics on education systems and monitoring international education goals. According to the ISCED, the first level of education is ISCED level 0: early childhood education, also known as pre-primary education. It is followed by ISCED level 1: primary education. ISCED organizes secondary education under two levels: ISCED level 2: lower secondary education and ISCED level 3: upper secondary education (UNESCO Institute for Statistics, 2012).

Formal education in Turkey optionally begins at age three with pre-primary education. It is open to children who are not of compulsory school age. As of 2004, gross enrollment to pre-primary education in Turkey is only limited to 8.94 percent of three to six-year-olds. The world and Organisation for Economic Co-operation and Development (OECD) country averages recorded at 32.32 and 74.30 percent, respectively, for the age group that officially corresponds to pre-primary education.

Prior to 1997, the schooling system in Turkey consisted of five years of primary compulsory education covering ages six to ten, three years of lower, and three years of upper of non-compulsory secondary education. Completing grade five was sufficient for acquiring a primary school diploma, and completion of grade eight would yield a lower secondary and grade 11 upper secondary diploma.

The 1997 eight-year compulsory education law was imposed at the beginning of the 1997 – 1998 school year, affecting the 1987 birth cohort and onwards. The education system in Turkey from 1997 to 2012 did not distinguish between lower secondary and primary education. Primary education and lower secondary education were merged under basic education, which was organized as eight-year continuous compulsory education covering ages 6 to 13. The extension of the required number of years of compulsory schooling also redefined the acquisition of diplomas. Upon completion of grade eight, students acquired a basic education diploma.

In 2012, the Turkish national education system underwent a major structural change, which is still in effect. Compulsory education was increased to 12 years. Besides the extension of compulsory education, durations, classification, and conditions for acquiring diplomas were also redefined. Primary education was reduced to four years, and secondary education was distinguished as four years of lower and four years of upper secondary education. A basic education diploma is given to students who successfully complete grade 12. This system is known as the 4+4+4 education system by the public. The policy reform also reduced the beginning age to compulsory primary education from 6 (72 months) to 5.5 (66 months) through families may delay sending their children to school at age six if they can verify that their children are not ready for school yet.

The reform that concerns this study, which is explained in more detail in section 3.1.3, is the extension of the duration of upper secondary schooling or high schools from three to four years. This education reform was implemented in 2005 when high school education was still optional.

3.1.2 Overview of Upper Secondary Education between 1997 and 2005

The institutional structure of upper secondary education of Turkey is categorized under general, and vocational and technical educational institutions. There are numerous different types of establishments in the general and vocational and technical classifications, as shown in Figure 3.1. As of 2014, almost two-thirds of upper secondary education students are enrolled in general high schools, and the majority of them attend a regular public High School.

The typical duration of upper secondary education, or high school education, prior to the reform, was three years. Depending on the type of high school, a small number of students can commit to a preparatory year before full admission to upper secondary education. Among 21 different types of institutions, only six do not provide an optional preparatory class. These are regular high schools (general/public), technical education for boys (vocational and technical/public), open education high school (general/public), open upper secondary education (vocational and technical/public), and other vocational and technical high schools (vocational and technical/public). However, three out of four students in 2004 enrolled in one of these six institutions.

In 2014, the total number of students in upper secondary education in Turkey totaled 3,039,449 students. Forty-five percent of these students were enrolled in General Public High Schools. This is followed by Technical Education for Boys with 15 percent, Commercial and Tourism with 9 percent, and Open Education High School with 8 percent of all students. The remaining 23 percent of students are distributed among the remaining 17 institutions.

GENERAL HIGH SCHOOL

PUBLIC

High School	Dur.:	Prep.:	Perc.:
	3 years	No	45.0 %

Anatolia High School	Dur.:	Prep.:	Perc.:
	3 years	Yes	6.3 %

Science High School	Dur.:	Prep.:	Perc.:
	3 years	Yes	0.5 %

Anatolia Teacher Training H.S.	Dur.:	Prep.:	Perc.:
	3 years	Yes	1.0 %

Anatolia Fine Art	Dur.:	Prep.:	Perc.:
	3 years	Yes	0.3 %

Open Education High School	Dur.:	Prep.:	Perc.:
	3 years	No	8.3 %

PRIVATE

Turkish	Dur.:	Prep.:	Perc.:
	3 years	Yes	2.0%

Private / Minority / Int'l	Dur.:	Prep.:	Perc.:
	3 years	Yes	0.2%

VOC. AND TECH. H.S.

PUBLIC

Technical Education for Boys	Dur.:	Prep.:	Perc.:
	4 years	No	14.8 %

Vocational H. S. for Girls	Dur.:	Prep.:	Perc.:
	3 years	No	6.4 %

Commercial and Tourism	Dur.:	Prep.:	Perc.:
	3 years	Yes	8.6 %

Religious Education	Dur.:	Prep.:	Perc.:
	3 years	Yes	3.2 %

Open Secondary Education	Dur.:	Prep.:	Perc.:
	3 years	No	2.1 %

Health Vocational H. S.	Dur.:	Prep.:	Perc.:
	3 years	No	1.0 %

Other Voc. and Tech. H. S.	Dur.:	Prep.:	Perc.:
	3 years	No	0.2 %

PRIVATE

Turkish	Dur.:	Prep.:	Perc.:
	3 years	Yes	<0.1%

Private / Minority / Int'l	Dur.:	Prep.:	Perc.:
	3 years	Yes	<0.1%

Notes: Due to admission of fewer than 2,000 students, Other Vocational and Technical High Schools combines the following institutions: Agricultural Education, Special Education, Conservatory, Police High School, Justice Vocational High School, Anatolian Cadastral Vocational High School, and Anatolian Meteorology Vocational High School.

Source: (Ministry of National Education, 2005b)

Figure 3.1: Illustration of Upper Secondary Education by Institution Types, and their Duration of Education, Availability of Preparatory Class, and Number of Students Enrolled in 2004 as a Share of Student Population

3.1.3 The 2005 Education Reform

At the beginning of the 21st century, the public's mood and political environment in Turkey were under the influence of Turkey's candidacy for being a member of the European Union. With this point of view, education policies were also scrutinized. In the interim, Turkey set the goal to extend its compulsory basic education to 12 years (SPO, 2001). In line with this objective, the first step was taken in 2005 by extending non-compulsory upper secondary education from three to four years.

The then Minister of National Education – Mr. Hüseyin Çelik – justifies the extension as a requirement for the European Union (EU) accession. In an interview, he remarks that Turkish upper secondary graduates subject to a three-year curriculum are faced with a diploma equivalency problem in the EU countries. He concludes that in order to attain first, second, and third-level certifications in-line with the EU, four-year education reform is essential (*Yeni öğrenciye lise 4 yıl*, 2005).

Whilst the extension of duration is the crux of the reform; it was not the only change. In line with the EU perspective, the updated high school curriculum increased foreign language instruction and merged foreign language intensive high schools with regular high schools as their curriculums were made somewhat more similar. In June 2005, the Ministry of Education (2005b) announced the reform as follows:

1. Increasing the duration of education from three-years in general, and vocational and technical high schools to four-years, starting with the 9th grade as of 2005 - 2006 academic year,
2. Restructuring the duration of education in high schools with preparatory classes to four-years,
3. Increasing the number of foreign language course hours in the high school curriculum in accordance with the Common European Framework of Reference for Languages
4. Inclusion of Common Skills, Computer and Guidance courses in the curriculum of 9th grade of General and Vocational and Technical High Schools,

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5. Gradually merging Anatolia High Schools and Foreign Language Intensive High Schools under Anatolia High School,

6. The special nature of Science, Anatolia, Anatolia Fine Arts, Sports, Anatolian Teacher, Anatolian Vocational and Technical, Religious, and Anatolia Religious High Schools is to be taken into account while their curricula are configured to the reform,

7. Allowing five years of education in public and private high schools with a special status where preparatory classes are allowed after the reform.

As mentioned above, the first grade of the upper secondary schools of both general and vocational and technical high schools was restructured to include common courses. Thanks to this change, students were given the right to change their high school from general to vocational and technical high school, and vice versa, after completing the first grade (Ministry of National Education, 2010b).

Beginning from the 2005 - 2006 school year, the duration of all upper secondary education institutions was redefined as at least four years for the incoming students. Optional preparatory classes in upper secondary education came to an end with this education reform, with the exception of a handful of elite high schools such as Galatasaray, İstanbul, Kadıköy Anadolu, and Social Sciences High Schools. These schools continued offering an optional preparatory class after the education reform.

The education reform in 2005 affected those who began their upper secondary education in the 2005 - 2006 school year. Those who were already enrolled in upper secondary education before the education reform followed the former three-year curriculum. Furthermore, students who were already in preparatory class in the 2004 - 2005 school year were also subject to the former three-year curriculum. These students constitute the small number of graduates at the end of the 2007 - 2008 school year, along with the students repeating a grade level and those studying in technical education for boys or few private schools, for whom high school was four years even before the reform.

In the 2004 - 2005 school year, 63 percent of all students were enrolled in one of the educational institutions with a three-year curriculum. The number of students enrolled in a school with an optional preparatory class constitutes 22.1 percent of students in the 2004 - 2005 school year. Furthermore, those who were already in a four-year curriculum even before the education constitutes 14.8 percent of those students (Figure 3.2). As mentioned above, few schools were still offering preparatory classes even after the reform; however, the percentage of enrollment in those schools represents a very tiny fraction of the student population.

Figure 3.2: Illustration of Education Reform

3.1.3.1 Changes in the MONE's Budget

The then Minister of National Education – Mr. Hüseyin Çelik – mentions that the restructuring of upper secondary education was delayed for two years due to insufficiency in the number of schools and teachers (*Yeni öğrenciye lise 4 yıl*, 2005). The education reform in 2005 brought changes in the number of schools, the number of teachers, and ultimately the budget of MONE.

MONE's budget and its ratio to Gross Domestic Product (GDP) of Turkey are depicted in Figure 3.3. The budget more than doubled between 2003 and 2007. In terms of the share of MONE's budget in GDP, it fluctuated around 2.2 percent from 2003 to 2006 but increased to 2.4 -2.5 percent in 2007 and 2008. In 2009, it reached 2.88 percent of GDP. A sharper increase in investment was expected in the 2008 - 2009 school-year as the first cycle of students affected by the reform enter the 12th grade, which did not exist before.
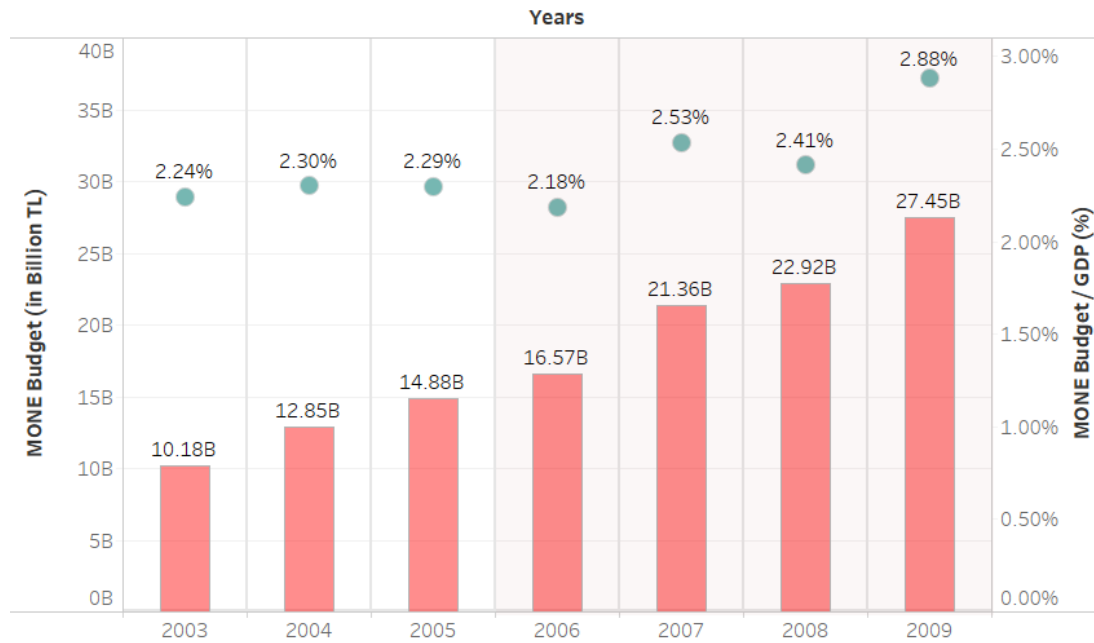
Source: (Ministry of National Education, 2003, 2004, 2005a, 2006, 2007, 2008a, 2009a)

Figure 3.3: Ministry of National Educations' Budget and Its Ratio to Gross Domestic Product of Turkey between 2002 and 2009

3.1.3.2 Changes in the Number of Schools in Upper Secondary Education

MONE's budget includes expenditure on upper secondary education as well as primary, pre-primary, and non-formal education. Therefore, it does not directly show the changes in investment made in upper secondary education. In this sense, the number of upper secondary education schools built provides more direct information.

As shown in Figure 3.4, 1,859 additional upper secondary schools were built in three years following the reform. This led to some improvement in the number of students per school. However, as the students began enrolling in the 12th grade (4th and final year in high school) in the 2008 - 2009 school year, the number of students per school increased back to its pre-reform levels. So, the infrastructure investments did not serve as an improvement but to preserve the status quo ante reform.
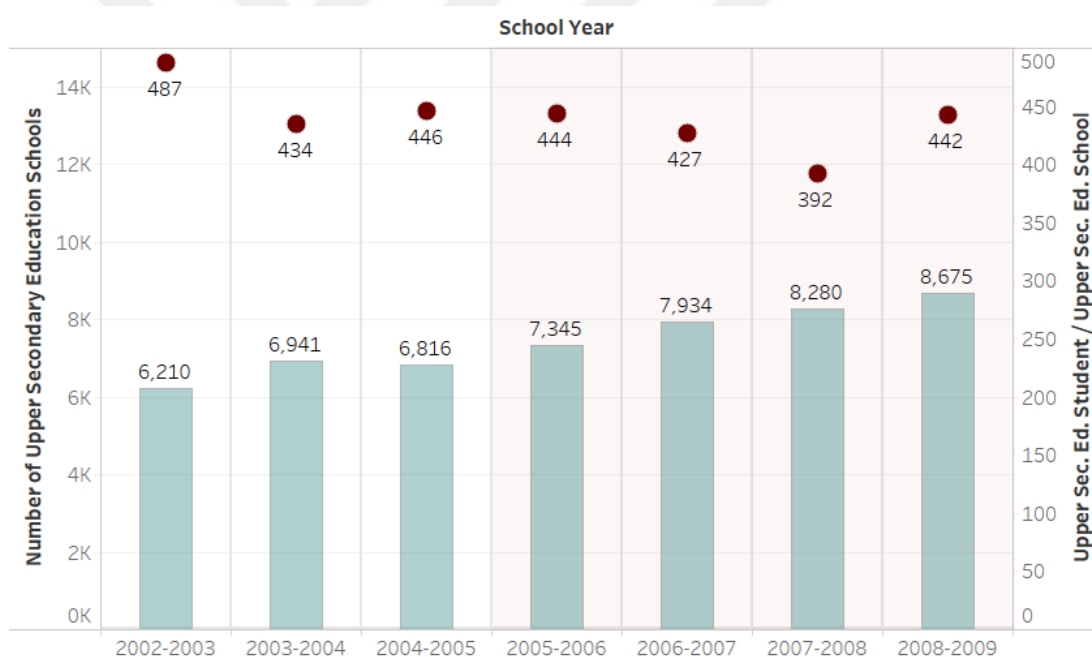
Source: (Ministry of National Education, 2008b, 2009b; Prime Ministry Republic of Turkey Turkish Statistical Institute, 2004, 2005, 2006, 2007)

Figure 3.4: Number of Upper Secondary Education Schools and the Number of Upper Secondary Education Students per Upper Secondary Education School between School Years 2002/03 and 2008/09

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3.1.3.3 Changes in the Number of Teachers in Upper Secondary Education

The number of teachers also substantially increased between 2005 and 2009. The Ministry employed 17,703 additional teachers in upper secondary education in the 2005 - 2006 school year alone. Thereupon the number of students per teacher diminished from 18.1 to 17.6 post-reform change. However, it is possible to observe the same relative negative growth in the same manner with the number of students per school as the student population increased in 2008-2009 as the reform became fully enforced. The number of students per teacher increased to 19.5, reverting to its pre-reform level (Figure 3.5).

Source: (Ministry of National Education, 2008b, 2009b; Prime Ministry Republic of Turkey Turkish Statistical Institute, 2004, 2005, 2006, 2007)

Figure 3.5: Number of Upper Secondary Education Teachers and the Number of Upper Secondary Education Students per Upper Secondary Education Teacher between School Years 2002/03 and 2008/09

3.1.3.4 Changes in the Curriculum of Upper Secondary Education

The extension of high school education from 3 to 4 years naturally created the necessity for redefining the weekly number of hours by subject taught. Changes in the course hours for General, Anatolia, Vocational, and Technical High Schools are shown in Table 3.1, 3.2, 3.3, and 3.4, respectively. The total number of course hours increased for all except for those who participate in a preparatory class in Anatolia High School.

A general public high school student's total number of course hours per week over the duration of high school increased from 99 to 120 with the education reform. This increase was reflected in the major courses in their subject area. High school students typically choose one of the following three fields of study: Sciences, Turkish and Math, and Social Sciences. For instance, the total weekly course hours of biology, physics, and chemistry were increased from 25 to 30 for a student choosing the science field; total weekly course hours of geography and history were increased from 23 to 30 for the social sciences field; and, mathematics and geography courses were increased from 22 to 26 for Turkish and Mathematics field. The highest increase in the number of weekly course hours was observed in Turkish language and literature courses across all fields. Notwithstanding these increases, the hours per week for optional foreign language courses decreased. Although the number of hours of mandatory foreign language course hours increased from four to six per week, the optional course hours decreased from 14 to 6.

For Anatolia High Schools, the change in total course hours was from 111 to 140. However, if a student attended a preparatory class, her total course hours per week over four years would decrease from 147 to 140. Students who opted to participate in a prep class were affected negatively from the education reform in terms of their foreign language education. Their number of weekly core course hours, on the other hand, increased, albeit moderately. Similar to the regular high school curriculum, the number of weekly course hours of Turkish language and literature course considerably increased across all fields, especially for Social Science, and Turkish and Mathematics.

As mentioned earlier, the education reform allowed students to change the type of high school they attended after the first year of study. Thus, the curriculum of first grade was restructured in a way that students have similar courses irrespective of the type of high school attended. Consequently, the instruction time on courses such as Turkish Language and Literature, and Mathematics in Vocational High Schools increased. With that being said, the increase in course hours, coupled with a decrease in weekly course hours, resulted in a decrease in core area courses for those attending Vocational High Schools. Prior to education reform, students' number of hours of courses in their major (such as marine, graphic courses, et cetera) were 16, 35, and 32, respectively; 83 hours in total of all grades. However, after the education reform, they were no longer attending any major area courses in the first grade. In the following years, their weekly course hours were 15 in the second grade, 26 in the third grade, and 29 in the fourth grade; 70 hours in total of all grades.

Similar conclusions can be made for Technical High Schools as for Vocational High Schools. Technical High Schools are among the few schools that had four-year education before the reform. So, their total number of course hours did not change significantly. However, the curriculum of this type of institution experienced a substantial change. In addition to a reduction in the major area course hours in the first grade of Technical High Schools due to the inclusion of common courses, the weekly course hours in the grades that followed were also reduced. Thus, the total number of major area courses decreased from 123 to 57. Contrarily, the total hours of mathematics courses quadrupled, and science courses such as chemistry and physics are included in their curriculum.

Table 3.1: Weekly Course Hours of Core, Foreign Language and Total Number of Courses of Regular (General) High School before and after the Education Reform

	Before the Education Reform				After the Education Reform				
	Grade 1	Grade 2	Grade 3	Tot. of All Grades	Grade 1	Grade 2	Grade 3	Grade 4	Tot. of All Grades
High School – Science Department									
Turkish Language and Literature [1]	4	4	4	**12**	5	5	5	5	**20**
Mathematics	5	5	5	**15**	4	4	4	4	**16**
Biology & Physics & Chemistry	6	9	10	**25**	6	6	9	9	**30**
Foreign Language	4 [2]	[6]	[6]	**4 [14]**	3	3 [2]	[2]	[2]	**6 [6]**
Total Course Hours per Week	33	33	33	**99**	30	30	30	30	**120**
High School – Social Science Department									
Turkish Language and Literature [1]	4	7 [2]	7 [2]	**18 [4]**	5	8	9	9	**31**
Geography	2	6	3	**11**	2	4	4	4	**14**
History [2]	2	5 [2]	5 [2]	**12 [4]**	2	4	6	4	**16**
Foreign Language	4 [2]	[6]	[6]	**4 [14]**	3	3 [2]	[2]	[2]	**6 [6]**
Total Course Hours per Week	33	33	33	**99**	30	30	30	30	**120**
High School – Turkish & Mathematics Department									
Turkish Language and Literature [1]	4	7	7 [2]	**18 [2]**	5	8	9	9	**31**
Mathematics	5	5	5	**15**	4	4	4	4	**16**
Geography	2	2	3	**7**	2	4	2	2	**10**
Foreign Language	4 [2]	[6]	[6]	**4 [14]**	3	3 [2]	[2]	[2]	**6 [6]**
Total Course Hours per Week	33	33	33	**99**	30	30	30	30	**120**

Notes: [ ] indicates optional course hours. [1] Turkish Language and Literature were divided into two courses: Language and Expression and Turkish Literature, after policy. [2] History courses include History, Revolution History and Kemalism, Contemporary Turkish and World history, islamic history, and ottoman history.

Source: (Ministry of National Education, 1998, 2005b)

Table 3.2: Weekly Course Hours of Core, Foreign Language and Total Number of Courses of Anatolia High School before and after the Education Reform

	Before the Education Reform					After the Education Reform				
	Prep	Grade 1	Grade 2	Grade 3	Tot. of All Grades	Grade 1	Grade 2	Grade 3	Grade 4	Tot. of All Grades
Anatolia High School – Science Department										
Turkish Language and Literature [1]	[4]	4	4	4	**16 [4]**	5	5	5	5	**20**
Mathematics	0	5	5	5	**15**	4	4	4	4	**16**
Biology & Physics & Chemistry	0	6	9	10	**25**	6	6	9	9	**30**
Foreign Language	[24]	8 [2]	4 [2]	4 [2]	**16 [30]**	10	4	4	4	**22**
Total Course Hours per Week	[34]	37	37	37	**111 [34]**	35	35	35	35	**140**
Anatolia High School – Social Science Department										
Turkish Language and Literature [1]	[4]	4	7 [2]	7 [2]	**18 [2]**	5	8	9	9	**31**
Geography	-	5	5	5	**15**	4	4	4	4	**16**
History [2]	-	2	2	3	**7**	2	4	2	2	**10**
Foreign Language	[24]	8 [2]	4 [2]	4 [2]	**16 [30]**	10	4	4	4	**22**
Total Course Hours per Week	[34]	37	37	37	**111 [34]**	35	35	35	35	**140**
Anatolia High School – Turkish & Mathematics Department										
Turkish Language and Literature [1]	[4]	4	7 [2]	7 [2]	**18 [8]**	5	8	9	9	**31**
Mathematics	-	2	6	3	**11**	2	4	4	4	**14**
Geography	-	2	5 [2]	5 [2]	**12 [4]**	2	4	6	4	**16**
Foreign Language	[24]	8 [2]	4 [2]	4 [2]	**16 [30]**	10	4	4	4	**22**
Total Course Hours per Week	[34]	37	37	37	**111 [34]**	35	35	35	35	**140**

Notes: [ ] indicates optional course hours. [1] Turkish Language and Literature were divided into two courses: Language and Expression and Turkish Literature, after the reform.

[2] History courses include History, Revolution History and Kemalism, Contemporary Turkish and World history, islamic history, and ottoman history.

Source: (Ministry of National Education, 1998, 2005b)

Table 3.3: Weekly Course Hours of Core, Foreign Language and Total Number of Courses of Vocational High School before and after the Education Reform

	Before the Education Reform				After the Education Reform				
	Grade 1	Grade 2	Grade 3	Tot. of All Grades	Grade 1	Grade 2	Grade 3	Grade 4	Tot. of All Grades
Vocational School									
Turkish Language and Literature [1]	4	2	2	**8**	5	5	2	2	**14**
Mathematics	4	-	-	**4**	4	3	-	-	**7**
Major Area Courses	16	35	32	**83**	-	15	26	29	**70**
Foreign Language	4	-	-	**4**	3	3	-	-	**6**
Total Course Hours per Week	42	42	42	**126**	35	35	35	35	**140**

Notes: [1] Turkish Language and Literature was divided into two courses: Language and Expression and Turkish Literature, after the reform.

Source: (Ministry of National Education, 1998, 2005b)

Table 3.4: Weekly Course Hours of Core, Foreign Language and Total Number of Courses of Technical High School before and after the Education Reform

	Before the Education Reform					After the Education Reform				
	Grade 1	Grade 2	Grade 3	Grade 4	Tot. of All Grades	Grade 1	Grade 2	Grade 3	Grade 4	Tot. of All Grades
Technical School										
Turkish Language and Literature [1]	4	2	2	-	**8**	5	5	5	5	**20**
Mathematics	4	-	-	-	**4**	4	4	4	4	**16**
Major Area Courses	16	34	32	41	**123**	-	18	18	21	**57**
Foreign Language	4	-	-	-	**4**	3	3	-	-	**6**
Total Course Hours per Week	42	42	42	42	**168**	35	45	45	45	**170**

Notes: [1] Turkish Language and Literature were divided into two courses: Language and Expression and Turkish Literature, after policy.

Source: (Ministry of National Education, 1998, 2005b)

3.1.4 Schooling Outcomes before and after the Education Reform

3.1.4.1 Enrollment

Turkey has a growing young population with an increasing number of individuals enrolling in the formal education system, even if that education is non-compulsory. Figure 3.6 shows the number of male and female students enrolled in upper secondary education before and after three years of implementation of education reform in the 2005 - 2006 school year. Enrollment in upper secondary education in Turkey was non-compulsory both before and after the education reform for the period under the study. Despite the increase in the duration of non-compulsory education, there is an overall increase in enrollment for both males and females, post-education reform, as can be seen from the figure.

It is not possible to properly fathom the impact of education reform on enrollment, without taking the relevant population growth into account. The net schooling ratio, as compared to the number of students in a given grade, better reflects the enrollment effect of the education reform. The net schooling ratio is defined as the number of students in a given age group enrolled in upper secondary education divided by the total population in that age group. The relevant age group for upper secondary education in Turkey is defined as 14-16 until 2008/09. In that year, it is updated as 14-17 as the students began enrolling in the 12th grade in the 2008 - 2009 school year.

There has been a secular improvement in the net schooling ratio in upper secondary education. In 2014, 54.87 percent of the 14-16 age group in Turkey were enrolled in upper secondary education. The net schooling ratio in secondary education was 59.1 and 50.5 percent for males and females, respectively. After the implementation of the education reform, the net schooling ratio increased, slightly more for females than males (Figure 3.6).
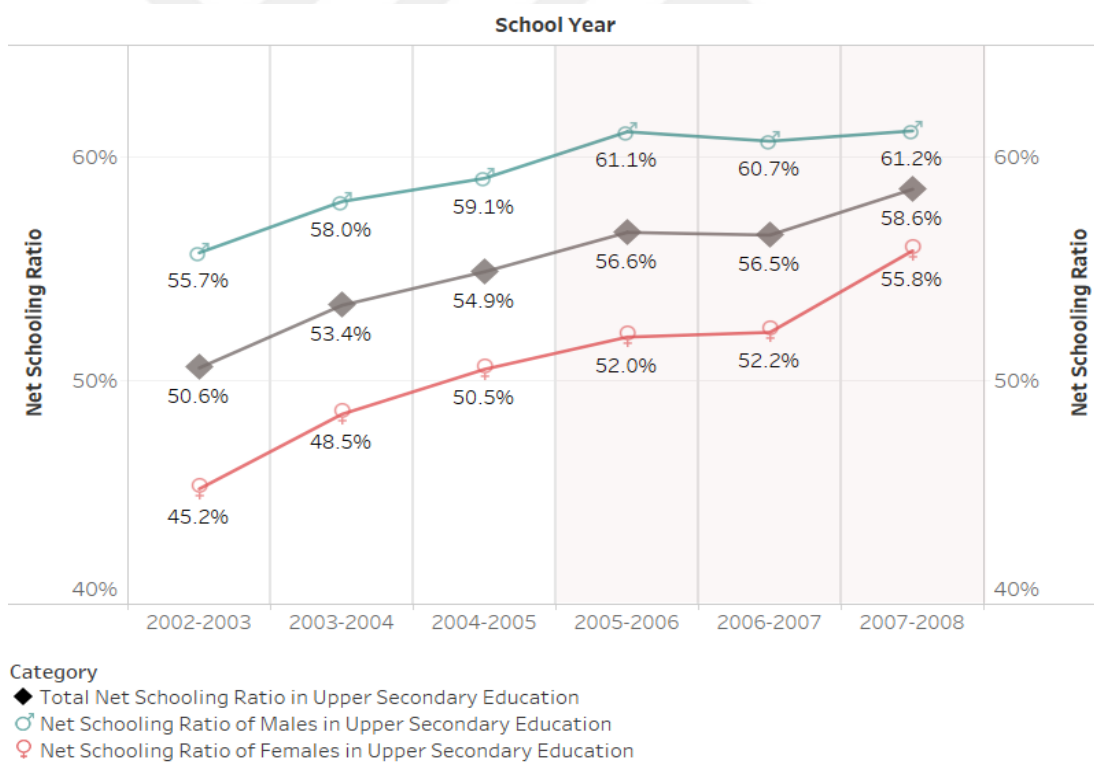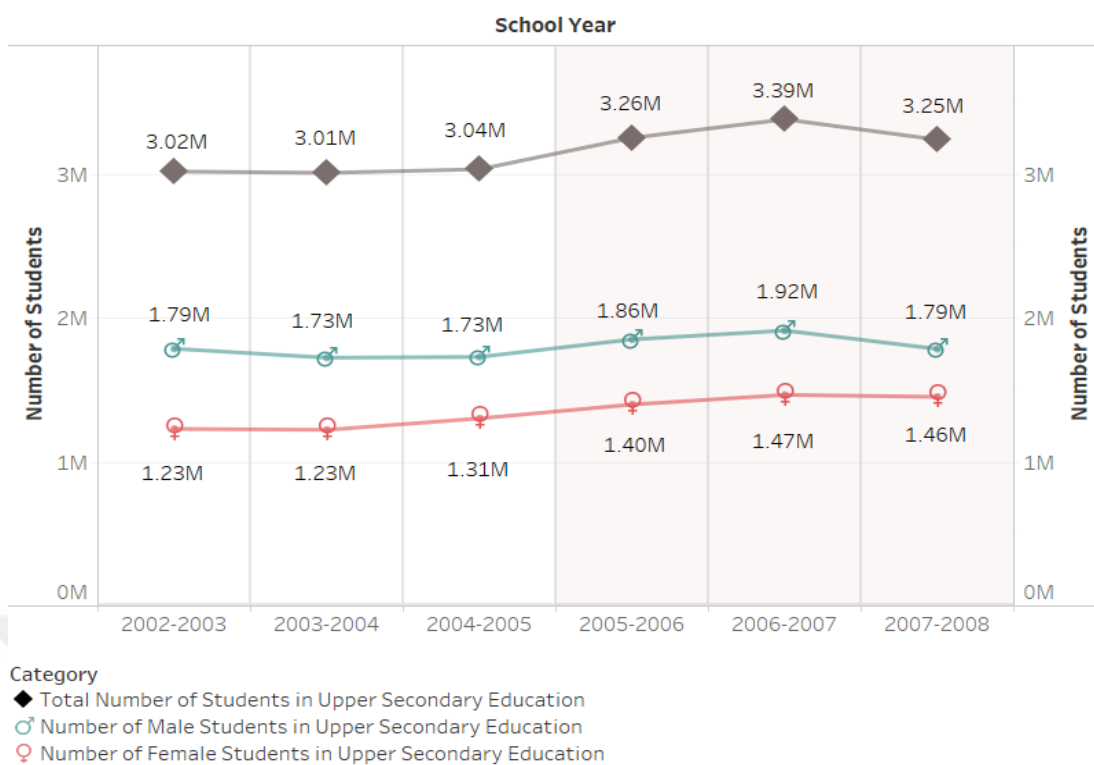
Figure 3.6: Net Schooling Ratios and Number of Female and Male Students Enrolled
in Upper Secondary Education by Gender between School Years 2002/03 and 2007/08

3.1.4.2 Sex Ratio

The sex ratio in non-compulsory upper secondary education is shown in Figure 3.7. The sex ratio is obtained by dividing the female gross schooling ratio in upper secondary education by the male gross schooling ratio in upper secondary education multiplied 100. The gross enrollment ratio is calculated by dividing the total number of students enrolled in upper secondary education divided by the total population in the theoretical age group, 14-16.

In the first year of the education reform, there is no significant change in the sex ratio in secondary education. In the second year of education reform, it improved by 0.9 percent. A significant improvement occurred in the 2007 - 2008 school year when the sex ratio in upper secondary education increased from 79.7 percent to 85.8 percent.
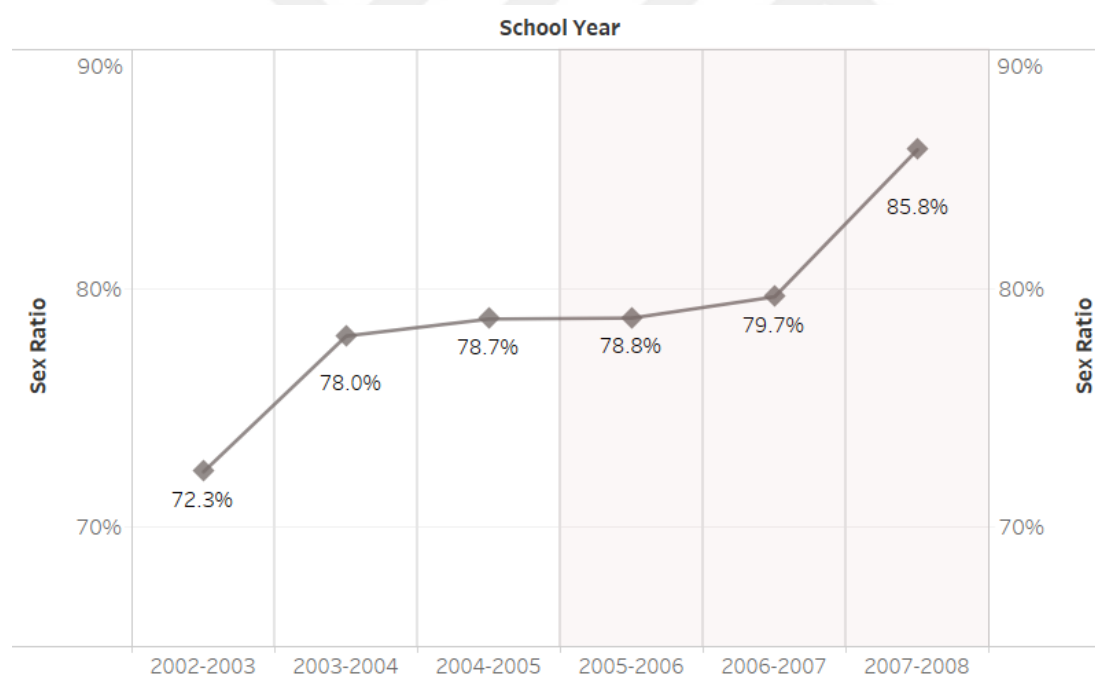
Source: (Ministry of National Education, 2010a)

Figure 3.7: The Sex Ratio in Upper Secondary Education between School Years 2002/03 and 2007/08

3.1.4.3 Enrollment in Different Type of Institutions

Figure 3.9 shows the number of students enrolled in general high schools and vocational and technical high schools. In the 2004 - 2005 school year, 64 percent of all secondary education students were enrolled in general high schools. In the following years, this ratio decreased to 60 percent. Table 3.5 shows the changes in enrollment in different institutions as a share of the student population. The shift towards vocational and technical high schools was more prevalent in female students than male students.
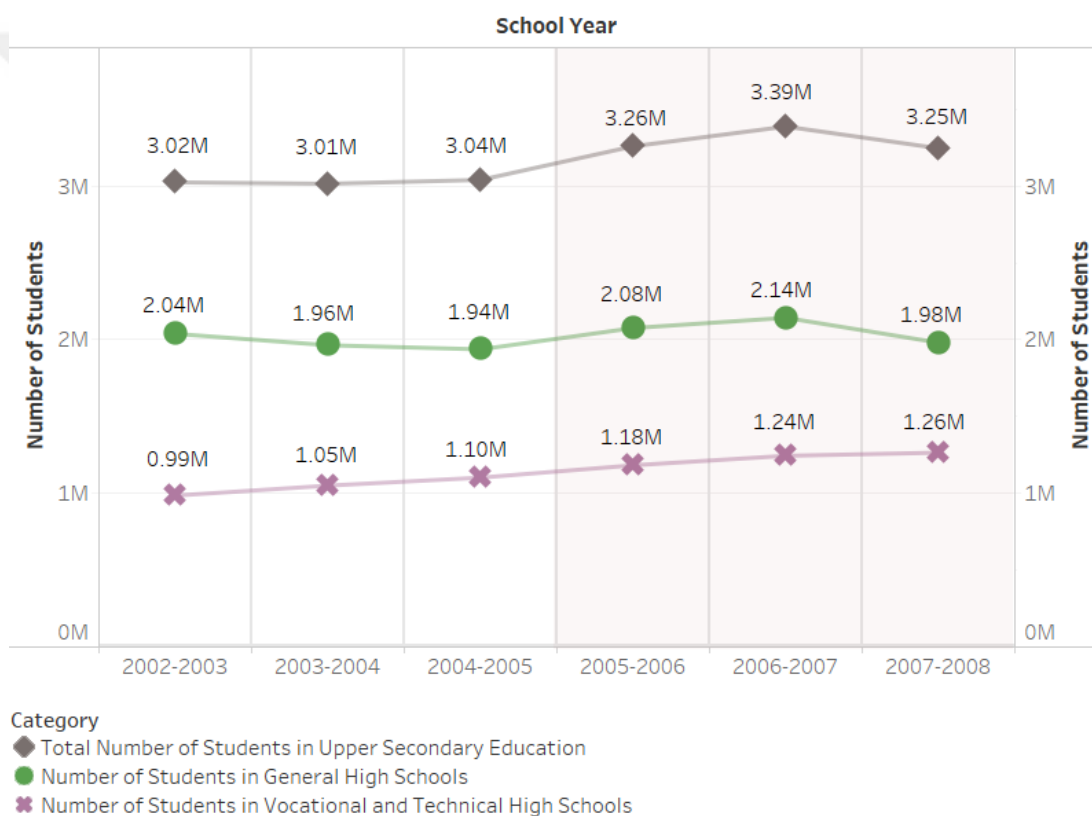
Source: (Ministry of National Education, 2008b, 2009b; Prime Ministry Republic of Turkey Turkish Statistical Institute, 2004, 2005, 2006, 2007)

Figure 3.8: Number of Students Enrolled in General High Schools, and Vocational and Technical High Schools between School Years 2002/03 and 2007/08

Table 3.5: Number of Students Enrolled in Different Institutions in Upper Secondary Education in 2004/05 and 2008/09 School Years as a Share of Student Population

	% of Total		% of Males		% of Females	
	2004 - 2005	2008 - 2009	2004 - 2005	2008 - 2009	2004 - 2005	2008 - 2009
General Secondary Education	63.7	59.2	60.3	57.0	68.2	61.8
Public	53.1	46.9	49.5	43.7	58.0	50.6
General High Schools	52.1	45.3	48.5	42.2	56.9	49.0
Teacher Training High Schools	1.0	1.6	1.0	1.5	1.1	1.6
Private	2.3	2.9	2.2	2.9	2.4	2.9
Open Secondary Education	8.3	9.4	8.6	10.4	7.8	8.3
Vocational and Technical High Schools	36.3	40.8	39.7	43.0	31.8	38.2
Public	34.2	36.9	37.6	39.4	29.6	34.0
Technical Education for Boys	14.8	15.9	22.8	25.0	4.1	5.0
Technical Education for Girls	6.4	7.4	2.3	1.9	11.8	13.9
Commercial and Tourism Education	8.6	8.5	8.8	8.5	8.3	8.5
Religious Education	3.2	3.7	3.0	3.2	3.4	4.4
Health	1.0	1.3	0.3	0.7	2.0	2.1
Other	0.2	0.2	0.2	0.2	0.1	0.1
Private	0.0	0.0	0.0	0.0	0.0	0.0
Open Secondary Education	2.1	3.8	2.0	3.5	2.1	4.2

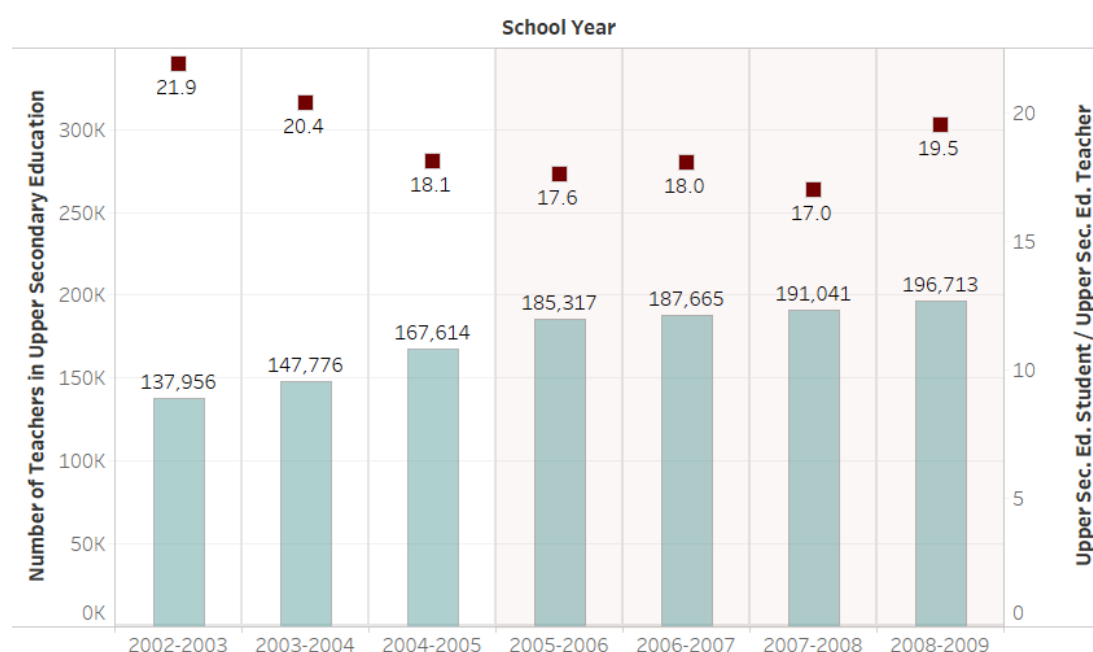*Source:* (Ministry of National Education, 2010a; Prime Ministry Republic of Turkey Turkish Statistical Institute, 2006)

3.1.4.4 Enrollment by Grade

The effect of education reform on the number of students by gender and school type for preparatory class, 9th, 10th, 11th, and 12th grades before and after the three years of education reform are shown in Figure 3.9, 3.10, 3.11, 3.12, and 3.13, respectively.

Prior to the implementation of the reform, there were 219 thousand students in the preparatory class. With the implementation of the education reform, the preparatory class was no longer offered in the upper secondary education, with the exception of a handful of elite schools. Thus, in the 2005 - 2006 school year, the number of students enrolled in the preparatory class was only limited to 4 thousand students (Figure 3.9).

As shown in Figure 3.10, enrollment in the first grade in the 2005 - 2006 school year is higher than the trend of the past three years. However, one possible contributor to this increase is the elimination of the preparatory stage in most schools. In the 2004 - 2005 school year, one million students were enrolled in the first grade of upper secondary education and 219 thousand students in the preparatory class. In 2005 - 2006, we observe little to none attendance in the preparatory class. Thus, the students, who would have been in the preparatory class following the pre-reform curriculum, enrolled in the first grade. Stabilization in enrollment in the first grade after 2005 - 2006 supports this explanation for the unusual rise in the student population.

The aberrant increase in the total number of students attending the second grade of upper secondary education in the 2005-2006 school year stands out in Figure 3.11. The reason for the occurrence of this increase is likely to do with MONE's decision on grade repetition. MONE granted temporary conditional amnesty to students following the old curriculum and who otherwise would repeat a grade level. The decision taken in July 2015 affects students who fail to complete the first or second grade in the 2004 - 2005 school year. With the decision, students who would normally fail a grade due to unexcused absences progressed to the following grade, and those who failed academically were granted resit examinations for all the failed courses, and even if they failed in the resit exams, they progressed on but were required to pass the fail courses before graduation. A plausible explanation for this one-year amnesty is to

minimize the number of students who are subject to a 3-year curriculum mixing with students subject to the 4-year curriculum due to grade repetition.

The comparison of the number of students in second grade and its successive grade in the following year reflects an interesting incident: the number of students increases as they progress in their grade level. For instance, the number of students in second grade in the 2004 - 2005 school year and the number of students in third grade in the 2005 - 2006 school year was 711 and 845 thousand, respectively. Of these 845 thousand students in the third grade, only 645 thousand students graduated, as discussed in detail in section 3.1.4.5. This unexpected increase could be associated with grade repetition in the last grade. Following the education reform, this phenomenon disappears except for the first year of the implementation of the reform, which includes the last students enrolled in the three-year curriculum that includes a preparatory class in the 2004 - 2005 school year. This change is depicted in Figure 3.14.

As noted earlier, there were only a small number of high schools with a four-year curriculum before the education reform. However, as shown in Figure 3.13, the number of students attending the 4th grade of upper secondary education was only limited to 26 thousand students. After the implementation of the reform, we naturally observe an increase in enrollment. Although, in the first year of the full implementation of the education reform, the transition to the 4th grade is poor. To be precise, of those 967 thousand of students attending 3rd grade of upper secondary education in the 2007 - 2008 school year, only 590 thousand progressed to the fourth grade. However, the reason for that is the graduation of the aforementioned participants in the preparatory class in 2004 - 2005. At the end of 2007 - 2008, 322 thousand students graduated from upper secondary education.

The gender gap in educational attainment is pervasive among the first cohort of students in the new program. However, in the second year of high school, the gender gap narrows. For instance, if we examine students who began their upper secondary education in the 2006 - 2007 school year, we observe the female-male ratio in the first, second, third, and fourth grades is 0.68, 0.87, 0.89, and 0.92, respectively. This could be due to the high transition rates of female students to upper grades and higher dropout or grade repetition by male students.
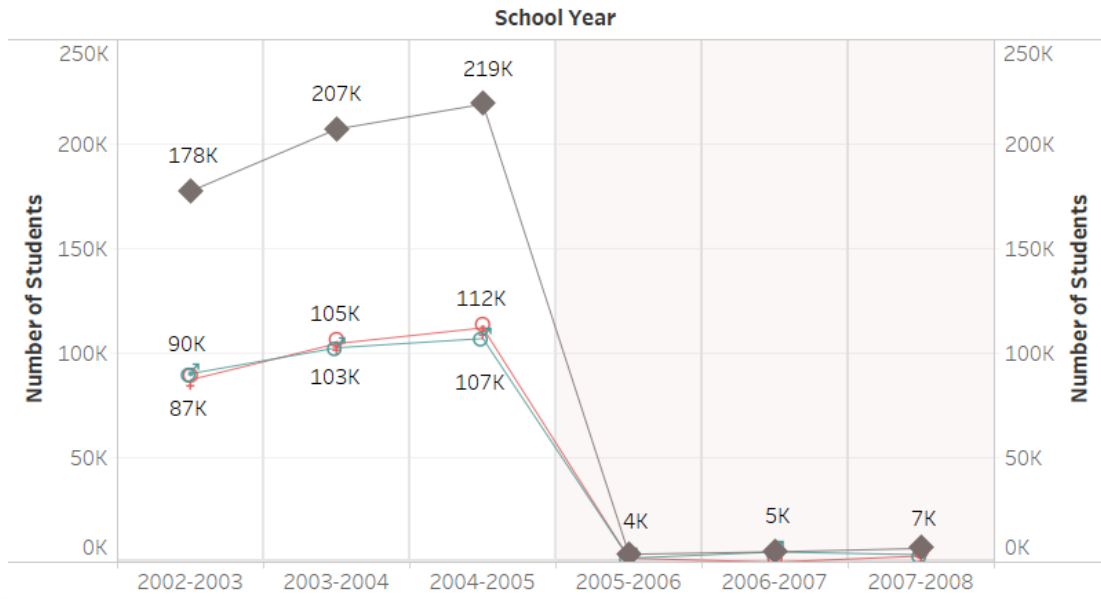
Preparatory Class by Gender
◆ Total Number of Students Attending Prep Class of Upper Secondary Education
♂ Number of Male Students Attending Prep Class of Upper Secondary Education
♀ Number of Female Students Attending Prep Class of Upper Secondary Education
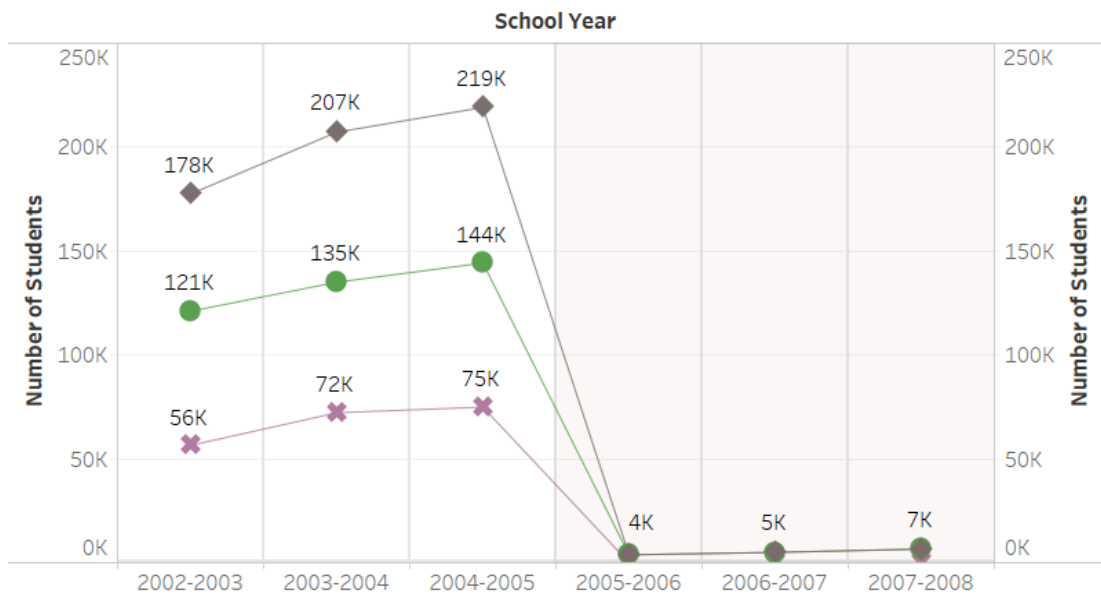
Preparatory Class by School Type
◆ Total Number of Students Attending Prep Class of Upper Secondary Education
● Number of Students Attending Prep Class of General High School
✖ Number of Students Attending Prep Class of Vocational or Technical High School

Source: (Ministry of National Education, 2008b, 2009b; Prime Ministry Republic of Turkey Turkish Statistical Institute, 2004, 2005, 2006, 2007)

Figure 3.9: Number of Students Enrolled in the Preparatory Class of Upper Secondary Education by Gender and School Type between School Years 2002/03 and 2007/08

47

School Year

1st Grade by Gender
◆ Total Number of Students Attending 1st Grade of Upper Secondary Education
♂ Number of Male Students Attending 1st Grade of Upper Secondary Education
♀ Number of Female Students Attending 1st Grade of Upper Secondary Education

School Year

1st Grade by School Type
◆ Total Number of Students Attending 1st Grade of Upper Secondary Education
● Number of Students Attending 1st Grade of General High School
✖ Number of Students Attending 1st Grade of Vocational or Technical High School

Source: (Ministry of National Education, 2008b, 2009b, 2010a; Prime Ministry Republic of Turkey Turkish Statistical Institute, 2005, 2006, 2007)

Figure 3.10: Number of Students Enrolled in 1st Grade of Upper Secondary Education by Gender and School Type between School Years 2002/03 and 2007/08

48

2nd Grade by Gender

◆ Total Number of Students Attending 2nd Grade of Upper Secondary Education
♂ Number of Male Students Attending 2nd Grade of Upper Secondary Education
♀ Number of Female Students Attending 2nd Grade of Upper Secondary Education

2nd Grade by School Type

◆ Total Number of Students Attending 2nd Grade of Upper Secondary Education
● Number of Students Attending 2nd Grade of General High School
✖ Number of Students Attending 2nd Grade of Vocational or Technical High School
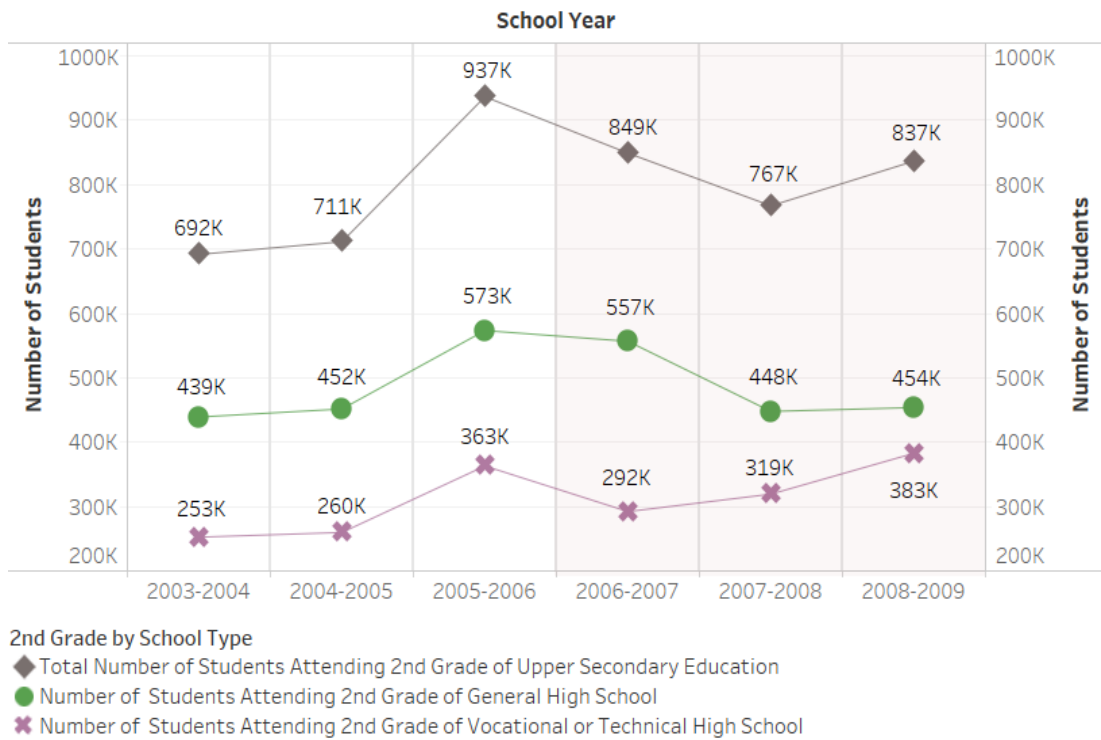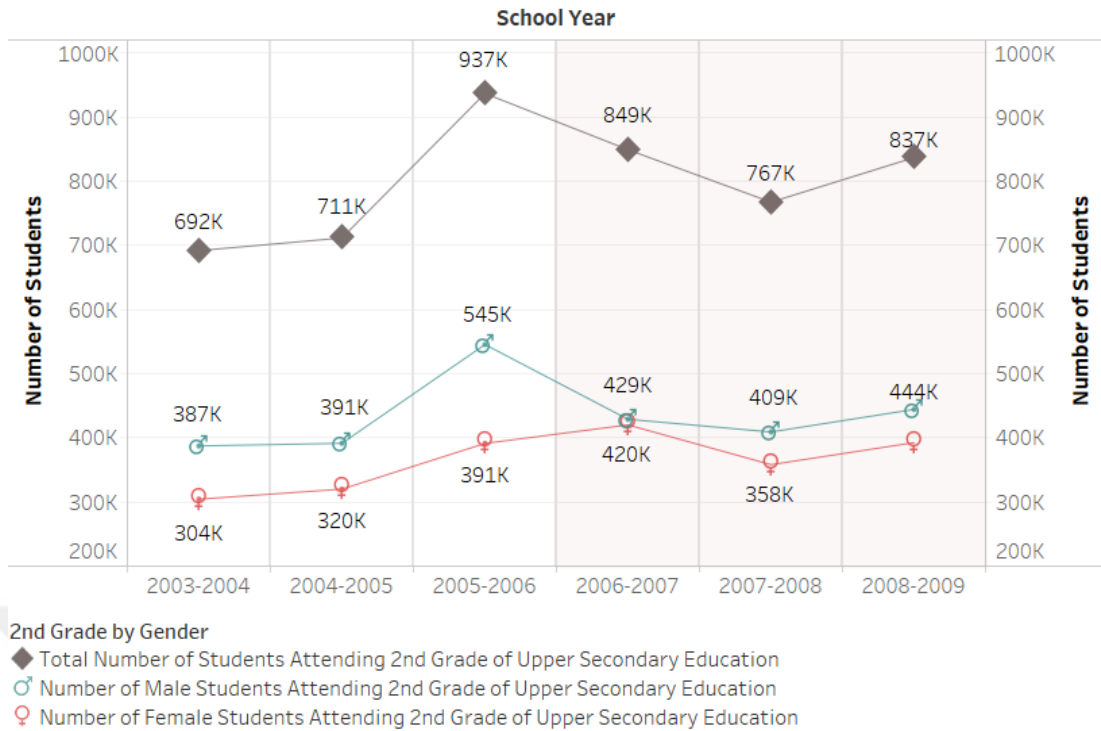
Source: (Ministry of National Education, 2008b, 2009b, 2010a, 2011; Prime Ministry Republic of Turkey Turkish Statistical Institute, 2006, 2007)

Figure 3.11: Number of Students Enrolled in 2nd Grade of Upper Secondary Education by Gender and School Type between School Years 2003/04 and 2008/09
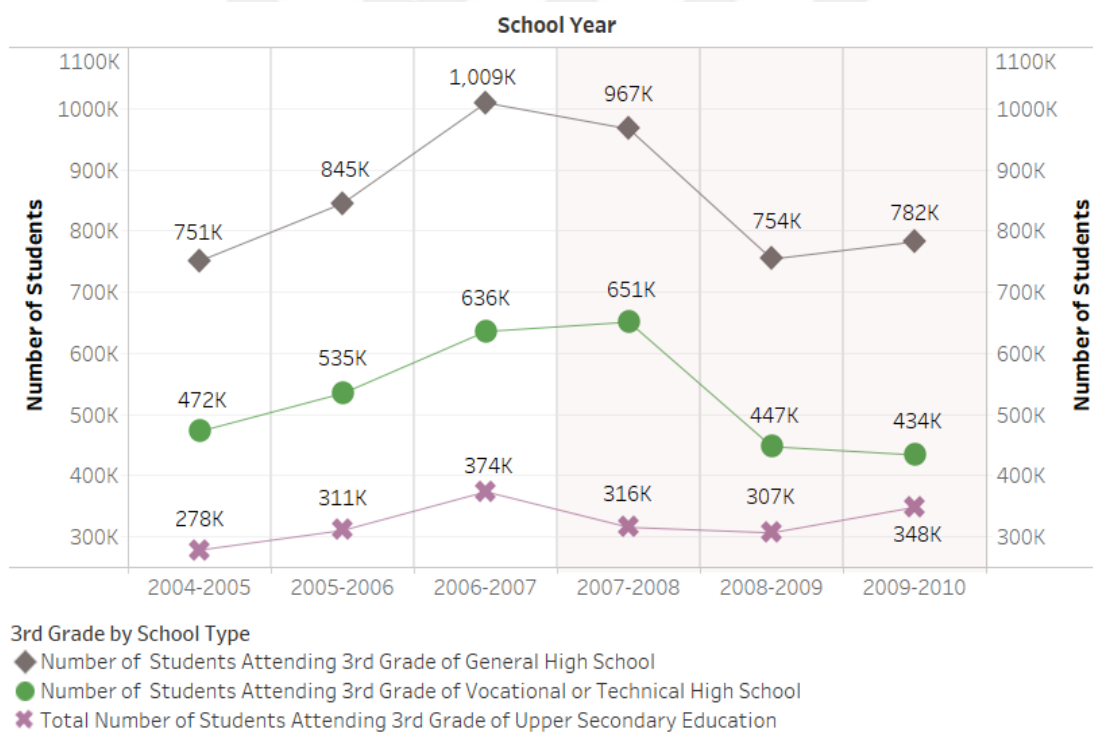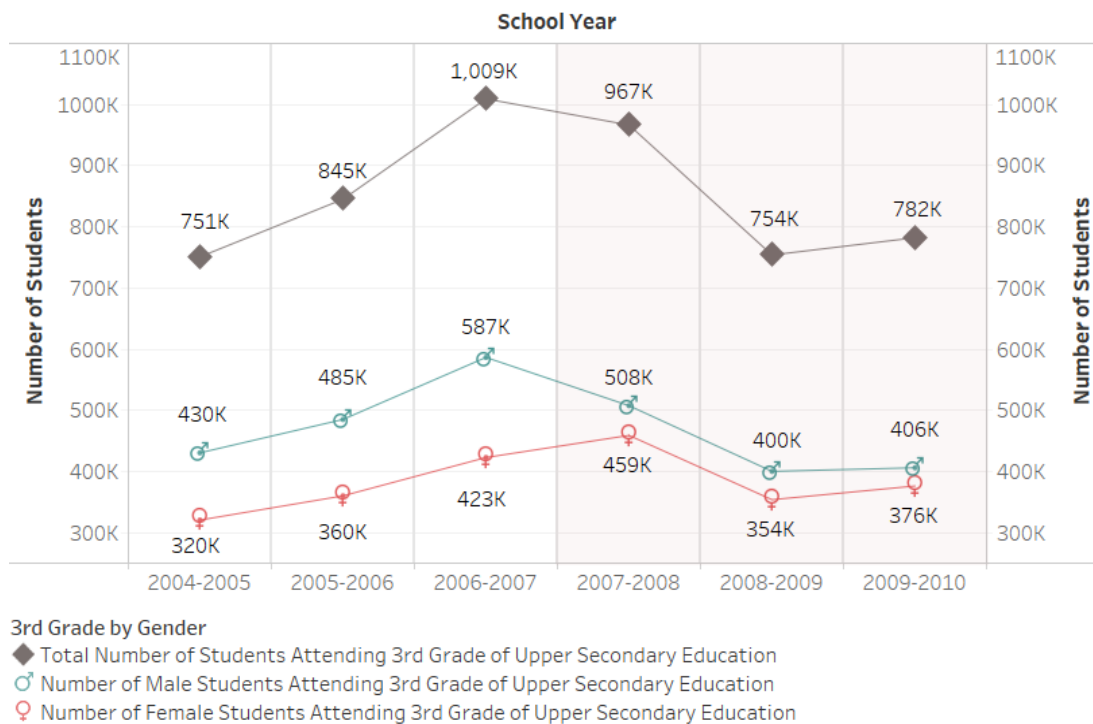
3rd Grade by Gender

◆ Total Number of Students Attending 3rd Grade of Upper Secondary Education
♂ Number of Male Students Attending 3rd Grade of Upper Secondary Education
♀ Number of Female Students Attending 3rd Grade of Upper Secondary Education

3rd Grade by School Type

◆ Number of Students Attending 3rd Grade of General High School
● Number of Students Attending 3rd Grade of Vocational or Technical High School
✖ Total Number of Students Attending 3rd Grade of Upper Secondary Education

Source: (Ministry of National Education, 2008b, 2009b, 2010a, 2011; Prime Ministry Republic of Turkey Turkish Statistical Institute, 2006, 2007)

Figure 3.12: Number of Students Enrolled in 3rd Grade of Upper Secondary Education by Gender and School Type between School Years 2004/05 and 2009/10

School Year

4th Grade by Gender
- ◆ Total Number of Students Attending 4th Grade of Upper Secondary Education
- ♂ Number of Male Students Attending 4th Grade of Upper Secondary Education
- ♀ Number of Female Students Attending 4th Grade of Upper Secondary Education

School Year

4th Grade by School Type
- ◆ Total Number of Students Attending 4th Grade of Upper Secondary Education
- ● Number of Students Attending 4th Grade of General High School
- ✖ Number of Students Attending 4th Grade of Vocational or Technical High School

Source: (Ministry of National Education, 2008b, 2009b, 2010a, 2011; Prime Ministry Republic of Turkey Turkish Statistical Institute, 2006, 2007)

Figure 3.13: Number of Students Enrolled in 4th Grade of Upper Secondary Education by Gender and School Type between School Years 2005/06 and 2010/11
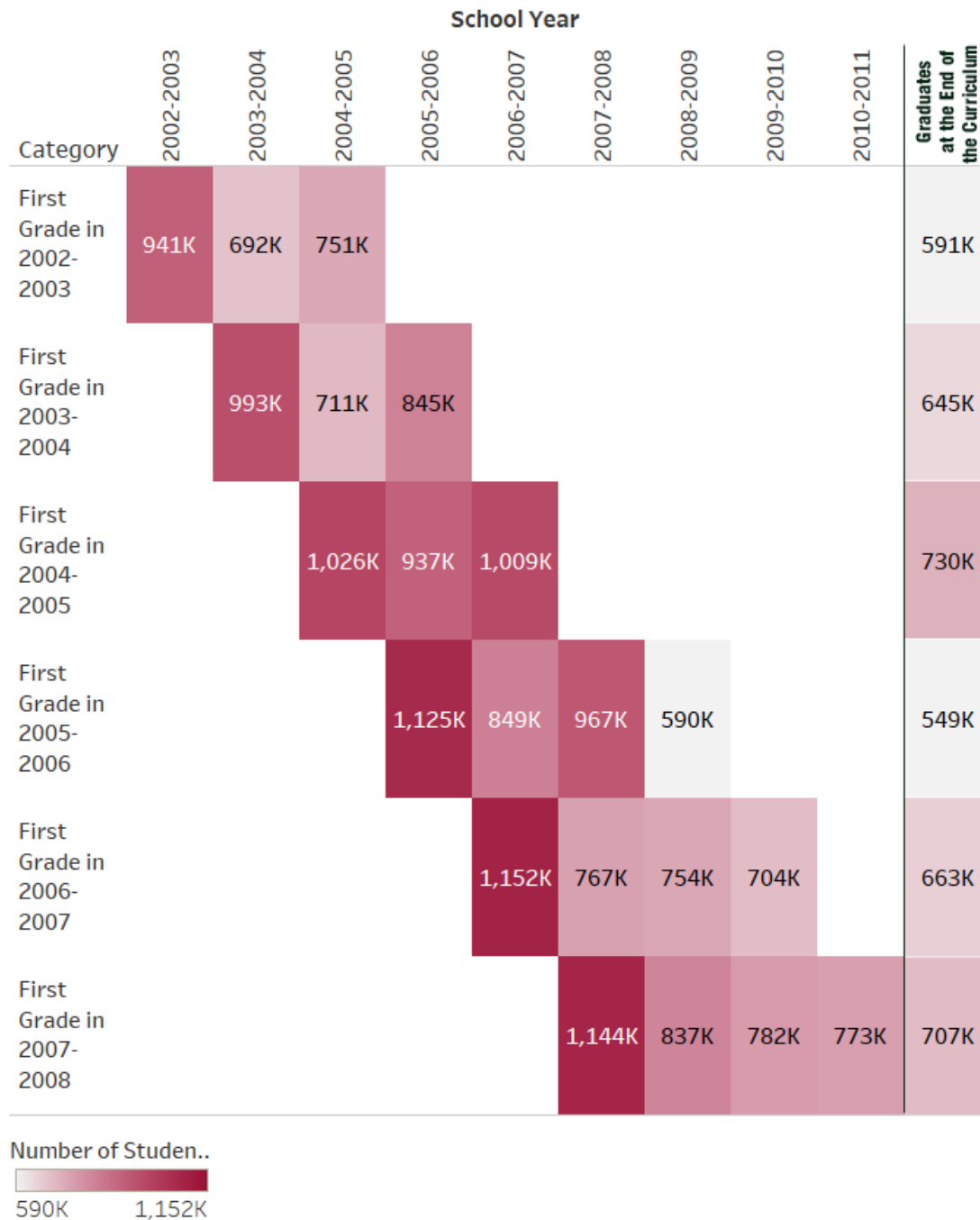
51

Category	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	Graduates at the End of the Curriculum
First Grade in 2002-2003	941K	692K	751K							591K
First Grade in 2003-2004		993K	711K	845K						645K
First Grade in 2004-2005			1,026K	937K	1,009K					730K
First Grade in 2005-2006				1,125K	849K	967K	590K			549K
First Grade in 2006-2007					1,152K	767K	754K	704K		663K
First Grade in 2007-2008						1,144K	837K	782K	773K	707K

School Year

Number of Studen..

590K   1,152K

Source: (Ministry of National Education, 2008b, 2009b, 2010a, 2011; Prime Ministry Republic of Turkey Turkish Statistical Institute, 2006, 2007)

Figure 3.14: Number of Students according to Year of Enrollment and the Corresponding Duration of Upper Secondary Education and the Number of Students Graduated at the end of Each Duration Cycle

3.1.4.5 Graduation

The first graduates post-education reform were the ones who graduated at the end of the 2008 - 2009 school year. As shown in Figure 3.15, there is a substantial decrease in the number of male graduates and a slight decrease in the number of female graduates in the first year following the full implementation of the reform. There are two explanatory factors for this drop.

The first reason is the graduates in the 2007 - 2008 school year. These graduates were excluded from Figure 3.15 since, in that year, only graduates were those attending prep class in the 2004-05 school year or began schools with a four-year curriculum in 2004-05 or repeated a grade level. Having said that, 140 thousand females and 182 thousand males graduated from upper secondary education at the end of the school year.

The second reason is the number of students in the fourth grade of upper secondary education in the 2008 - 2009 school year. There were only 590 thousand students in the fourth grade that year, a low number compared to 967 thousand students in the third grade in the previous year. This decline is due to the graduates mentioned above.

So, when the number of students in the fourth grade of upper secondary education in the 2008 - 2009 school year is taken into account, the percent of students graduating in that year is found to be substantially higher than in previous years. Ninety-three percent of all students in fourth grade graduated in the 2008 - 2009 school year. Prior to education reform, the percent of graduate students by students in their last year of the three-year curriculum was 78.7 percent in 2004 - 2005, 76.4 percent in 2005 - 2006, and 72.3 percent in 2006 - 2007 school year.

School Year

Category
◆ Total Number of Graduates from Secondary Education
♂ Number of Male Graduates from Secondary Education
♀ Number of Female Graduates from Secondary Education

School Year

Graduation Rate
■ Graduated Students end of the School Year Divided by Students in the Last Corresponding Year of Curriculum
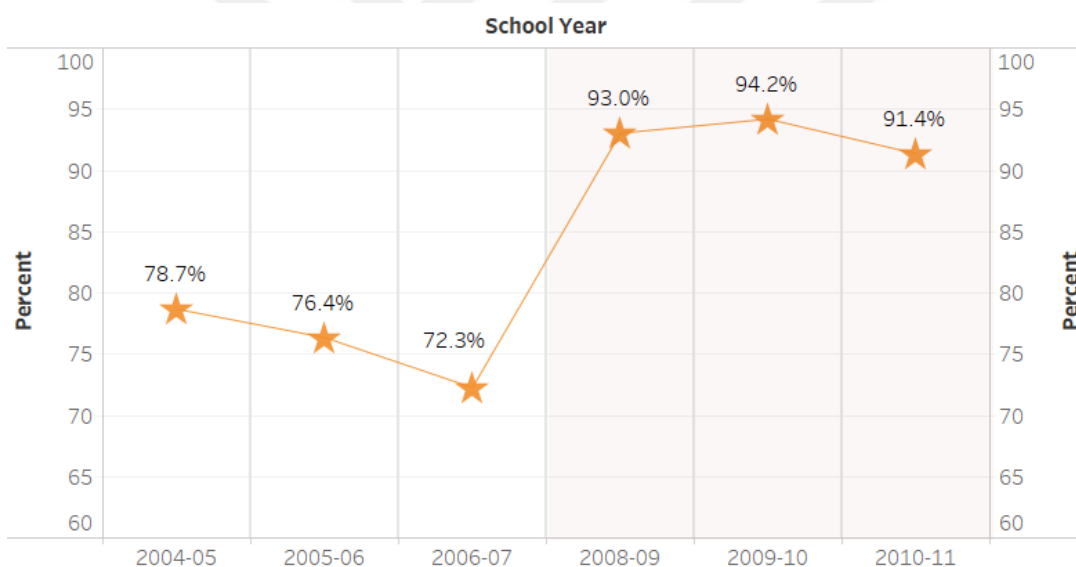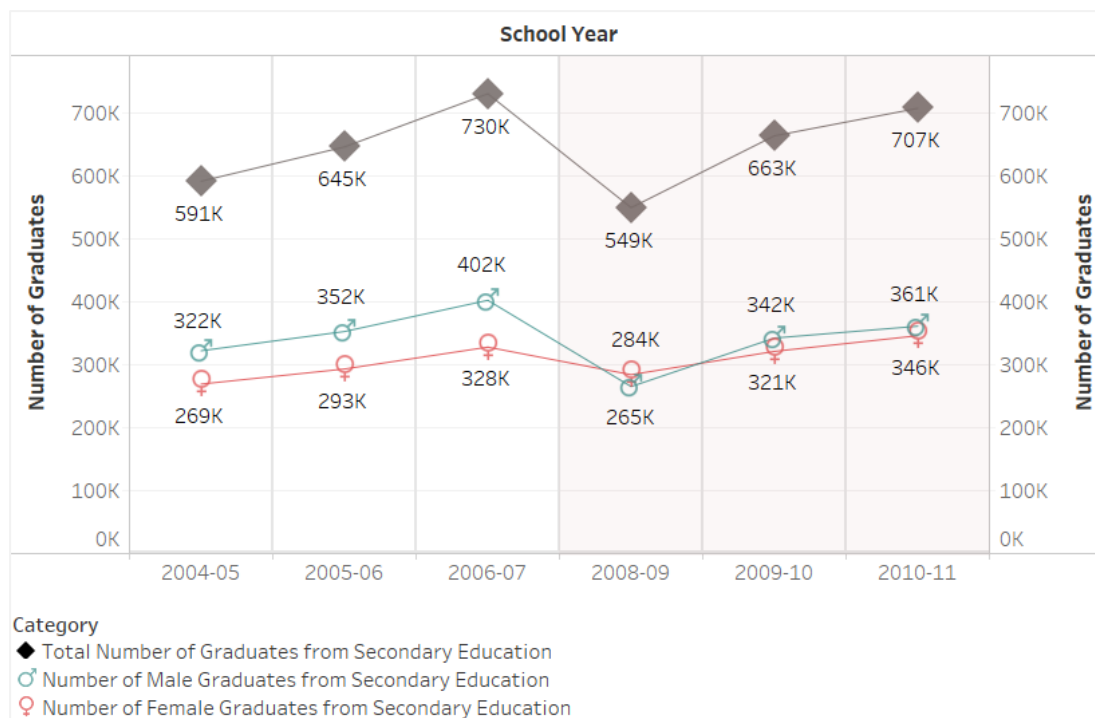
Notes: The students who graduated in the 2007 - 2008 school year are excluded from the figure since, in that year, only graduates were those attending prep class in the 2004-05 school year or began schools with a four-year curriculum in 2004-05 or repeated a grade level.

Source: (Ministry of National Education, 2008b, 2009b, 2010a, 2011; Prime Ministry Republic of Turkey Turkish Statistical Institute, 2006, 2007)

Figure 3.15: Number of Students Graduated from Secondary Education by Gender between School Years 2004 - 2005 and 2010 - 2011 excluding 2007 - 2008

3.2   Youth Employment in Turkey

3.2.1   Overview of the Youth Employment in Turkey

The first labor legislation in Turkey was enacted in 1936. Thenceforward, the labor legislation was changed only two times, apart from minor amendments. The first major amendment on the labor legislation was in 1971, when the Labor Act of 1971, no. 1475, was enacted. The second and the last time a major amendment was made in 2003, when Labor Act of 2003, no. 4587 was put in force. The Labor Act of 2003 is still the valid labor legislation law in Turkey.

In the labor legislation, the regulations for individuals who have not completed the age of 18 are different from those who have completed the age of 18. This was specified by UNICEF's Convention on the Rights of the Child. The Convention was accepted and opened for signature with the decision of the United Nations General Assembly in 1989. Turkey signed the Convention on 14 September 1990 and put in force on 4 May 1995.

Under this Convention, every human being up to the age of eighteen is considered a child. Article 32 of the Convention bounds the conditions a child can work. It states that the right of the child to be protected from economic exploitation and from employment in a manner that would harm his or her health or physical, mental, spiritual, moral, or social development.

According to Convention, the signatory party shall take all legal, administrative, social, and educational measures to ensure the implementation of Article 32. The measures to be taken are stated as follows: one or more minimum age limits for admission in the labor force, appropriate arrangements regarding the duration and conditions of the work in hours, penalties, or other appropriate sanctions to ensure the effective implementation of this article (UNICEF, 2017).

Accordingly, Turkey's specification for the minimum age limit for admission in the labor force is 15. Children younger than 15 are treated separately from children 15 and

older. Children 15 and older can work provided that they are not in jobs that may jeopardize their physical, mental, social, moral, and development or interfere with their schooling. Children who satisfy these conditions can work up to eight hours a day and 40 hours a week. The working hours of children attending school during the education period can be up to two hours a day and ten hours a week, provided that they are working outside of school hours. Children younger than 15 cannot work (Ministry of Labor and Social Security, 2011).

Children who have not completed the age of 18 are prohibited from being employed in jobs that involve health hazards. For instance, young labors are not allowed to work in the production and wholesale of alcohol, cigarettes, and addictive substances or wholesale and retail sales of flammable, explosive, harmful, and dangerous materials. Still, they can be employed in typical jobs such as harvesting, manufacturing, and office work.

3.2.2 Youth Employment before and after the Reform

Household Labour Force Survey (HLFS) measures the employment outcomes of Turkey. They have been conducted since 1988. Since persons aged 15 and older are considered as part of the labor force, their employment outcomes are also measured by HLFS. We use data starting with the 2004 round of HLFS because publicly released data prior from 2000 to 2004 provide ages in 5-year age groups. Therefore, we are not able to separately identify 15-18-year-olds who are the main target group in this study Data prior to 2000 is not made publicly available.

The following sub-sections will briefly discuss the changes in the labor force participation rate, employment, and employment type that youth labor participates in before and after the reform.

3.2.2.1 Labor Force Participation Rate

Prior to the implementation of reform in 2005, the labor force participation rate of youth, 15 - 19, was decreasing for both males and females. Following the reform, we observe that the labor force participation rate of females stabilized around 17 percent, whereas, for males, it would appear that the participation in the labor force began increasing, albeit slightly. Figure 3.15 also shows a large difference between genders in their participation in the labor force. It is important to note that the female labor force participation is low in Turkey across all age groups due to various reasons, predominantly from religious concerns.
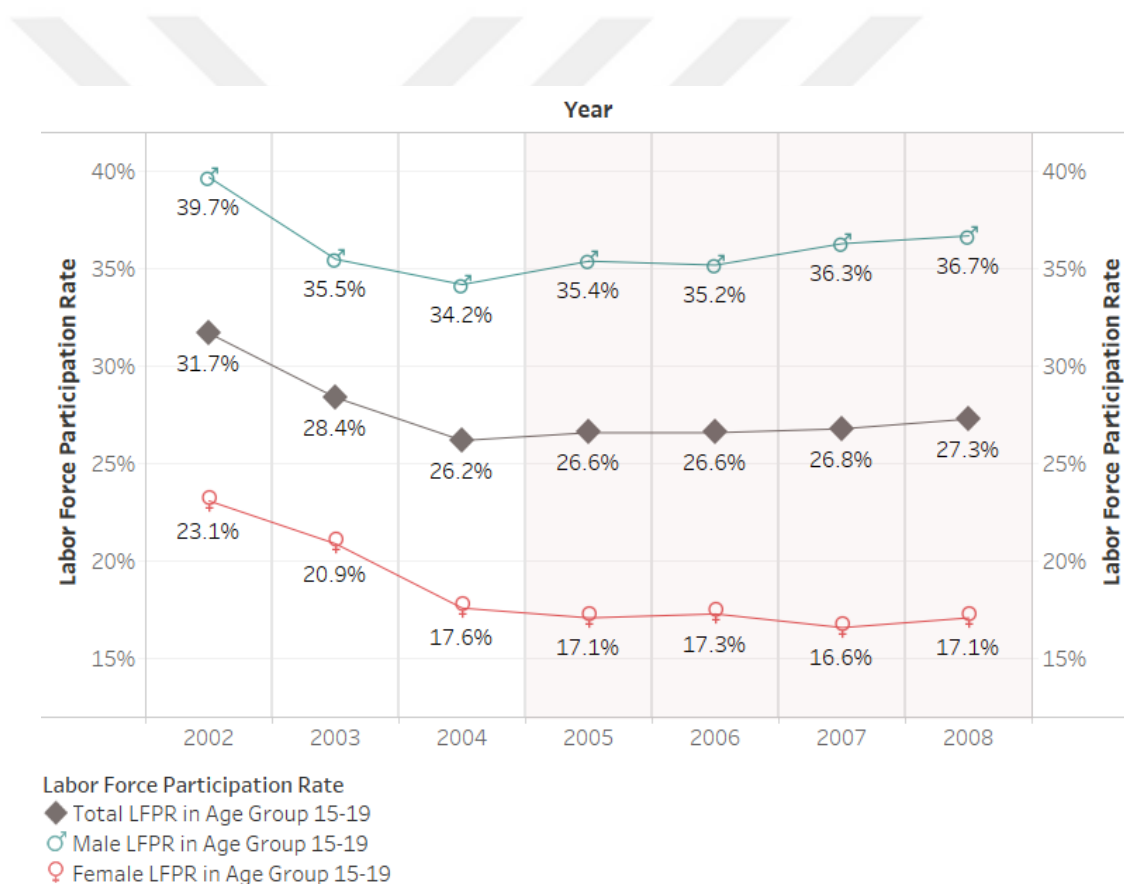
Source: Turkish Statistical Institute - Labor Force Statistics

Figure 3.16: Labor Force Participation Rate by Gender in Age Group 15 - 19 between 2002 and 2008

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3.2.2.2 Employment

Figure 3.17 - 3.19 shows the number of individuals employed and their type of employment. Gainfully employed includes those who are employed as waged, casual, salaried, self-employed, and employers. The number of employed did not exhibit a considerable variation compared to a year before the reform. However, in that year, the type of employment changed to a large extent. Those who were gainfully employed increased by 138 thousand, whereas those who were employed as unpaid house workers decreased by 124 thousand in 2005. These changes are mostly originated from males' activity in the labor market. The increase in the number of gainfully employed coupled with the decrease in the number of unpair house workers continued, albeit at a slower rate, for one more year.
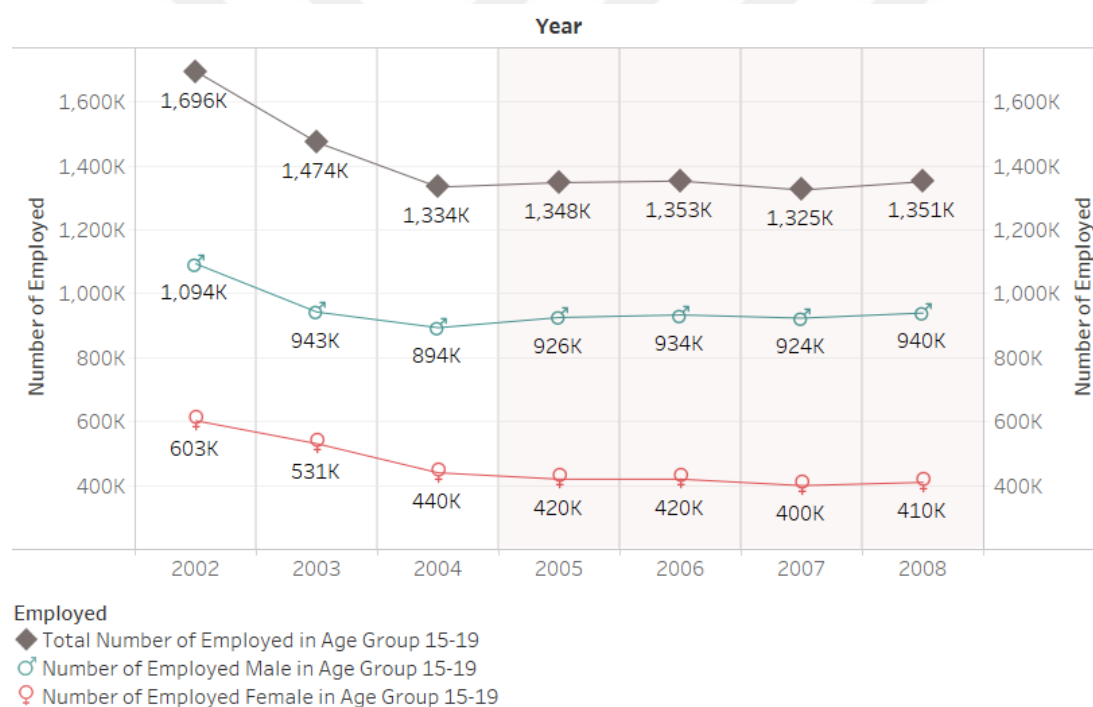
Source: Turkish Statistical Institute - Labor Force Statistics

Figure 3.17: Number of Employed by Gender in Age Group 15 - 19 between 2002 and 2008

Gainfully Employed
◆ Total Number of Gainfully Employed in Age Group 15-19
♂ Number of Gainfully Employed Male in Age Group 15-19
♀ Number of Gainfully Employed Female in Age Group 15-19
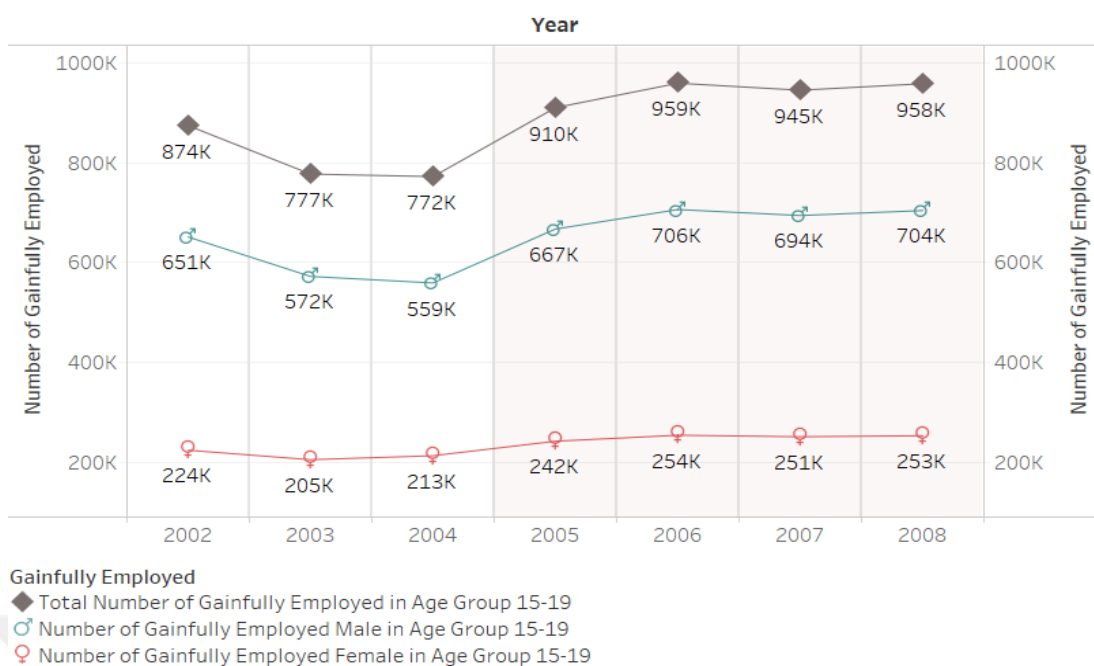
Source: Turkish Statistical Institute - Labor Force Statistics

Figure 3.18: Number of Gainfully Employed by Gender in Age Group 15 - 19 between 2002 and 2008

Unpaid Employed
◆ Total Number of Unpaid Employed in Age Group 15-19
♂ Number of Unpaid Employed Male in Age Group 15-19
♀ Number of Unpaid Employed Female in Age Group 15-19
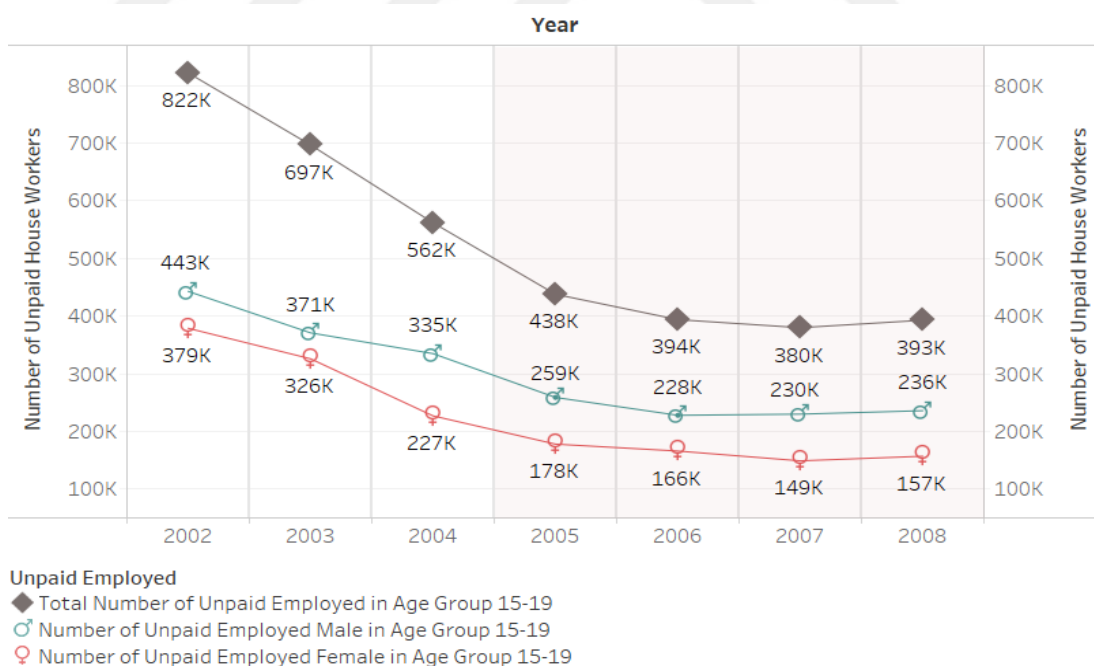
Source: Turkish Statistical Institute - Labor Force Statistics

Figure 3.19: Number of Unpaid House Workers by Gender in Age Group 15 - 19 between 2002 and 2008

CHAPTER 4

DATA AND IDENTIFICATION

4.1 Description of the Data

In our empirical analysis, the primary source of data is the nationally representative Household Labor Force Survey (HLFS) microdata for Turkey. This survey is undertaken by the Turkish Statistics Institute (TurkStat). The first wave was conducted in 1966. Between 1966-1985, labor force surveys were conducted at irregular intervals and are not comparable to each other. In 1988, HLFS was adapted to the International Labor Organization (ILO) standards and started to be applied regularly in April and October of each year. In 2000, the survey started to be applied on a monthly basis.

In 2004, HLFS was redesigned to meet the Statistical Office of the European Communities' (EUROSTAT) standards as part of the EU accession goal. Since 2004, the results of the survey are given annually according to the Statistical Regions Units Classification Level, also known as Nomenclature of Territorial Units for Statistics (NUTS), at two levels. NUTS1 and NUTS2 represent major socio-economic regions and basic regions for the application of regional policies, respectively.

The first part of the survey collects information on the personal characteristics of household members. It includes information on responders' completed age, sex, marital status, the highest education level completed, and for those who are enrolled in school, the current grade enrolled in. The second part is on employment. The questions in this part, include but not limited to status and duration in employment, occupation held, sector of economic activity, the status of the workplace, the number

of hours worked. Other parts of the survey collect information on income from work, unemployment and inactivity, and past work experience.

The survey's primary purpose is to gather information on the labor market outcomes of individuals 15 years old and older. Regardless, HLFS also collects information on personal characteristics such as the educational attainment of individuals who are 14 years old and younger.

Throughout the study, we use the waves between 2004 and 2018 of HLFS for Turkey. Thus, the study is conducted on pooled data; in other words, time series of cross-sections. We use the 1987 – 1996 birth cohorts. Since the 1987 birth cohort was affected by the education reform in 1997, those who were born before 1987 were dropped from the dataset. In a similar manner, those who were born on and after 1997 were excluded due to the effect of the implementation of 2012 education reform on these birth cohorts. Additionally, six observations were dropped due to the missing variables.

We have two samples formed from the dataset according to analysis purposes. The first sample is the 15 - 18-year-old age group, which will be employed for enrollment, employment, and group analysis. The 15 - 18 age group in 1987 - 1996 birth cohorts analysis derived from the waves between 2004 and 2013 HLFS. The number of observations in this sample is 329,709.

The second sample is the 20 - 24-year-old age group. This sample is used to assess the change in graduation in upper secondary education. The 20 – 24 age group in 1987 - 1996 birth cohorts analysis derived from the waves between 2007 and 2018 HLFS. The number of observations in this sample is 306,415.

4.2 Description of the Variables

4.2.1 Education Variables

In the survey, responders are asked about their attendance to regular (formal) education. For those responding as "yes", a follow-up question regarding the level of that education is asked. The options are the different steps in the formal education as in primary education, (general) high school, vocational or technical high school, open education system, faculty/university, and master/doctorate.

Open education option includes those who are attending open secondary education and open higher education. There is no distinction in the data. Thus, we assumed that those who completed their primary education and whose age is between 14 and 18 were enrolled in secondary education. Hereinafter, referred to as open secondary education. This is a plausible assumption since it is rare if not impossible for an individual to attend open (distance) higher education before completing the age of 18.

Given the specifications above, the upper secondary education variable is defined as a dummy variable taking the value of 1 for those who were enrolled in school at the time of the survey and who answered the follow-up question as (general) high school, vocational or technical high school, and open secondary education (provided that the highest education level they completed is lower secondary education or basic education) and 0 otherwise. For further analysis, enrollment in a different type of institution is also defined where general, vocation, and open education are differentiated from each other.

The survey asks the responders the latest educational institutional level they are graduated from. We employed this question to test the changes in the graduation level from upper secondary education. A dummy variable is defined, which takes the value of 1 if the latest graduation is from general or vocational high school or higher education since upper secondary education is a prerequisite for higher education.

As shown in Table 4.1, half of the sample (15-18-year-olds) is enrolled in high school. Furthermore, 32.4 percent is enrolled in general high schools, 15.0 percent in vocational or technical high schools, and 2.6 percent in open secondary education. Table 4.1 also shows the graduation from the upper secondary education for 20-24-year-olds. 54.4 percent of this group is graduated at least from a type of upper secondary education or higher.

Table 4.1: Summary Statistics of Enrollment and Graduation

Variable	Definition	Obs. (#)	Obs. (%)
Enrollment			
Enr. at any level	・Attendance to regular education	184,846	56.1
Enr. in upper sec. ed.	・Attendance to regular education ・Enrollment in sec. educ. inst.	164,712	50.0
Enr. in general h.s.	・Attendance to regular education ・Enrollment in general h.s.	106,656	32.4
Enr. in voc. or tech. h.s.	・Attendance to regular education ・Enrollment in voc. or tech h.s	49,541	15.0
Enr. in open sec. ed.	・Attendance to regular education ・Enrollment in open sec. educ.	8,515	2.6
Number of Observations	・14 - 18 age group	329,709	100.0
Graduation			
Graduated from upper sec.	・Highest completed ed. level is upper sec. education or higher	166,807	54.4
Number of Observations	・20 - 24 age group	306,415	100.0

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

4.2.2 Labor Force and Employment Variables

TurkStat classifies employed persons as individuals in the working-age population who are in any economic activity as a regular employee, casual employee, employer, self-employed, or unpaid family worker and either worked for at least one hour in the reference week or have a job but were not working in the reference week for various reasons. Persons unemployed are defined as individuals in the working-age population who were not employed during the reference week and were not looking for a job within the last three months. The unemployment definition was later revised in 2014 as a job search in the last four weeks.

TurkStat publishes the classification of labor force status of respondents as employed, unemployed, not in the labor force, and under age 15. Employed are further differentiated as a regular or casual employee, employer, self-employed, and unpaid family worker. We group the first three under 'gainfully employed' and treat unpaid family workers separately. Labor force variables used in this study are summarized in Table 4.2.

Table 4.2: Summary Statistics of Labor Force and Employment

Variable	Definition	Obs. (#)	Obs. (%)
In Labor Force	・Either employed or unemployed	78,745	23.9
Employed	・In labor force ・Employed	64,821	19.7
Gainfully employed	・Employed as a reg. or casual employee, employer, self-employed	43,930	13.3
Unpaid	・Employed as an unpaid family worker	20,891	6.3
Unemployed	・In labor force ・Unemployed	13,925	4.2
Number of Observations	・15 - 18 age group	329,709	100.0

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

4.2.3 Time-use Variables

This study aims to investigate youth employment and education. To better evaluate the interrelation between employment and education, we define an outcome variable that shows joint time-use: only enrolled, only employed, both enrolled and employed, and neither employed nor enrolled. As shown in Table 4.2, those who were only enrolled in education constitutes 52.1 of those aged 15-18. It is followed by neither employed nor enrolled with 28.2 percent.

Studies concentrated on youth employment and educational attainment typically have a classification called Not in Education, Employment, or Training (NEET). However, TurkStat's broad definition of training includes any courses, seminars, conferences, private lessons, or instructions outside formal education. This definition makes it hard to deduce whether the individual's goal for training is for education/job preparation or not. That is why we refrain from using NEET in this study. Instead, we use the classification of neither employed nor enrolled.

Table 4.3: Summary Statistics of Group Variables

Variable	Definition	Obs. (#)	Obs. (%)
Only enrolled	・Enrolled in education ・Not employed	171,801	52.1
Only employed	・Not enrolled in education ・Employed	51,76	15.7
Both emp. and enr.	・Enrolled in education ・Employed	13,044	4.0
Neither emp. nor enr.	・Not enrolled in education ・Not employed	93,087	28.2
Number of Observations	・15 - 18 age group	329,709	100.0

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

4.2.4 Socio-Economic Characteristics

In our analysis, the education reform's effects on individuals with different socio-economic characteristics are analyzed. In line with this purpose, we first and foremost use gender specifications. The gender-stratified analysis is carried out for both employment and enrollment. Further, we analyze the effect on education reform for each age.

The other main specifications are the settlement type and region. For settlement type, urban/rural classification is used. According to TurkStat, urban and rural differentiation is based on the settlement's population. Settlements with a population of 20,000 and less are defined as rural, and 20,001 and more are defined as urban. The urban concentration for the 15 - 18 sample is 68.3 percent. respectively. We do not have information on whether households reside in an urban or rural location for the 20 - 24 sample since the HLFS rounds after 2013 do not contain relevant information.

For regional settlement specifications, NUTS1 classification is used. NUTS1 represents major socio-economics regions. TurkStat's NUTS1 classification comprises of 12 regions, namely İstanbul, West Marmara, Aegean, East Marmara, West Anatolia, Mediterranean, Central Anatolia, West Black Sea, East Black Sea, Northeast Anatolia, Centraleast Anatolia, and Southeast Anatolia. The majority of 15-18-year-olds reside in İstanbul.

The highest level of education completed by the head of the household is also considered in the study. More than half of the household heads' highest completed education level is five-year primary education. 15.9 percent of the household heads in the sample did not complete any formal education. Only around 20 percent have a high school diploma or a higher degree.

We consider whether the responder is the child of the household head for the 15 - 18 sample. 90.5 percent of the sample's household are their parents. Additionally, for the 20 - 24 sample, we consider whether the responder is the household head. 5.9 percent of the sample are the household head.

The age of the household head is included in the estimations on the 15 - 18 sample. The average age of the household head is 49.6.

We consider the marital status of the responder in our observations on the 20 – 24 sample. Married constitutes 73.9 percent of our sample. The proportion of single, divorced, and widowed are 25.5, 0.5, and 0.1, respectively.

Lastly, the size of the household is also considered as a socio-economic characteristic in the analyses. The average household size for the 15 - 18 and the 20 - 24 samples are 5.4 and 4.9, respectively.

Table 4.4: Summary Statistics of Socio-Economic Characteristics

			15 - 18 age		20 - 24 age	
Variable			Obs. (#)	Obs. (%)	Obs. (#)	Obs. (%)
Age						
15	/	20	71,706	21.8	55,582	18.1
16	/	21	81,525	24.7	61,923	20.2
17	/	22	90,697	27.5	68,477	22.4
18	/	23	85,781	26.0	63,994	20.9
-	/	24	-	-	56,439	18.4
Sex						
Female			159,534	48.4	160,565	52.4
Male			170,175	51.6	145,850	47.6
Total Number of Observations			329,709	100.0	306,415	100.0

Table 4.4: Summary of Socio-Economic Characteristics Variables (Continued)

Variable	15 - 18 age		20 - 24 age	
	Obs. (#)	Obs. (%)	Obs. (#)	Obs. (%)
Settlement by Type				
Urban	226,269	68.6	-	-
Rural	103,440	31.4	-	-
Settlement by Region				
İstanbul	54,883	16.7	61,893	20.2
West Marmara	111,422	3.5	10,492	3.4
Aegean	38,455	11.7	35,478	11.6
East Marmara	27,301	8.3	27,724	9.1
West Anatolia	29,083	8.8	29,456	9.6
Mediterranean	42,494	12.9	35,655	11.6
Central Anatolia	18,333	5.6	15,175	5.0
West Black Sea	20,107	6.1	15,527	5.1
East Black Sea	11,350	3.4	9,061	3.0
North-East Anatolia	11,428	3.5	9,572	3.1
Central East Anatolia	20,381	6.2	18,376	6.0
South-East Anatolia	44,471	13.5	38,006	12.4
Total Number of Observations	329,709	100.0	306,415	100.0

Table 4.4: Summary of Socio-Economic Characteristics Variables (Continued)

Variable	15 - 18 age		20 - 24 age	
	Obs. (#)	Obs. (%)	Obs. (#)	Obs. (%)
Relation to Household Head				
Other / Other	30,770	9.3	289,581	94.5
Own child / Hh head	298,939	90.7	16,384	5.5
Education of household head				
Not completed any ed. ins.	52,558	15.9	-	-
Primary school (5-year)	177,087	53.7	-	-
Low. sec. or pri ed. (8-year)	35,434	10.8	-	-
(General) high school	24,735	7.5	-	-
Voc. or tech high school	18,065	5.5	-	-
Higher education	21,830	6.6	-	-
Marital status				
Single	-	-	226,523	73.9
Married	-	-	78,061	25.5
Divorced	-	-	1691	0.5
Widowed	-	-	141	0.1
Total Number of Observations	329,709	100.0	306,415	100.0

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

4.3 Identification Strategy

The case when a change in policy results in a change in the actions of a subset of the population is called a natural experiment. In an econometric point of view, suppose that x is an explanatory variable of y in a simple regression model as follows.

$$y = \alpha + \beta \cdot x + u \tag{4.1}$$

Suppose an exogenous intervention, in our case, change in the policy, modifies x. Then, the impact of the exogenous intervention can be evaluated by comparing the behavior of pre and post interference groups created by the event (Cameron & Trivedi, 2005). The empirical analysis in this study aims to evaluate the impact of policy on schooling and employment outcomes of pre and post-intervention groups.

4.3.1 Treatment Groups

The implementation of the 2005 education reform began with those beginning their upper secondary education in the 2005 - 2006 school year. Since enrollment in education starts at age six and the duration of the compulsory primary education is eight years, the typical minimum starting age to upper secondary education is 14. Thus, the reform affected those who were born in 1991 and onwards. Consequently, we denote them as being treated from the reform. Table 4.5 and 4.6 summarizes those who received treatment and who did not by age group.

Birth years of respondents are not given in the data. In order to obtain birth years, we subtract the respondent's age from the year of the survey.

$$d^j = \begin{cases} 1 & \text{birth year} \geq 1991 \\ & \text{if} \\ 0 & \text{birth year} < 1991 \end{cases} \tag{4.2}$$

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Table 4.5: Treatment Status by Age for 15 – 18-year-olds

	Age			
	15	16	17	18
Year				
2004	8,927	9,264	9,730	-
2005	9,416	9,087	9,257	10,183
2006	9,220	9,289	8,627	9,893
2007	8,358	8,577	8,639	9,244
2008	8,411	8,377	8,398	9,155
2009	8,928	8,992	8,935	9,566
2010	9,465	9,412	9,366	9,977
2011	9,414	9,482	9,468	9,358
2012	-	9,390	9,243	9,080
2013	-	-	8,807	8,775
Treatment Status				
Untreated	18,337	27,648	36,657	35,377
Treated	55,958	56,458	56,352	42,922
Number of Observations	74,295	84,106	93,009	78,299

Notes: Dark red font indicates treatment.

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

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Table 4.6: Treatment Status by Age for 20 – 24-year-olds

	Age				
	20	21	22	23	24
Year					
2007	6,573	-	-	-	-
2008	6,321	5,916	-	-	-
2009	6,281	5,809	6,501	-	-
2010	6,240	5,664	6,546	6,701	-
2011	5,872	6,154	6,577	6,876	6,795
2012	5,883	5,968	6,903	6,695	6,887
2013	5,869	6,209	6,456	6,922	6,581
2014	6,072	6,652	6,699	6,774	6,605
2015	5,919	6,695	6,906	6,785	6,626
2016	5,933	6,672	6,980	7,077	6,660
2017	-	6,546	6,966	7,100	6,876
2018	-	-	6,899	6,867	6,908
Treatment Status					
Untreated	25,415	23,543	26,527	27,194	26,868
Treated	35,548	38,742	40,905	34,603	27,070
Number of Observations	60,963	62,285	67,432	61,797	53,938

Notes: Dark red font indicates treatment.

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

4.3.2 Estimation Method

In policy intervention evaluations, the estimation found by measuring the difference in outcomes between the treatment and control groups of the population is called the Average Treatment Effect (ATE). Notwithstanding, evaluating the outcome of policy intervention on a subpopulation requires statistical considerations. The exogenous regressor, which influences the individuals' treatment status, must satisfy the exclusion restriction (uncorrelation with the error term). This method is called the Local Average Treatment Effect, also known as LATE (Imbens & Angrist, 1994). The extrapolation of instrument-dependent LATE estimates to non-instrument-dependent ATE estimates requires the homogeneity assumption (J. D. Angrist, 2004).

One of the commonly used micro-economic analysis tool to identify the treatment effect is the Regression Discontinuity (RD) design. RD is a form of quasi-experimental design; that is, the probability of assignment of treatment is based on a discontinuous function of one or more underlying variables (Cameron & Trivedi, 2005). RD design estimates the step-like discontinuity of the dependent variable at the cut-off point (Thistlewaite & Campbell, 2016).

One of the main criticism towards RD designs is that it may not be well suited to obtain ATE estimates without strong assumptions justifying extrapolation to other subpopulations (Imbens & Lemieux, 2008). Furthermore, it is suggested that increasing the intervals around the cutoff might be producing a bias (Klaauw, 2002), and narrowing down too close to the interval might be decreasing the efficiency of the estimate due to a limited number of observations. That is why it is crucial to test the sensitivity of the results with different bandwidths. Our data has only four intervals to the left of the cutoff point which prevents from sensitivity testing. That is why, we refrain from using RD design in our empirical analysis.

As we discussed in section 4.4.1, there is a particular group that received treatment after the implementation of reform. In addition, there is another group present before and after the implementation of the reform that did not receive the treatment but who were exposed to the aggregate changes that affect all age groups. When that is the case,

one of the commonly used micro-econometric analysis tools to compare treated and untreated groups differentiated by a change in an exogenous variation in treatment variable is the Difference in Differences (DD) method (Meyer, 1995), which we will employ in our empirical analysis.

4.3.2.1 Basic Model

Suppose that y_{it}^j measures the outcome of interest for unit i at time t. Whether the individuals received treatment is defined by the index variable, j. For the treated group $j = 1$, and for untreated $j = 0$. To differentiate the time of implementation of policy, t variable is used. t takes the value 1 to implicate time in post-reform, and 0 for the time in pre-reform.

$$d_t = \begin{cases} 1 & \text{year} \geq 2005 \\ & \text{if} \\ 0 & \text{year} < 2005 \end{cases} \tag{4.3}$$

α shows period-specific effects in pre and post-reform, and γ shows the effect of group 1. β estimates the true causal effect of the treatment. Lastly, ε denotes zero-mean constant-variance error term for unit i at time t. Thus, the model takes the following form:

$$\underbrace{y_{i,t}^j}_{\substack{\text{outcome} \\ \text{of} \\ \text{interest} \\ \text{for} \\ \text{unit } i \\ \text{time } t}} = \underbrace{\alpha_0}_{\substack{\text{period} \\ 0 \\ \text{specific} \\ \text{effect}}} + \underbrace{\alpha_1}_{\substack{\text{period} \\ 1 \\ \text{specific} \\ \text{effect}}} \cdot \underbrace{d_t}_{\substack{\text{time} \\ \text{dummy} \\ \text{variable}}} + \underbrace{\gamma_1}_{\substack{\text{group} \\ 1 \\ \text{specific} \\ \text{effect}}} \cdot \underbrace{d^j}_{\substack{\text{group} \\ \text{dummy} \\ \text{variable}}} + \underbrace{\beta}_{\substack{\text{causal} \\ \text{effect} \\ \text{of the} \\ \text{treatment}}} \cdot \underbrace{d_t^j}_{\substack{\text{time} \\ \text{and} \\ \text{group} \\ \text{dummy} \\ \text{variable}}} + \underbrace{\varepsilon_{i,t}^j}_{\substack{\text{error} \\ \textit{term}}} \tag{4.4}$$

The model yields four different outcomes for two groups and two periods: outcome of interest for pre-reform for untreated, post-reform for untreated, pre-reform for treated, and post-reform for treated (Table 4.6). The difference in periods yields the changes in outcome for each group from pre to post-reform. Taking the difference in difference

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in periods returns the true causal effect of the treatment. In order to obtain an unbiased estimator, the following assumption is required:

$$E\left[\left(\varepsilon_{i,1}^1 - \varepsilon_{i,0}^1\right) - \left(\varepsilon_{i,1}^0 - \varepsilon_{i,0}^0\right)\right] = 0$$

$$E\left[\varepsilon_{i,t}^j \mid d_t^j\right] = 0 \tag{4.5}$$

This also means that in the absence of any treatment, β value would be zero since period-specific effects are captured by α, and time-invariant differences between groups are captured by γ (Meyer et al., 1995).

Table 4.7: Forms of Model with respect to Periods and Groups

	Groups	
	Group = 0 (Untreated)	Group = 1 (Treated)
Periods		
Period = 0 Pre-Reform	$y_{i,0}^0 = \alpha_0 + \varepsilon_{i,0}^0$	$y_{i,0}^1 = \alpha_0 + \gamma_1 + \varepsilon_{i,0}^1$
Period = 1 Post- Reform	$y_{i,1}^0 = \alpha_0 + \alpha_1 + \varepsilon_{i,1}^0$	$y_{i,1}^1 = \alpha_0 + \alpha_1 + \gamma_1 + \beta + \varepsilon_{i,0}^1$
Difference in-periods	$y_{i,1}^0 - y_{i,0}^0 = \alpha_1 + \left(\varepsilon_{i,1}^0 - \varepsilon_{i,0}^0\right)$	$y_{i,1}^1 - y_{i,0}^1 = \alpha_1 + \beta + \left(\varepsilon_{i,1}^1 - \varepsilon_{i,0}^1\right)$
Difference in differences	$\left[y_{i,1}^1 - y_{i,0}^1\right] - \left[y_{i,1}^0 - y_{i,0}^0\right] = \beta + \left(\varepsilon_{i,1}^1 - \varepsilon_{i,0}^1\right) - \left(\varepsilon_{i,1}^0 - \varepsilon_{i,0}^0\right)$	

4.3.2.2 Controls for Individual Characteristics

There is a possibility that the distribution of characteristics between groups might be different. Such observable characteristic differences can be controlled by including an additional vector of explanatory variables in the regression. This procedure reduces the residual variance and thus improves the efficiency of the estimation of β, causal effect estimate of the treatment (Meyer, 1995). Inclusion yields the following regression:

$$y_{i,t}^{j} = \alpha_0 + \alpha_1 \cdot d_t + \gamma_1 \cdot d^j + \beta \cdot d_t^j + \delta \cdot \underset{\substack{\text{vector of} \\ \text{characteristics}}}{z_{i,t}^{j}} + \varepsilon_{i,t}^{j} \qquad (4.6)$$

4.3.2.3 Common Trend

The key assumption underlying the Difference in Difference methodology is the common trend assumption. It is the assumption that in the absence of exogenous intervention, the time effects are common across the treatment and control group (Cameron & Trivedi, 2005). The depiction of this assumption is shown in Figure 4.1 as a counterfactual dotted line.

Figure 4.1: An Illustration of Common Trend Assumption in DD
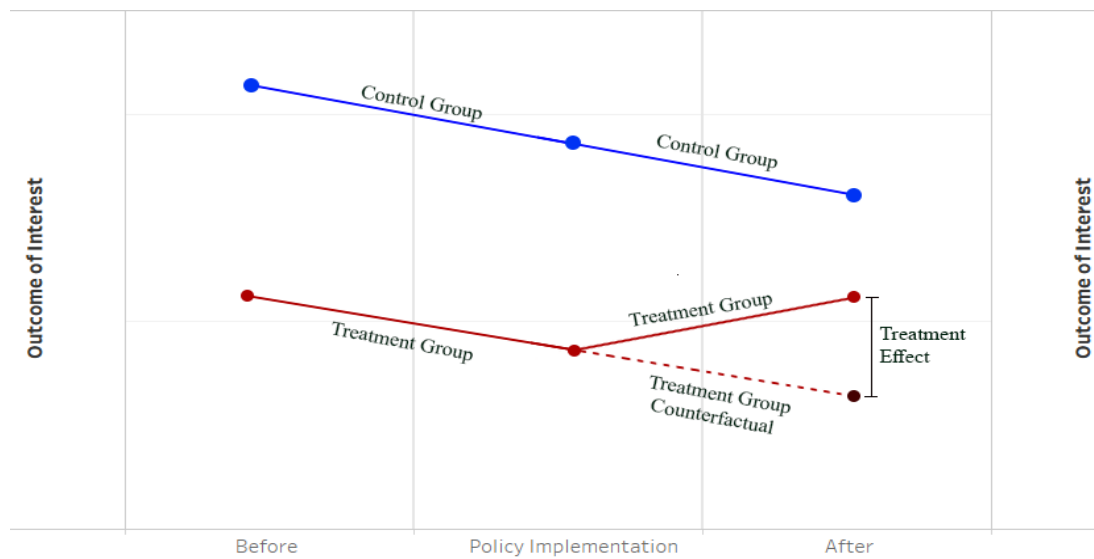
4.3.3 Model Specifications

Angrist and Pischke (2015) suggest the inclusion of many states and years in estimation to relax the common trends assumption. In our context, along with year and age fixed effects, we include age specific time trends. Among the covariates included are sex, highest education completed by the household head, age of the household head, size of the household, whether the responder is the child of the household head, NUTS1 level regions (12 regions) and settlement type (urban vs. rural).

Our first model – Model (1) – assumes no difference in year and policy effects by age groups. Model 2 relaxes the former assumption by allowing time trends to differ by age groups while maintaining a single policy effect for all age groups. Model (3) assumes age-variant policy effect and identical year effect. Finally, Model (4) relaxes both assumptions of Model (1) by allowing different time trends for age groups and the policy effect to differ by age groups. Table 4.8 summarizes the four model specifications that are used in this study.

Table 4.8: Model Specifications used in the Empirical Analysis

Models	Policy Effect	Year Effect
Model (1)	Same for all age groups	Same for all age groups
Model (2)	Same for all age groups	Differs across age groups
Model (3)	Differs across age groups	Same for all age groups
Model (4)	Differs across age groups	Differs across age groups

We use the following equations to analyze the impact of 2005 education reform. These models are also estimated separately for boys and girls, and rural and urban children.

Model 1, which assumes no difference in year and policy effects by age groups:

$$OV_{i,a,t} = \alpha + \beta \cdot p_{i,a,t} + \chi'_{i,a,t} \cdot \gamma + \mu_t + \sigma_a + \varepsilon_{i,a,t} \qquad (4.7)$$

Model 2, which allows time trends to differ by age groups while assuming a single policy effect for all age groups:

$$OV_{i,a,t} = \alpha + \beta \cdot p_{i,a,t} + \chi'_{i,a,t} \cdot \gamma + \mu_t + \sigma_a + \psi_{a,t} + \Psi_{a,t} + \varepsilon_{i,a,t} \qquad (4.8)$$

Model 3, which allows policy effect to differ by age groups while assuming identical time trend effects by age:

$$OV_{i,a,t} = \alpha + \sum_{a=18}^{21} \beta_a \cdot p_{i,a,t} + \chi'_{i,a,t} \cdot \gamma + \mu_t + \sigma_a + \varepsilon_{i,a,t} \qquad (4.9)$$

Model 4, which allows policy effect and time trends to differ by age groups:

$$OV_{i,a,t} = \alpha + \sum_{a=18}^{21} \beta_a \cdot p_{i,a,t} + \chi'_{i,a,t} \cdot \gamma + \mu_t + \sigma_a + \psi_{a,t} + \Psi_{a,t} + \varepsilon_{i,a,t} \qquad (4.10)$$

Our variable specifications for estimations are given below.

- $OV_{i,a,t}$ denotes outcome variable where i is the index for individual, a for age, and t for survey round. The list of outcome variables are enrollment at any education level, enrollment in upper secondary education, attainment of high school degree, employment, only enrolled, only employed, both enrolled and employed, and neither enrolled nor employed.

- $p_{i,a,t}$ is a policy dummy variable that takes the value of 1 for birth cohorts 1991 and onwards, and 0 otherwise.

- $X_{i,a,t}$ is a vector of socio-economic characteristics that include sex, highest education completed by the household head, age of the household head, size of the household, whether the respondent is the child of the household head, NUTS1 level regions (12 regions) and settlement type (urban vs. rural).

- μ_t are year fixed effects.

- σ_a are age fixed effects.

- $\psi_{a,t}$ is the linear time trend interacted with age dummies, employed for allowing year effects to vary by age.

- $\Psi_{a,t}$ is its square of the linear time trend interacted with age dummies, employed for allowing year effects to vary by age.

- $\varepsilon_{i,a,t}$ is the residual term.

4.4 Descriptive Statistics of Outcome Variables

Table 4.9 – 4.12 shows the means and standard errors of education, labor force, and group analysis variables for treated and untreated groups by age groups of the population-weighted sample. Descriptive statistics show the average rate of outcome variable without taking a year or any characteristics into account.

4.4.1 Descriptive Statistics of Education Variables

As discussed in Chapter 3, the extension of upper secondary education resulted in the enrollment in the fourth grade of upper secondary education to increase from 26 to 590 thousand by the time reform is fully implemented. Accordingly, in our analysis, we would expect an increase in the average rate of enrollment in upper secondary education for 17 – 18 age groups post-reform. As can be seen from Table 4.9, the average rate for overall enrollment significantly increased for the treatment group by 24 points for 17-year-olds and 18 points for 18-year-olds. Similarly, enrollment in upper secondary education for 17 and 18-year-olds significantly increased by 24 and 18 points, respectively.

Overall, the mean enrollment rate in non-compulsory upper secondary education is higher for those affected by the reform. The change is from 0.38 to 0.57, a significant 19-point increase. We might mostly attribute this increase to the elevated enrollments in 17 and 18 age groups since there is only a slight increase in the mean enrollment in treated groups of 15 and 16-year-olds.

The treatment group must dedicate one more year to attain an upper secondary education diploma. This generates an increase in the costs to invest in education. Unless the benefits from graduating upper secondary education exceed these additional costs, we would expect the enrollments to decrease. However, comparisons of mean enrollments reveal a different result. Though, this does not consider trends in enrollments in Turkey. This and additional controls will be tested and discussed in the following chapter.

Table 4.9: Descriptive Statistics of Enrollment Variables by Age & Treatment

	Total			
	not treated	treated	diff	
Enr. at any education	0.45	0.62	0.17	***
	(0.50)	(0.49)	(0.00)	
Enr. in upper sec. ed.	0.38	0.57	0.19	***
	(0.49)	(0.50)	(0.00)	
Enr. in general h.s.	0.29	0.34	0.06	***
	(0.45)	(0.48)	(0.00)	
Enr.in voc. tech. h.s.	0.08	0.19	0.11	***
	(0.27)	(0.39)	(0.00)	
Enr. in open sec. ed.	0.01	0.03	0.02	***
	(0.10)	(0.18)	(0.00)	
Number of Observation	118.869	210.840		

	Age 15				Age 16			
	not treated	treated	diff		not treated	treated	diff	
Enr. at any education	0.73	0.74	0.01		0.64	0.67	0.04	***
	(0.44)	(0.44)	(0.00)		(0.48)	(0.47)	(0.00)	
Enr. in upper sec. ed.	0.60	0.66	0.06	***	0.60	0.66	0.05	***
	(0.49)	(0.47)	(0.00)		(0.49)	(0.48)	(0.00)	
Enr. in general h.s.	0.49	0.44	- 0.05	***	0.47	0.41	- 0.06	***
	(0.50)	(0.50)	(0.00)		(0.50)	(0.49)	(0.00)	
Enr.in voc. tech. h.s.	0.11	0.21	0.10	***	0.13	0.22	0.09	***
	(0.31)	(0.41)	(0.00)		(0.33)	(0.41)	(0.00)	
Enr. in open sec. ed.	0.00	0.01	0.01	***	0.01	0.03	0.02	***
	(0.04)	(0.09)	(0.00)		(0.08)	(0.16)	(0.00)	
Number of Observation	18,696	55,599			28,311	55,795		

	Age 17				Age 18			
	not treated	treated	diff		not treated	treated	diff	
Enr. at any education	0.40	0.62	0.22	***	0.25	0.42	0.18	***
	(0.49)	(0.49)	(0.00)		(0.43)	(0.49)	(0.00)	
Enr. in upper sec. ed.	0.36	0.60	0.24	***	0.14	0.32	0.18	***
	(0.48)	(0.49)	(0.00)		(0.34)	(0.47)	(0.00)	
Enr. in general h.s.	0.27	0.35	0.07	***	0.08	0.16	0.07	***
	(0.44)	(0.48)	(0.00)		(0.28)	(0.36)	(0.00)	
Enr.in voc. tech. h.s.	0.08	0.21	0.13	***	0.04	0.10	0.07	***
	(0.27)	(0.41)	(0.00)		(0.19)	(0.30)	(0.00)	
Enr. in open sec. ed.	0.01	0.05	0.04	***	0.02	0.06	0.04	***
	(0.11)	(0.21)	(0.00)		(0.13)	(0.23)	(0.00)	
Number of Observation	37,137	55,872			34,725	43,574		

Notes: Standard errors are clustered at birth-year level. [***]: $p < 0.01$, [**]: $p < 0.05$, [*]: $p < 0.1$

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

Figure 4.2: Rate of Enrollment in any Education by Age
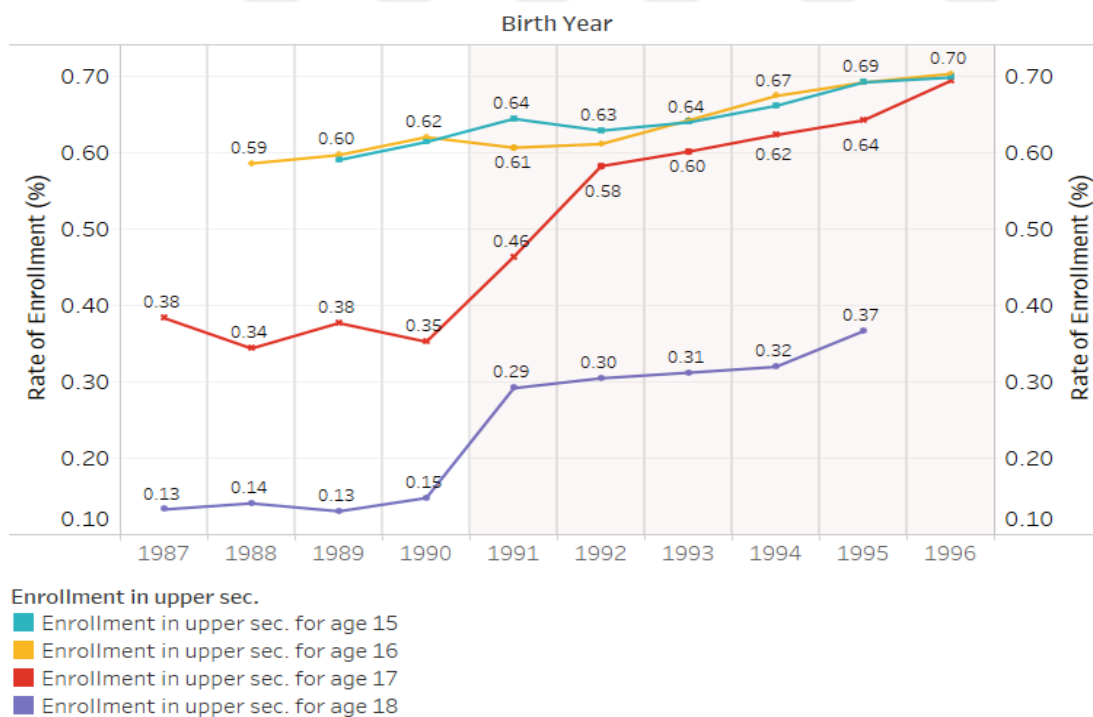
Figure 4.3: Rate of Enrollment in Upper Secondary Education by Age

Table 4.10 shows the means and standard errors of the graduation dummy we created for the 20 – 24-year-olds of the same birth cohorts we used for the enrollment. The mean for graduating at least upper secondary education for those who were born before 1991 is 0.54. The same figure for the treated group, born on and after, 1991 is 0.55. There is a one-point significant increase in the overall graduation after treatment. The increase in mean enrollment is most apparent in the 24-year-olds. As the age group gets younger, the difference in the mean graduation level decreases and changes to negative for 20-year-olds between treated and untreated groups.

Table 4.10: Descriptive Statistics of Graduation Variable by Age & Treatment

	Total				Age 20			
	not treated	treated	diff		not treated	treated	diff	
Graduated upper sec. ed.	0.54	0.55	0.01	***	0.56	0.54	- 0.01	***
	(0.50)	(0.50)	(0.00)		(0.50)	(0.50)	(0.00)	
Number of Observation	137.862	168.553			25,082	35,881		
	Age 21				**Age 22**			
	not treated	treated	diff		not treated	treated	diff	
Graduated upper sec. ed.	0.55	0.54	0.00		0.53	0.54	0.02	***
	(0.50)	(0.50)	(0.00)		(0.50)	(0.50)	(0.00)	
Number of Observation	25,786	36,499			29,159	38,273		
	Age 23				**Age 24**			
	not treated	treated	diff		not treated	treated	diff	
Graduated upper sec. ed.	0.53	0.55	0.02	***	0.54	0.57	0.03	***
	(0.50)	(0.50)	(0.00)		(0.50)	(0.50)	(0.00)	
Number of Observation	29,367	32,430			28,468	25,470		

Notes: Standard errors are clustered at birth-year level. [***]: $p < 0.01$, [**]: $p < 0.05$, [*]: $p < 0.1$
Source: Own calculations based on 2003-2018 HLFS, TurkStat.
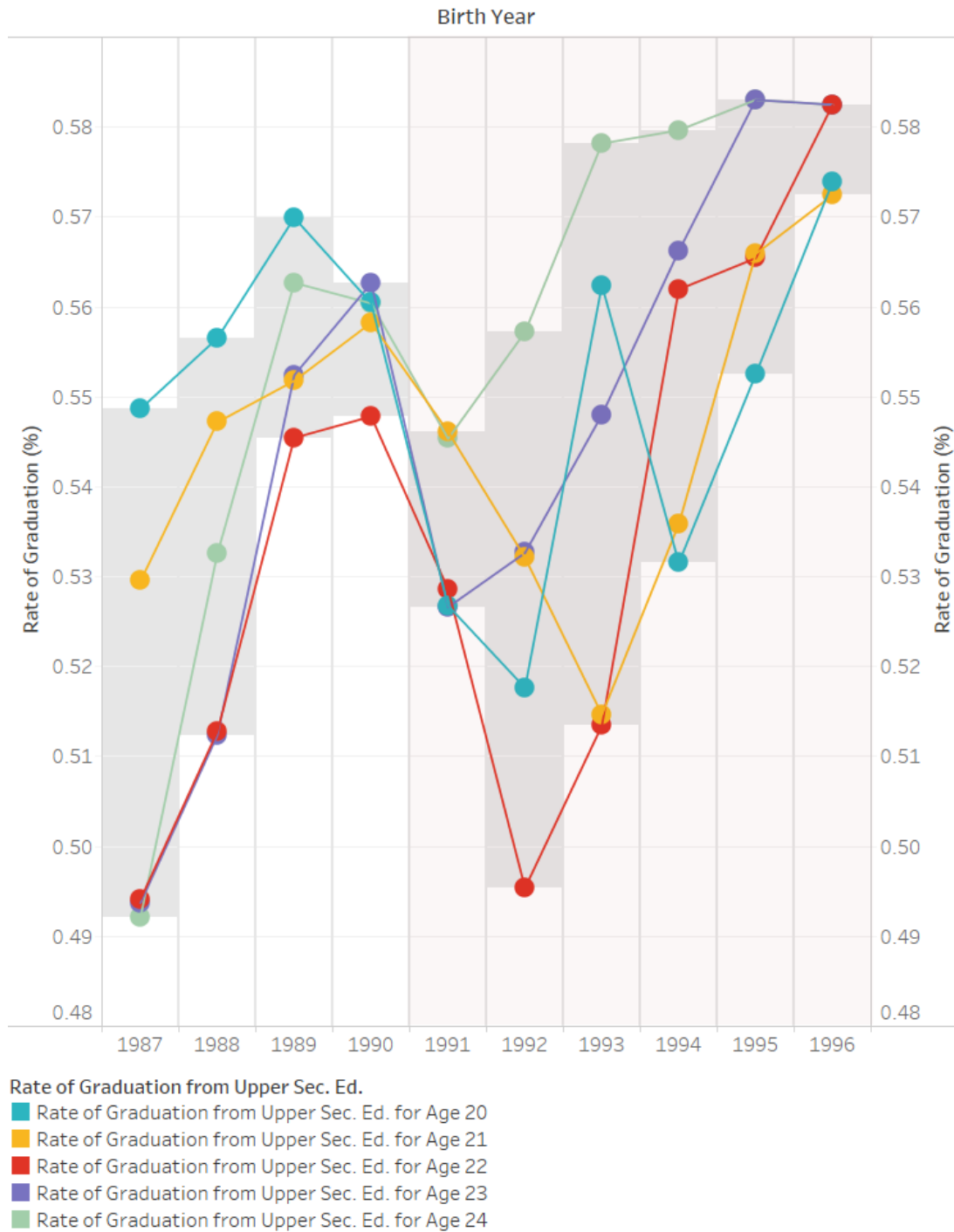
Source: Own calculations based on 2003-2018 HLFS, TurkStat.

Figure 4.4: Rate of Graduating from Upper Secondary Education or Higher-Level Education by Age

4.4.2 Descriptive Statistics of Labor Force Variables

As shown in Table 4.11, the comparison of labor force variables between treated and untreated groups does not reflect large variations. Though, there is a slight decrease in the overall mean participation in the labor force, employment, gainfully employed, unpaid, and unemployed for those affected by the reform. The fact remains that both the mean labor force participation and mean employment increased for 15 and 16-year-olds.

4.4.3 Descriptive Statistics of Time-use Variables

The average rate of those neither employed nor enrolled across all age groups is prominently lower for the ones affected by the reform. For the whole treated group, the rate is 24 percent, whereas the corresponding rate is 36 percent for the untreated group. This minus 12-point difference between groups is accompanied by a 14 percent increase in the only enrollment rate. Interestingly, while the rate of those only employed decreased for the treated group, the rate of both employed and enrolled increased.

The most notable changes occurred for 17 and 18- year-olds. Since the extension of education affected these age groups, their enrollment naturally increased. This resulted in either an increase in the share of only enrolled or an increase in both enrolled and employed for those affected by the reform. It should be noted that almost half of the 18-years-olds in the untreated group were neither employed nor enrolled.

Among 15-year-olds, there is a one-point shift from neither employed nor enrolled to both employed and enrolled. This explains that the one percent increase in the employed originated from those who were enrolled. Three percent decline among neither employed nor enrolled 16-year-olds of the treated group accompanied by a one percent increase in both employed and enrolled and two percent increase in only enrolled.

Table 4.11: Descriptive Statistics of Employment Variables by Age & Treatment

	Total			
	not treated	treated	diff	
In labor force	0.25 (0.43)	0.23 (0.42)	- 0.02 (0.00)	***
Employed	0.21 (0.41)	0.19 (0.39)	- 0.02 (0.00)	***
Gainfully employed	0.14 (0.35)	0.13 (0.34)	- 0.01 (0.00)	***
Unpaid	0.07 (0.25)	0.06 (0.24)	- 0.01 (0.00)	***
Unemployed	0.05 (0.21)	0.04 (0.20)	- 0.01 (0.00)	***
Number of Observation	118.869	210.840		

	Age 15				Age 16			
	not treated	treated	diff		not treated	treated	diff	
In labor force	0.12 (0.32)	0.14 (0.34)	0.02 (0.00)	***	0.18 (0.39)	0.20 (0.40)	0.02 (0.00)	***
Employed	0.10 (0.31)	0.12 (0.32)	0.01 (0.00)	***	0.15 (0.36)	0.17 (0.37)	0.01 (0.00)	***
Gainfully employed	0.06 (0.23)	0.07 (0.25)	0.01 (0.00)	***	0.10 (0.29)	0.11 (0.31)	0.01 (0.00)	***
Unpaid	0.05 (0.21)	0.05 (0.21)	0.00 (0.00)		0.06 (0.24)	0.06 (0.23)	0.00 (0.00)	
Unemployed	0.01 (0.12)	0.02 (0.14)	0.01 (0.00)	***	0.03 (0.17)	0.03 (0.18)	0.01 (0.00)	***
Number of Observation	18,696	55,599			28,311	55,795		

	Age 17				Age 18			
	not treated	treated	diff		not treated	treated	diff	
In labor force	0.26 (0.44)	0.26 (0.44)	0.00 (0.00)		0.36 (0.48)	0.34 (0.47)	- 0.02 (0.00)	***
Employed	0.21 (0.41)	0.22 (0.41)	0.01 (0.00)	**	0.29 (0.45)	0.27 (0.45)	- 0.01 (0.00)	***
Gainfully employed	0.14 (0.35)	0.15 (0.36)	0.01 (0.00)	***	0.21 (0.41)	0.20 (0.40)	- 0.01 (0.00)	**
Unpaid	0.07 (0.26)	0.07 (0.25)	- 0.01 (0.00)	***	0.08 (0.27)	0.07 (0.26)	0.00 (0.00)	**
Unemployed	0.05 (0.21)	0.04 (0.20)	- 0.01 (0.00)	***	0.07 (0.26)	0.06 (0.25)	- 0.01 (0.00)	***
Number of Observation	37,137	55,872			34,725	43,574		

Notes: Standard errors are clustered at birth-year level. [***]: $p < 0.01$, [**]: $p < 0.05$, [*]: $p < 0.1$

Source: Own calculations based on 2003-2018 HLFS, TurkStat.
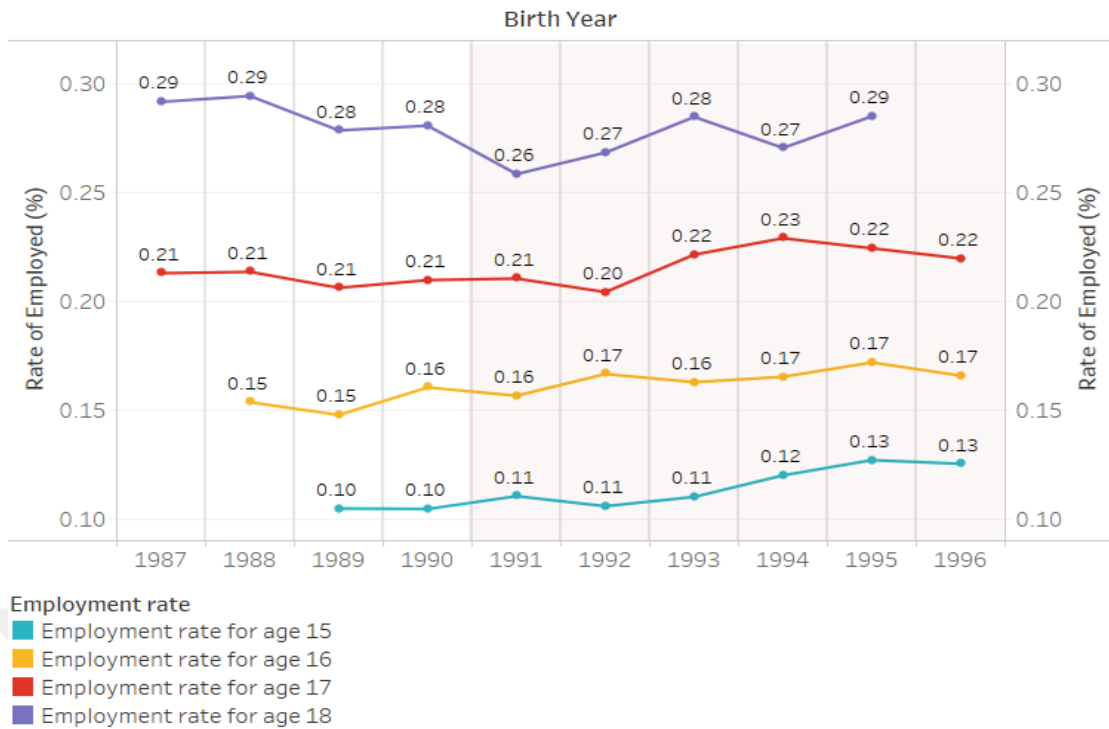
Source: Own calculations based on 2003-2018 HLFS, TurkStat.

Figure 4.5: Rate of Employment by Age
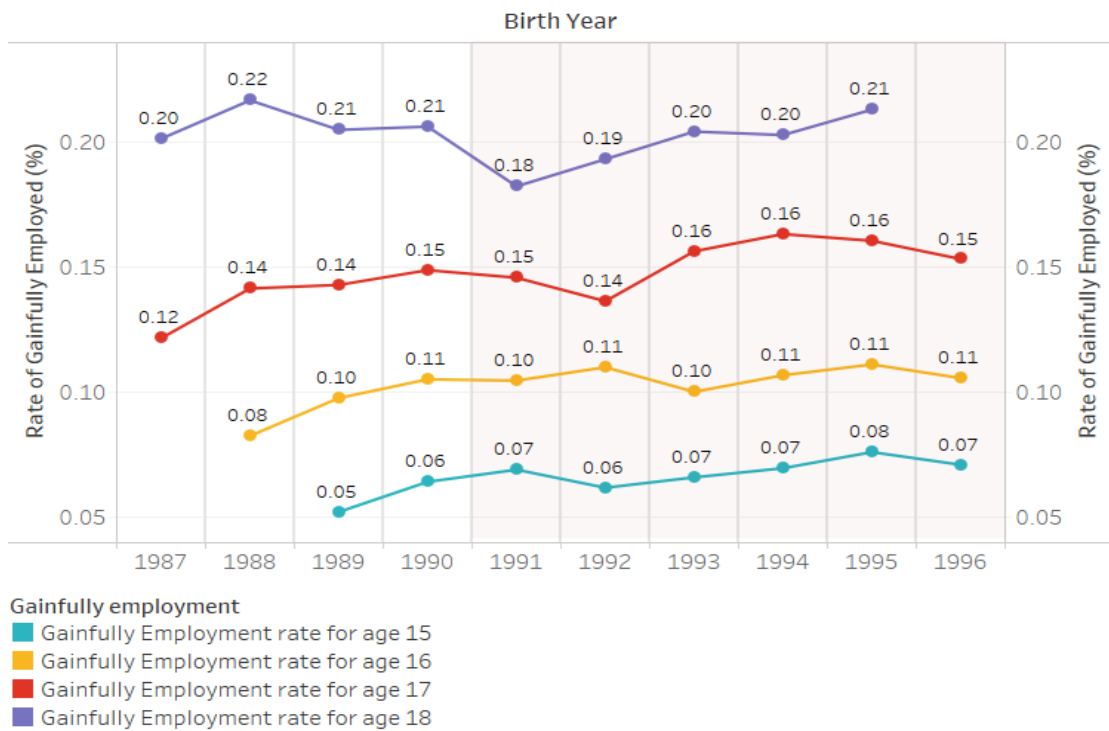
Source: Own calculations based on 2003-2018 HLFS, TurkStat.

Figure 4.6: Rate of Gainfully Employment by Age

Table 4.12: Descriptive Statistics of Time-Use Variables by Age & Treatment

	Total			
	not treated	treated	diff	
Only enrolled	0.43 (0.50)	0.57 (0.49)	0.14 (0.00)	***
Only employed	0.18 (0.39)	0.14 (0.35)	- 0.04 (0.00)	***
Both emp. and enr.	0.02 (0.15)	0.05 (0.22)	0.03 (0.00)	***
Neither emp. nor enr.	0.36 (0.48)	0.24 (0.43)	- 0.12 (0.00)	***
Number of Observation	118.869	210.840		

	Age 15				Age 16			
	not treated	treated	diff		not treated	treated	diff	
Only enrolled	0.72 (0.45)	0.71 (0.45)	0.00 (0.00)		0.61 (0.49)	0.64 (0.48)	0.02 (0.00)	***
Only employed	0.09 (0.28)	0.09 (0.29)	0.00 (0.00)		0.13 (0.34)	0.13 (0.33)	0.00 (0.00)	
Both emp. and enr.	0.02 (0.13)	0.03 (0.16)	0.01 (0.00)	***	0.02 (0.15)	0.04 (0.19)	0.01 (0.00)	***
Neither emp. nor enr.	0.18 (0.38)	0.17 (0.38)	- 0.01 (0.00)	**	0.23 (0.42)	0.20 (0.40)	- 0.03 (0.00)	***
Number of Observation	18,696	55,599			28,311	55,795		

	Age 17				Age 18			
	not treated	treated	diff		not treated	treated	diff	
Only enrolled	0.38 (0.49)	0.55 (0.50)	0.17 (0.00)	***	0.22 (0.41)	0.36 (0.48)	0.14 (0.00)	***
Only employed	0.19 (0.39)	0.15 (0.36)	- 0.04 (0.00)	***	0.26 (0.44)	0.21 (0.41)	- 0.05 (0.00)	***
Both emp. and enr.	0.02 (0.15)	0.07 (0.25)	0.04 (0.00)	***	0.03 (0.16)	0.07 (0.25)	0.04 (0.00)	***
Neither emp. nor enr.	0.41 (0.49)	0.23 (0.42)	- 0.18 (0.00)	***	0.49 (0.50)	0.37 (0.48)	- 0.12 (0.00)	***
Number of Observation	37,137	55,872			34,725	43,574		

Notes: Standard errors are clustered at birth-year level. [***]: $p < 0.01$, [**]: $p < 0.05$, [*]: $p < 0.1$

Source: Own calculations based on 2003-2018 HLFS, TurkStat.
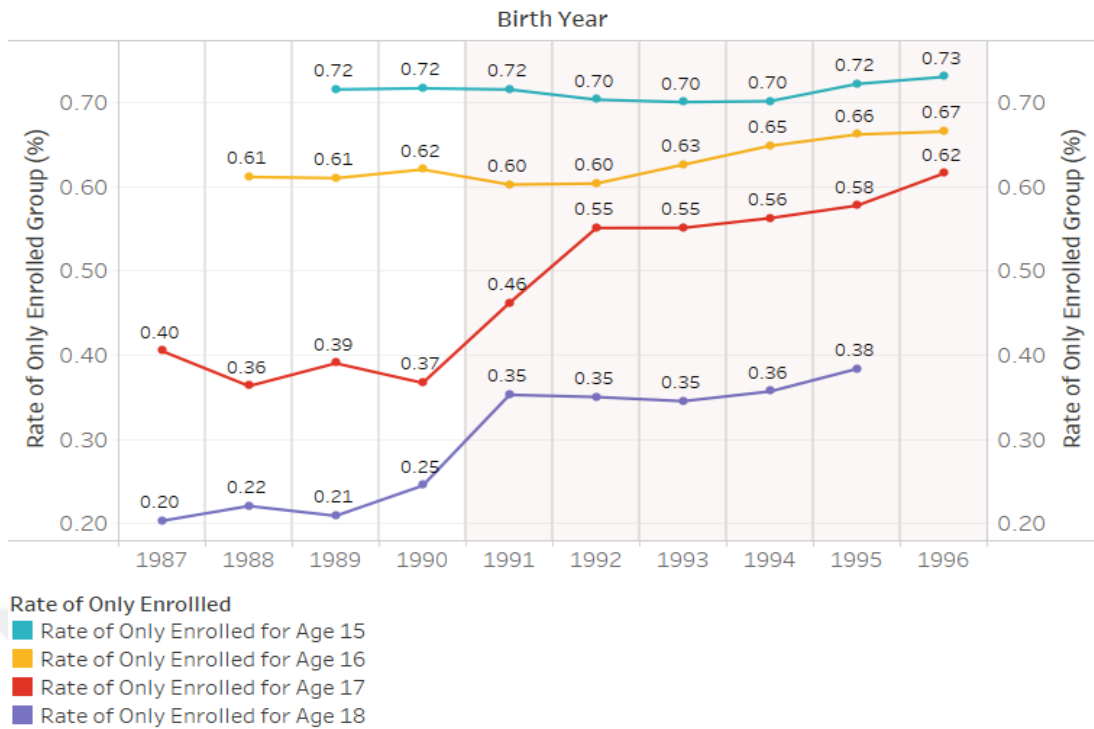
Source: Own calculations based on 2003-2018 HLFS, TurkStat.

Figure 4.7: Rate of Only Enrolled Group by Age
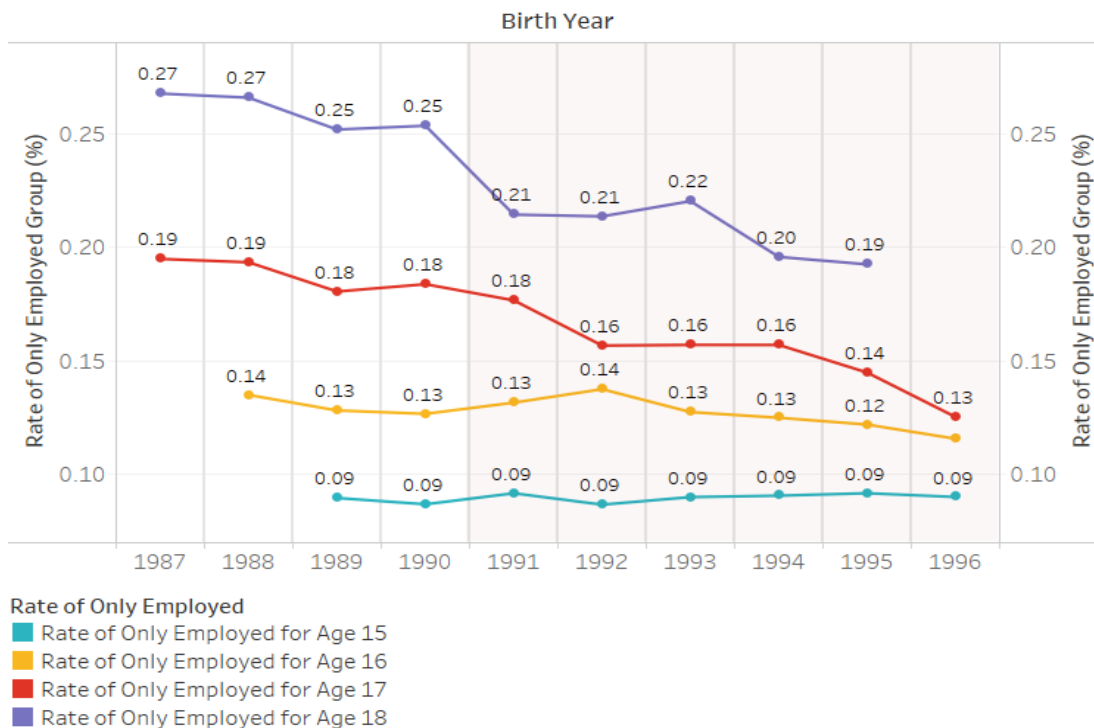
Source: Own calculations based on 2003-2018 HLFS, TurkStat.

Figure 4.8: Rate of Only Employed Group by Age

89
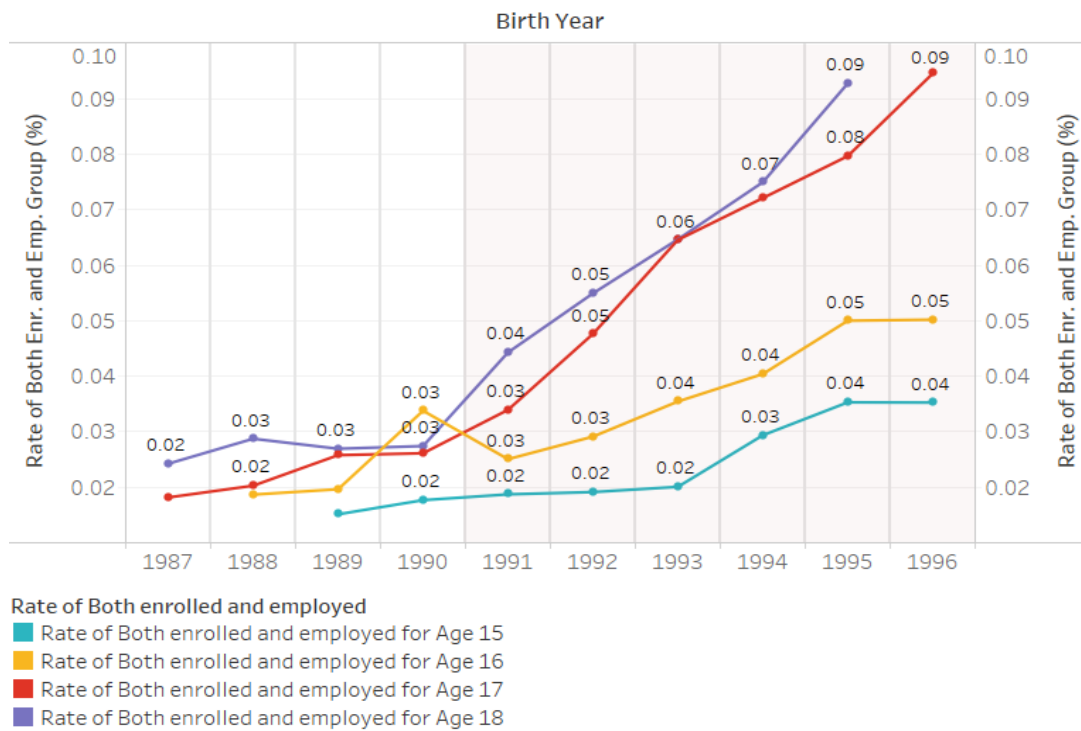
Source: Own calculations based on 2003-2018 HLFS, TurkStat.

Figure 4.9: Rate of both Enrolled and Employed Group by Age
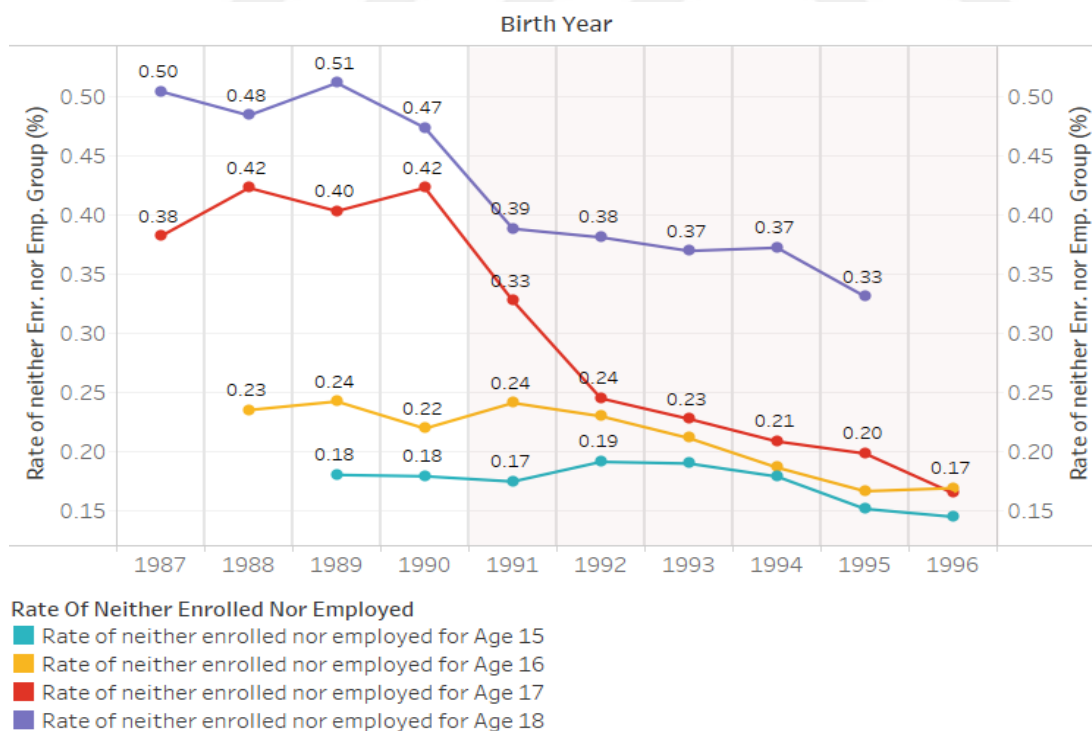
Source: Own calculations based on 2003-2018 HLFS, TurkStat.

Figure 4.10: Rate of neither Enrolled nor Employed Group by Age

CHAPTER 5

EMPIRICAL RESULTS

In this chapter, we present the results of the four models we discussed in the previous Chapter. The models differ in their assumption of year and policy effects. The first model assumes no difference in year and policy effect by age group. The second model assumes no difference in policy effects by age group; however, it allows age-specific time trends. These two models capture the overall policy effect for 15-18-year-olds. The third model allows the policy effect to change by age while keeping year effects the same for all ages. Lastly, the fourth model relaxes both assumptions and allows age-specific time and policy effects. The second and fourth models use both linear and quadratic time trends as control variables.

In the models run for all 15- to 18-year-olds, control variables include sex, settlement type (urban/rural), settlement region (NUTS 1), highest education level completed by the household head, child's relation to the household head (own child/other), age of the household head, and household size.

In the models run for all 20- to 24-year-olds, control variables include sex, settlement region (NUTS 1), marital status, whether the respondent is a household head and household size.

All estimations are done using Ordinary Least Squares (OLS). In addition, separate estimations are carried out by sex for both 15- to 18-year-olds and 20- to 24-year-olds and place of settlement (urban/rural) for 15- to 18-year-olds. Sampling weights are used throughout the analysis. Standard errors are clustered at the birth year level.

In the first part, we examine the effect of policy on school enrollment and graduation. In the second part, we discuss the effect of policy on employment. Finally, in the last part, we analyze the effect of policy on joint time use, where we group children into four groups: those who attend school only, those who attend school and work, those who do not attend school but work, and those who neither go to school nor work.

5.1 Education Outcomes

In this section, we first examine the effect of increasing non-compulsory upper secondary education from three to four years on enrollment at any education level and enrollment in upper secondary education. Following this, graduation from upper secondary education is examined.

5.1.1 Enrollment

We begin our estimations with the analysis of change in policy on enrollment at any education level for 15 – 18-year-olds. The findings are presented in Table 5.1. Tables A.1 – A.5 in the Appendix to this chapter displays full estimation results Table 5.2 summarizes the findings of enrollment in upper secondary education. Tables A.6 – A.10 in the Appendix to this chapter present the full estimation results.

5.1.1.1 Overall Policy Effect

The results suggest a positive policy effect for both outcomes: due to the policy, enrollment in upper secondary education and enrollment at any education level improves. While enrollment in upper secondary education increases by 6.2 to 7.9 percentage points (pp), enrollment at any education increases by 4.7 to 6.7 pp. Both effects are statistically significant at conventional levels. As discussed earlier in Chapter 4, the majority of these 15- to 18-year-olds attend upper secondary education. Hence, an increase in the upper secondary education level increases enrollment in any education level.

5.1.1.2 Policy Effect by Gender

The policy's effect differs with respect to gender. As a result of the policy, enrollment in upper secondary education increases by 5.0 to 6.6 pp for females and 7.3 to 9.0 for males. Accordingly, enrollment at any education increases by 4.3 to 6.0 pp for females and 5.0 to 7.3 pp for males. To test whether the difference in marginal effects are different we re-run the model with full gender interactions. The interaction term between gender and policy is statistically significant for enrollment in high school suggesting that policy has a more favorable effect on males (Table 5.4).

The policy increases the overall enrollment of females. Having said that, the preexisting gender gap in enrollment widens with the implementation of the policy. This finding is similar to that found by Kırdar et al. (2016), where they find a stronger impact of policy in improving high school grade completion rates for males and thus increasing the gender gap in the completion of high school grade levels.

5.1.1.3 Policy Effect by Urban and Rural Areas

The average household income in rural areas is typically lower than in urban areas in Turkey. In addition, the direct cost of educational attainment is also higher in rural areas, especially for upper secondary education, due to the remoteness of residence to educational institutions. Theoretically, increasing the cost of education would not help alleviate the urban-rural gap in education. To the contrary, a given absolute increase in costs would have a bigger burden on rural households who have lower incomes. As a result of the policy, enrollment in upper secondary education increases by 6.7 to 8.5 pp in urban areas and 4.6 to 5.4 pp in rural areas. Correspondingly, enrollment at any education level increases 5.4 to 7.7 pp and 2.8 to 4.3 pp for urban and rural areas, respectively. The 2.6 to 3.4 pp and 2.0 to 3.1 pp difference in policy effects between urban and rural enrollment in any education level and in upper secondary education are statistically significant (Table 5.4). Thus, the policy exacerbates the urban-rural educational gap, albeit an improvement in enrollments in rural areas.

5.1.1.4 Policy Effect by Age

We further investigate the effect of policy on 15-, 16-, 17- and 18-year-olds. A pattern emerges where there is a particular effect on 15- and 16-year-olds, and another effect on 17- and 18-year-olds. Among 15- and 16-year-olds, the policy has no effect on enrollment that is significant across both model specifications, except one case, which is 16-year-olds living in rural areas. On the other hand, the policy has a significant effect on 17- and 18-year-olds in both model specifications and all sub-groups. The extension of the upper secondary education keeps those 17- and 18-year-olds who desire to complete their program in the educational system one more year.

The policy effect on enrollment in upper secondary education for 17-year-olds is 13.5 to 16.1 pp and for 18-year-olds it is 8.5 to 9.1 pp. Correspondingly, the effect on enrollment at any education level of 17-year-olds is 11.8 to 14.7 pp and of 18-year-olds it is 7.2 to 9.9 pp. A comparatively lower effect on 18-year-olds is expected since some students graduate before they turn 18, and some students drop out of upper secondary education.

There is an interesting effect of policy on enrollment of 17- and 18-year-olds by gender. The policy effect for 17-year-old females is slightly higher than for 17-year-old males. However, for 18-year-olds, the policy effect is higher for males. More clearly, the policy effect on enrollment in upper secondary education for female 17- and 18-year-olds is 14.4 to 16.7 pp and 5.8 to 6.1 pp; for male 17- and 18-year-olds, it is 12.5 to 15.5 pp and 10.7 to 11.7 pp. The same outcome is observed at enrollment at any education level as well.

5.1.1.5 Effect of Covariates on Enrollment

When we come to the other determinants of school enrollment, we observe that the probability of school enrollment and enrollment in upper secondary education decreases with age. The probability of enrollment at any education falls by 8.2 – 10.3 pp, 22.4 to 34.8 pp, and 40.9 to 53.1 pp for 16-, 17- and 18-year-olds, respectively.

An individual's gender also plays a significant role in determining their probability of school enrollment. Among 15 to 18-year-olds, a female is 6.7 pp less likely to enroll at any education and 5.2 pp less likely to enroll in upper secondary education. The gender gap is more prominent in rural areas. A female in rural areas is 12.5 to 12.6 pp less likely to enroll at any education and 10.0 pp less likely to enroll in upper secondary education.

The probability of enrolling at any education is 11.4 pp is less for someone in rural areas compared to the one in urban areas. In a similar manner, those who live in rural areas are 10.8 pp less likely to enroll in upper secondary education.

If the household head is one of the child's parents, then the probability of enrollment in upper secondary school is 11.5 pp and 1.5 pp more likely for females and males, respectively. The age of the household head also affects the probability of enrollment. A one-year increase in the age of the household head increases the probability of enrollment at any education and in upper secondary education by 0.2 pp 0.3 pp.

One of the main determinants of enrollment is household head's education level. It significantly affects enrollment across all specifications and all sub-groups. In parallel with Tansel (2002), we find a stronger association between female enrollment and parent's education level than between male enrollment and parent's education level. Furthermore, the effect is also more substantial for those who live in rural as compared to urban areas. For instance, for an individual who resides in a rural area and whose father has completed upper secondary education, the likelihood of enrolling in upper secondary education is 30.1 pp higher compared to the one who lives in a rural area and whose father did not complete any education. The same figure for someone who lives in an urban area is 25.6 pp.

Household size negatively affects the probability of enrollment since as the size of the household increases, per capita income in the household decreases, so we expect it to have a negative effect on children's schooling. We find that a one-person increase in household size decreases the probability of enrollment at any education by 2.6 pp and enrollment in upper secondary education by 2.8 pp.

Table 5.1: Policy Effect on Enrollment at Any Education Level

		All	Female	Male	Urban	Rural
Overall	Model (1)	0.067 **	0.060 **	0.073 **	0.077 **	0.043 **
		(0.029)	(0.022)	(0.024)	(0.025)	(0.017)
	Model (2)	0.047 ***	0.043 ***	0.050 ***	0.054 ***	0.028 **
		(0.010)	(0.011)	(0.011)	(0.011)	(0.009)
	Mean	0.561	0.522	0.597	0.615	0.443
		(0.496)	(0.500)	(0.491)	(0.487)	(0.497)
Age 15	Model (3)	-0.029 *	-0.033 *	-0.024	-0.026	-0.038 ***
		(0.015)	(0.016)	(0.015)	(0.019)	(0.009)
	Model (4)	-0.016	-0.009	-0.023	-0.020	-0.006
		(0.013)	(0.012)	(0.016)	(0.013)	(0.014)
	Mean	0.737	0.689	0.783	0.798	0.607
		(0.440)	(0.463)	(0.412)	(0.402)	(0.488)
Age 16	Model (3)	-0.006	-0.001	-0.011	-0.005	-0.011
		(0.008)	(0.014)	(0.008)	(0.011)	(0.007)
	Model (4)	-0.011	-0.020	-0.003	-0.010	-0.014
		(0.010)	(0.016)	(0.011)	(0.014)	(0.009)
	Mean	0.662	0.623	0.699	0.725	0.528
		(0.473)	(0.485)	(0.458)	(0.447)	(0.499)
Age 17	Model (3)	0.147 ***	0.149 ***	0.142 ***	0.165 ***	0.105 ***
		(0.016)	(0.015)	(0.019)	(0.018)	(0.012)
	Model (4)	0.118 ***	0.124 ***	0.111 ***	0.135 ***	0.076 ***
		(0.023)	(0.020)	(0.027)	(0.026)	(0.019)
	Mean	0.535	0.498	0.570	0.590	0.414
		(0.499)	(0.500)	(0.495)	(0.492)	(0.493)
Age 18	Model (3)	0.099 ***	0.078 ***	0.117 ***	0.110 ***	0.065 ***
		(0.013)	(0.014)	(0.014)	(0.015)	(0.009)
	Model (4)	0.072 ***	0.056 **	0.084 ***	0.081 ***	0.043 ***
		(0.015)	(0.018)	(0.013)	(0.017)	(0.012)
	Mean	0.344	0.305	0.379	0.387	0.247
		(0.475)	(0.461)	(0.485)	(0.487)	(0.431)
Number of obs.		329,709	165,131	164,578	226,287	103,422
Appendix Table		A.1	A.2	A.3	A.4	A.5

*Notes:* Full-estimations results are given in Appendix Table A.1 – A.5.

Standard errors are clustered at birth-year level. [***]: $p < 0.01$, [**]: $p < 0.05$, [*]: $p < 0.1$

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

Table 5.2: Policy Effect on Enrollment in Upper Secondary Education

		All	Female	Male	Urban	Rural
Overall	Model (1)	0.079 ***	0.066 ***	0.090 ***	0.085 ***	0.054 ***
		(0.016)	(0.016)	(0.017)	(0.019)	(0.008)
	Model (2)	0.062 ***	0.050 ***	0.073 ***	0.067 ***	0.046 ***
		(0.010)	(0.011)	(0.011)	(0.012)	(0.007)
	Mean	0.500	0.468	0.529	0.549	0.392
		(0.500)	(0.499)	(0.499)	(0.498)	(0.488)
Age 15	Model (3)	0.020	0.001	0.037 **	0.014	0.030 **
		(0.017)	(0.022)	(0.013)	(0.019)	(0.012)
	Model (4)	0.001	-0.022	0.022	-0.005	0.017
		(0.013)	(0.016)	(0.013)	(0.013)	(0.015)
	Mean	0.646	0.618	0.673	0.718	0.492
		(0.478)	(0.486)	(0.469)	(0.450)	(0.500)
Age 16	Model (3)	0.007	0.012	0.001	0.004	0.009 *
		(0.009)	(0.015)	(0.007)	(0.012)	(0.004)
	Model (4)	0.002	-0.005	0.009	-0.004	0.015 ***
		(0.013)	(0.016)	(0.014)	(0.018)	(0.005)
	Mean	0.637	0.604	0.669	0.703	0.496
		(0.481)	(0.489)	(0.471)	(0.457)	(0.500)
Age 17	Model (3)	0.161 ***	0.167 ***	0.155 ***	0.184 ***	0.105 ***
		(0.016)	(0.016)	(0.018)	(0.020)	(0.008)
	Model (4)	0.135 ***	0.144 ***	0.125 ***	0.150 ***	0.093 ***
		(0.025)	(0.022)	(0.028)	(0.030)	(0.015)
	Mean	0.508	0.474	0.541	0.559	0.395
		(0.500)	(0.499)	(0.498)	(0.496)	(0.489)
Age 18	Model (3)	0.091 ***	0.061 ***	0.117 ***	0.099 ***	0.055 ***
		(0.011)	(0.012)	(0.011)	(0.013)	(0.005)
	Model (4)	0.085 ***	0.058 ***	0.107 ***	0.095 ***	0.051 ***
		(0.014)	(0.016)	(0.014)	(0.017)	(0.011)
	Mean	0.237	0.200	0.270	0.254	0.199
		(0.425)	(0.400)	(0.444)	(0.435)	(0.399)
	Number of obs.	329,709	165,131	164,578	226,287	103,422
	Appendix Table	A.6	A.7	A.8	A.9	A.10

Notes: Full-estimations results are given in Appendix Table A.6 – A.10.

Standard errors are clustered at birth-year level. [***]: $p < 0.01$, [**]: $p < 0.05$, [*]: $p < 0.1$

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

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5.1.2 Graduation from Upper Secondary Education

In the previous section, we examined the policy's effect on enrollment. Here, we will present our findings regarding graduation from upper secondary education of the same birth-cohorts four years later. For the analysis of school enrollment, we used 2004 - 2013 rounds of the HLFS and considered 15-18-year-olds. We now look at 20- to 24-year-olds using 2007 - 2018 rounds of the HLFS. Since the HLFS rounds after 2013 do not include information on whether households reside in an urban or rural location, we remove the rural dummy from regression and cannot carry out the urban-rural analysis. Covariates in these analyses differ from the rest since we are dealing with a different age group. We use settlement region, household size, marital status, and a dummy variable for whether they are the household head. The findings are presented in Table 5.3. Full estimation results are given in Tables A.11 – A.13 in the Appendix to this chapter.

5.1.2.1 Overall Policy Effect

Even though the policy affects enrollments positively, we do not observe similar effects on graduation. In fact, policy decreases the probability of graduation from upper secondary education. The findings suggest that graduation from upper secondary education decreases by 4.5 to 4.7 pp as a result of the extension of high school duration from 3 to 4 years.

5.1.2.2 Policy Effect by Gender

The policy has similar effects on the probability of graduating from high school for both genders. The magnitude of decrease in graduation for females and males are 4.5 - 4.6 pp and 4.4 to 4.7 pp, respectively. According to our estimation results, there is no significant difference of policy's impact on probability of graduating from high school on genders.

5.1.2.3 Policy Effect by Age

Among 20-year-olds, the effect of the policy reform is larger as compared to older cohorts. The magnitude of the decrease in the graduation rate among 20-year-olds is minus 4.6 - 7.8 pp, minus 5.2 - 8.0 pp for 21-year-olds, minus 5.3 - 5.5 pp for 22-year-olds, minus 3.5 - 3.6 pp for 23-year-olds, and minus 2.9 - 4.0 pp for 24-year-olds. Thus, the effect is, on average higher for younger age groups. This implies that the immediate effect of the policy on graduation is more severe, which may have to do with older cohorts going through remedial education and sitting for high school graduation exams externally.

5.1.2.4 Effect of Covariates on Graduation

A female is 5.9 pp more likely to graduate from high school compared to a male. This finding might seem contradictory to findings regarding their lower enrollment. However, the fact is while they are less likely to enroll in upper secondary education, their achievement at that level is higher.

Both male and female's probability of graduating from high school increases when they are the head of the household at the time of the observation. The magnitudes of increase are 5.9 to 6.0 pp for females and 2.9 pp for males.

The size of the household decreases the probability of graduation. For females and males, the effect of the size of the household is 5.2 pp and 4.9 pp, respectively.

A married male is 27.1 to 27.2 pp less likely to graduate from upper secondary education compared to a single male. The effect of marital status on females is much higher. The probability of graduating from upper secondary education decreases by 42.6 to 42.7 pp for a married female.

Table 5.3: Policy Effect on Graduation from Upper Secondary Education

		All	Female	Male
Overall	Model (1)	-0.047 ***	-0.045 ***	-0.047 **
		(0.012)	(0.010)	(0.018)
	Model (2)	-0.045 ***	-0.046 ***	-0.044 ***
		(0.007)	(0.008)	(0.013)
	Mean	0.544	0.517	0.574
		(0.498)	(0.500)	(0.494)
Age 20	Model (3)	-0.078 ***	-0.079 ***	-0.084 ***
		(0.011)	(0.016)	(0.012)
	Model (4)	-0.046 ***	-0.040 ***	-0.049 ***
		(0.008)	(0.007)	(0.012)
	Mean	0.550	0.477	0.648
		(0.497)	(0.499)	(0.478)
Age 21	Model (3)	-0.080 ***	-0.073 ***	-0.098 ***
		(0.012)	(0.016)	(0.016)
	Model (4)	-0.052 ***	-0.041 ***	-0.072 **
		(0.011)	(0.008)	(0.023)
	Mean	0.545	0.503	0.595
		(0.498)	(0.500)	(0.491)
Age 22	Model (3)	-0.053 ***	-0.050 ***	-0.049 **
		(0.011)	(0.010)	(0.015)
	Model (4)	-0.055 ***	-0.055 ***	-0.052 **
		(0.010)	(0.010)	(0.018)
	Mean	0.535	0.529	0.542
		(0.499)	(0.499)	(0.498)
Age 23	Model (3)	-0.036 ***	-0.038 ***	-0.028
		(0.010)	(0.008)	(0.016)
	Model (4)	-0.035 ***	-0.052 ***	-0.016
		(0.008)	(0.008)	(0.016)
	Mean	0.542	0.540	0.545
		(0.498)	(0.498)	(0.498)
Age 24	Model (3)	-0.029 **	-0.021 *	-0.032 *
		(0.011)	(0.009)	(0.016)
	Model (4)	-0.040 ***	-0.038 ***	-0.045 ***
		(0.007)	(0.012)	(0.013)
	Mean	0.551	0.538	0.564
		(0.497)	(0.499)	(0.496)
Number of obs.		306,415	162,593	143,822
Appendix Table		A.11	A.12	A.13

Notes: Full-estimations results are given in Appendix Table A.11 – A.13.

Standard errors are clustered at birth-year level. [***]: $p < 0.01$, [**]: $p < 0.05$, [*]: $p < 0.1$

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

**Table 5.4:** Policy Effect on Gender and Urban/Rural Difference in Education

		Gender (Base: Female)	Gender (Base: Female)	Gender (Base: Female)	Sett. (Base: Rural)	Sett. (Base: Rural)
		Any educ.	Upper Sec.	Graduation	Any educ.	Upper Sec.
Overall	Model (1)	0.013	0.024 **	-0.003	0.034 ***	0.031 **
		(0.009)	(0.008)	(0.013)	(0.010)	(0.011)
	Model (2)	0.007	0.023 *	0.002	0.026 **	0.020 **
		(0.011)	(0.011)	(0.015)	(0.009)	(0.009)
Age 15 / 20	Model (3)	0.009	0.036 **	-0.005	0.012	-0.016
		(0.008)	(0.011)	(0.016)	(0.015)	(0.011)
	Model (4)	-0.014	0.044 ***	-0.010	-0.014	-0.022 **
		(0.014)	(0.013)	(0.010)	(0.008)	(0.007)
Age 16 / 21	Model (3)	-0.011	-0.011	-0.025	0.006	-0.005
		(0.015)	(0.014)	(0.021)	(0.013)	(0.012)
	Model (4)	0.017	0.014	-0.031	0.004	-0.019
		(0.018)	(0.014)	(0.024)	(0.018)	(0.017)
Age 17 / 22	Model (3)	-0.007	-0.012	0.001	0.060 ***	0.079 ***
		(0.011)	(0.009)	(0.014)	(0.013)	(0.012)
	Model (4)	-0.013	-0.019	0.003	0.059 ***	0.058 ***
		(0.011)	(0.012)	(0.021)	(0.012)	(0.017)
Age 18 / 23	Model (3)	0.039 ***	0.057 ***	0.010	0.045 ***	0.044 ***
		(0.010)	(0.008)	(0.014)	(0.007)	(0.011)
	Model (4)	0.029 ***	0.049 ***	0.037 *	0.038 **	0.044 **
		(0.009)	(0.013)	(0.018)	(0.012)	(0.014)
Age 24	Model (3)	—	—	-0.012	—	—
				(0.012)		
	Model (4)	—	—	-0.007	—	—
				(0.020)		

Notes: Standard errors are clustered at birth-year level. [***]: p < 0.01, [**]: p < 0.05, [*]: p < 0.1

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

5.2 Employment Outcomes

5.2.1 Employment

Here, we examine the effect of policy on the employment of 15- to 18-year-olds. The estimations are further carried out by gender and rural-urban residence. The findings are presented in Table 5.5. Tables A.14 – A.18 in the Appendix presents the full estimation results.

5.2.1.1 Overall Policy Effect

There is no overall effect of policy on employment that is consistent across two model specifications, though the second model suggests a 0.8 pp decrease in overall employment.

5.2.1.2 Policy Effect by Gender

Both models suggest that the employment of females are not affected by the reform. However, there exists an effect of policy on the employment of males. The estimations suggest that the employment of males decreases by 1.4 pp. Thus, the effect of policy differs across genders, which is found to be statistically significant (Table 5.6).

5.2.1.3 Policy Effect by Urban and Rural Areas

According to our estimations, the policy has no significant effect on employment in rural areas. Nonetheless, employment in urban areas changes due to the policy, albeit on a small scale. The policy change decreases employment in urban areas by 1.2 to 1.4 pp. According to our estimations, 2.0 percentage point difference between policy's effect on urban and rural areas are statistically significant in Model (1).

5.2.1.4 Policy Effect by Age

We observe a significant decrease in the employment of 18-year-olds, especially for males and those who reside in urban areas. Nevertheless, no consistent effect is observed among other age cohorts. The policy's effect on the employment of 18-year-olds is 2.2 to 2.4 pp fall.

5.2.1.5 Effect of Covariates on Employment

The probability of being employed rises with age. Compared to 15-year-olds, the probability of being employed of 16-, 17- and 18-year-olds are 4.8 to 5.3 pp, 10.3 to 11.7 pp, and 16.6 to 21.3 pp higher, respectively. Age's role in determining employment is higher for males and for those who live in rural areas.

A female is 14.2 percent points less likely to be employed. Surprisingly, the gender difference in employment is slightly lower in urban areas. While a female in urban areas is 14.5 less likely to be employed, it is 13.4 percent for females in rural areas.

Those who live in rural areas have a higher probability of being employed than those who live in urban areas. Living in rural areas increases the probability of being employed by 10.3 pp for females, 6.6 pp for males, and 8.4 pp overall.

If the household head is one of the parents of the respondent, then the probability of employment increases for females by 3.8 pp, for those who live in urban areas by 2.9 pp, and for those who live in rural areas by 3.9 pp. Apparently, this does not affect the probability of male employment. Additionally, a year increase in the age of the household decreases the chances of being employed by 0.1 pp, whereas the household size increases the probability of being employed by 1.3 pp.

The educational attainment of the household head is a crucial determinant of being employed. The probability of being employed decreases by 16.9 pp if the household head graduated from upper secondary education.

Table 5.5: Policy Effect on Employment

		All	Female	Male	Urban	Rural
Overall	Model (1)	-0.006	0.002	-0.014 *	-0.012 *	0.008
		(0.004)	(0.002)	(0.007)	(0.005)	(0.008)
	Model (2)	-0.008 ***	-0.003	-0.014 ***	-0.014 **	0.007
		(0.002)	(0.003)	(0.003)	(0.004)	(0.008)
	Mean	0.197	0.124	0.264	0.166	0.264
		(0.397)	(0.330)	(0.441)	(0.372)	(0.441)
Age 15	Model (3)	0.011 ***	0.014 ***	0.007 *	0.002	0.032 **
		(0.002)	(0.004)	(0.003)	(0.004)	(0.014)
	Model (4)	-0.005	0.004	-0.017 *	-0.007	-0.003
		(0.004)	(0.004)	(0.008)	(0.006)	(0.005)
	Mean	0.114	0.073	0.152	0.086	0.174
		(0.317)	(0.260)	(0.359)	(0.280)	(0.379)
Age 16	Model (3)	0.008 *	0.007	0.009	0.000	0.028 *
		(0.004)	(0.004)	(0.005)	(0.003)	(0.014)
	Model (4)	0.007	0.012 **	0.001	0.006	0.007
		(0.005)	(0.004)	(0.009)	(0.007)	(0.013)
	Mean	0.161	0.102	0.218	0.130	0.230
		(0.368)	(0.303)	(0.413)	(0.336)	(0.421)
Age 17	Model (3)	-0.002	0.007 **	-0.010 *	-0.006	0.008
		(0.003)	(0.003)	(0.005)	(0.004)	(0.007)
	Model (4)	-0.003	-0.003	-0.003	-0.010	0.018 *
		(0.005)	(0.004)	(0.007)	(0.007)	(0.008)
	Mean	0.215	0.139	0.289	0.183	0.288
		(0.411)	(0.345)	(0.453)	(0.386)	(0.453)
Age 18	Model (3)	-0.022 ***	-0.008 **	-0.035 ***	-0.026 ***	-0.010
		(0.003)	(0.003)	(0.005)	(0.004)	(0.007)
	Model (4)	-0.024 ***	-0.019 ***	-0.031 ***	-0.035 ***	0.003
		(0.003)	(0.003)	(0.005)	(0.007)	(0.012)
	Mean	0.279	0.175	0.373	0.249	0.349
		(0.449)	(0.380)	(0.484)	(0.432)	(0.477)
Number of obs.		329,709	165,131	164,578	226,287	103,422
Appendix Table		A.14	A.15	A.16	A.17	A.18

Notes: Full-estimations results are given in Appendix Table A.14 – A.18.

Standard errors are clustered at birth-year level. [***]: $p < 0.01$, [**]: $p < 0.05$, [*]: $p < 0.1$

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

Table 5.6: Policy Effect on Gender and Urban/Rural Difference in Employment

		Gender (Base: Female)	Sett. (Base: Rural)
		Employed	Employed
Overall	Model (1)	-0.016 **	-0.020 *
		(0.006)	(0.009)
	Model (2)	-0.011 ***	-0.020
		(0.003)	(0.011)
Age 15	Model (3)	-0.008	-0.030
		(0.005)	(0.017)
	Model (4)	-0.022 **	-0.004
		(0.009)	(0.008)
Age 16	Model (3)	0.002	-0.028
		(0.005)	(0.015)
	Model (4)	-0.011	-0.001
		(0.007)	(0.016)
Age 17	Model (3)	-0.017 **	-0.014
		(0.006)	(0.009)
	Model (4)	0.000	-0.028 **
		(0.005)	(0.012)
Age 18	Model (3)	-0.027 ***	-0.016 *
		(0.005)	(0.003)
	Model (4)	-0.012	-0.038 *
		(0.007)	(0.019)

Notes: Standard errors are clustered at birth-year level. [***]: $p < 0.01$, [**]: $p < 0.05$, [*]: $p < 0.1$

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

5.3 Estimations of the Policy Effect on the Time-use of Youth

5.3.1 Time-use of Youth

In this section, we investigate how the policy changed the time-use of youth by dividing them into four groups according to their enrollment and employment status: only enrolled, only employed, both enrolled and employed, and neither enrolled nor employed. These four groups are mutually exclusive. This means that any change in one of the groups must be accompanied by a change in another group or groups. The estimation results are presented in Tables 5.7 – 5.10. Full estimation results are given in Tables A.19 through A.38 in the Appendix to this chapter.

5.3.1.1 Overall Policy Effect

Overall, it is estimated that the probability of being in the only enrolled group increases by 4.8 – 6.0 pp. This increase is accompanied by a 0.7 to 1.3 pp decrease in being in the only employed group and 4.0 to 5.4 pp decrease in engaging neither of the two activities. There is little evidence that the policy changes the probability of being engaged in both activities.

5.3.1.2 Policy Effect by Gender

The policy effect on females is significant for two outcomes: neither enrolled nor employed, and only enrolled. The policy decreases the probability of being engaged in neither of the two activities by 4.1 to 5.7 pp. On the contrary, the female's probability of attending school only increases by 4.4 to 5.5 pp. On the other hand, the policy also has an impact on being employed only for males. As a result of the policy, the probability being employed decreases by 1.3 to 2.2 pp and being engaged in neither of the two activities decreases by 3.8 to 5.1 pp. The probability of attending school only increases by 5.2 to 6.5 pp due to the policy.

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5.3.1.3 Policy Effect by Urban and Rural Areas

Across all subgroups, the largest increase in the probability of attending school only is observed among those who live in urban areas. The policy increases the probability of attending school only by 5.7 to 7.0 pp. In addition, the probability of being employed only and being engaged in neither of the two activities decreases by 1.3 to 2.2 pp and 3.8 to 5.1 pp, respectively. We observe similar effects on the rural group's probability of attending school only, albeit on a smaller scale. The probability of attending school only increases by 2.6 to 3.4 pp for those who live in rural areas. Furthermore, the policy decreases the probability of being engaged in neither of the two activities by 3.2 to 4.2.

5.3.1.4 Policy Effect by Age

The policy does not significantly affect the time-use patterns of 15-year-olds. The probability of attending school only (without being employed), being employed only (without attending school), and being engaged in neither of the two activities does not change with the policy. However, there is a decrease in the probability of being both enrolled and employed with an effect size of 0.5 – 1.0 pp. When we further analyze the policy effect by gender and urban/rural residence, we observe that for all sub-groups, the probability of being engaged in both activities reduces. For female and rural children, the probability of employment only increases. The increase in the probability of being employed only are 1.4 to 2.0 pp for females and 1.3 to 4.0 pp for those in rural areas. We do not find an effect for those who are enrolled in school only or for those who are engaged in neither of the two activities.

The policy's effect on 16-year-olds is similar to the effects observed for 15-year-olds. As a result of the policy, the probability of being employed only increases by 1.1 to 1.4 pp. We also find a 0.7 pp decrease in being engaged in both employment and enrollment. No significant change is found for those attending school only and being engaged in neither of the two activities. The policy has a stronger effect on the time use of those who reside in rural areas. For those, the probability of being employed only decreases by 2.6 pp.

The policy has a substantial impact on the time use of 17-year-olds. The probability of being employed only and being engaged in neither of the two activities decrease by 1.9 pp and 11.0 to 12.8, respectively, whereas the probability of being engaged in both activities and attending school only increases by 0.6 to 1.7 pp and 11.3 to 13.0 pp, accordingly. The probability of youth being only enrolled in school increases overall and for all subgroups. Similarly, the probability of being enrolled and employed increases due to the policy, which mainly stems from male and rural youth.

Although the effect of the policy is not as substantial as for 17-year-olds, the time-use patterns of 18-year-olds also significantly change as a result of the policy. The policy increases the probability of being engaged in both activities by 0.4 to 1.2 pp and attending school only by 6.8 to 8.7 pp. On the contrary, the policy decreases the probability of being employed only by 2.8 to 3.4 pp and engaging in neither of the two activities by 4.3 to 6.5 pp.

While the reform has a limited effect on 15- and 16-year-olds, more substantial changes are observed for 17- and 18-year-olds. This is expected because 17 and 18-year-olds are directly affected by the reform, while 15 and 16-year-olds are only indirectly affected by the reform. Among 17 and 18-year-olds, the policy has been instrumental in reducing the group of youth who are 'idle' and keeping youth longer in school. It paved the way for the attainment of education for those neither enrolled nor employed group.

5.3.1.5 Effect of Covariates on Time-Use

Being female decreases the probability of being enrolled only by 3.6 pp, being employed only by 11.1 pp, being engaged in both of the activities by 3.1 pp, whereas it increases being engaged in neither of the two activities by striking 17.8 pp. It is a thought-provoking situation that young women stay away from education and employment.

The effect of residing in rural areas on the probability of being enrolled only is minus 11.9 pp, on the probability of being employed only is 7.8 pp, on the probability of being engaged in both of the activities by 0.5 pp, on the probability of being engaged in neither of the two activities by 3.6 pp. While we do not observe much difference in being both enrolled and employed between those who live in rural and urban areas, those who live in rural areas have higher probability of being employed than being enrolled compared to those who live in urban areas.

Similar to the effect of household head's educational attainment on enrollment, we observe a positive association between parental education level and being only enrolled. Higher educational attainment of the household head reflects a higher probability of being enrolled only, lower probability of being employed only, and lower probability of being engaged in neither of the two activities. We do not find a conclusive result on the education of household head on the probability of being engaged in both of the activities.

If the household head is one of the parents of the respondent, then the probability of being enrolled only increases by 4.0 pp, being employed only increases by 1.6 pp, being engaged in both of the activities increases by 1.2 pp, and being engaged in neither of the two activities decreases by 2.6 pp. Thus, we conclude that existence of parent in the household directs youth in either enrollment or employment, or both. Contrarily, in the absence of a parent, they are more likely to not engage in employment or enrollment. We find little to no evidence of age of the household head on the probability of affecting child's time-use.

A one-person increase in household size decreases the probability of being only enrolled by 2.6 and increases the probability of being employed only by 1.4 pp and being engaged in neither of the two activities.

Table 5.7: Policy Effect on Only Enrolled Group

		All	Female	Male	Urban	Rural
Overall	Model (1)	0.060 **	0.055 **	0.065 **	0.070 **	0.034 **
		(0.020)	(0.020)	(0.021)	(0.023)	(0.014)
	Model (2)	0.048 ***	0.044 ***	0.052 ***	0.057 ***	0.026 ***
		(0.009)	(0.011)	(0.010)	(0.012)	(0.008)
	Mean	0.521	0.499	0.542	0.577	0.399
		(0.500)	(0.500)	(0.498)	(0.494)	(0.490)
Age 15	Model (3)	-0.023	-0.028 *	-0.019	-0.022	-0.030 ***
		(0.014)	(0.015)	(0.014)	(0.018)	(0.009)
	Model (4)	-0.006	0.001	-0.011	-0.012	0.010
		(0.014)	(0.013)	(0.018)	(0.015)	(0.014)
	Mean	0.713	0.676	0.748	0.780	0.570
		(0.452)	(0.468)	(0.434)	(0.414)	(0.495)
Age 16	Model (3)	-0.002	0.002	-0.007	0.001	-0.013
		(0.007)	(0.012)	(0.007)	(0.010)	(0.009)
	Model (4)	-0.004	-0.016	0.008	-0.003	-0.007
		(0.010)	(0.014)	(0.012)	(0.015)	(0.013)
	Mean	0.628	0.604	0.652	0.695	0.485
		(0.483)	(0.489)	(0.476)	(0.460)	(0.500)
Age 17	Model (3)	0.130 ***	0.135 ***	0.122 ***	0.147 ***	0.087 ***
		(0.014)	(0.013)	(0.016)	(0.015)	(0.010)
	Model (4)	0.113 ***	0.121 ***	0.103 ***	0.133 ***	0.061 ***
		(0.022)	(0.020)	(0.025)	(0.026)	(0.016)
	Mean	0.486	0.467	0.504	0.542	0.364
		(0.500)	(0.499)	(0.500)	(0.498)	(0.481)
Age 18	Model (3)	0.087 ***	0.069 ***	0.102 ***	0.098 ***	0.051 ***
		(0.012)	(0.013)	(0.011)	(0.013)	(0.008)
	Model (4)	0.068 ***	0.052 **	0.081 ***	0.081 ***	0.031 **
		(0.016)	(0.018)	(0.014)	(0.014)	(0.012)
	Mean	0.296	0.276	0.313	0.336	0.204
		(0.456)	(0.447)	(0.464)	(0.472)	(0.403)
	Number of obs.	329,709	165,131	164,578	226,287	103,422
	Appendix Table	A.19	A.20	A.21	A.22	A.23

Notes: Full-estimations results are given in Appendix Table A.19 – A.23.

Standard errors are clustered at birth-year level. [***]: $p < 0.01$, [**]: $p < 0.05$, [*]: $p < 0.1$

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

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Table 5.8: Policy Effect on Only Employed Group

		All	Female	Male	Urban	Rural
Overall	Model (1)	-0.013 *	-0.003	-0.022 *	-0.019 **	-0.001
		(0.007)	(0.004)	(0.010)	(0.008)	(0.008)
	Model (2)	-0.007 **	-0.002	-0.013 ***	-0.011 **	0.004
		(0.003)	(0.003)	(0.003)	(0.004)	(0.006)
	Mean	0.157	0.101	0.209	0.128	0.220
		(0.364)	(0.302)	(0.407)	(0.334)	(0.414)
Age 15	Model (3)	0.017 ***	0.020 ***	0.012 ***	0.006	0.040 ***
		(0.002)	(0.002)	(0.003)	(0.004)	(0.010)
	Model (4)	0.006	0.014 ***	-0.006	0.001	0.013 **
		(0.004)	(0.003)	(0.008)	(0.005)	(0.005)
	Mean	0.090	0.061	0.117	0.068	0.137
		(0.286)	(0.239)	(0.322)	(0.251)	(0.344)
Age 16	Model (3)	0.011 ***	0.010 ***	0.013 ***	0.005	0.026 **
		(0.002)	(0.003)	(0.003)	(0.004)	(0.010)
	Model (4)	0.014 ***	0.016 ***	0.012	0.013 **	0.014
		(0.004)	(0.002)	(0.007)	(0.006)	(0.009)
	Mean	0.128	0.083	0.170	0.100	0.187
		(0.334)	(0.276)	(0.376)	(0.300)	(0.390)
Age 17	Model (3)	-0.019 ***	-0.007 **	-0.030 ***	-0.023 ***	-0.010 *
		(0.004)	(0.003)	(0.006)	(0.005)	(0.005)
	Model (4)	-0.008	-0.006	-0.011	-0.012	0.004
		(0.006)	(0.005)	(0.008)	(0.007)	(0.009)
	Mean	0.167	0.108	0.222	0.135	0.238
		(0.373)	(0.311)	(0.416)	(0.341)	(0.426)
Age 18	Model (3)	-0.034 ***	-0.016 ***	-0.049 ***	-0.038 ***	-0.025 ***
		(0.003)	(0.002)	(0.005)	(0.005)	(0.006)
	Model (4)	-0.028 ***	-0.022 ***	-0.035 ***	-0.035 ***	-0.009
		(0.002)	(0.002)	(0.004)	(0.006)	(0.011)
	Mean	0.231	0.146	0.307	0.198	0.306
		(0.421)	(0.353)	(0.461)	(0.398)	(0.461)
	Number of obs.	329,709	165,131	164,578	226,287	103,422
	Appendix Table	A.24	A.25	A.26	A.27	A.28

Notes: Full-estimations results are given in Appendix Table A.24 – A.28.

Standard errors are clustered at birth-year level. [***]: $p < 0.01$, [**]: $p < 0.05$, [*]: $p < 0.1$

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

Table 5.9: Policy Effect on Both Enrolled and Employed Group

		All	Female	Male	Urban	Rural
Overall	Model (1)	0.007 *	0.005	0.009 *	0.007	0.009 **
		(0.004)	(0.003)	(0.004)	(0.004)	(0.004)
	Model (2)	-0.001	-0.001	-0.001	-0.003 ***	0.003
		(0.001)	(0.001)	(0.001)	(0.001)	(0.002)
	Mean	0.040	0.023	0.055	0.038	0.043
		(0.195)	(0.150)	(0.228)	(0.191)	(0.204)
Age 15	Model (3)	-0.005 **	-0.006 **	-0.006 **	-0.004 ***	-0.008 *
		(0.002)	(0.002)	(0.002)	(0.001)	(0.004)
	Model (4)	-0.010 ***	-0.010 ***	-0.012 ***	-0.008 **	-0.016 ***
		(0.002)	(0.002)	(0.002)	(0.003)	(0.004)
	Mean	0.024	0.012	0.035	0.018	0.037
		(0.153)	(0.109)	(0.184)	(0.133)	(0.188)
Age 16	Model (3)	-0.003	-0.003	-0.004	-0.006 **	0.002
		(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
	Model (4)	-0.007 ***	-0.004	-0.011 ***	-0.008 ***	-0.007
		(0.002)	(0.003)	(0.002)	(0.002)	(0.005)
	Mean	0.034	0.019	0.048	0.030	0.043
		(0.181)	(0.137)	(0.213)	(0.170)	(0.202)
Age 17	Model (3)	0.017 ***	0.014 ***	0.020 ***	0.017 ***	0.018 ***
		(0.003)	(0.003)	(0.004)	(0.004)	(0.003)
	Model (4)	0.006 **	0.003	0.008 **	0.002	0.014 ***
		(0.002)	(0.002)	(0.003)	(0.002)	(0.004)
	Mean	0.049	0.030	0.066	0.048	0.050
		(0.215)	(0.171)	(0.249)	(0.214)	(0.218)
Age 18	Model (3)	0.012 **	0.008 **	0.014 **	0.012 **	0.014 ***
		(0.004)	(0.003)	(0.005)	(0.004)	(0.003)
	Model (4)	0.004 ***	0.004	0.004 *	0.000	0.013 ***
		(0.001)	(0.002)	(0.002)	(0.002)	(0.003)
	Mean	0.048	0.029	0.066	0.051	0.043
		(0.214)	(0.168)	(0.248)	(0.220)	(0.202)
Number of obs.		329,709	165,131	164,578	226,287	103,422
Appendix Table		A.29	A.30	A.31	A.32	A.33

Notes: Full-estimations results are given in Appendix Table A.29 – A.33.

Standard errors are clustered at birth-year level. [***]: p < 0.01, [**]: p < 0.05, [*]: p < 0.1

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

Table 5.10: Policy Effect on Neither Enrolled nor Employed Group

		All	Female	Male	Urban	Rural
Overall	Model (1)	-0.054 ***	-0.057 **	-0.051 ***	-0.058 **	-0.042 ***
		(0.016)	(0.019)	(0.015)	(0.018)	(0.012)
	Model (2)	-0.040 ***	-0.041 ***	-0.038 ***	-0.043 ***	-0.032 **
		(0.008)	(0.011)	(0.008)	(0.008)	(0.010)
	Mean	0.282	0.377	0.194	0.257	0.337
		(0.450)	(0.485)	(0.395)	(0.437)	(0.473)
Age 15	Model (3)	0.012	0.013	0.012	0.019	-0.002
		(0.015)	(0.018)	(0.013)	(0.015)	(0.014)
	Model (4)	0.011	-0.005	0.028 *	0.019	-0.007
		(0.011)	(0.014)	(0.014)	(0.011)	(0.014)
	Mean	0.173	0.250	0.100	0.135	0.256
		(0.378)	(0.433)	(0.300)	(0.341)	(0.436)
Age 16	Model (3)	-0.006	-0.009	-0.001	-0.001	-0.015
		(0.008)	(0.014)	(0.006)	(0.008)	(0.009)
	Model (4)	-0.003	0.004	-0.009 *	-0.003	0.000
		(0.008)	(0.015)	(0.004)	(0.009)	(0.008)
	Mean	0.210	0.294	0.130	0.175	0.286
		(0.408)	(0.456)	(0.337)	(0.380)	(0.452)
Age 17	Model (3)	-0.128 ***	-0.142 ***	-0.112 ***	-0.141 ***	-0.095 ***
		(0.013)	(0.014)	(0.015)	(0.014)	(0.012)
	Model (4)	-0.110 ***	-0.118 ***	-0.100 ***	-0.123 ***	-0.079 ***
		(0.019)	(0.016)	(0.022)	(0.021)	(0.017)
	Mean	0.298	0.394	0.207	0.275	0.349
		(0.458)	(0.489)	(0.405)	(0.447)	(0.477)
Age 18	Model (3)	-0.065 ***	-0.062 ***	-0.068 ***	-0.072 ***	-0.041 ***
		(0.011)	(0.014)	(0.010)	(0.011)	(0.011)
	Model (4)	-0.043 **	-0.033 *	-0.050 ***	-0.046 ***	-0.034 *
		(0.013)	(0.018)	(0.010)	(0.012)	(0.018)
	Mean	0.425	0.549	0.314	0.415	0.447
		(0.494)	(0.498)	(0.464)	(0.493)	(0.497)
Number of obs.		329,709	165,131	164,578	226,287	103,422
Appendix Table		A.34	A.35	A.36	A.37	A.38

Notes: Full-estimations results are given in Appendix Table A.34 – A.38.

Standard errors are clustered at birth-year level. [***]: $p < 0.01$, [**]: $p < 0.05$, [*]: $p < 0.1$

Source: Own calculations based on 2003-2018 HLFS, TurkStat.

CHAPTER 6

CONCLUSION

In this thesis, educational, employment, and time-use effects of the education reform in 2005 on youth are investigated. In this context, we examined the changes in enrollment at any education level, enrollment in upper secondary education, graduation from upper secondary education, employment, and time use of youth by dividing them into four groups according to their enrollment and employment status. For these analyses, we use the 2004 – 2018 rounds of the nationally representative Turkish Household Labor Force Survey. To estimate the policy effect, we use a Difference-in-Difference design. The estimations are carried out using Ordinary Least Squares estimation.

A positive policy impact on both enrollment at any education level and enrollment in upper secondary education is found in our estimations. It is shown that enrollment in upper secondary education increases by 6.2 to 7.9 pp. Since 15- 18-year-olds mostly attend upper secondary education at that age, naturally, the policy also increases enrollment at any education level. The magnitude of the increase in enrollment at any education level is 4.7 to 6.6 pp. Though, we observe that the policy only increases the enrollment of 17- and 18-year-olds. Despite the increasing cost of receiving a high school diploma due to an additional year of education, we find no evidence that 15- and 16-year-olds are affected by the policy. Thus, the increase in overall enrollment can be attributed to increase in the enrollment of 17- and 18-year-olds.

Although the policy improves the enrollment of females, as well as males, the magnitude of the increase differs by gender. Female enrollment in upper secondary

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education increases by 5.0 to 6.6 pp, whereas male enrollment increases by 7.3 to 9.0 pp. The increase in enrollment at any education for females and males is 4.3 to 6.7 pp and 5.0 to 7.3, respectively. Consequently, the preexisting gender gap in enrollment widens between girls and boys. This is to be expected since the extension of education brings about an increase in the cost of education, and attendance is non-compulsory. In an environment where financial constraints exist, parents who are motivated by either cultural values or expectation of returns prioritize their sons over daughters.

Similar observations are made when we compare the policy's effect on enrollment in urban and rural areas. The policy increases enrollment in rural areas both in upper secondary education and at any school level. Nonetheless, the impact of the policy on urban areas is higher. The effect of policy on enrollment in upper secondary education and enrollment at any level in rural areas is 4.6 to 5.4 pp and 2.8 and 4.3 pp; in urban areas, it is 6.7 to 8.5 and 5.4 to 7.7 pp, respectively. Consequently, the policy exacerbates the urban-rural educational gap, albeit an improvement in enrollments in rural areas.

When we investigate the effect of other covariates on school enrollment, we find results that are parallel to the earlier findings in the literature. More specifically, we find that the probability of enrollment is lower for females and those who live in rural areas. Similarly, enrollment decreases by age and household size. However, enrollment increases with the household head's age and education level. In other words, children with more educated and older household heads have a higher likelihood of enrolling in school. Furthermore, we find that children who are the sons or daughters of the household head have higher school enrollment probability.

The policy has negative consequences on the probability of graduating from upper secondary education. It is estimated that the probability of graduation decreases by 4.4 pp. The policy has similar effects on young men and women. The estimation results show that the policy decreases the probability of graduation by 4.4 - 4.6 pp for females and 4.2 pp for males. We are not able to estimate the effect of the policy on the probability of graduation by different settlement types because the HLFS rounds after

2013 do not include information on whether households reside in an urban or rural location.

Overall, the results suggest that the policy does not change enrollment of 15- and 16-year-olds. On the other hand, we have shown that it increased the enrollment of 17- and 18-year-olds and decreased the graduation level. These findings imply that an additional year of education increases dropouts from upper secondary education. The comparison of the number of students by grade before and after the reform in Chapter 3 supports this notion. It shows that before the reform, the number of students in the third (last) grade was higher than the number of students in second grade, suggesting a substantial grade repetition. After the implementation of reform, this disappears implying that, students seem to drop out rather than repeating a grade level.

We find that policy marginally affects the overall probability of employment. Our model suggests that the employment probability of youth decreases by 0.8 percentage points. When we compare the policy impact on employment with respect to genders, we see that the policy decreases male's employment probability by 1.4 pp. In contrast, female employment is not significantly affected by the policy. Moreover, though we do not observe any changes in employment among 15-, 16- and 17-year-olds, the employment of 18-year-olds decreases by 2.2 to 2.4 pp.

When we come to the effect of covariates that include individual and household characteristics, we see that probability of being employed increases with age. Case in point, 17-year-olds are 10.3 to 11.7 pp more likely to be employed compared to 15-year-olds. In addition, females and those who live in rural areas have a higher probability of being employed. The probability of being employed increases where the household head is one of the parents of the child. This effect is prominent across all subgroups but males. The household size is also one of the contributors to increasing the probability of employment, whereas the age of the household has a contrary effect. Lastly, the highest education level of the household head is an important determinant of being employed. For example, it is 21.4 pp less likely for youth to be employed if their household head holds a degree in higher education compared to the ones where the household head owns no degree.

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Our analysis on the time-use of youth where we divide the sample into four groups according to their enrollment and employment status - only enrolled, only employed, both enrolled and employed, and neither enrolled nor employed – suggests a higher probability of attending school only with the policy by 4.8 to 6.0 pp and a lower probability of being employed only and being engaged in neither of the two activities by 0.7 to 1.3 pp and 4.0 to 5.4, respectively. This suggests that the policy mainly leads youth who is not engaged in either employment or enrollment into educational institutions.

As a result of the policy, the probability of attending school only increases by 4.4 to 5.5 pp for females and 5.2 to 6.5 pp for males. The policy decreases the probability that the young boys solely engage in employment by 1.3 to 2.2 pp. The policy also reduces the likelihood of being engaged in neither of the two activities by 4.1 to 5.7 pp for females and 3.8 to 5.1 pp for males.

Next, we reviewed the policy's effect on urban and rural areas. We find that the policy increases the probability of attending school only by 5.7 to 7.0 pp for urban and 2.6 to 3.4 pp for rural areas. The policy does not change the likelihood of being employed only for those who live in rural areas. However, it decreases the probability of being employed only by 1.1 to 1.9 pp for those in urban areas. Lastly, policy alters the probability of being engaged in neither of the two activities by 4.3 to 5.8 pp for urban and 3.2 to 4.2 pp for rural areas.

Finally, when we analyze the time-use of youth by age, we find that the policy increases the probability of attending school only by 11.3 to 13.0 pp for 17-year-olds and 6.8 to 8.7 pp for 18-year-olds. We do not observe a significant change among 15- and 16-year-olds. The reverse is observed for the policy's effect on the probability of being employed only. The policy decreases the likelihood of being employed only by 0.8 to 1.9 pp for 17-year-olds and 2.8 to 3.4 pp for 18-year-olds, whereas it increases the likelihood of being employed by 1.7 for 15-year-olds and 1.1 to 1.4 for 16-year-olds. The effect of policy on the probability of engaging in both activities is minus 0.5 to minus 1.0 pp, minus 0.7 pp, 0.6 to 1.7 pp, and 0.4 to 1.2 pp for 15-, 16-, 17-, and 18-year-olds, respectively. The policy decreases the probability of engaging in neither

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one of the two significantly for 17- and 18-year-olds, whereas it has no significant effect on 15- and 16- year-olds. The decrease in the likelihood of being engaged in neither of the two activities for 17- and 18-year-olds are, respectively, 11.0 to 12.8 pp and 4.3 to 6.5 pp.

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APPENDICES

A   ESTIMATION RESULTS

Table A.1: Estimation Results (E.R.) for Enrollment at Any Education

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Policy effect	overall	0.067 ** (0.029)	0.047 *** (0.010)	-	-
	15	-	-	-0.029 * (0.015)	-0.016 (0.013)
	16	-	-	-0.006 (0.008)	-0.011 (0.010)
	17	-	-	0.147 *** (0.016)	0.118 *** (0.023)
	18	-	-	0.099 *** (0.013)	0.072 *** (0.015)
Sex	male	ref	ref	ref	ref
	female	-0.067 *** (0.010)	-0.067 *** (0.010)	-0.067 *** (0.010)	-0.067 *** (0.010)
St.Type	urban	ref	ref	ref	ref
	rural	-0.114 *** (0.005)	-0.114 *** (0.005)	-0.114 *** (0.005)	-0.114 *** (0.005)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.107 *** (0.008)	0.107 *** (0.008)	0.107 *** (0.008)	0.107 *** (0.008)
	lower sec.	0.211 *** (0.008)	0.211 *** (0.008)	0.211 *** (0.008)	0.211 *** (0.008)
	upper sec.	0.286 *** (0.008)	0.286 *** (0.008)	0.286 *** (0.008)	0.286 *** (0.008)
	voc. & tech h.s.	0.287 *** (0.009)	0.287 *** (0.009)	0.287 *** (0.009)	0.287 *** (0.009)
	higher education	0.329 *** (0.008)	0.329 *** (0.008)	0.329 *** (0.008)	0.329 *** (0.008)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.031 *** (0.007)	0.030 *** (0.007)	0.030 *** (0.007)	0.030 *** (0.007)
	aegean	-0.010 *** (0.003)	-0.011 *** (0.003)	-0.011 *** (0.003)	-0.011 *** (0.003)
	east marmara	0.013 * (0.006)	0.012 * (0.006)	0.012 * (0.006)	0.012 * (0.006)
	west anatolia	-0.030 *** (0.004)	-0.030 *** (0.004)	-0.030 *** (0.004)	-0.030 *** (0.004)
	mediterranean	-0.021 *** (0.006)	-0.021 *** (0.006)	-0.022 *** (0.006)	-0.021 *** (0.006)
	central anatolia	-0.035 *** (0.006)	-0.035 *** (0.006)	-0.035 *** (0.006)	-0.035 *** (0.006)
	west black sea	-0.011 ** (0.004)	-0.011 ** (0.004)	-0.012 ** (0.004)	-0.012 ** (0.004)
	east black sea	0.047 *** (0.009)	0.047 *** (0.009)	0.047 *** (0.009)	0.047 *** (0.009)
	north east anatolia	-0.062 *** (0.008)	-0.062 *** (0.008)	-0.062 *** (0.008)	-0.062 *** (0.008)
	central east anatolia	-0.027 *** (0.008)	-0.027 *** (0.008)	-0.027 *** (0.008)	-0.027 *** (0.008)
	south east anatolia	-0.064 *** (0.007)	-0.064 *** (0.007)	-0.065 *** (0.007)	-0.065 *** (0.007)
Head R	other	ref	ref	ref	ref
	own child	0.052 *** (0.005)	0.052 *** (0.005)	0.052 *** (0.005)	0.052 *** (0.005)

Table A.1: E. R. for Enrollment at any Education (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Age Dummy	15	ref	ref	ref	ref
	16	-0.082 *** (0.008)	-0.095 *** (0.016)	-0.105 *** (0.010)	-0.103 *** (0.009)
	17	-0.224 *** (0.029)	-0.348 *** (0.024)	-0.341 *** (0.013)	-0.330 *** (0.012)
	18	-0.409 *** (0.023)	-0.531 *** (0.020)	-0.498 *** (0.007)	-0.519 *** (0.015)
Trend	15	-	-0.037 ** (0.012)	-	-0.005 (0.012)
	16	-	-0.035 *** (0.009)	-	-0.009 (0.009)
	17	-	-0.006 (0.010)	-	-0.020 ** (0.008)
	18	-	-	-	-
Trend-squared	15	-	-0.037 ** (0.012)	-	-0.013 (0.014)
	16	-	-0.035 *** (0.009)	-	0.002 (0.007)
	17	-	-0.006 (0.010)	-	0.022 ** (0.007)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.024 (0.032)	0.012 (0.016)	-0.015 (0.010)	0.000 (0.011)
	2006	-0.025 (0.040)	0.032 (0.020)	0.007 (0.007)	0.026 (0.015)
	2007	-0.064 * (0.029)	0.012 (0.014)	-0.013 (0.008)	0.015 (0.016)
	2008	-0.046 (0.038)	0.046 ** (0.020)	-0.015 (0.018)	0.026 (0.021)
	2009	0.007 (0.045)	0.114 *** (0.024)	0.030 * (0.015)	0.083 ** (0.027)
	2010	0.028 (0.043)	0.142 *** (0.023)	0.051 *** (0.013)	0.109 *** (0.025)
	2011	0.044 (0.043)	0.163 *** (0.024)	0.068 *** (0.014)	0.130 *** (0.027)
	2012	0.068 (0.049)	0.168 *** (0.023)	0.084 *** (0.015)	0.135 *** (0.026)
	2013	0.132 ** (0.050)	0.199 *** (0.021)	0.131 *** (0.016)	0.167 *** (0.026)
household size		-0.026 *** (0.002)	-0.026 *** (0.002)	-0.026 *** (0.002)	-0.026 *** (0.002)
age of the hh head		0.002 *** (0.000)	0.002 *** (0.000)	0.002 *** (0.000)	0.002 *** (0.000)
constant		0.638 *** (0.037)	0.685 *** (0.019)	0.686 *** (0.020)	0.682 *** (0.017)
r-squared		0.214	0.218	0.218	0.218
number of obs.		329,709	329,709	329,709	329,709

Table A.2: E. R. for Enrollment at any Education of Females

		Model (1)	Model (2)	Model (3)	Model (4)
		females	females	females	females
Policy effect	overall	0.060 ** (0.022)	0.043 *** (0.011)	-	-
	15	-	-	-0.033 * (0.016)	-0.009 (0.012)
	16	-	-	-0.001 (0.014)	-0.020 (0.016)
	17	-	-	0.149 *** (0.015)	0.124 *** (0.020)
	18	-	-	0.078 *** (0.014)	0.056 ** (0.018)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	-0.144 *** (0.007)	-0.144 *** (0.007)	-0.144 *** (0.007)	-0.144 *** (0.007)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.111 *** (0.008)	0.111 *** (0.008)	0.111 *** (0.008)	0.111 *** (0.008)
	lower sec.	0.211 *** (0.008)	0.210 *** (0.008)	0.211 *** (0.008)	0.210 *** (0.008)
	upper sec.	0.294 *** (0.007)	0.293 *** (0.007)	0.293 *** (0.007)	0.293 *** (0.007)
	voc. & tech h.s.	0.280 *** (0.009)	0.280 *** (0.009)	0.280 *** (0.009)	0.280 *** (0.009)
	higher education	0.345 *** (0.011)	0.345 *** (0.011)	0.345 *** (0.011)	0.345 *** (0.011)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.057 *** (0.012)	0.057 *** (0.012)	0.056 *** (0.012)	0.056 *** (0.012)
	aegean	0.012 (0.007)	0.012 (0.007)	0.012 (0.007)	0.012 (0.007)
	east marmara	0.022 *** (0.005)	0.021 *** (0.005)	0.021 *** (0.005)	0.021 *** (0.005)
	west anatolia	-0.020 * (0.009)	-0.020 * (0.009)	-0.020 * (0.009)	-0.020 * (0.009)
	mediterranean	-0.023 *** (0.005)	-0.023 *** (0.005)	-0.023 *** (0.005)	-0.023 *** (0.005)
	central anatolia	-0.040 ** (0.013)	-0.040 ** (0.013)	-0.040 ** (0.013)	-0.040 ** (0.013)
	west black sea	-0.009 (0.006)	-0.009 (0.006)	-0.009 (0.006)	-0.009 (0.006)
	east black sea	0.048 *** (0.012)	0.048 *** (0.013)	0.048 *** (0.013)	0.048 *** (0.013)
	north east anatolia	-0.093 *** (0.011)	-0.092 *** (0.011)	-0.092 *** (0.011)	-0.092 *** (0.011)
	central east anatolia	-0.072 *** (0.011)	-0.072 *** (0.011)	-0.073 *** (0.011)	-0.073 *** (0.011)
	south east anatolia	-0.111 *** (0.011)	-0.111 *** (0.011)	-0.112 *** (0.011)	-0.112 *** (0.011)
Head R	other	ref	ref	ref	ref
	own child	0.113 *** (0.007)	0.113 *** (0.007)	0.113 *** (0.007)	0.113 *** (0.007)

Table A.2: E. R. for Enrollment at any Education of Females (Cont'd)

		Model (1) females	Model (2) females	Model (3) females	Model (4) females
Age Dummy	15	ref	ref	ref	ref
	16	-0.077 *** (0.007)	-0.106 *** (0.015)	-0.106 *** (0.007)	-0.116 *** (0.007)
	17	-0.217 *** (0.030)	-0.347 *** (0.023)	-0.337 *** (0.011)	-0.327 *** (0.010)
	18	-0.403 *** (0.020)	-0.510 *** (0.023)	-0.481 *** (0.009)	-0.506 *** (0.019)
Trend	15	-	-0.038 ** (0.013)	-	-0.015 (0.013)
	16	-	-0.024 ** (0.009)	-	0.001 (0.009)
	17	-	-0.002 (0.011)	-	-0.023 ** (0.008)
	18	-	-	-	-
Trend-squared	15	-	-0.038 ** (0.013)	-	0.001 (0.014)
	16	-	-0.024 ** (0.009)	-	-0.006 (0.008)
	17	-	-0.002 (0.011)	-	0.026 ** (0.008)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.005 (0.032)	0.021 (0.016)	0.000 (0.010)	0.015 (0.012)
	2006	0.001 (0.043)	0.043 (0.024)	0.029 ** (0.011)	0.045 ** (0.018)
	2007	-0.030 (0.028)	0.028 (0.017)	0.013 (0.012)	0.042 * (0.022)
	2008	-0.003 (0.038)	0.067 ** (0.026)	0.018 (0.023)	0.058 * (0.027)
	2009	0.053 (0.043)	0.133 *** (0.028)	0.069 *** (0.017)	0.119 *** (0.032)
	2010	0.082 * (0.042)	0.166 *** (0.028)	0.098 *** (0.016)	0.152 *** (0.030)
	2011	0.110 ** (0.041)	0.196 *** (0.029)	0.127 *** (0.017)	0.183 *** (0.032)
	2012	0.139 ** (0.049)	0.207 *** (0.029)	0.148 *** (0.019)	0.194 *** (0.031)
	2013	0.197 *** (0.049)	0.230 *** (0.026)	0.191 *** (0.019)	0.219 *** (0.030)
household size		-0.029 *** (0.002)	-0.030 *** (0.002)	-0.030 *** (0.002)	-0.030 *** (0.002)
age of the hh head		0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)
constant		0.480 *** (0.035)	0.535 *** (0.017)	0.532 *** (0.015)	0.532 *** (0.016)
r-squared		0.255	0.259	0.259	0.260
number of obs.		165,131	165,131	165,131	165,131

Table A.3: E. R. for Enrollment at any Education of Males

		Model (1)	Model (2)	Model (3)	Model (4)
		males	males	males	males
Policy effect	overall	0.073 ** (0.024)	0.050 *** (0.011)	-	-
	15	-	-	-0.024 (0.015)	-0.023 (0.016)
	16	-	-	-0.011 (0.008)	-0.003 (0.011)
	17	-	-	0.142 *** (0.019)	0.111 *** (0.027)
	18	-	-	0.117 *** (0.014)	0.084 *** (0.013)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	-0.083 *** (0.004)	-0.083 *** (0.004)	-0.083 *** (0.004)	-0.083 *** (0.004)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.104 *** (0.011)	0.104 *** (0.011)	0.104 *** (0.011)	0.104 *** (0.011)
	lower sec.	0.211 *** (0.013)	0.212 *** (0.013)	0.212 *** (0.013)	0.212 *** (0.013)
	upper sec.	0.279 *** (0.013)	0.278 *** (0.013)	0.278 *** (0.013)	0.278 *** (0.013)
	voc. & tech h.s.	0.293 *** (0.013)	0.293 *** (0.013)	0.293 *** (0.013)	0.293 *** (0.013)
	higher education	0.314 *** (0.013)	0.315 *** (0.013)	0.316 *** (0.013)	0.315 *** (0.013)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.006 (0.012)	0.006 (0.012)	0.006 (0.012)	0.006 (0.012)
	aegean	-0.032 *** (0.007)	-0.033 *** (0.007)	-0.033 *** (0.007)	-0.033 *** (0.007)
	east marmara	0.004 (0.009)	0.004 (0.008)	0.004 (0.009)	0.004 (0.009)
	west anatolia	-0.041 *** (0.010)	-0.041 *** (0.010)	-0.041 *** (0.010)	-0.041 *** (0.010)
	mediterranean	-0.018 * (0.009)	-0.019 * (0.009)	-0.019 * (0.009)	-0.019 * (0.009)
	central anatolia	-0.028 ** (0.009)	-0.029 *** (0.009)	-0.029 *** (0.009)	-0.029 *** (0.009)
	west black sea	-0.014 (0.009)	-0.014 (0.008)	-0.014 (0.008)	-0.015 (0.008)
	east black sea	0.042 *** (0.008)	0.042 *** (0.008)	0.041 *** (0.008)	0.041 *** (0.008)
	north east anatolia	-0.026 *** (0.006)	-0.027 *** (0.007)	-0.027 *** (0.007)	-0.027 *** (0.007)
	central east anatolia	0.020 (0.013)	0.020 (0.013)	0.020 (0.013)	0.020 (0.013)
	south east anatolia	-0.019 ** (0.008)	-0.019 ** (0.008)	-0.019 ** (0.008)	-0.019 ** (0.008)
Head R	other	ref	ref	ref	ref
	own child	-0.039 *** (0.004)	-0.039 *** (0.004)	-0.038 *** (0.004)	-0.039 *** (0.004)

Table A.3: E. R. for Enrollment at any Education of Males (Cont'd)

		Model (1) males	Model (2) males	Model (3) males	Model (4) males
Age Dummy	15	ref	ref	ref	ref
	16	-0.086 *** (0.010)	-0.082 *** (0.017)	-0.102 *** (0.015)	-0.089 *** (0.011)
	17	-0.227 *** (0.028)	-0.343 *** (0.025)	-0.339 *** (0.015)	-0.326 *** (0.013)
	18	-0.410 *** (0.025)	-0.544 *** (0.019)	-0.506 *** (0.007)	-0.525 *** (0.014)
Trend	15	-	-0.036 ** (0.013)	-	0.003 (0.014)
	16	-	-0.047 *** (0.010)	-	-0.019 (0.011)
	17	-	-0.011 (0.010)	-	-0.019 * (0.009)
	18	-	-	-	-
Trend-squared	15	-	-0.036 ** (0.013)	-	-0.024 (0.017)
	16	-	-0.047 *** (0.010)	-	0.012 (0.009)
	17	-	-0.011 (0.010)	-	0.020 ** (0.007)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.042 (0.034)	0.005 (0.018)	-0.028 ** (0.012)	-0.013 (0.014)
	2006	-0.048 (0.039)	0.023 (0.018)	-0.012 (0.007)	0.012 (0.015)
	2007	-0.094 ** (0.031)	0.000 (0.014)	-0.036 *** (0.007)	-0.007 (0.015)
	2008	-0.087 ** (0.038)	0.027 (0.017)	-0.046 ** (0.016)	-0.003 (0.019)
	2009	-0.038 (0.047)	0.095 *** (0.023)	-0.008 (0.014)	0.050 * (0.025)
	2010	-0.025 (0.045)	0.118 *** (0.021)	0.005 (0.013)	0.070 ** (0.022)
	2011	-0.020 (0.045)	0.130 *** (0.021)	0.010 (0.013)	0.081 *** (0.025)
	2012	-0.001 (0.049)	0.129 *** (0.021)	0.021 (0.014)	0.079 *** (0.024)
	2013	0.068 (0.052)	0.167 *** (0.019)	0.072 *** (0.017)	0.118 *** (0.024)
household size		-0.023 *** (0.002)	-0.023 *** (0.002)	-0.023 *** (0.002)	-0.023 *** (0.002)
age of the hh head		0.002 *** (0.000)	0.002 *** (0.000)	0.002 *** (0.000)	0.002 *** (0.000)
constant		0.762 *** (0.037)	0.800 *** (0.025)	0.805 *** (0.028)	0.796 *** (0.021)
r-squared		0.180	0.184	0.184	0.185
number of obs.		164,578	164,578	164,578	164,578

Table A.4: E. R. for Enrollment at any Education in Urban Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		urban	urban	urban	urban
Policy effect	overall	0.077 ** (0.025)	0.054 *** (0.011)	-	-
	15	-	-	-0.026 (0.019)	-0.020 (0.013)
	16	-	-	-0.005 (0.011)	-0.010 (0.014)
	17	-	-	0.165 *** (0.018)	0.135 *** (0.026)
	18	-	-	0.110 *** (0.015)	0.081 *** (0.017)
Sex	male	ref	ref	ref	ref
	female	-0.040 *** (0.010)	-0.040 *** (0.010)	-0.040 *** (0.010)	-0.040 *** (0.010)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.125 *** (0.007)	0.125 *** (0.007)	0.125 *** (0.007)	0.125 *** (0.007)
	lower sec.	0.209 *** (0.008)	0.209 *** (0.008)	0.210 *** (0.007)	0.210 *** (0.008)
	upper sec.	0.288 *** (0.007)	0.287 *** (0.007)	0.287 *** (0.007)	0.287 *** (0.007)
	voc. & tech h.s.	0.286 *** (0.009)	0.286 *** (0.009)	0.286 *** (0.009)	0.286 *** (0.008)
	higher education	0.324 *** (0.008)	0.324 *** (0.008)	0.325 *** (0.008)	0.325 *** (0.008)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.020 *** (0.005)	0.019 *** (0.005)	0.019 *** (0.005)	0.019 *** (0.005)
	aegean	-0.006 (0.004)	-0.007 (0.004)	-0.007 (0.004)	-0.007 (0.004)
	east marmara	0.002 (0.008)	0.002 (0.008)	0.001 (0.008)	0.001 (0.008)
	west anatolia	-0.026 *** (0.005)	-0.026 *** (0.005)	-0.026 *** (0.005)	-0.026 *** (0.005)
	mediterranean	-0.027 *** (0.006)	-0.027 *** (0.006)	-0.027 *** (0.006)	-0.027 *** (0.006)
	central anatolia	-0.009 (0.009)	-0.009 (0.009)	-0.009 (0.009)	-0.009 (0.009)
	west black sea	-0.002 (0.006)	-0.002 (0.006)	-0.002 (0.006)	-0.002 (0.006)
	east black sea	0.029 *** (0.008)	0.029 *** (0.008)	0.028 *** (0.008)	0.028 *** (0.008)
	north east anatolia	-0.043 *** (0.007)	-0.043 *** (0.007)	-0.043 *** (0.007)	-0.043 *** (0.007)
	central east anatolia	0.013 * (0.006)	0.013 * (0.006)	0.013 * (0.006)	0.013 * (0.006)
	south east anatolia	-0.055 *** (0.006)	-0.055 *** (0.006)	-0.055 *** (0.006)	-0.055 *** (0.006)
Head R	other	ref	ref	ref	ref
	own child	0.075 *** (0.006)	0.075 *** (0.006)	0.075 *** (0.006)	0.075 *** (0.006)

Table A.4: E. R. for Enrollment at any Education in Urban (Cont'd)

		Model (1) urban	Model (2) urban	Model (3) urban	Model (4) urban
Age Dummy	15	ref	ref	ref	ref
	16	-0.077 *** (0.008)	-0.089 *** (0.019)	-0.099 *** (0.012)	-0.098 *** (0.011)
	17	-0.222 *** (0.032)	-0.352 *** (0.028)	-0.347 *** (0.017)	-0.331 *** (0.014)
	18	-0.414 *** (0.025)	-0.540 *** (0.024)	-0.508 *** (0.010)	-0.527 *** (0.018)
Trend	15	-	-0.037 ** (0.013)	-	0.000 (0.012)
	16	-	-0.034 ** (0.011)	-	-0.005 (0.012)
	17	-	-0.006 (0.011)	-	-0.023 ** (0.009)
	18	-	-	-	-
Trend-squared	15	-	-0.037 ** (0.013)	-	-0.019 (0.013)
	16	-	-0.034 ** (0.011)	-	-0.003 (0.010)
	17	-	-0.006 (0.011)	-	0.025 ** (0.008)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.034 (0.035)	0.003 (0.019)	-0.024 * (0.012)	-0.010 (0.014)
	2006	-0.030 (0.043)	0.027 (0.024)	0.004 (0.011)	0.023 (0.018)
	2007	-0.072 ** (0.030)	0.005 (0.017)	-0.018 (0.012)	0.009 (0.020)
	2008	-0.055 (0.040)	0.040 (0.024)	-0.022 (0.023)	0.018 (0.026)
	2009	-0.003 (0.047)	0.108 *** (0.029)	0.021 (0.018)	0.075 * (0.033)
	2010	0.010 (0.046)	0.129 *** (0.028)	0.034 * (0.016)	0.094 ** (0.031)
	2011	0.023 (0.046)	0.148 *** (0.029)	0.047 ** (0.017)	0.113 *** (0.033)
	2012	0.048 (0.052)	0.155 *** (0.029)	0.064 *** (0.018)	0.119 *** (0.031)
	2013	0.108 * (0.053)	0.176 *** (0.027)	0.106 *** (0.021)	0.141 *** (0.031)
household size		-0.031 *** (0.002)	-0.031 *** (0.002)	-0.031 *** (0.002)	-0.031 *** (0.002)
age of the hh head		0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)
constant		0.601 *** (0.034)	0.651 *** (0.020)	0.652 *** (0.020)	0.646 *** (0.016)
r-squared		0.203	0.208	0.207	0.208
number of obs.		226,287	226,287	226,287	226,287

Table A.5: E. R. for Enrollment at any Education in Rural Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		rural	rural	rural	rural
Policy effect	overall	0.043 ** (0.017)	0.028 ** (0.009)	-	-
	15	-	-	-0.038 *** (0.009)	-0.006 (0.014)
	16	-	-	-0.011 (0.007)	-0.014 (0.009)
	17	-	-	0.105 *** (0.012)	0.076 *** (0.019)
	18	-	-	0.065 *** (0.009)	0.043 *** (0.012)
Sex	male	ref	ref	ref	ref
	female	-0.126 *** (0.014)	-0.125 *** (0.014)	-0.125 *** (0.014)	-0.125 *** (0.014)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.069 *** (0.010)	0.069 *** (0.010)	0.069 *** (0.010)	0.069 *** (0.010)
	lower sec.	0.221 *** (0.013)	0.221 *** (0.013)	0.221 *** (0.013)	0.221 *** (0.013)
	upper sec.	0.296 *** (0.015)	0.295 *** (0.015)	0.295 *** (0.015)	0.295 *** (0.015)
	voc. & tech h.s.	0.305 *** (0.016)	0.304 *** (0.016)	0.304 *** (0.016)	0.304 *** (0.016)
	higher education	0.380 *** (0.016)	0.379 *** (0.016)	0.379 *** (0.016)	0.379 *** (0.016)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.052 *** (0.012)	-0.052 *** (0.012)	-0.052 *** (0.012)	-0.052 *** (0.012)
	aegean	-0.118 *** (0.009)	-0.118 *** (0.009)	-0.117 *** (0.009)	-0.117 *** (0.009)
	east marmara	-0.045 ** (0.018)	-0.046 ** (0.017)	-0.045 ** (0.017)	-0.046 ** (0.017)
	west anatolia	-0.149 *** (0.022)	-0.149 *** (0.021)	-0.149 *** (0.021)	-0.149 *** (0.021)
	mediterranean	-0.106 *** (0.009)	-0.107 *** (0.009)	-0.106 *** (0.009)	-0.106 *** (0.009)
	central anatolia	-0.168 *** (0.018)	-0.168 *** (0.018)	-0.168 *** (0.018)	-0.168 *** (0.018)
	west black sea	-0.125 *** (0.015)	-0.126 *** (0.015)	-0.126 *** (0.015)	-0.126 *** (0.015)
	east black sea	-0.051 *** (0.014)	-0.051 *** (0.014)	-0.050 *** (0.014)	-0.051 *** (0.014)
	north east anatolia	-0.186 *** (0.016)	-0.185 *** (0.016)	-0.185 *** (0.016)	-0.185 *** (0.016)
	central east anatolia	-0.177 *** (0.014)	-0.178 *** (0.014)	-0.177 *** (0.014)	-0.177 *** (0.014)
	south east anatolia	-0.187 *** (0.017)	-0.188 *** (0.017)	-0.187 *** (0.017)	-0.187 *** (0.017)
Head R	other	ref	ref	ref	ref
	own child	0.012 (0.007)	0.013 (0.007)	0.013 (0.007)	0.013 (0.007)

Table A.5: E. R. for Enrollment at any Education in Rural Areas (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		urban	urban	urban	urban
Age Dummy	15	ref	ref	ref	ref
	16	-0.095 *** (0.009)	-0.109 *** (0.009)	-0.118 *** (0.007)	-0.116 *** (0.008)
	17	-0.228 *** (0.023)	-0.338 *** (0.013)	-0.325 *** (0.005)	-0.326 *** (0.007)
	18	-0.397 *** (0.018)	-0.505 *** (0.015)	-0.471 *** (0.006)	-0.498 *** (0.013)
Trend	15	-	-0.036 ** (0.014)	-	-0.018 (0.015)
	16	-	-0.037 *** (0.007)	-	-0.018 ** (0.007)
	17	-	-0.005 (0.009)	-	-0.014 * (0.007)
	18	-	-	-	-
Trend-squared	15	-	-0.036 ** (0.014)	-	0.004 (0.019)
	16	-	-0.037 *** (0.007)	-	0.015 * (0.007)
	17	-	-0.005 (0.009)	-	0.016 ** (0.006)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.000 (0.028)	0.034 ** (0.011)	0.007 (0.004)	0.026 ** (0.009)
	2006	-0.010 (0.034)	0.043 ** (0.013)	0.018 *** (0.005)	0.038 ** (0.012)
	2007	-0.040 (0.029)	0.028 ** (0.012)	0.000 (0.006)	0.030 ** (0.013)
	2008	-0.025 (0.034)	0.057 *** (0.014)	0.001 (0.012)	0.044 *** (0.012)
	2009	0.031 (0.040)	0.123 *** (0.014)	0.051 *** (0.011)	0.104 *** (0.016)
	2010	0.070 (0.038)	0.166 *** (0.014)	0.090 *** (0.008)	0.145 *** (0.013)
	2011	0.095 ** (0.037)	0.193 *** (0.013)	0.115 *** (0.009)	0.172 *** (0.017)
	2012	0.116 ** (0.042)	0.195 *** (0.012)	0.130 *** (0.010)	0.174 *** (0.016)
	2013	0.186 *** (0.043)	0.246 *** (0.010)	0.188 *** (0.010)	0.226 *** (0.017)
household size		-0.019 *** (0.002)	-0.019 *** (0.002)	-0.019 *** (0.002)	-0.019 *** (0.002)
age of the hh head		0.001 *** (0.000)	0.001 *** (0.000)	0.001 *** (0.000)	0.001 *** (0.000)
constant		0.709 *** (0.039)	0.751 *** (0.017)	0.749 *** (0.018)	0.749 *** (0.015)
r-squared		0.188	0.190	0.190	0.191
number of obs.		103,422	103,422	103,422	103,422

Table A.6: E. R. for Enrollment in Upper Secondary Education

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Policy effect	overall	0.079 *** (0.016)	0.062 *** (0.010)	-	-
	15	-	-	0.020 (0.017)	0.001 (0.013)
	16	-	-	0.007 (0.009)	0.002 (0.013)
	17	-	-	0.161 *** (0.016)	0.135 *** (0.025)
	18	-	-	0.091 *** (0.011)	0.085 *** (0.014)
Sex	male	ref	ref	ref	ref
	female	-0.052 *** (0.008)	-0.052 *** (0.008)	-0.052 *** (0.008)	-0.052 *** (0.008)
St.Type	urban	ref	ref	ref	ref
	rural	-0.108 *** (0.005)	-0.108 *** (0.005)	-0.108 *** (0.005)	-0.108 *** (0.005)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.114 *** (0.009)	0.114 *** (0.009)	0.114 *** (0.009)	0.114 *** (0.009)
	lower sec.	0.220 *** (0.012)	0.220 *** (0.012)	0.220 *** (0.012)	0.220 *** (0.012)
	upper sec.	0.262 *** (0.013)	0.261 *** (0.013)	0.261 *** (0.013)	0.261 *** (0.013)
	voc. & tech h.s.	0.269 *** (0.016)	0.269 *** (0.016)	0.269 *** (0.016)	0.269 *** (0.016)
	higher education	0.306 *** (0.013)	0.306 *** (0.013)	0.306 *** (0.013)	0.306 *** (0.013)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.043 *** (0.010)	0.043 *** (0.010)	0.043 *** (0.010)	0.043 *** (0.010)
	aegean	0.006 (0.003)	0.006 (0.003)	0.006 (0.004)	0.006 (0.004)
	east marmara	0.018 *** (0.005)	0.018 *** (0.005)	0.018 *** (0.005)	0.018 *** (0.005)
	west anatolia	-0.020 *** (0.005)	-0.020 *** (0.005)	-0.020 *** (0.005)	-0.020 *** (0.005)
	mediterranean	0.008 (0.005)	0.008 (0.005)	0.008 (0.005)	0.008 (0.005)
	central anatolia	-0.013 ** (0.005)	-0.013 ** (0.005)	-0.013 ** (0.005)	-0.013 ** (0.005)
	west black sea	0.017 ** (0.007)	0.017 ** (0.007)	0.017 ** (0.007)	0.017 ** (0.007)
	east black sea	0.071 *** (0.007)	0.071 *** (0.007)	0.071 *** (0.007)	0.071 *** (0.007)
	north east anatolia	-0.058 *** (0.007)	-0.058 *** (0.007)	-0.058 *** (0.007)	-0.058 *** (0.007)
	central east anatolia	-0.019 (0.011)	-0.019 (0.011)	-0.019 (0.011)	-0.019 (0.011)
	south east anatolia	-0.064 *** (0.009)	-0.064 *** (0.009)	-0.064 *** (0.009)	-0.064 *** (0.009)
Head R	other	ref	ref	ref	ref
	own child	0.076 *** (0.006)	0.076 *** (0.006)	0.076 *** (0.006)	0.076 *** (0.006)

Table A.6: E. R. for Enrollment in Upper Secondary Education (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Age Dummy	15	ref	ref	ref	ref
	16	-0.016 ** (0.007)	0.003 (0.017)	-0.012 (0.011)	-0.006 (0.011)
	17	-0.159 *** (0.024)	-0.251 *** (0.025)	-0.250 *** (0.017)	-0.233 *** (0.014)
	18	-0.425 *** (0.014)	-0.484 *** (0.020)	-0.474 *** (0.012)	-0.473 *** (0.015)
Trend	15	-	-0.013 (0.011)	-	0.018 (0.012)
	16	-	-0.026 ** (0.010)	-	0.001 (0.010)
	17	-	0.002 (0.010)	-	-0.013 * (0.007)
	18	-	-	-	-
Trend-squared	15	-	-0.013 (0.011)	-	-0.029 * (0.014)
	16	-	-0.026 ** (0.010)	-	-0.004 (0.009)
	17	-	0.002 (0.010)	-	0.020 ** (0.007)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.007 (0.033)	0.010 (0.016)	-0.002 (0.011)	-0.002 (0.012)
	2006	-0.006 (0.033)	0.021 (0.021)	0.011 (0.011)	0.016 (0.015)
	2007	-0.045 * (0.021)	-0.007 (0.016)	-0.009 (0.012)	-0.003 (0.015)
	2008	-0.031 (0.027)	0.018 (0.019)	-0.015 (0.019)	-0.001 (0.019)
	2009	0.031 (0.034)	0.089 *** (0.023)	0.044 ** (0.017)	0.061 * (0.028)
	2010	0.056 (0.031)	0.118 *** (0.023)	0.069 *** (0.015)	0.088 *** (0.024)
	2011	0.072 ** (0.031)	0.137 *** (0.023)	0.084 *** (0.016)	0.106 *** (0.026)
	2012	0.089 ** (0.037)	0.138 *** (0.024)	0.096 *** (0.017)	0.107 *** (0.026)
	2013	0.149 *** (0.039)	0.165 *** (0.022)	0.142 *** (0.019)	0.135 *** (0.025)
household size		-0.028 *** (0.002)	-0.028 *** (0.002)	-0.028 *** (0.002)	-0.028 *** (0.002)
age of the hh head		0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)
constant		0.450 *** (0.028)	0.476 *** (0.015)	0.480 *** (0.016)	0.472 *** (0.013)
r-squared		0.234	0.237	0.237	0.237
number of obs.		329,709	329,709	329,709	329,709

Table A.7: E. R. for Enrollment in Upper Secondary Education of Females

		Model (1) females	Model (2) females	Model (3) females	Model (4) females
Policy effect	overall	0.066 *** (0.016)	0.050 *** (0.011)	-	-
	15	-	-	0.001 (0.022)	-0.022 (0.016)
	16	-	-	0.012 (0.015)	-0.005 (0.016)
	17	-	-	0.167 *** (0.016)	0.144 *** (0.022)
	18	-	-	0.061 *** (0.012)	0.058 *** (0.016)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	-0.133 *** (0.006)	-0.132 *** (0.006)	-0.133 *** (0.006)	-0.133 *** (0.006)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.113 *** (0.010)	0.113 *** (0.010)	0.113 *** (0.010)	0.113 *** (0.010)
	lower sec.	0.211 *** (0.010)	0.211 *** (0.010)	0.211 *** (0.010)	0.211 *** (0.010)
	upper sec.	0.262 *** (0.012)	0.262 *** (0.012)	0.262 *** (0.012)	0.262 *** (0.012)
	voc. & tech h.s.	0.265 *** (0.014)	0.266 *** (0.014)	0.265 *** (0.014)	0.265 *** (0.014)
	higher education	0.311 *** (0.014)	0.311 *** (0.014)	0.311 *** (0.014)	0.311 *** (0.014)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.070 *** (0.011)	0.069 *** (0.011)	0.069 *** (0.011)	0.069 *** (0.011)
	aegean	0.029 *** (0.007)	0.029 *** (0.007)	0.029 *** (0.007)	0.028 *** (0.006)
	east marmara	0.029 *** (0.004)	0.029 *** (0.004)	0.028 *** (0.004)	0.028 *** (0.004)
	west anatolia	-0.006 (0.009)	-0.006 (0.009)	-0.006 (0.009)	-0.006 (0.009)
	mediterranean	0.011 ** (0.004)	0.011 ** (0.004)	0.011 ** (0.004)	0.011 ** (0.004)
	central anatolia	-0.015 (0.012)	-0.015 (0.012)	-0.016 (0.012)	-0.016 (0.012)
	west black sea	0.021 *** (0.005)	0.021 *** (0.005)	0.021 *** (0.005)	0.021 *** (0.005)
	east black sea	0.076 *** (0.010)	0.076 *** (0.010)	0.076 *** (0.010)	0.076 *** (0.010)
	north east anatolia	-0.078 *** (0.010)	-0.078 *** (0.010)	-0.078 *** (0.010)	-0.078 *** (0.010)
	central east anatolia	-0.050 *** (0.010)	-0.050 *** (0.010)	-0.050 *** (0.010)	-0.050 *** (0.010)
	south east anatolia	-0.093 *** (0.009)	-0.093 *** (0.009)	-0.093 *** (0.009)	-0.093 *** (0.009)
Head R	other	ref	ref	ref	ref
	own child	0.115 *** (0.008)	0.115 *** (0.008)	0.115 *** (0.008)	0.115 *** (0.008)

Table A.7: E. R. for Enrollment in Upper Secondary Education of Females (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		females	females	females	females
Age Dummy	15	ref	ref	ref	ref
	16	-0.024 *** (0.006)	-0.028 (0.017)	-0.036 *** (0.010)	-0.035 *** (0.009)
	17	-0.167 *** (0.028)	-0.276 *** (0.028)	-0.274 *** (0.019)	-0.252 *** (0.013)
	18	-0.437 *** (0.014)	-0.475 *** (0.026)	-0.480 *** (0.015)	-0.474 *** (0.019)
Trend	15	-	-0.008 (0.013)	-	0.022 (0.013)
	16	-	-0.009 (0.011)	-	0.011 (0.011)
	17	-	0.012 (0.013)	-	-0.015 * (0.007)
	18	-	-	-	-
Trend-squared	15	-	-0.008 (0.013)	-	-0.032 ** (0.014)
	16	-	-0.009 (0.011)	-	-0.012 (0.010)
	17	-	0.012 (0.013)	-	0.022 ** (0.008)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.011 (0.035)	0.010 (0.019)	0.010 (0.012)	0.007 (0.012)
	2006	0.018 (0.036)	0.022 (0.026)	0.032 * (0.015)	0.032 (0.019)
	2007	-0.013 (0.020)	-0.003 (0.017)	0.015 (0.016)	0.018 (0.020)
	2008	0.009 (0.027)	0.024 (0.026)	0.012 (0.023)	0.020 (0.025)
	2009	0.070 * (0.032)	0.090 *** (0.027)	0.074 *** (0.021)	0.083 ** (0.031)
	2010	0.102 *** (0.030)	0.123 *** (0.030)	0.106 *** (0.019)	0.117 *** (0.030)
	2011	0.131 *** (0.031)	0.153 *** (0.029)	0.135 *** (0.020)	0.149 *** (0.030)
	2012	0.147 *** (0.040)	0.152 *** (0.030)	0.145 *** (0.022)	0.149 *** (0.030)
	2013	0.204 *** (0.039)	0.174 *** (0.027)	0.189 *** (0.022)	0.173 *** (0.029)
household size		-0.031 *** (0.002)	-0.031 *** (0.002)	-0.031 *** (0.002)	-0.031 *** (0.002)
age of the hh head		0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)
constant		0.359 *** (0.032)	0.399 *** (0.019)	0.402 *** (0.018)	0.394 *** (0.017)
r-squared		0.273	0.276	0.276	0.277
number of obs.		165,131	165,131	165,131	165,131

Table A.8: E. R. for Enrollment in Upper Secondary Education of Males

		Model (1)	Model (2)	Model (3)	Model (4)
		males	males	males	males
Policy effect	overall	0.090 *** (0.017)	0.073 *** (0.011)	-	-
	15	-	-	0.037 ** (0.013)	0.022 (0.013)
	16	-	-	0.001 (0.007)	0.009 (0.014)
	17	-	-	0.155 *** (0.018)	0.125 *** (0.028)
	18	-	-	0.117 *** (0.011)	0.107 *** (0.014)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	-0.083 *** (0.006)	-0.083 *** (0.006)	-0.083 *** (0.006)	-0.083 *** (0.006)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.116 *** (0.011)	0.116 *** (0.011)	0.116 *** (0.011)	0.116 *** (0.011)
	lower sec.	0.229 *** (0.016)	0.229 *** (0.016)	0.229 *** (0.016)	0.229 *** (0.016)
	upper sec.	0.262 *** (0.016)	0.261 *** (0.016)	0.261 *** (0.016)	0.261 *** (0.016)
	voc. & tech h.s.	0.271 *** (0.021)	0.271 *** (0.021)	0.271 *** (0.021)	0.271 *** (0.021)
	higher education	0.302 *** (0.019)	0.302 *** (0.019)	0.303 *** (0.019)	0.303 *** (0.019)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.019 (0.016)	0.019 (0.016)	0.019 (0.016)	0.019 (0.016)
	aegean	-0.016 * (0.009)	-0.017 * (0.009)	-0.017 * (0.009)	-0.016 * (0.009)
	east marmara	0.009 (0.009)	0.009 (0.009)	0.009 (0.009)	0.009 (0.009)
	west anatolia	-0.034 ** (0.011)	-0.033 ** (0.011)	-0.033 ** (0.011)	-0.033 ** (0.011)
	mediterranean	0.006 (0.009)	0.005 (0.009)	0.005 (0.009)	0.005 (0.009)
	central anatolia	-0.009 (0.011)	-0.010 (0.011)	-0.010 (0.011)	-0.010 (0.011)
	west black sea	0.014 (0.011)	0.013 (0.011)	0.013 (0.011)	0.013 (0.011)
	east black sea	0.064 *** (0.006)	0.064 *** (0.006)	0.064 *** (0.006)	0.064 *** (0.006)
	north east anatolia	-0.034 *** (0.007)	-0.035 *** (0.007)	-0.035 *** (0.007)	-0.035 *** (0.007)
	central east anatolia	0.013 (0.016)	0.013 (0.016)	0.013 (0.016)	0.013 (0.016)
	south east anatolia	-0.036 ** (0.012)	-0.036 ** (0.012)	-0.037 ** (0.012)	-0.037 ** (0.012)
Head R	other	ref	ref	ref	ref
	own child	0.015 ** (0.005)	0.015 ** (0.005)	0.016 ** (0.005)	0.015 ** (0.005)

Table A.8: E. R. for Enrollment in Upper Secondary Education of Males (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		males	males	males	males
Age Dummy	15	ref	ref	ref	ref
	16	-0.008 (0.010)	0.034 * (0.018)	0.012 (0.013)	0.023 * (0.012)
	17	-0.148 *** (0.021)	-0.224 *** (0.024)	-0.224 *** (0.016)	-0.210 *** (0.014)
	18	-0.410 *** (0.016)	-0.487 *** (0.017)	-0.464 *** (0.009)	-0.468 *** (0.015)
Trend	15	-	-0.017 (0.013)	-	0.013 (0.015)
	16	-	-0.042 *** (0.011)	-	-0.009 (0.012)
	17	-	-0.008 (0.009)	-	-0.013 (0.009)
	18	-	-	-	-
Trend-squared	15	-	-0.017 (0.013)	-	-0.025 (0.017)
	16	-	-0.042 *** (0.011)	-	0.005 (0.010)
	17	-	-0.008 (0.009)	-	0.019 ** (0.007)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.024 (0.034)	0.010 (0.016)	-0.014 (0.012)	-0.008 (0.015)
	2006	-0.028 (0.032)	0.021 (0.018)	-0.008 (0.009)	0.004 (0.016)
	2007	-0.075 *** (0.022)	-0.009 (0.017)	-0.032 ** (0.010)	-0.020 (0.016)
	2008	-0.068 ** (0.028)	0.012 (0.016)	-0.041 ** (0.017)	-0.019 (0.017)
	2009	-0.006 (0.036)	0.087 *** (0.023)	0.014 (0.015)	0.041 (0.029)
	2010	0.012 (0.034)	0.112 *** (0.020)	0.032 ** (0.013)	0.061 ** (0.025)
	2011	0.016 (0.033)	0.120 *** (0.021)	0.036 ** (0.013)	0.068 ** (0.028)
	2012	0.033 (0.037)	0.122 *** (0.021)	0.048 *** (0.014)	0.069 ** (0.027)
	2013	0.096 ** (0.040)	0.153 *** (0.020)	0.095 *** (0.019)	0.100 *** (0.026)
household size		-0.025 *** (0.002)	-0.025 *** (0.002)	-0.025 *** (0.002)	-0.025 *** (0.002)
age of the hh head		0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)
constant		0.512 *** (0.023)	0.523 *** (0.013)	0.530 *** (0.017)	0.522 *** (0.010)
r-squared		0.199	0.202	0.202	0.202
number of obs.		164,578	164,578	164,578	164,578

Table A.9: E. R. for Enrollment in Upper Secondary Education in Urban Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		urban	urban	urban	urban
Policy effect	overall	0.085 *** (0.019)	0.067 *** (0.012)	-	-
	15	-	-	0.014 (0.019)	-0.005 (0.013)
	16	-	-	0.004 (0.012)	-0.004 (0.018)
	17	-	-	0.184 *** (0.020)	0.150 *** (0.030)
	18	-	-	0.099 *** (0.013)	0.095 *** (0.017)
Sex	male	ref	ref	ref	ref
	female	-0.031 *** (0.008)	-0.031 *** (0.008)	-0.030 *** (0.008)	-0.030 *** (0.008)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.131 *** (0.009)	0.131 *** (0.009)	0.131 *** (0.009)	0.131 *** (0.009)
	lower sec.	0.215 *** (0.011)	0.216 *** (0.011)	0.216 *** (0.011)	0.216 *** (0.011)
	upper sec.	0.256 *** (0.012)	0.256 *** (0.012)	0.255 *** (0.012)	0.256 *** (0.012)
	voc. & tech h.s.	0.267 *** (0.015)	0.267 *** (0.015)	0.267 *** (0.015)	0.267 *** (0.015)
	higher education	0.296 *** (0.013)	0.296 *** (0.013)	0.296 *** (0.013)	0.296 *** (0.013)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.029 *** (0.008)	0.028 *** (0.008)	0.028 *** (0.008)	0.028 *** (0.008)
	aegean	0.006 (0.005)	0.005 (0.005)	0.005 (0.005)	0.005 (0.005)
	east marmara	0.006 (0.007)	0.006 (0.007)	0.006 (0.007)	0.006 (0.007)
	west anatolia	-0.017 ** (0.006)	-0.017 ** (0.006)	-0.017 ** (0.006)	-0.017 ** (0.006)
	mediterranean	0.003 (0.006)	0.002 (0.006)	0.002 (0.006)	0.002 (0.006)
	central anatolia	0.015 ** (0.006)	0.015 ** (0.006)	0.014 ** (0.006)	0.014 ** (0.006)
	west black sea	0.029 *** (0.008)	0.030 *** (0.007)	0.030 *** (0.007)	0.030 *** (0.007)
	east black sea	0.048 *** (0.008)	0.048 *** (0.008)	0.047 *** (0.008)	0.047 *** (0.008)
	north east anatolia	-0.033 *** (0.009)	-0.033 *** (0.009)	-0.033 *** (0.009)	-0.033 *** (0.009)
	central east anatolia	0.029 *** (0.007)	0.029 *** (0.007)	0.029 *** (0.007)	0.029 *** (0.007)
	south east anatolia	-0.051 *** (0.007)	-0.051 *** (0.007)	-0.051 *** (0.007)	-0.051 *** (0.007)
Head R	other	ref	ref	ref	ref
	own child	0.107 *** (0.006)	0.107 *** (0.006)	0.107 *** (0.006)	0.107 *** (0.006)

Table A.9: E. R. for Enrollment in Upper Secondary Education in Urban A. (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		urban	urban	urban	urban
Age Dummy	15	ref	ref	ref	ref
	16	-0.019 ** (0.007)	-0.004 (0.021)	-0.017 (0.012)	-0.014 (0.013)
	17	-0.172 *** (0.029)	-0.282 *** (0.030)	-0.281 *** (0.020)	-0.261 *** (0.016)
	18	-0.467 *** (0.017)	-0.537 *** (0.023)	-0.526 *** (0.014)	-0.523 *** (0.018)
Trend	15	-	-0.017 (0.012)	-	0.019 (0.013)
	16	-	-0.027 * (0.013)	-	0.005 (0.014)
	17	-	0.001 (0.011)	-	-0.015 (0.008)
	18	-	-	-	-
Trend-squared	15	-	-0.017 (0.012)	-	-0.031 * (0.014)
	16	-	-0.027 * (0.013)	-	-0.009 (0.012)
	17	-	0.001 (0.011)	-	0.025 ** (0.008)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.019 (0.037)	-0.001 (0.019)	-0.014 (0.013)	-0.014 (0.014)
	2006	-0.017 (0.038)	0.013 (0.025)	0.003 (0.015)	0.007 (0.020)
	2007	-0.059 ** (0.023)	-0.016 (0.019)	-0.017 (0.016)	-0.012 (0.019)
	2008	-0.042 (0.030)	0.012 (0.023)	-0.025 (0.024)	-0.011 (0.024)
	2009	0.020 (0.038)	0.084 ** (0.028)	0.033 (0.021)	0.049 (0.034)
	2010	0.037 (0.036)	0.106 *** (0.027)	0.051 ** (0.019)	0.069 * (0.031)
	2011	0.049 (0.037)	0.121 *** (0.028)	0.062 ** (0.020)	0.083 ** (0.033)
	2012	0.066 (0.043)	0.119 *** (0.029)	0.072 *** (0.021)	0.081 ** (0.033)
	2013	0.122 ** (0.046)	0.133 *** (0.027)	0.112 *** (0.025)	0.097 ** (0.032)
household size		-0.032 *** (0.002)	-0.033 *** (0.002)	-0.032 *** (0.002)	-0.032 *** (0.002)
age of the hh head		0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)
constant		0.426 *** (0.029)	0.460 *** (0.016)	0.464 *** (0.016)	0.456 *** (0.013)
r-squared		0.239	0.244	0.244	0.244
number of obs.		226,287	226,287	226,287	226,287

Table A.10: E. R. for Enrollment in Upper Secondary Education in Rural Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		rural	rural	rural	rural
Policy effect	overall	0.054 *** (0.008)	0.046 *** (0.007)	-	-
	15	-	-	0.030 ** (0.012)	0.017 (0.015)
	16	-	-	0.009 * (0.004)	0.015 *** (0.005)
	17	-	-	0.105 *** (0.008)	0.093 *** (0.015)
	18	-	-	0.055 *** (0.005)	0.051 *** (0.011)
Sex	male	ref	ref	ref	ref
	female	-0.100 *** (0.010)	-0.099 *** (0.010)	-0.100 *** (0.010)	-0.100 *** (0.010)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.077 *** (0.010)	0.077 *** (0.010)	0.077 *** (0.010)	0.077 *** (0.010)
	lower sec.	0.234 *** (0.015)	0.234 *** (0.015)	0.234 *** (0.015)	0.234 *** (0.015)
	upper sec.	0.301 *** (0.017)	0.301 *** (0.017)	0.301 *** (0.017)	0.301 *** (0.017)
	voc. & tech h.s.	0.278 *** (0.021)	0.277 *** (0.021)	0.277 *** (0.021)	0.277 *** (0.021)
	higher education	0.383 *** (0.018)	0.383 *** (0.018)	0.383 *** (0.018)	0.383 *** (0.018)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.038 * (0.017)	-0.038 * (0.017)	-0.038 * (0.017)	-0.038 * (0.017)
	aegean	-0.095 *** (0.010)	-0.095 *** (0.010)	-0.095 *** (0.010)	-0.095 *** (0.010)
	east marmara	-0.040 ** (0.015)	-0.040 ** (0.015)	-0.040 ** (0.015)	-0.040 ** (0.015)
	west anatolia	-0.130 *** (0.019)	-0.130 *** (0.018)	-0.130 *** (0.018)	-0.130 *** (0.018)
	mediterranean	-0.085 *** (0.009)	-0.085 *** (0.009)	-0.085 *** (0.009)	-0.085 *** (0.009)
	central anatolia	-0.152 *** (0.019)	-0.152 *** (0.019)	-0.152 *** (0.019)	-0.152 *** (0.019)
	west black sea	-0.104 *** (0.015)	-0.104 *** (0.015)	-0.104 *** (0.015)	-0.104 *** (0.015)
	east black sea	-0.030 * (0.015)	-0.030 * (0.015)	-0.030 * (0.015)	-0.030 * (0.015)
	north east anatolia	-0.189 *** (0.015)	-0.189 *** (0.015)	-0.189 *** (0.015)	-0.189 *** (0.015)
	central east anatolia	-0.180 *** (0.016)	-0.180 *** (0.015)	-0.180 *** (0.015)	-0.180 *** (0.015)
	south east anatolia	-0.198 *** (0.019)	-0.198 *** (0.019)	-0.197 *** (0.019)	-0.198 *** (0.019)
Head R	other	ref	ref	ref	ref
	own child	0.021 ** (0.008)	0.021 ** (0.008)	0.021 ** (0.008)	0.021 ** (0.008)

Table A.10: E. R. for Enrollment in Upper Secondary Education in Rural A (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		rural	rural	rural	rural
Age Dummy	15	ref	ref	ref	ref
	16	-0.011 (0.007)	0.017 (0.010)	0.001 (0.011)	0.012 (0.008)
	17	-0.132 *** (0.013)	-0.183 *** (0.015)	-0.181 *** (0.011)	-0.171 *** (0.010)
	18	-0.333 *** (0.008)	-0.357 *** (0.016)	-0.351 *** (0.010)	-0.356 *** (0.012)
Trend	15	-	-0.004 (0.012)	-	0.009 (0.013)
	16	-	-0.024 *** (0.006)	-	-0.013 ** (0.005)
	17	-	0.003 (0.009)	-	-0.010 (0.006)
	18	-	-	-	-
Trend-squared	15	-	-0.004 (0.012)	-	-0.016 (0.016)
	16	-	-0.024 *** (0.006)	-	0.012 ** (0.005)
	17	-	0.003 (0.009)	-	0.013 * (0.006)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.024 (0.025)	0.034 ** (0.011)	0.025 ** (0.008)	0.032 *** (0.008)
	2006	0.024 (0.020)	0.041 ** (0.013)	0.031 *** (0.004)	0.043 *** (0.009)
	2007	-0.007 (0.017)	0.015 (0.011)	0.011 ** (0.005)	0.024 ** (0.011)
	2008	0.003 (0.019)	0.029 * (0.014)	0.008 (0.011)	0.027 ** (0.009)
	2009	0.067 ** (0.023)	0.098 *** (0.014)	0.072 *** (0.010)	0.093 *** (0.016)
	2010	0.110 *** (0.021)	0.141 *** (0.015)	0.115 *** (0.007)	0.137 *** (0.011)
	2011	0.134 *** (0.020)	0.166 *** (0.014)	0.139 *** (0.007)	0.162 *** (0.015)
	2012	0.152 *** (0.025)	0.170 *** (0.013)	0.155 *** (0.009)	0.167 *** (0.015)
	2013	0.217 *** (0.024)	0.221 *** (0.011)	0.212 *** (0.008)	0.219 *** (0.015)
household size		-0.020 *** (0.002)	-0.020 *** (0.002)	-0.020 *** (0.002)	-0.020 *** (0.002)
age of the hh head		0.002 *** (0.000)	0.002 *** (0.000)	0.002 *** (0.000)	0.002 *** (0.000)
constant		0.506 *** (0.027)	0.513 *** (0.016)	0.517 *** (0.018)	0.510 *** (0.015)
r-squared		0.191	0.192	0.192	0.193
number of obs.		103,422	103,422	103,422	103,422

Table A.11: E. R. for Attaining Upper Secondary Education or More Schooling

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Policy effect	overall	-0.047 *** (0.012)	-0.045 *** (0.007)	-	-
	20	-	-	-0.078 *** (0.011)	-0.046 *** (0.008)
	21	-	-	-0.080 *** (0.012)	-0.052 *** (0.011)
	22	-	-	-0.053 *** (0.011)	-0.055 *** (0.010)
	23	-	-	-0.036 *** (0.010)	-0.035 *** (0.008)
	24	-	-	-0.029 ** (0.011)	-0.040 *** (0.007)
Sex	male	ref	ref	ref	ref
	female	0.059 *** (0.015)	0.059 *** (0.015)	0.059 *** (0.015)	0.059 *** (0.015)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Marital Status	single	ref	ref	ref	ref
	married	-0.385 *** (0.006)	-0.385 *** (0.006)	-0.385 *** (0.006)	-0.385 *** (0.006)
	divorced	-0.418 *** (0.028)	-0.418 *** (0.028)	-0.419 *** (0.028)	-0.419 *** (0.028)
	widowed	-0.377 *** (0.025)	-0.377 *** (0.024)	-0.376 *** (0.025)	-0.377 *** (0.025)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.027 *** (0.006)	0.027 *** (0.006)	0.027 *** (0.006)	0.027 *** (0.006)
	aegean	-0.008 * (0.004)	-0.009 * (0.004)	-0.009 * (0.004)	-0.009 * (0.004)
	east marmara	0.029 *** (0.006)	0.029 *** (0.006)	0.029 *** (0.006)	0.029 *** (0.006)
	west anatolia	0.065 *** (0.007)	0.065 *** (0.007)	0.065 *** (0.007)	0.065 *** (0.007)
	mediterranean	-0.032 *** (0.004)	-0.032 *** (0.004)	-0.032 *** (0.004)	-0.032 *** (0.004)
	central anatolia	0.005 (0.007)	0.005 (0.007)	0.005 (0.007)	0.005 (0.007)
	west black sea	-0.005 (0.006)	-0.005 (0.006)	-0.005 (0.006)	-0.005 (0.006)
	east black sea	0.050 *** (0.009)	0.050 *** (0.009)	0.050 *** (0.009)	0.050 *** (0.009)
	north east anatolia	-0.064 *** (0.006)	-0.064 *** (0.006)	-0.064 *** (0.006)	-0.064 *** (0.008)
	central east anatolia	-0.042 *** (0.009)	-0.042 *** (0.009)	-0.042 *** (0.009)	-0.042 *** (0.009)
	south east anatolia	-0.108 *** (0.008)	-0.109 *** (0.008)	-0.109 *** (0.008)	-0.109 *** (0.008)
Head R	other	ref	ref	ref	ref
	household head	0.063 *** (0.005)	0.063 *** (0.005)	0.063 *** (0.005)	0.063 *** (0.005)
household size		-0.049 *** (0.001)	-0.049 *** (0.001)	-0.049 *** (0.001)	-0.049 *** (0.001)

Table A.11: E. R. for Attaining Upper Secondary Education or More (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Age Dummy	20	ref	ref	ref	ref
	21	-0.010 ** (0.003)	-0.057 ** (0.024)	-0.010 *** (0.002)	-0.064 ** (0.025)
	22	-0.019 ** (0.007)	-0.178 *** (0.039)	-0.039 *** (0.006)	-0.189 *** (0.036)
	23	-0.004 (0.009)	-0.305 *** (0.063)	-0.034 *** (0.009)	-0.264 *** (0.061)
	24	0.013 (0.011)	-0.403 *** (0.070)	-0.022 (0.012)	-0.378 *** (0.075)
Trend	20	-	-0.083 *** (0.017)	-	-0.078 *** (0.017)
	21	-	-0.068 *** (0.011)	-	-0.061 *** (0.015)
	22	-	-0.047 *** (0.009)	-	-0.040 ** (0.012)
	23	-	-0.019 ** (0.008)	-	-0.022 ** (0.008)
	24	-	-	-	-
Trend	20	-	0.039 *** (0.009)	-	0.037 *** (0.009)
	21	-	0.029 *** (0.006)	-	0.027 *** (0.007)
	22	-	0.021 *** (0.004)	-	0.018 *** (0.005)
	23	-	0.008 * (0.003)	-	0.009 ** (0.004)
	24	-	-	-	-
Year Dummy	2007	ref	ref	ref	ref
	2008	0.005 * (0.003)	0.062 *** (0.011)	0.005 * (0.002)	0.059 *** (0.011)
	2009	0.009 (0.008)	0.120 *** (0.018)	0.016 *** (0.003)	0.114 *** (0.019)
	2010	0.002 (0.007)	0.154 *** (0.024)	0.016 ** (0.006)	0.144 *** (0.026)
	2011	0.014 (0.009)	0.194 *** (0.027)	0.037 *** (0.008)	0.181 *** (0.031)
	2012	0.031 *** (0.009)	0.224 *** (0.029)	0.060 *** (0.009)	0.212 *** (0.032)
	2013	0.041 *** (0.010)	0.243 *** (0.028)	0.072 *** (0.010)	0.232 *** (0.031)
	2014	0.052 *** (0.012)	0.261 *** (0.028)	0.081 *** (0.009)	0.246 *** (0.031)
	2015	0.064 *** (0.015)	0.274 *** (0.026)	0.089 *** (0.012)	0.259 *** (0.031)
	2016	0.080 *** (0.016)	0.289 *** (0.024)	0.105 *** (0.012)	0.273 *** (0.030)
	2017	0.092 *** (0.018)	0.299 *** (0.025)	0.116 *** (0.013)	0.282 *** (0.030)
	2013	0.101 *** (0.018)	0.301 *** (0.024)	0.121 *** (0.013)	0.284 *** (0.030)
constant		0.848 *** (0.007)	1.062 *** (0.043)	0.848 *** (0.007)	1.048 *** (0.044)
r-squared		0.195	0.195	0.195	0.195
number of obs.		306,415	306,415	306,415	306,415

Table A.12: E. R. for Attaining Upper Secondary Education or More Sch of Females

		Model (1)	Model (2)	Model (3)	Model (4)
		female	female	female	female
Policy effect	overall	-0.045 *** (0.010)	-0.046 *** (0.008)	-	-
	20	-	-	-0.079 *** (0.016)	-0.040 *** (0.007)
	21	-	-	-0.073 *** (0.016)	-0.041 *** (0.008)
	22	-	-	-0.050 *** (0.010)	-0.055 *** (0.010)
	23	-	-	-0.038 *** (0.008)	-0.052 *** (0.008)
	24	-	-	-0.021 * (0.009)	-0.038 *** (0.012)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Marital Status	single	ref	ref	ref	ref
	married	-0.427 *** (0.006)	-0.426 *** (0.006)	-0.426 *** (0.006)	-0.426 *** (0.006)
	divorced	-0.457 *** (0.028)	-0.457 *** (0.028)	-0.457 *** (0.028)	-0.457 *** (0.028)
	widowed	-0.423 *** (0.040)	-0.423 *** (0.040)	-0.422 *** (0.040)	-0.423 *** (0.040)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.050 *** (0.006)	0.050 *** (0.006)	0.050 *** (0.006)	0.050 *** (0.006)
	aegean	0.016 *** (0.005)	0.016 ** (0.005)	0.016 ** (0.005)	0.016 ** (0.005)
	east marmara	0.028 ** (0.009)	0.028 ** (0.009)	0.028 ** (0.009)	0.028 ** (0.009)
	west anatolia	0.083 *** (0.007)	0.083 *** (0.007)	0.083 *** (0.007)	0.083 *** (0.007)
	mediterranean	-0.020 ** (0.009)	-0.020 ** (0.009)	-0.020 ** (0.009)	-0.020 ** (0.009)
	central anatolia	0.023 ** (0.010)	0.022 ** (0.010)	0.022 ** (0.010)	0.022 ** (0.010)
	west black sea	-0.022 * (0.012)	-0.022 * (0.012)	-0.022 * (0.012)	-0.022 * (0.012)
	east black sea	0.031 ** (0.014)	0.031 ** (0.014)	0.031 ** (0.014)	0.031 ** (0.014)
	north east anatolia	-0.087 *** (0.014)	-0.087 *** (0.014)	-0.087 *** (0.014)	-0.087 *** (0.007)
	central east anatolia	-0.072 *** (0.012)	-0.072 *** (0.012)	-0.072 *** (0.012)	-0.072 *** (0.012)
	south east anatolia	-0.145 *** (0.015)	-0.145 *** (0.015)	-0.145 *** (0.015)	-0.145 *** (0.015)
Head R	other	ref	ref	ref	ref
	household head	0.060 *** (0.009)	0.060 *** (0.009)	0.059 *** (0.009)	0.060 *** (0.009)
household size		-0.052 *** (0.001)	-0.052 *** (0.001)	-0.052 *** (0.001)	-0.052 *** (0.001)

Table A.12: E. R. for Attaining Upper Sec. Educ. or More Sch of Females (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		female	female	female	female
Age Dummy	20	ref	ref	ref	ref
	21	0.020 *** (0.003)	-0.022 (0.015)	0.014 *** (0.003)	-0.027 (0.016)
	22	0.041 *** (0.007)	-0.118 * (0.055)	0.020 ** (0.009)	-0.156 ** (0.049)
	23	0.060 *** (0.010)	-0.207 ** (0.066)	0.030 ** (0.013)	-0.238 *** (0.071)
	24	0.068 *** (0.013)	-0.303 ** (0.100)	0.028 (0.018)	-0.295 ** (0.108)
Trend	20	-	-0.070 ** (0.022)	-	-0.070 ** (0.023)
	21	-	-0.059 *** (0.019)	-	-0.058 ** (0.020)
	22	-	-0.035 *** (0.013)	-	-0.027 * (0.012)
	23	-	-0.015 (0.010)	-	-0.009 (0.010)
	24	-	-	-	-
Trend	20	-	0.031 ** (0.012)	-	0.032 ** (0.012)
	21	-	0.025 ** (0.010)	-	0.025 ** (0.010)
	22	-	0.014 ** (0.006)	-	0.011 * (0.005)
	23	-	0.005 (0.004)	-	0.003 (0.004)
	24	-	-	-	-
Year Dummy	2007	ref	ref	ref	ref
	2008	0.019 *** (0.003)	0.071 *** (0.014)	0.022 *** (0.001)	0.071 *** (0.015)
	2009	0.029 ** (0.010)	0.130 *** (0.026)	0.038 *** (0.003)	0.130 *** (0.028)
	2010	0.034 *** (0.007)	0.171 *** (0.035)	0.049 *** (0.006)	0.169 *** (0.038)
	2011	0.049 *** (0.007)	0.213 *** (0.042)	0.075 *** (0.012)	0.206 *** (0.045)
	2012	0.074 *** (0.010)	0.252 *** (0.046)	0.105 *** (0.015)	0.241 *** (0.049)
	2013	0.092 *** (0.012)	0.281 *** (0.047)	0.125 *** (0.016)	0.270 *** (0.051)
	2014	0.113 *** (0.013)	0.309 *** (0.049)	0.145 *** (0.016)	0.298 *** (0.053)
	2015	0.132 *** (0.015)	0.332 *** (0.049)	0.159 *** (0.016)	0.319 *** (0.054)
	2016	0.150 *** (0.017)	0.351 *** (0.048)	0.176 *** (0.017)	0.336 *** (0.054)
	2017	0.163 *** (0.019)	0.363 *** (0.047)	0.188 *** (0.017)	0.346 *** (0.054)
	2013	0.180 *** (0.018)	0.377 *** (0.046)	0.202 *** (0.016)	0.360 *** (0.053)
constant		0.845 *** (0.003)	1.026 *** (0.057)	0.846 *** (0.003)	1.027 *** (0.060)
r-squared		0.282	0.282	0.282	0.282
number of obs.		162,593	162,593	162,593	162,593

Table A.13: E. R. for Attaining Upper Secondary Education or More Sch of Males

		Model (1)	Model (2)	Model (3)	Model (4)
		male	male	male	male
Policy effect	overall	-0.047 **	-0.044 ***	-	-
		(0.018)	(0.013)		
	20	-	-	-0.084 ***	-0.049 ***
				(0.012)	(0.012)
	21	-	-	-0.098 ***	-0.072 **
				(0.016)	(0.023)
	22	-	-	-0.049 **	-0.052 **
				(0.015)	(0.018)
	23	-	-	-0.028	-0.016
				(0.016)	(0.016)
	24	-	-	-0.032 *	-0.045 ***
				(0.016)	(0.013)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Marital Status	single	ref	ref	ref	ref
	married	-0.272 ***	-0.271 ***	-0.271 ***	-0.271 ***
		(0.010)	(0.011)	(0.011)	(0.011)
	divorced	-0.328 ***	-0.328 ***	-0.327 ***	-0.328 ***
		(0.045)	(0.044)	(0.044)	(0.044)
	widowed	-0.147	-0.145	-0.146	-0.146
		(0.179)	(0.178)	(0.178)	(0.178)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.007	0.007	0.007	0.006
		(0.010)	(0.010)	(0.010)	(0.010)
	aegean	-0.031 ***	-0.031 ***	-0.031 ***	-0.031 ***
		(0.007)	(0.007)	(0.007)	(0.007)
	east marmara	0.033 **	0.033 **	0.033 **	0.033 **
		(0.010)	(0.010)	(0.010)	(0.010)
	west anatolia	0.046 ***	0.046 ***	0.046 ***	0.046 ***
		(0.011)	(0.011)	(0.011)	(0.011)
	mediterranean	-0.041 ***	-0.041 ***	-0.041 ***	-0.041 ***
		(0.011)	(0.011)	(0.011)	(0.011)
	central anatolia	-0.011	-0.011	-0.011	-0.011
		(0.011)	(0.011)	(0.011)	(0.011)
	west black sea	0.018 **	0.018 **	0.018 **	0.018 **
		(0.006)	(0.006)	(0.006)	(0.006)
	east black sea	0.068 ***	0.069 ***	0.069 ***	0.069 ***
		(0.014)	(0.014)	(0.014)	(0.014)
	north east anatolia	-0.025 **	-0.026 **	-0.026 **	-0.026 **
		(0.008)	(0.008)	(0.008)	(0.012)
	central east anatolia	-0.002	-0.002	-0.002	-0.002
		(0.011)	(0.011)	(0.011)	(0.011)
	south east anatolia	-0.062 ***	-0.062 ***	-0.062 ***	-0.062 ***
		(0.013)	(0.013)	(0.013)	(0.013)
Head R	other	ref	ref	ref	ref
	household head	0.029 ***	0.029 ***	0.029 ***	0.029 ***
		(0.008)	(0.008)	(0.008)	(0.008)
household size		-0.049 ***	-0.049 ***	-0.049 ***	-0.049 ***
		(0.001)	(0.001)	(0.001)	(0.001)

Table A.13: E. R. for Attaining Upper Sec. Educ. or More Sch of Males (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		male	male	male	male
Age Dummy	20	ref	ref	ref	ref
	21	-0.048 *** (0.006)	-0.098 * (0.049)	-0.041 *** (0.004)	-0.130 ** (0.049)
	22	-0.095 *** (0.007)	-0.286 *** (0.057)	-0.122 *** (0.004)	-0.267 *** (0.055)
	23	-0.085 *** (0.011)	-0.453 *** (0.118)	-0.125 *** (0.008)	-0.340 *** (0.101)
	24	-0.063 *** (0.012)	-0.585 *** (0.118)	-0.102 *** (0.009)	-0.547 *** (0.153)
Trend	20	-	-0.106 *** (0.027)	-	-0.096 ** (0.032)
	21	-	-0.087 *** (0.023)	-	-0.071 * (0.032)
	22	-	-0.064 *** (0.016)	-	-0.059 * (0.026)
	23	-	-0.028 * (0.015)	-	-0.042 ** (0.016)
	24	-	-	-	-
Trend	20	-	0.051 *** (0.015)	-	0.046 ** (0.016)
	21	-	0.038 *** (0.011)	-	0.031 * (0.014)
	22	-	0.029 *** (0.007)	-	0.028 ** (0.011)
	23	-	0.013 * (0.007)	-	0.017 ** (0.007)
	24	-	-	-	-
Year Dummy	2007	ref	ref	ref	ref
	2008	-0.013 ** (0.005)	0.056 ** (0.018)	-0.017 ** (0.007)	0.052 ** (0.021)
	2009	-0.028 ** (0.009)	0.112 *** (0.030)	-0.020 *** (0.004)	0.101 ** (0.039)
	2010	-0.050 *** (0.009)	0.143 *** (0.040)	-0.032 *** (0.005)	0.125 ** (0.054)
	2011	-0.045 ** (0.014)	0.182 *** (0.049)	-0.016 *** (0.003)	0.165 ** (0.068)
	2012	-0.038 *** (0.011)	0.204 *** (0.052)	-0.001 (0.004)	0.192 ** (0.073)
	2013	-0.038 ** (0.014)	0.214 *** (0.053)	-0.001 (0.009)	0.204 ** (0.074)
	2014	-0.035 (0.020)	0.223 *** (0.052)	-0.002 (0.012)	0.208 ** (0.074)
	2015	-0.035 (0.022)	0.225 *** (0.050)	-0.005 (0.014)	0.210 ** (0.077)
	2016	-0.021 (0.025)	0.236 *** (0.049)	0.009 (0.015)	0.222 ** (0.076)
	2017	-0.008 (0.025)	0.244 *** (0.052)	0.021 (0.016)	0.231 ** (0.079)
	2013	-0.005 (0.026)	0.234 *** (0.049)	0.019 (0.016)	0.223 ** (0.078)
constant		0.968 *** (0.010)	1.239 *** (0.071)	0.968 *** (0.010)	1.215 *** (0.085)
r-squared		0.115	0.116	0.116	0.116
number of obs.		143,822	143,822	143,822	143,822

Table A.14: E. R. for Employed

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Policy effect	overall	-0.006 (0.004)	-0.008 *** (0.002)	-	-
	15	-	-	0.011 *** (0.002)	-0.005 (0.004)
	16	-	-	0.008 * (0.004)	0.007 (0.005)
	17	-	-	-0.002 (0.003)	-0.003 (0.005)
	18	-	-	-0.022 *** (0.003)	-0.024 *** (0.003)
Sex	male	ref	ref	ref	ref
	female	-0.142 *** (0.002)	-0.142 *** (0.002)	-0.142 *** (0.002)	-0.142 *** (0.002)
St.Type	urban	ref	ref	ref	ref
	rural	0.084 *** (0.004)	0.084 *** (0.004)	0.084 *** (0.004)	0.084 *** (0.004)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.037 *** (0.002)	-0.037 *** (0.002)	-0.037 *** (0.002)	-0.037 *** (0.002)
	lower sec.	-0.106 *** (0.003)	-0.106 *** (0.003)	-0.106 *** (0.003)	-0.106 *** (0.003)
	upper sec.	-0.169 *** (0.005)	-0.169 *** (0.005)	-0.169 *** (0.005)	-0.169 *** (0.005)
	voc. & tech h.s.	-0.168 *** (0.005)	-0.168 *** (0.005)	-0.168 *** (0.005)	-0.168 *** (0.005)
	higher education	-0.214 *** (0.005)	-0.214 *** (0.005)	-0.214 *** (0.005)	-0.214 *** (0.005)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.023 ** (0.008)	0.023 ** (0.008)	0.023 ** (0.008)	0.023 ** (0.008)
	aegean	0.030 *** (0.008)	0.030 *** (0.008)	0.030 *** (0.008)	0.030 *** (0.008)
	east marmara	0.009 (0.007)	0.009 (0.007)	0.009 (0.007)	0.009 (0.007)
	west anatolia	-0.005 (0.010)	-0.005 (0.010)	-0.005 (0.010)	-0.005 (0.010)
	mediterranean	0.005 (0.011)	0.005 (0.011)	0.005 (0.011)	0.005 (0.011)
	central anatolia	-0.033 ** (0.012)	-0.033 ** (0.012)	-0.033 ** (0.012)	-0.033 ** (0.012)
	west black sea	0.034 *** (0.008)	0.034 *** (0.008)	0.034 *** (0.008)	0.034 *** (0.008)
	east black sea	-0.050 *** (0.014)	-0.050 *** (0.014)	-0.050 *** (0.014)	-0.050 *** (0.014)
	north east anatolia	-0.042 *** (0.007)	-0.042 *** (0.007)	-0.042 *** (0.007)	-0.042 *** (0.007)
	central east anatolia	-0.101 *** (0.015)	-0.101 *** (0.015)	-0.101 *** (0.015)	-0.102 *** (0.015)
	south east anatolia	-0.104 *** (0.010)	-0.104 *** (0.010)	-0.104 *** (0.010)	-0.104 *** (0.010)
Head R	other	ref	ref	ref	ref
	own child	0.028 *** (0.002)	0.028 *** (0.002)	0.028 *** (0.002)	0.028 *** (0.002)

Table A.14: E. R. for Employed (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Age Dummy	15	ref	ref	ref	ref
	16	0.048 *** (0.003)	0.050 *** (0.002)	0.052 *** (0.002)	0.053 *** (0.003)
	17	0.103 *** (0.003)	0.115 *** (0.003)	0.113 *** (0.001)	0.117 *** (0.003)
	18	0.166 *** (0.006)	0.213 *** (0.006)	0.188 *** (0.003)	0.204 *** (0.004)
Trend	15	-	0.022 *** (0.004)	-	0.016 *** (0.004)
	16	-	0.022 *** (0.003)	-	0.011 ** (0.004)
	17	-	0.014 *** (0.002)	-	0.007 ** (0.003)
	18	-	-	-	-
Trend	15	-	0.022 *** (0.004)	-	-0.017 *** (0.004)
	16	-	0.022 *** (0.003)	-	-0.013 *** (0.003)
	17	-	0.014 *** (0.002)	-	-0.008 *** (0.002)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.003 (0.003)	-0.021 *** (0.003)	-0.001 (0.002)	-0.012 ** (0.004)
	2006	0.011 (0.006)	-0.023 *** (0.005)	0.002 (0.004)	-0.010 (0.006)
	2007	0.010 (0.006)	-0.032 *** (0.006)	-0.002 (0.003)	-0.018 *** (0.005)
	2008	0.016 ** (0.006)	-0.030 *** (0.007)	0.003 (0.003)	-0.015 ** (0.005)
	2009	0.010 (0.009)	-0.039 *** (0.008)	0.001 (0.004)	-0.016 * (0.008)
	2010	0.019 ** (0.008)	-0.030 *** (0.008)	0.010 ** (0.003)	-0.005 (0.008)
	2011	0.028 *** (0.007)	-0.020 ** (0.007)	0.019 *** (0.004)	0.008 (0.009)
	2012	0.023 ** (0.008)	-0.020 ** (0.007)	0.015 *** (0.004)	0.008 (0.008)
	2013	0.027 ** (0.009)	-0.015 * (0.007)	0.021 *** (0.006)	0.014 (0.008)
household size		0.013 *** (0.001)	0.013 *** (0.001)	0.013 *** (0.001)	0.013 *** (0.001)
age of the hh head		-0.001 *** (0.000)	-0.001 *** (0.000)	-0.001 *** (0.000)	-0.001 *** (0.000)
constant		0.185 *** (0.012)	0.180 *** (0.011)	0.180 *** (0.011)	0.179 *** (0.012)
r-squared		0.106	0.106	0.106	0.106
number of obs.		329,709	329,709	329,709	329,709

Table A.15: E. R. for Employed of Females

		Model (1)	Model (2)	Model (3)	Model (4)
		females	females	females	females
Policy effect	overall	0.002 (0.002)	-0.003 (0.003)	-	-
	15	-	-	0.014 *** (0.004)	0.004 (0.004)
	16	-	-	0.007 (0.004)	0.012 ** (0.004)
	17	-	-	0.007 ** (0.003)	-0.003 (0.004)
	18	-	-	-0.008 ** (0.003)	-0.019 *** (0.003)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	0.103 *** (0.005)	0.103 *** (0.005)	0.103 *** (0.005)	0.103 *** (0.005)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.035 *** (0.003)	-0.035 *** (0.003)	-0.035 *** (0.003)	-0.035 *** (0.003)
	lower sec.	-0.085 *** (0.004)	-0.085 *** (0.004)	-0.085 *** (0.004)	-0.085 *** (0.004)
	upper sec.	-0.110 *** (0.004)	-0.110 *** (0.004)	-0.110 *** (0.004)	-0.110 *** (0.004)
	voc. & tech h.s.	-0.113 *** (0.006)	-0.113 *** (0.006)	-0.113 *** (0.006)	-0.113 *** (0.006)
	higher education	-0.135 *** (0.004)	-0.135 *** (0.004)	-0.135 *** (0.004)	-0.135 *** (0.004)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.012 * (0.006)	-0.012 * (0.006)	-0.012 * (0.006)	-0.012 * (0.006)
	aegean	0.004 (0.006)	0.004 (0.006)	0.004 (0.006)	0.004 (0.006)
	east marmara	-0.002 (0.005)	-0.002 (0.005)	-0.002 (0.005)	-0.002 (0.005)
	west anatolia	-0.051 *** (0.007)	-0.051 *** (0.007)	-0.051 *** (0.007)	-0.051 *** (0.007)
	mediterranean	-0.023 ** (0.008)	-0.023 ** (0.008)	-0.023 ** (0.008)	-0.023 ** (0.008)
	central anatolia	-0.070 *** (0.012)	-0.070 *** (0.012)	-0.070 *** (0.012)	-0.070 *** (0.012)
	west black sea	0.048 *** (0.007)	0.048 *** (0.007)	0.048 *** (0.007)	0.048 *** (0.007)
	east black sea	-0.020 (0.017)	-0.021 (0.017)	-0.020 (0.017)	-0.021 (0.017)
	north east anatolia	-0.080 *** (0.005)	-0.080 *** (0.005)	-0.080 *** (0.005)	-0.080 *** (0.005)
	central east anatolia	-0.142 *** (0.012)	-0.142 *** (0.012)	-0.142 *** (0.012)	-0.142 *** (0.012)
	south east anatolia	-0.130 *** (0.009)	-0.130 *** (0.009)	-0.130 *** (0.009)	-0.130 *** (0.009)
Head R	other	ref	ref	ref	ref
	own child	0.038 *** (0.004)	0.039 *** (0.004)	0.039 *** (0.004)	0.039 *** (0.004)

Table A.15: E. R. for Employed of Females (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		females	females	females	females
Age Dummy	15	ref	ref	ref	ref
	16	0.031 *** (0.003)	0.037 *** (0.003)	0.038 *** (0.001)	0.040 *** (0.002)
	17	0.070 *** (0.002)	0.079 *** (0.003)	0.076 *** (0.002)	0.079 *** (0.001)
	18	0.112 *** (0.004)	0.147 *** (0.004)	0.127 *** (0.002)	0.138 *** (0.004)
Trend	15	-	0.020 *** (0.003)	-	0.012 *** (0.004)
	16	-	0.017 *** (0.002)	-	0.007 *** (0.002)
	17	-	0.010 *** (0.002)	-	0.005 ** (0.002)
	18	-	-	-	-
Trend	15	-	0.020 *** (0.003)	-	-0.016 *** (0.004)
	16	-	0.017 *** (0.002)	-	-0.012 *** (0.002)
	17	-	0.010 *** (0.002)	-	-0.005 *** (0.002)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.011 *** (0.002)	-0.029 *** (0.003)	-0.013 *** (0.001)	-0.021 *** (0.003)
	2006	-0.008 *** (0.002)	-0.033 *** (0.004)	-0.014 *** (0.002)	-0.022 *** (0.003)
	2007	-0.015 *** (0.004)	-0.044 *** (0.004)	-0.022 *** (0.003)	-0.033 *** (0.004)
	2008	-0.010 ** (0.003)	-0.041 *** (0.006)	-0.018 *** (0.003)	-0.026 *** (0.004)
	2009	-0.016 ** (0.006)	-0.048 *** (0.006)	-0.022 *** (0.004)	-0.026 *** (0.005)
	2010	-0.009 * (0.004)	-0.039 *** (0.005)	-0.014 *** (0.003)	-0.015 *** (0.004)
	2011	-0.002 (0.006)	-0.028 *** (0.006)	-0.007 (0.005)	-0.003 (0.005)
	2012	-0.013 * (0.006)	-0.035 *** (0.006)	-0.017 ** (0.005)	-0.009 (0.007)
	2013	-0.005 (0.006)	-0.030 *** (0.006)	-0.009 (0.006)	-0.003 (0.006)
household size		0.010 *** (0.000)	0.010 *** (0.000)	0.010 *** (0.000)	0.010 *** (0.000)
age of the hh head		0.000 *** (0.000)	0.000 *** (0.000)	0.000 *** (0.000)	0.000 *** (0.000)
constant		0.068 *** (0.010)	0.064 *** (0.010)	0.064 *** (0.010)	0.063 *** (0.010)
r-squared		0.074	0.074	0.074	0.074
number of obs.		165,131	165,131	165,131	165,131

Table A.16: E. R. for Employed of Males

		Model (1)	Model (2)	Model (3)	Model (4)
		males	males	males	males
Policy effect	overall	-0.014 * (0.007)	-0.014 *** (0.003)	-	-
	15	-	-	0.007 * (0.003)	-0.017 * (0.008)
	16	-	-	0.009 (0.005)	0.001 (0.009)
	17	-	-	-0.010 * (0.005)	-0.003 (0.007)
	18	-	-	-0.035 *** (0.005)	-0.031 *** (0.005)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	0.066 *** (0.004)	0.066 *** (0.004)	0.066 *** (0.004)	0.066 *** (0.004)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.038 *** (0.004)	-0.038 *** (0.004)	-0.038 *** (0.004)	-0.038 *** (0.004)
	lower sec.	-0.125 *** (0.007)	-0.125 *** (0.007)	-0.125 *** (0.007)	-0.125 *** (0.007)
	upper sec.	-0.222 *** (0.007)	-0.222 *** (0.007)	-0.222 *** (0.007)	-0.222 *** (0.007)
	voc. & tech h.s.	-0.220 *** (0.006)	-0.220 *** (0.006)	-0.220 *** (0.006)	-0.220 *** (0.006)
	higher education	-0.286 *** (0.007)	-0.286 *** (0.007)	-0.286 *** (0.007)	-0.286 *** (0.007)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.052 *** (0.009)	0.053 *** (0.009)	0.053 *** (0.009)	0.053 *** (0.009)
	aegean	0.051 *** (0.012)	0.051 *** (0.012)	0.051 *** (0.012)	0.051 *** (0.012)
	east marmara	0.016 (0.012)	0.016 (0.011)	0.016 (0.012)	0.016 (0.012)
	west anatolia	0.036 ** (0.013)	0.037 ** (0.013)	0.036 ** (0.013)	0.036 ** (0.013)
	mediterranean	0.029 * (0.013)	0.029 ** (0.013)	0.029 ** (0.013)	0.029 ** (0.013)
	central anatolia	0.002 (0.014)	0.002 (0.014)	0.002 (0.014)	0.002 (0.014)
	west black sea	0.017 (0.012)	0.017 (0.012)	0.017 (0.012)	0.017 (0.012)
	east black sea	-0.079 *** (0.013)	-0.079 *** (0.013)	-0.079 *** (0.013)	-0.079 *** (0.013)
	north east anatolia	-0.002 (0.011)	-0.002 (0.011)	-0.002 (0.011)	-0.002 (0.011)
	central east anatolia	-0.061 *** (0.018)	-0.061 *** (0.018)	-0.061 *** (0.018)	-0.061 *** (0.018)
	south east anatolia	-0.081 *** (0.011)	-0.080 *** (0.011)	-0.080 *** (0.011)	-0.080 *** (0.011)
Head R	other	ref	ref	ref	ref
	own child	-0.003 (0.007)	-0.003 (0.007)	-0.003 (0.007)	-0.003 (0.007)

Table A.16: E. R. for Employed of Males (Cont'd)

		Model (1) males	Model (2) males	Model (3) males	Model (4) males
Age Dummy	15	ref	ref	ref	ref
	16	0.064 *** (0.004)	0.061 *** (0.003)	0.064 *** (0.004)	0.065 *** (0.005)
	17	0.135 *** (0.005)	0.150 *** (0.005)	0.147 *** (0.003)	0.154 *** (0.006)
	18	0.216 *** (0.008)	0.275 *** (0.008)	0.243 *** (0.003)	0.265 *** (0.008)
Trend	15	-	0.026 *** (0.005)	-	0.022 *** (0.006)
	16	-	0.026 *** (0.005)	-	0.015 * (0.007)
	17	-	0.018 *** (0.003)	-	0.009 (0.005)
	18	-	-	-	-
Trend	15	-	0.026 *** (0.005)	-	-0.021 *** (0.006)
	16	-	0.026 *** (0.005)	-	-0.014 ** (0.005)
	17	-	0.018 *** (0.003)	-	-0.010 ** (0.003)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.017 ** (0.006)	-0.014 ** (0.005)	0.010 *** (0.003)	-0.005 (0.007)
	2006	0.029 ** (0.011)	-0.014 (0.009)	0.018 ** (0.006)	0.001 (0.011)
	2007	0.033 *** (0.008)	-0.020 ** (0.009)	0.017 *** (0.004)	-0.004 (0.009)
	2008	0.041 *** (0.010)	-0.019 * (0.009)	0.023 *** (0.005)	-0.003 (0.010)
	2009	0.034 ** (0.013)	-0.031 ** (0.012)	0.022 *** (0.006)	-0.006 (0.013)
	2010	0.046 *** (0.012)	-0.020 (0.012)	0.034 *** (0.005)	0.007 (0.014)
	2011	0.058 *** (0.011)	-0.008 (0.011)	0.045 *** (0.004)	0.021 (0.015)
	2012	0.057 *** (0.011)	-0.003 (0.010)	0.047 *** (0.005)	0.027 * (0.013)
	2013	0.056 *** (0.013)	0.002 (0.010)	0.050 *** (0.007)	0.032 ** (0.013)
household size		0.015 *** (0.001)	0.015 *** (0.001)	0.015 *** (0.001)	0.015 *** (0.001)
age of the hh head		-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)
constant		0.187 *** (0.019)	0.183 *** (0.019)	0.183 *** (0.019)	0.181 *** (0.020)
r-squared		0.094	0.094	0.094	0.094
number of obs.		164,578	164,578	164,578	164,578

Table A.17: E. R. for Employed in Urban Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		urban	urban	urban	urban
Policy effect	overall	-0.012 * (0.005)	-0.014 ** (0.004)	-	-
	15	-	-	0.002 (0.004)	-0.007 (0.006)
	16	-	-	0.000 (0.003)	0.006 (0.007)
	17	-	-	-0.006 (0.004)	-0.010 (0.007)
	18	-	-	-0.026 *** (0.004)	-0.035 *** (0.007)
Sex	male	ref	ref	ref	ref
	female	-0.145 *** (0.004)	-0.145 *** (0.004)	-0.145 *** (0.004)	-0.145 *** (0.004)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.050 *** (0.004)	-0.050 *** (0.004)	-0.050 *** (0.004)	-0.050 *** (0.004)
	lower sec.	-0.108 *** (0.004)	-0.108 *** (0.004)	-0.108 *** (0.004)	-0.108 *** (0.004)
	upper sec.	-0.171 *** (0.006)	-0.171 *** (0.006)	-0.171 *** (0.006)	-0.171 *** (0.006)
	voc. & tech h.s.	-0.167 *** (0.005)	-0.167 *** (0.005)	-0.167 *** (0.005)	-0.167 *** (0.005)
	higher education	-0.212 *** (0.006)	-0.213 *** (0.006)	-0.213 *** (0.006)	-0.213 *** (0.006)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.013 * (0.006)	0.013 * (0.006)	0.013 * (0.006)	0.013 * (0.006)
	aegean	0.018 * (0.008)	0.018 * (0.008)	0.018 * (0.008)	0.018 * (0.008)
	east marmara	0.013 * (0.006)	0.013 * (0.006)	0.013 * (0.006)	0.013 * (0.006)
	west anatolia	-0.005 (0.009)	-0.005 (0.009)	-0.005 (0.009)	-0.005 (0.009)
	mediterranean	0.004 (0.010)	0.004 (0.010)	0.004 (0.010)	0.004 (0.010)
	central anatolia	-0.033 *** (0.008)	-0.033 *** (0.008)	-0.033 *** (0.008)	-0.033 *** (0.008)
	west black sea	-0.017 * (0.008)	-0.017 * (0.008)	-0.017 * (0.008)	-0.017 * (0.008)
	east black sea	-0.045 *** (0.009)	-0.045 *** (0.009)	-0.045 *** (0.009)	-0.045 *** (0.009)
	north east anatolia	-0.074 *** (0.011)	-0.074 *** (0.011)	-0.074 *** (0.011)	-0.074 *** (0.011)
	central east anatolia	-0.104 *** (0.013)	-0.104 *** (0.013)	-0.104 *** (0.013)	-0.104 *** (0.013)
	south east anatolia	-0.081 *** (0.009)	-0.081 *** (0.009)	-0.081 *** (0.009)	-0.081 *** (0.009)
Head R	other	ref	ref	ref	ref
	own child	0.029 *** (0.003)	0.029 *** (0.003)	0.029 *** (0.003)	0.029 *** (0.003)

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Table A.17: E. R. for Employed in Urban Areas (Cont'd)

		Model (1) urban	Model (2) urban	Model (3) urban	Model (4) urban
Age Dummy	15	ref	ref	ref	ref
	16	0.043 *** (0.003)	0.045 *** (0.003)	0.046 *** (0.001)	0.049 *** (0.004)
	17	0.096 *** (0.003)	0.104 *** (0.006)	0.103 *** (0.004)	0.105 *** (0.005)
	18	0.157 *** (0.006)	0.194 *** (0.010)	0.176 *** (0.003)	0.182 *** (0.009)
Trend	15	-	0.018 ** (0.006)	-	0.008 (0.006)
	16	-	0.017 *** (0.005)	-	0.003 (0.005)
	17	-	0.011 ** (0.003)	-	0.003 (0.004)
	18	-	-	-	-
Trend	15	-	0.018 ** (0.006)	-	-0.011 (0.007)
	16	-	0.017 *** (0.005)	-	-0.007 (0.004)
	17	-	0.011 ** (0.003)	-	-0.004 (0.003)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.013 *** (0.004)	-0.006 (0.005)	0.009 *** (0.002)	0.005 (0.006)
	2006	0.026 *** (0.006)	-0.001 (0.009)	0.018 *** (0.003)	0.015 (0.009)
	2007	0.031 *** (0.005)	-0.001 (0.010)	0.021 *** (0.003)	0.015 (0.010)
	2008	0.032 *** (0.006)	-0.003 (0.011)	0.021 *** (0.005)	0.017 (0.012)
	2009	0.027 ** (0.008)	-0.011 (0.013)	0.019 *** (0.005)	0.018 (0.014)
	2010	0.037 *** (0.007)	-0.001 (0.012)	0.030 *** (0.004)	0.032 * (0.014)
	2011	0.043 *** (0.007)	0.006 (0.012)	0.035 *** (0.005)	0.041 ** (0.015)
	2012	0.049 *** (0.008)	0.015 (0.012)	0.042 *** (0.006)	0.051 *** (0.015)
	2013	0.050 *** (0.008)	0.016 (0.012)	0.045 *** (0.007)	0.052 *** (0.014)
household size		0.015 *** (0.001)	0.015 *** (0.001)	0.015 *** (0.001)	0.015 *** (0.001)
age of the hh head		-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)
constant		0.218 *** (0.012)	0.215 *** (0.011)	0.215 *** (0.012)	0.213 *** (0.012)
r-squared		0.108	0.108	0.108	0.108
number of obs.		226,287	226,287	226,287	226,287

Table A.18: E. R. for Employed in Rural Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		rural	rural	rural	rural
Policy effect	overall	0.008 (0.008)	0.007 (0.008)	-	-
	15	-	-	0.032 ** (0.014)	-0.003 (0.005)
	16	-	-	0.028 * (0.014)	0.007 (0.013)
	17	-	-	0.008 (0.007)	0.018 * (0.008)
	18	-	-	-0.010 (0.007)	0.003 (0.012)
Sex	male	ref	ref	ref	ref
	female	-0.134 *** (0.004)	-0.134 *** (0.004)	-0.134 *** (0.004)	-0.134 *** (0.004)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.017 *** (0.002)	-0.017 *** (0.002)	-0.018 *** (0.002)	-0.017 *** (0.002)
	lower sec.	-0.113 *** (0.007)	-0.113 *** (0.007)	-0.113 *** (0.007)	-0.113 *** (0.007)
	upper sec.	-0.178 *** (0.010)	-0.178 *** (0.010)	-0.178 *** (0.010)	-0.178 *** (0.010)
	voc. & tech h.s.	-0.184 *** (0.015)	-0.183 *** (0.015)	-0.183 *** (0.015)	-0.183 *** (0.015)
	higher education	-0.242 *** (0.010)	-0.242 *** (0.010)	-0.242 *** (0.010)	-0.242 *** (0.010)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.109 *** (0.009)	0.108 *** (0.009)	0.108 *** (0.009)	0.108 *** (0.009)
	aegean	0.124 *** (0.019)	0.124 *** (0.019)	0.124 *** (0.019)	0.124 *** (0.019)
	east marmara	0.063 *** (0.014)	0.063 *** (0.014)	0.063 *** (0.014)	0.063 *** (0.014)
	west anatolia	0.065 ** (0.024)	0.065 ** (0.024)	0.065 ** (0.024)	0.065 ** (0.024)
	mediterranean	0.077 *** (0.017)	0.077 *** (0.017)	0.078 *** (0.017)	0.077 *** (0.017)
	central anatolia	0.039 (0.024)	0.040 (0.024)	0.040 (0.024)	0.040 (0.024)
	west black sea	0.158 *** (0.018)	0.158 *** (0.018)	0.158 *** (0.018)	0.158 *** (0.018)
	east black sea	0.022 (0.018)	0.022 (0.018)	0.022 (0.018)	0.022 (0.018)
	north east anatolia	0.054 *** (0.012)	0.053 *** (0.012)	0.053 *** (0.012)	0.053 *** (0.012)
	central east anatolia	-0.019 (0.022)	-0.019 (0.021)	-0.019 (0.022)	-0.019 (0.021)
	south east anatolia	-0.068 *** (0.019)	-0.068 *** (0.019)	-0.068 *** (0.019)	-0.068 *** (0.019)
Head R	other	ref	ref	ref	ref
	own child	0.039 *** (0.005)	0.039 *** (0.005)	0.039 *** (0.005)	0.039 *** (0.005)

Table A.18: E. R. for Employed in Rural Areas (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		rural	rural	rural	rural
Age Dummy	15	ref	ref	ref	ref
	16	0.060 *** (0.004)	0.060 *** (0.004)	0.064 *** (0.005)	0.061 *** (0.004)
	17	0.120 *** (0.006)	0.144 *** (0.006)	0.138 *** (0.009)	0.147 *** (0.004)
	18	0.185 *** (0.009)	0.257 *** (0.010)	0.215 *** (0.013)	0.254 *** (0.012)
Trend	15	-	0.032 *** (0.005)	-	0.035 *** (0.008)
	16	-	0.032 *** (0.005)	-	0.030 *** (0.007)
	17	-	0.020 *** (0.002)	-	0.016 ** (0.005)
	18	-	-	-	-
Trend	15	-	0.032 *** (0.005)	-	-0.031 *** (0.007)
	16	-	0.032 *** (0.005)	-	-0.028 *** (0.007)
	17	-	0.020 *** (0.002)	-	-0.015 *** (0.003)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.018 *** (0.004)	-0.054 *** (0.006)	-0.024 *** (0.004)	-0.052 *** (0.008)
	2006	-0.022 (0.013)	-0.072 *** (0.011)	-0.033 ** (0.013)	-0.067 *** (0.013)
	2007	-0.039 ** (0.013)	-0.101 *** (0.012)	-0.055 *** (0.015)	-0.095 *** (0.018)
	2008	-0.019 (0.014)	-0.089 *** (0.015)	-0.035 ** (0.013)	-0.085 *** (0.018)
	2009	-0.026 (0.016)	-0.100 *** (0.015)	-0.038 ** (0.014)	-0.095 *** (0.021)
	2010	-0.020 (0.016)	-0.095 *** (0.016)	-0.032 * (0.014)	-0.089 *** (0.023)
	2011	-0.005 (0.016)	-0.077 *** (0.016)	-0.017 (0.014)	-0.070 ** (0.024)
	2012	-0.032 * (0.017)	-0.096 *** (0.015)	-0.042 ** (0.014)	-0.088 *** (0.023)
	2013	-0.023 (0.018)	-0.081 *** (0.014)	-0.029 * (0.015)	-0.073 *** (0.022)
household size		0.010 *** (0.001)	0.010 *** (0.001)	0.010 *** (0.001)	0.010 *** (0.001)
age of the hh head		0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
constant		0.133 *** (0.021)	0.125 *** (0.018)	0.125 *** (0.019)	0.124 *** (0.018)
r-squared		0.083	0.084	0.084	0.084
number of obs.		103,422	103,422	103,422	103,422

Table A.19: E. R. for Only Enrolled Group

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Policy effect	overall	0.060 ** (0.020)	0.048 *** (0.009)	-	-
	15	-	-	-0.023 (0.014)	-0.006 (0.014)
	16	-	-	-0.002 (0.007)	-0.004 (0.010)
	17	-	-	0.130 *** (0.014)	0.113 *** (0.022)
	18	-	-	0.087 *** (0.012)	0.068 *** (0.016)
Sex	male	ref	ref	ref	ref
	female	-0.036 ** (0.013)	-0.036 ** (0.014)	-0.036 ** (0.014)	-0.036 ** (0.014)
St.Type	urban	ref	ref	ref	ref
	rural	-0.119 *** (0.004)	-0.119 *** (0.004)	-0.119 *** (0.004)	-0.119 *** (0.004)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.095 *** (0.006)	0.095 *** (0.006)	0.095 *** (0.006)	0.095 *** (0.006)
	lower sec.	0.201 *** (0.006)	0.201 *** (0.006)	0.201 *** (0.006)	0.201 *** (0.006)
	upper sec.	0.288 *** (0.008)	0.288 *** (0.008)	0.288 *** (0.008)	0.288 *** (0.008)
	voc. & tech h.s.	0.288 *** (0.009)	0.288 *** (0.009)	0.288 *** (0.009)	0.288 *** (0.009)
	higher education	0.350 *** (0.009)	0.350 *** (0.009)	0.350 *** (0.009)	0.350 *** (0.009)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.005 (0.006)	-0.005 (0.006)	-0.005 (0.006)	-0.005 (0.006)
	aegean	-0.033 *** (0.005)	-0.033 *** (0.005)	-0.033 *** (0.005)	-0.033 *** (0.005)
	east marmara	-0.015 ** (0.007)	-0.015 ** (0.007)	-0.016 ** (0.007)	-0.016 ** (0.007)
	west anatolia	-0.040 *** (0.003)	-0.040 *** (0.003)	-0.040 *** (0.003)	-0.040 *** (0.003)
	mediterranean	-0.042 *** (0.003)	-0.043 *** (0.003)	-0.043 *** (0.003)	-0.043 *** (0.003)
	central anatolia	-0.032 *** (0.007)	-0.032 *** (0.007)	-0.032 *** (0.007)	-0.032 *** (0.007)
	west black sea	-0.025 *** (0.007)	-0.025 *** (0.007)	-0.025 *** (0.007)	-0.025 *** (0.007)
	east black sea	0.052 *** (0.011)	0.052 *** (0.011)	0.052 *** (0.011)	0.052 *** (0.011)
	north east anatolia	-0.060 *** (0.007)	-0.060 *** (0.007)	-0.060 *** (0.007)	-0.060 *** (0.007)
	central east anatolia	-0.022 ** (0.007)	-0.022 ** (0.007)	-0.022 ** (0.007)	-0.022 ** (0.007)
	south east anatolia	-0.052 *** (0.008)	-0.052 *** (0.008)	-0.052 *** (0.008)	-0.052 *** (0.008)
Head R	other	ref	ref	ref	ref
	own child	0.040 *** (0.005)	0.040 *** (0.005)	0.040 *** (0.005)	0.040 *** (0.005)

Table A.19: E. R. for Only Enrolled Group (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Age Dummy	15	ref	ref	ref	ref
	16	-0.089 *** (0.008)	-0.100 *** (0.016)	-0.110 *** (0.011)	-0.108 *** (0.010)
	17	-0.241 *** (0.026)	-0.351 *** (0.023)	-0.343 *** (0.012)	-0.334 *** (0.013)
	18	-0.426 *** (0.020)	-0.543 *** (0.019)	-0.503 *** (0.006)	-0.534 *** (0.016)
Trend	15	-	-0.043 *** (0.012)	-	-0.016 (0.013)
	16	-	-0.041 *** (0.009)	-	-0.018 (0.010)
	17	-	-0.011 (0.010)	-	-0.025 ** (0.008)
	18	-	-	-	-
Trend	15	-	-0.043 *** (0.012)	-	0.003 (0.014)
	16	-	-0.041 *** (0.009)	-	0.014 * (0.008)
	17	-	-0.011 (0.010)	-	0.026 *** (0.007)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.025 (0.028)	0.015 (0.016)	-0.017 (0.010)	0.005 (0.013)
	2006	-0.031 (0.034)	0.030 (0.019)	-0.003 (0.006)	0.026 (0.015)
	2007	-0.065 ** (0.025)	0.013 (0.014)	-0.021 ** (0.007)	0.017 (0.017)
	2008	-0.049 (0.033)	0.043 * (0.020)	-0.022 (0.017)	0.027 (0.022)
	2009	-0.006 (0.040)	0.097 *** (0.023)	0.014 (0.014)	0.073 ** (0.028)
	2010	0.005 (0.037)	0.112 *** (0.022)	0.025 ** (0.010)	0.087 *** (0.026)
	2011	0.014 (0.036)	0.122 *** (0.023)	0.034 ** (0.011)	0.096 *** (0.028)
	2012	0.029 (0.041)	0.118 *** (0.022)	0.042 *** (0.012)	0.092 *** (0.027)
	2013	0.071 (0.044)	0.132 *** (0.020)	0.071 *** (0.015)	0.108 *** (0.027)
household size		-0.026 *** (0.001)	-0.026 *** (0.001)	-0.026 *** (0.001)	-0.026 *** (0.001)
age of the hh head		0.002 *** (0.000)	0.002 *** (0.000)	0.002 *** (0.000)	0.002 *** (0.000)
constant		0.642 *** (0.031)	0.684 *** (0.018)	0.684 *** (0.018)	0.680 *** (0.015)
r-squared		0.209	0.212	0.212	0.212
number of obs.		329,709	329,709	329,709	329,709

Table A.20: E. R. for Only Enrolled Group of Females

		Model (1)	Model (2)	Model (3)	Model (4)
		females	females	females	females
Policy effect	overall	0.055 ** (0.020)	0.044 *** (0.011)	-	-
	15	-	-	-0.028 * (0.015)	0.001 (0.013)
	16	-	-	0.002 (0.012)	-0.016 (0.014)
	17	-	-	0.135 *** (0.013)	0.121 *** (0.020)
	18	-	-	0.069 *** (0.013)	0.052 ** (0.018)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	-0.150 *** (0.006)	-0.150 *** (0.006)	-0.150 *** (0.006)	-0.150 *** (0.006)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.105 *** (0.007)	0.105 *** (0.007)	0.105 *** (0.007)	0.105 *** (0.007)
	lower sec.	0.209 *** (0.008)	0.208 *** (0.008)	0.209 *** (0.008)	0.208 *** (0.008)
	upper sec.	0.296 *** (0.008)	0.296 *** (0.008)	0.296 *** (0.008)	0.296 *** (0.008)
	voc. & tech h.s.	0.284 *** (0.009)	0.284 *** (0.009)	0.284 *** (0.009)	0.284 *** (0.009)
	higher education	0.357 *** (0.009)	0.356 *** (0.010)	0.356 *** (0.010)	0.356 *** (0.010)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.044 *** (0.011)	0.044 *** (0.011)	0.043 *** (0.011)	0.043 *** (0.011)
	aegean	-0.004 (0.007)	-0.004 (0.007)	-0.005 (0.007)	-0.005 (0.007)
	east marmara	-0.001 (0.005)	-0.001 (0.005)	-0.002 (0.005)	-0.002 (0.005)
	west anatolia	-0.019 * (0.008)	-0.019 ** (0.008)	-0.019 ** (0.008)	-0.019 ** (0.008)
	mediterranean	-0.029 *** (0.003)	-0.029 *** (0.003)	-0.029 *** (0.003)	-0.029 *** (0.003)
	central anatolia	-0.029 ** (0.013)	-0.029 ** (0.013)	-0.029 ** (0.013)	-0.029 ** (0.013)
	west black sea	-0.017 ** (0.006)	-0.016 ** (0.006)	-0.016 ** (0.006)	-0.016 ** (0.006)
	east black sea	0.050 *** (0.014)	0.050 *** (0.014)	0.050 *** (0.014)	0.050 *** (0.014)
	north east anatolia	-0.080 *** (0.011)	-0.079 *** (0.011)	-0.079 *** (0.011)	-0.079 *** (0.011)
	central east anatolia	-0.056 *** (0.011)	-0.056 *** (0.011)	-0.056 *** (0.011)	-0.056 *** (0.011)
	south east anatolia	-0.095 *** (0.012)	-0.095 *** (0.012)	-0.095 *** (0.012)	-0.095 *** (0.012)
Head R	other	ref	ref	ref	ref
	own child	0.101 *** (0.007)	0.100 *** (0.007)	0.100 *** (0.007)	0.100 *** (0.007)

Table A.20: E. R. for Only Enrolled Group of Females (Cont'd)

		Model (1) females	Model (2) females	Model (3) females	Model (4) females
Age Dummy	15	ref	ref	ref	ref
	16	-0.082 *** (0.007)	-0.107 *** (0.015)	-0.108 *** (0.007)	-0.118 *** (0.008)
	17	-0.230 *** (0.027)	-0.348 *** (0.022)	-0.338 *** (0.011)	-0.329 *** (0.011)
	18	-0.416 *** (0.018)	-0.520 *** (0.022)	-0.485 *** (0.008)	-0.519 *** (0.019)
Trend	15	-	-0.041 ** (0.013)	-	-0.023 (0.013)
	16	-	-0.030 *** (0.009)	-	-0.007 (0.010)
	17	-	-0.007 (0.011)	-	-0.028 *** (0.008)
	18	-	-	-	-
Trend	15	-	-0.041 ** (0.013)	-	0.012 (0.014)
	16	-	-0.030 *** (0.009)	-	0.005 (0.008)
	17	-	-0.007 (0.011)	-	0.030 *** (0.008)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.004 (0.028)	0.026 (0.015)	0.000 (0.010)	0.022 * (0.012)
	2006	0.001 (0.037)	0.048 * (0.023)	0.025 ** (0.009)	0.051 ** (0.017)
	2007	-0.028 (0.024)	0.032 * (0.016)	0.009 (0.010)	0.048 ** (0.021)
	2008	-0.001 (0.034)	0.070 ** (0.025)	0.016 (0.021)	0.065 ** (0.026)
	2009	0.048 (0.039)	0.128 *** (0.025)	0.062 *** (0.016)	0.120 *** (0.031)
	2010	0.070 * (0.036)	0.151 *** (0.027)	0.084 *** (0.014)	0.143 *** (0.029)
	2011	0.090 ** (0.035)	0.170 *** (0.027)	0.104 *** (0.015)	0.162 *** (0.031)
	2012	0.114 ** (0.042)	0.174 *** (0.027)	0.121 *** (0.015)	0.168 *** (0.030)
	2013	0.161 *** (0.044)	0.191 *** (0.024)	0.155 *** (0.018)	0.187 *** (0.030)
household size		-0.029 *** (0.002)	-0.029 *** (0.002)	-0.029 *** (0.002)	-0.029 *** (0.002)
age of the hh head		0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)
constant		0.495 *** (0.030)	0.545 *** (0.015)	0.542 *** (0.013)	0.542 *** (0.015)
r-squared		0.249	0.252	0.252	0.253
number of obs.		165,131	165,131	165,131	165,131

Table A.21: E. R. for Only Enrolled Group of Males

		Model (1)	Model (2)	Model (3)	Model (4)
		males	males	males	males
Policy effect	overall	0.065 ** (0.021)	0.052 *** (0.010)	-	-
	15	-	-	-0.019 (0.014)	-0.011 (0.018)
	16	-	-	-0.007 (0.007)	0.008 (0.012)
	17	-	-	0.122 *** (0.016)	0.103 *** (0.025)
	18	-	-	0.102 *** (0.011)	0.081 *** (0.014)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	-0.087 *** (0.005)	-0.087 *** (0.005)	-0.087 *** (0.005)	-0.087 *** (0.005)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.086 *** (0.008)	0.086 *** (0.008)	0.087 *** (0.008)	0.087 *** (0.008)
	lower sec.	0.194 *** (0.010)	0.194 *** (0.009)	0.195 *** (0.009)	0.195 *** (0.009)
	upper sec.	0.280 *** (0.013)	0.279 *** (0.013)	0.279 *** (0.013)	0.279 *** (0.013)
	voc. & tech h.s.	0.290 *** (0.012)	0.290 *** (0.012)	0.290 *** (0.012)	0.290 *** (0.012)
	higher education	0.344 *** (0.015)	0.345 *** (0.015)	0.345 *** (0.015)	0.345 *** (0.015)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.049 *** (0.012)	-0.049 *** (0.012)	-0.049 *** (0.012)	-0.049 *** (0.012)
	aegean	-0.059 *** (0.009)	-0.060 *** (0.009)	-0.060 *** (0.009)	-0.060 *** (0.009)
	east marmara	-0.027 ** (0.010)	-0.027 ** (0.010)	-0.028 ** (0.010)	-0.028 ** (0.010)
	west anatolia	-0.060 *** (0.008)	-0.060 *** (0.008)	-0.060 *** (0.008)	-0.060 *** (0.008)
	mediterranean	-0.053 *** (0.006)	-0.054 *** (0.005)	-0.054 *** (0.005)	-0.054 *** (0.005)
	central anatolia	-0.033 ** (0.010)	-0.034 *** (0.010)	-0.034 *** (0.010)	-0.034 *** (0.010)
	west black sea	-0.032 ** (0.012)	-0.033 ** (0.011)	-0.033 ** (0.012)	-0.033 ** (0.012)
	east black sea	0.050 *** (0.010)	0.049 *** (0.010)	0.049 *** (0.010)	0.049 *** (0.010)
	north east anatolia	-0.035 *** (0.004)	-0.036 *** (0.005)	-0.035 *** (0.005)	-0.035 *** (0.005)
	central east anatolia	0.016 (0.014)	0.016 (0.014)	0.016 (0.014)	0.016 (0.014)
	south east anatolia	-0.010 (0.009)	-0.010 (0.009)	-0.010 (0.009)	-0.010 (0.009)
Head R	other	ref	ref	ref	ref
	own child	-0.049 *** (0.004)	-0.049 *** (0.004)	-0.048 *** (0.004)	-0.049 *** (0.004)

Table A.21: E. R. for Only Enrolled Group of Males (Cont'd)

		Model (1) males	Model (2) males	Model (3) males	Model (4) males
Age Dummy	15	ref	ref	ref	ref
	16	-0.095 *** (0.010)	-0.090 *** (0.017)	-0.108 *** (0.016)	-0.096 *** (0.013)
	17	-0.248 *** (0.024)	-0.348 *** (0.024)	-0.342 *** (0.014)	-0.333 *** (0.015)
	18	-0.429 *** (0.022)	-0.558 *** (0.018)	-0.512 *** (0.007)	-0.543 *** (0.016)
Trend	15	-	-0.044 *** (0.013)	-	-0.010 (0.015)
	16	-	-0.052 *** (0.009)	-	-0.029 ** (0.012)
	17	-	-0.017 (0.010)	-	-0.024 ** (0.009)
	18	-	-	-	-
Trend	15	-	-0.044 *** (0.013)	-	-0.004 (0.017)
	16	-	-0.052 *** (0.009)	-	0.025 ** (0.010)
	17	-	-0.017 (0.010)	-	0.025 ** (0.008)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.046 (0.030)	0.006 (0.018)	-0.034 ** (0.013)	-0.009 (0.016)
	2006	-0.060 * (0.031)	0.016 (0.016)	-0.029 *** (0.008)	0.006 (0.016)
	2007	-0.099 *** (0.026)	-0.002 (0.014)	-0.049 *** (0.006)	-0.008 (0.016)
	2008	-0.095 ** (0.033)	0.019 (0.017)	-0.059 *** (0.015)	-0.006 (0.021)
	2009	-0.059 (0.041)	0.068 ** (0.023)	-0.033 ** (0.014)	0.031 (0.027)
	2010	-0.057 (0.039)	0.076 *** (0.020)	-0.032 ** (0.010)	0.036 (0.025)
	2011	-0.059 (0.038)	0.076 *** (0.021)	-0.033 *** (0.010)	0.035 (0.028)
	2012	-0.054 (0.041)	0.062 ** (0.021)	-0.035 ** (0.012)	0.019 (0.027)
	2013	-0.015 (0.045)	0.075 *** (0.019)	-0.011 (0.015)	0.033 (0.027)
household size		-0.022 *** (0.001)	-0.022 *** (0.001)	-0.022 *** (0.001)	-0.022 *** (0.001)
age of the hh head		0.001 *** (0.000)	0.001 *** (0.000)	0.001 *** (0.000)	0.001 *** (0.000)
constant		0.782 *** (0.031)	0.815 *** (0.024)	0.818 *** (0.027)	0.811 *** (0.020)
r-squared		0.184	0.187	0.187	0.187
number of obs.		164,578	164,578	164,578	164,578

Table A.22: E. R. for Only Enrolled Group in Urban Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		urban	urban	urban	urban
Policy effect	overall	0.070 ** (0.023)	0.057 *** (0.012)	-	-
	15	-	-	-0.022 (0.018)	-0.012 (0.015)
	16	-	-	0.001 (0.010)	- 0.003 (0.015)
	17	-	-	0.147 *** (0.015)	0.133 *** (0.025)
	18	-	-	0.098 *** (0.013)	0.081 *** (0.014)
Sex	male	ref	ref	ref	ref
	female	-0.010 (0.013)	-0.010 (0.013)	-0.010 (0.013)	-0.010 (0.013)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.114 *** (0.006)	0.114 *** (0.006)	0.114 *** (0.006)	0.114 *** (0.006)
	lower sec.	0.203 *** (0.006)	0.203 *** (0.006)	0.203 *** (0.006)	0.203 *** (0.006)
	upper sec.	0.291 *** (0.007)	0.291 *** (0.007)	0.291 *** (0.007)	0.291 *** (0.007)
	voc. & tech h.s.	0.289 *** (0.009)	0.289 *** (0.009)	0.289 *** (0.009)	0.289 *** (0.009)
	higher education	0.348 *** (0.008)	0.348 *** (0.008)	0.348 *** (0.008)	0.348 *** (0.008)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.012 ** (0.004)	-0.012 ** (0.004)	-0.012 ** (0.004)	-0.013 ** (0.014)
	aegean	-0.026 *** (0.005)	-0.027 *** (0.005)	-0.027 *** (0.005)	-0.027 *** (0.005)
	east marmara	-0.026 *** (0.008)	-0.026 *** (0.008)	-0.026 *** (0.008)	-0.026 ** (0.018)
	west anatolia	-0.034 *** (0.003)	-0.034 *** (0.003)	-0.034 *** (0.003)	-0.034 *** (0.003)
	mediterranean	-0.048 *** (0.004)	-0.048 *** (0.004)	-0.048 *** (0.004)	-0.048 *** (0.004)
	central anatolia	-0.009 (0.007)	-0.010 (0.007)	-0.010 (0.007)	-0.010 (0.017)
	west black sea	-0.011 (0.007)	-0.010 (0.007)	-0.011 (0.007)	-0.010 (0.007)
	east black sea	0.027 ** (0.008)	0.027 ** (0.008)	0.026 ** (0.008)	0.026 ** (0.008)
	north east anatolia	-0.043 *** (0.007)	-0.043 *** (0.007)	-0.043 *** (0.007)	-0.043 *** (0.007)
	central east anatolia	0.018 ** (0.006)	0.018 ** (0.006)	0.018 ** (0.006)	0.018 ** (0.006)
	south east anatolia	-0.046 *** (0.007)	-0.046 *** (0.007)	-0.046 *** (0.007)	-0.046 ** (0.007)
Head R	other	ref	ref	ref	ref
	own child	0.061 *** (0.005)	0.060 *** (0.005)	0.061 *** (0.005)	0.061 *** (0.005)

Table A.22: E. R. for Only Enrolled Group in Urban Areas (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		urban	urban	urban	urban
Age Dummy	15	ref	ref	ref	ref
	16	-0.086 *** (0.008)	-0.099 *** (0.019)	-0.108 *** (0.013)	-0.107 *** (0.012)
	17	-0.245 *** (0.029)	-0.363 *** (0.029)	-0.357 *** (0.017)	-0.343 *** (0.016)
	18	-0.440 *** (0.022)	-0.563 *** (0.025)	-0.523 *** (0.010)	-0.552 *** (0.020)
Trend	15	-	-0.045 *** (0.013)	-	-0.011 (0.014)
	16	-	-0.040 *** (0.011)	-	-0.014 (0.013)
	17	-	-0.012 (0.011)	-	-0.027 ** (0.009)
	18	-	-	-	-
Trend	15	-	-0.045 *** (0.013)	-	-0.002 (0.015)
	16	-	-0.040 *** (0.011)	-	0.010 (0.010)
	17	-	-0.012 (0.011)	-	0.029 *** (0.008)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.036 (0.031)	0.005 (0.020)	-0.028 * (0.013)	-0.006 (0.015)
	2006	-0.036 (0.037)	0.026 (0.024)	-0.006 (0.011)	0.023 (0.020)
	2007	-0.074 ** (0.025)	0.006 (0.018)	-0.027 ** (0.012)	0.011 (0.022)
	2008	-0.057 (0.035)	0.038 (0.026)	-0.028 (0.021)	0.019 (0.028)
	2009	-0.014 (0.042)	0.093 ** (0.029)	0.007 (0.017)	0.064 (0.036)
	2010	-0.013 (0.039)	0.098 *** (0.029)	0.008 (0.015)	0.067 * (0.033)
	2011	-0.005 (0.038)	0.107 *** (0.030)	0.015 (0.015)	0.076 * (0.035)
	2012	0.010 (0.043)	0.102 *** (0.030)	0.022 (0.016)	0.070 * (0.034)
	2013	0.048 (0.048)	0.108 *** (0.027)	0.045 * (0.020)	0.078 ** (0.033)
household size		-0.030 *** (0.002)	-0.030 *** (0.002)	-0.030 *** (0.002)	-0.030 *** (0.002)
age of the hh head		0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)	0.003 *** (0.000)
constant		0.606 *** (0.029)	0.652 *** (0.020)	0.653 *** (0.020)	0.648 *** (0.016)
r-squared		0.203	0.206	0.206	0.207
number of obs.		226,287	226,287	226,287	226,287

Table A.23: E. R. for Only Enrolled Group in Rural Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		rural	rural	rural	rural
Policy effect	overall	0.034 ** (0.014)	0.026 *** (0.008)	-	-
	15	-	-	-0.030 *** (0.009)	0.010 (0.014)
	16	-	-	-0.013 (0.009)	-0.007 (0.013)
	17	-	-	0.087 *** (0.010)	0.061 *** (0.016)
	18	-	-	0.051 *** (0.008)	0.031 ** (0.012)
Sex	male	ref	ref	ref	ref
	female	-0.093 *** (0.017)	-0.092 *** (0.017)	-0.092 *** (0.017)	-0.092 *** (0.017)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.057 *** (0.008)	0.057 *** (0.008)	0.057 *** (0.008)	0.057 *** (0.008)
	lower sec.	0.203 *** (0.010)	0.202 *** (0.010)	0.202 *** (0.010)	0.202 *** (0.010)
	upper sec.	0.295 *** (0.015)	0.294 *** (0.015)	0.294 *** (0.015)	0.294 *** (0.015)
	voc. & tech h.s.	0.294 *** (0.019)	0.293 *** (0.019)	0.293 *** (0.019)	0.293 *** (0.019)
	higher education	0.385 *** (0.016)	0.384 *** (0.016)	0.384 *** (0.016)	0.384 *** (0.016)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.109 *** (0.014)	-0.109 *** (0.014)	-0.109 *** (0.014)	-0.109 *** (0.014)
	aegean	-0.161 *** (0.016)	-0.160 *** (0.016)	-0.160 *** (0.016)	-0.160 *** (0.016)
	east marmara	-0.090 *** (0.020)	-0.091 *** (0.020)	-0.090 *** (0.020)	-0.091 *** (0.020)
	west anatolia	-0.183 *** (0.028)	-0.183 *** (0.028)	-0.183 *** (0.028)	-0.183 *** (0.028)
	mediterranean	-0.145 *** (0.013)	-0.145 *** (0.013)	-0.145 *** (0.013)	-0.145 *** (0.013)
	central anatolia	-0.177 *** (0.022)	-0.177 *** (0.022)	-0.177 *** (0.022)	-0.177 *** (0.022)
	west black sea	-0.160 *** (0.017)	-0.160 *** (0.017)	-0.160 *** (0.017)	-0.160 *** (0.017)
	east black sea	-0.058 *** (0.013)	-0.058 *** (0.013)	-0.058 *** (0.013)	-0.058 *** (0.013)
	north east anatolia	-0.199 *** (0.017)	-0.199 *** (0.017)	-0.198 *** (0.017)	-0.199 *** (0.017)
	central east anatolia	-0.188 *** (0.017)	-0.188 *** (0.017)	-0.188 *** (0.017)	-0.188 *** (0.017)
	south east anatolia	-0.186 *** (0.020)	-0.186 *** (0.020)	-0.186 *** (0.020)	-0.186 *** (0.020)
Head R	other	ref	ref	ref	ref
	own child	0.004 (0.008)	0.004 (0.008)	0.004 (0.008)	0.004 (0.008)

Table A.23: E. R. for Only Enrolled Group in Rural Areas (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		rural	rural	rural	rural
Age Dummy	15	ref	ref	ref	ref
	16	-0.097 *** (0.009)	-0.103 *** (0.009)	-0.113 *** (0.008)	-0.110 *** (0.008)
	17	-0.233 *** (0.019)	-0.325 *** (0.010)	-0.312 *** (0.005)	-0.316 *** (0.007)
	18	-0.394 *** (0.015)	-0.492 *** (0.012)	-0.451 *** (0.009)	-0.491 *** (0.012)
Trend	15	-	-0.037 ** (0.013)	-	-0.030 * (0.014)
	16	-	-0.041 *** (0.006)	-	-0.028 ** (0.009)
	17	-	-0.010 (0.008)	-	-0.019 ** (0.007)
	18	-	-	-	-
Trend	15	-	-0.037 ** (0.013)	-	0.018 (0.016)
	16	-	-0.041 *** (0.006)	-	0.026 *** (0.008)
	17	-	-0.010 (0.008)	-	0.021 *** (0.006)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.002 (0.023)	0.038 *** (0.009)	0.007 (0.005)	0.035 *** (0.010)
	2006	-0.014 (0.028)	0.040 *** (0.011)	0.007 (0.008)	0.039 ** (0.012)
	2007	-0.040 (0.026)	0.030 ** (0.011)	-0.007 (0.009)	0.035 ** (0.013)
	2008	-0.028 (0.030)	0.052 *** (0.014)	-0.008 (0.012)	0.048 *** (0.013)
	2009	0.016 (0.035)	0.104 *** (0.013)	0.032 ** (0.012)	0.097 *** (0.017)
	2010	0.051 (0.033)	0.141 *** (0.013)	0.066 *** (0.008)	0.134 *** (0.016)
	2011	0.064 * (0.032)	0.152 *** (0.012)	0.080 *** (0.009)	0.146 *** (0.020)
	2012	0.078 * (0.036)	0.147 *** (0.010)	0.089 *** (0.010)	0.141 *** (0.019)
	2013	0.126 *** (0.037)	0.178 *** (0.009)	0.127 *** (0.010)	0.173 *** (0.019)
household size		-0.018 *** (0.002)	-0.018 *** (0.002)	-0.018 *** (0.002)	-0.018 *** (0.002)
age of the hh head		0.001 *** (0.000)	0.001 *** (0.000)	0.001 *** (0.000)	0.001 *** (0.000)
constant		0.721 *** (0.034)	0.753 *** (0.016)	0.752 *** (0.017)	0.752 *** (0.015)
r-squared		0.166	0.168	0.167	0.168
number of obs.		226,287	226,287	226,287	226,287

Table A.24: E. R. for Only Employed Group

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Policy effect	overall	-0.013 * (0.007)	-0.007 ** (0.003)	-	-
	15	-	-	0.017 *** (0.002)	0.006 (0.004)
	16	-	-	0.011 *** (0.002)	0.014 *** (0.004)
	17	-	-	-0.019 *** (0.004)	-0.008 (0.006)
	18	-	-	-0.034 *** (0.003)	-0.028 *** (0.002)
Sex	male	ref	ref	ref	ref
	female	-0.111 *** (0.004)	-0.111 *** (0.004)	-0.111 *** (0.004)	-0.111 *** (0.004)
St.Type	urban	ref	ref	ref	ref
	rural	0.078 *** (0.005)	0.078 *** (0.005)	0.078 *** (0.005)	0.078 *** (0.005)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.049 *** (0.003)	-0.049 *** (0.003)	-0.049 *** (0.003)	-0.049 *** (0.003)
	lower sec.	-0.116 *** (0.003)	-0.116 *** (0.003)	-0.116 *** (0.003)	-0.116 *** (0.003)
	upper sec.	-0.167 *** (0.005)	-0.167 *** (0.005)	-0.167 *** (0.005)	-0.167 *** (0.005)
	voc. & tech h.s.	-0.168 *** (0.006)	-0.168 *** (0.006)	-0.168 *** (0.006)	-0.168 *** (0.006)
	higher education	-0.193 *** (0.006)	-0.193 *** (0.006)	-0.193 *** (0.006)	-0.193 *** (0.006)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.012 (0.007)	-0.012 (0.007)	-0.012 (0.007)	-0.012 (0.007)
	aegean	0.007 (0.004)	0.007 * (0.004)	0.007 * (0.004)	0.007 * (0.004)
	east marmara	-0.019 ** (0.006)	-0.019 ** (0.006)	-0.019 ** (0.006)	-0.019 ** (0.006)
	west anatolia	-0.015 ** (0.006)	-0.015 ** (0.006)	-0.015 ** (0.006)	-0.015 ** (0.006)
	mediterranean	-0.017 ** (0.006)	-0.017 ** (0.006)	-0.017 ** (0.006)	-0.017 ** (0.006)
	central anatolia	-0.030 ** (0.010)	-0.030 ** (0.010)	-0.030 ** (0.010)	-0.030 ** (0.010)
	west black sea	0.021 *** (0.005)	0.021 *** (0.005)	0.021 *** (0.005)	0.021 *** (0.005)
	east black sea	-0.045 *** (0.009)	-0.045 *** (0.009)	-0.045 *** (0.009)	-0.045 *** (0.009)
	north east anatolia	-0.040 *** (0.007)	-0.040 *** (0.007)	-0.040 *** (0.007)	-0.040 *** (0.007)
	central east anatolia	-0.096 *** (0.014)	-0.096 *** (0.014)	-0.096 *** (0.014)	-0.096 *** (0.014)
	south east anatolia	-0.092 *** (0.009)	-0.092 *** (0.009)	-0.092 *** (0.009)	-0.092 *** (0.009)
Head R	other	ref	ref	ref	ref
	own child	0.016 *** (0.002)	0.016 *** (0.002)	0.016 *** (0.002)	0.016 *** (0.002)

Table A.24: E. R. for Only Employed Group (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Age Dummy	15	ref	ref	ref	ref
	16	0.041 *** (0.002)	0.044 *** (0.003)	0.047 *** (0.001)	0.048 *** (0.002)
	17	0.086 *** (0.006)	0.113 *** (0.003)	0.111 *** (0.001)	0.112 *** (0.002)
	18	0.149 *** (0.008)	0.201 *** (0.006)	0.183 *** (0.002)	0.189 *** (0.004)
Trend	15	-	0.017 *** (0.004)	-	0.005 (0.003)
	16	-	0.016 *** (0.003)	-	0.002 (0.003)
	17	-	0.009 *** (0.002)	-	0.002 (0.003)
	18	-	-	-	-
Trend	15	-	0.017 *** (0.004)	-	-0.001 (0.003)
	16	-	0.016 *** (0.003)	-	-0.001 (0.002)
	17	-	0.009 *** (0.002)	-	-0.004 (0.002)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.002 (0.006)	-0.018 *** (0.003)	-0.004 *** (0.001)	-0.007 ** (0.003)
	2006	0.005 (0.011)	-0.025 *** (0.005)	-0.008 *** (0.002)	-0.010 * (0.005)
	2007	0.008 (0.010)	-0.031 *** (0.006)	-0.011 *** (0.002)	-0.016 *** (0.004)
	2008	0.013 (0.010)	-0.033 *** (0.007)	-0.004 (0.003)	-0.013 ** (0.004)
	2009	-0.003 (0.014)	-0.056 *** (0.009)	-0.015 *** (0.003)	-0.027 *** (0.006)
	2010	-0.003 (0.013)	-0.060 *** (0.007)	-0.016 *** (0.003)	-0.027 *** (0.006)
	2011	-0.001 (0.012)	-0.061 *** (0.008)	-0.014 *** (0.002)	-0.026 *** (0.007)
	2012	-0.016 (0.014)	-0.071 *** (0.007)	-0.026 *** (0.003)	-0.036 *** (0.007)
	2013	-0.033 ** (0.015)	-0.082 *** (0.007)	-0.039 *** (0.004)	-0.046 *** (0.006)
household size		0.014 *** (0.001)	0.014 *** (0.001)	0.014 *** (0.001)	0.014 *** (0.001)
age of the hh head		-0.001 *** (0.000)	-0.001 *** (0.000)	-0.001 *** (0.000)	-0.001 *** (0.000)
constant		0.189 *** (0.011)	0.178 *** (0.007)	0.178 *** (0.008)	0.177 *** (0.008)
r-squared		0.095	0.096	0.096	0.096
number of obs.		226,287	226,287	226,287	226,287

Table A.25: E. R. for Only Employed Group of Females

		Model (1) females	Model (2) females	Model (3) females	Model (4) females
Policy effect	overall	-0.003 (0.004)	-0.002 (0.003)	-	-
	15	-	-	0.020 *** (0.002)	0.014 *** (0.003)
	16	-	-	0.010 *** (0.003)	0.016 *** (0.002)
	17	-	-	-0.007 ** (0.003)	-0.006 (0.005)
	18	-	-	-0.016 *** (0.002)	-0.022 *** (0.002)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	0.097 *** (0.006)	0.097 *** (0.006)	0.097 *** (0.006)	0.097 *** (0.006)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.041 *** (0.002)	-0.041 *** (0.002)	-0.041 *** (0.002)	-0.041 *** (0.002)
	lower sec.	-0.087 *** (0.003)	-0.087 *** (0.003)	-0.087 *** (0.003)	-0.087 *** (0.003)
	upper sec.	-0.108 *** (0.004)	-0.108 *** (0.004)	-0.108 *** (0.004)	-0.108 *** (0.004)
	voc. & tech h.s.	-0.109 *** (0.006)	-0.109 *** (0.006)	-0.109 *** (0.006)	-0.109 *** (0.006)
	higher education	-0.124 *** (0.006)	-0.124 *** (0.006)	-0.124 *** (0.006)	-0.124 *** (0.006)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.025 *** (0.006)	-0.025 *** (0.006)	-0.025 *** (0.006)	-0.025 *** (0.006)
	aegean	-0.013 *** (0.004)	-0.013 *** (0.004)	-0.013 *** (0.004)	-0.013 *** (0.004)
	east marmara	-0.025 *** (0.004)	-0.025 *** (0.004)	-0.025 *** (0.004)	-0.025 *** (0.004)
	west anatolia	-0.050 *** (0.007)	-0.050 *** (0.007)	-0.050 *** (0.007)	-0.050 *** (0.007)
	mediterranean	-0.029 *** (0.006)	-0.029 *** (0.006)	-0.029 *** (0.006)	-0.029 *** (0.006)
	central anatolia	-0.059 *** (0.012)	-0.059 *** (0.012)	-0.059 *** (0.012)	-0.059 *** (0.012)
	west black sea	0.040 *** (0.005)	0.040 *** (0.005)	0.040 *** (0.005)	0.040 *** (0.005)
	east black sea	-0.018 (0.012)	-0.018 (0.012)	-0.018 (0.012)	-0.018 (0.012)
	north east anatolia	-0.067 *** (0.006)	-0.067 *** (0.006)	-0.067 *** (0.006)	-0.067 *** (0.006)
	central east anatolia	-0.126 *** (0.013)	-0.126 *** (0.013)	-0.125 *** (0.013)	-0.126 *** (0.013)
	south east anatolia	-0.114 *** (0.010)	-0.114 *** (0.010)	-0.113 *** (0.010)	-0.114 *** (0.010)
Head R	other	ref	ref	ref	ref
	own child	0.026 *** (0.005)	0.026 *** (0.005)	0.026 *** (0.005)	0.026 *** (0.005)

Table A.25: E. R. for Only Employed Group of Females (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		females	females	females	females
Age Dummy	15	ref	ref	ref	ref
	16	0.026 *** (0.003)	0.035 *** (0.003)	0.035 *** (0.002)	0.038 *** (0.002)
	17	0.056 *** (0.004)	0.078 *** (0.003)	0.076 *** (0.002)	0.077 *** (0.001)
	18	0.099 *** (0.006)	0.137 *** (0.004)	0.124 *** (0.002)	0.125 *** (0.003)
Trend	15	-	0.017 *** (0.003)	-	0.004 (0.002)
	16	-	0.011 *** (0.003)	-	-0.001 (0.001)
	17	-	0.006 * (0.003)	-	0.000 (0.002)
	18	-	-	-	-
Trend	15	-	0.017 *** (0.003)	-	-0.005 (0.003)
	16	-	0.011 *** (0.003)	-	-0.001 (0.001)
	17	-	0.006 * (0.003)	-	-0.002 (0.002)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.010 ** (0.004)	-0.024 *** (0.003)	-0.013 *** (0.001)	-0.014 *** (0.002)
	2006	-0.008 (0.007)	-0.029 *** (0.004)	-0.017 *** (0.001)	-0.016 *** (0.003)
	2007	-0.014 * (0.007)	-0.040 *** (0.005)	-0.026 *** (0.001)	-0.026 *** (0.003)
	2008	-0.008 (0.007)	-0.038 *** (0.006)	-0.020 *** (0.002)	-0.019 *** (0.003)
	2009	-0.021 ** (0.009)	-0.053 *** (0.008)	-0.029 *** (0.003)	-0.025 *** (0.004)
	2010	-0.021 * (0.009)	-0.054 *** (0.005)	-0.029 *** (0.003)	-0.024 *** (0.002)
	2011	-0.022 ** (0.008)	-0.055 *** (0.006)	-0.030 *** (0.004)	-0.023 *** (0.005)
	2012	-0.038 *** (0.009)	-0.068 *** (0.007)	-0.044 *** (0.003)	-0.035 *** (0.006)
	2013	-0.041 *** (0.009)	-0.069 *** (0.005)	-0.045 *** (0.004)	-0.035 *** (0.003)
household size		0.010 *** (0.000)	0.010 *** (0.000)	0.010 *** (0.000)	0.010 *** (0.000)
age of the hh head		-0.001 *** (0.000)	-0.001 *** (0.000)	-0.001 *** (0.000)	-0.001 *** (0.000)
constant		0.083 *** (0.009)	0.073 *** (0.008)	0.074 *** (0.007)	0.072 *** (0.008)
r-squared		0.073	0.073	0.073	0.073
number of obs.		165,131	165,131	165,131	165,131

Table A.26: E. R. for Only Employed Group of Males

		Model (1) males	Model (2) males	Model (3) males	Model (4) males
Policy effect	overall	-0.022 * (0.010)	-0.013 *** (0.003)	-	-
	15	-	-	0.012 *** (0.003)	-0.006 (0.008)
	16	-	-	0.013 *** (0.003)	0.012 (0.007)
	17	-	-	-0.030 *** (0.006)	-0.011 (0.008)
	18	-	-	-0.049 *** (0.005)	-0.035 *** (0.004)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	0.062 *** (0.005)	0.062 *** (0.005)	0.062 *** (0.005)	0.062 *** (0.005)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.056 *** (0.006)	-0.056 *** (0.006)	-0.056 *** (0.006)	-0.056 *** (0.006)
	lower sec.	-0.142 *** (0.007)	-0.142 *** (0.007)	-0.142 *** (0.007)	-0.142 *** (0.007)
	upper sec.	-0.221 *** (0.007)	-0.221 *** (0.007)	-0.221 *** (0.007)	-0.221 *** (0.007)
	voc. & tech h.s.	-0.223 *** (0.006)	-0.223 *** (0.006)	-0.223 *** (0.006)	-0.223 *** (0.006)
	higher education	-0.256 *** (0.007)	-0.257 *** (0.007)	-0.257 *** (0.007)	-0.257 *** (0.007)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.003 (0.008)	-0.002 (0.008)	-0.002 (0.008)	-0.002 (0.008)
	aegean	0.024 *** (0.007)	0.024 *** (0.007)	0.024 *** (0.007)	0.024 *** (0.007)
	east marmara	-0.016 (0.010)	-0.015 (0.009)	-0.015 (0.009)	-0.015 (0.009)
	west anatolia	0.017 * (0.008)	0.017 * (0.008)	0.017 * (0.008)	0.017 * (0.008)
	mediterranean	-0.006 (0.007)	-0.006 (0.007)	-0.006 (0.007)	-0.006 (0.007)
	central anatolia	-0.003 (0.010)	-0.002 (0.010)	-0.002 (0.010)	-0.002 (0.010)
	west black sea	-0.001 (0.008)	-0.001 (0.008)	-0.001 (0.008)	-0.001 (0.008)
	east black sea	-0.072 *** (0.009)	-0.072 *** (0.009)	-0.072 *** (0.009)	-0.072 *** (0.009)
	north east anatolia	-0.010 (0.010)	-0.010 (0.010)	-0.010 (0.010)	-0.010 (0.010)
	central east anatolia	-0.066 *** (0.015)	-0.066 *** (0.015)	-0.066 *** (0.015)	-0.066 *** (0.015)
	south east anatolia	-0.072 *** (0.008)	-0.071 *** (0.008)	-0.071 *** (0.008)	-0.071 *** (0.008)
Head R	other	ref	ref	ref	ref
	own child	-0.013 * (0.006)	-0.013 * (0.006)	-0.013 * (0.006)	-0.013 * (0.006)

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Table A.26: E. R. for Only Employed Group of Males (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		males	males	males	males
Age Dummy	15	ref	ref	ref	ref
	16	0.055 *** (0.003)	0.053 *** (0.003)	0.058 *** (0.003)	0.058 *** (0.004)
	17	0.114 *** (0.008)	0.146 *** (0.005)	0.144 *** (0.003)	0.146 *** (0.005)
	18	0.196 *** (0.011)	0.260 *** (0.009)	0.237 *** (0.003)	0.247 *** (0.007)
Trend	15	-	0.018 *** (0.005)	-	0.008 (0.005)
	16	-	0.021 *** (0.004)	-	0.005 (0.005)
	17	-	0.011 *** (0.003)	-	0.004 (0.004)
	18	-	-	-	-
Trend	15	-	0.018 *** (0.005)	-	-0.001 (0.005)
	16	-	0.021 *** (0.004)	-	-0.001 (0.004)
	17	-	0.011 *** (0.003)	-	-0.005 (0.003)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.013 (0.010)	-0.013 *** (0.004)	0.005 ** (0.002)	-0.002 (0.005)
	2006	0.017 (0.016)	-0.021 ** (0.008)	0.001 (0.005)	-0.004 (0.009)
	2007	0.029 ** (0.012)	-0.022 ** (0.008)	0.004 (0.003)	-0.005 (0.008)
	2008	0.033 ** (0.014)	-0.027 ** (0.010)	0.010 (0.006)	-0.006 (0.008)
	2009	0.013 (0.018)	-0.057 *** (0.012)	-0.003 (0.005)	-0.026 ** (0.011)
	2010	0.013 (0.017)	-0.062 *** (0.011)	-0.003 (0.004)	-0.028 ** (0.011)
	2011	0.019 (0.017)	-0.062 *** (0.011)	0.002 (0.004)	-0.025 * (0.012)
	2012	0.005 (0.019)	-0.070 *** (0.010)	-0.009 * (0.004)	-0.032 ** (0.011)
	2013	-0.027 (0.020)	-0.091 *** (0.010)	-0.034 *** (0.006)	-0.053 *** (0.010)
household size		0.017 *** (0.001)	0.017 *** (0.001)	0.017 *** (0.001)	0.017 *** (0.001)
age of the hh head		-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)
constant		0.207 *** (0.015)	0.197 *** (0.013)	0.196 *** (0.014)	0.195 *** (0.015)
r-squared		0.091	0.092	0.092	0.092
number of obs.		164,578	164,578	164,578	164,578

Table A.27: E. R. for Only Employed Group in Urban Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		urban	urban	urban	urban
Policy effect	overall	-0.019 ** (0.008)	-0.011 ** (0.004)	-	-
	15	-	-	0.006 (0.004)	0.001 (0.005)
	16	-	-	0.005 (0.004)	0.013 ** (0.006)
	17	-	-	-0.023 *** (0.005)	-0.012 (0.007)
	18	-	-	-0.038 *** (0.005)	-0.035 *** (0.006)
Sex	male	ref	ref	ref	ref
	female	-0.115 *** (0.004)	-0.115 *** (0.004)	-0.115 *** (0.004)	-0.115 *** (0.004)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.061 *** (0.004)	-0.061 *** (0.004)	-0.062 *** (0.004)	-0.061 *** (0.004)
	lower sec.	-0.114 *** (0.003)	-0.114 *** (0.003)	-0.114 *** (0.003)	-0.114 *** (0.003)
	upper sec.	-0.167 *** (0.006)	-0.167 *** (0.006)	-0.167 *** (0.006)	-0.167 *** (0.006)
	voc. & tech h.s.	-0.164 *** (0.005)	-0.164 *** (0.005)	-0.164 *** (0.005)	-0.164 *** (0.005)
	higher education	-0.189 *** (0.007)	-0.189 *** (0.007)	-0.189 *** (0.007)	-0.189 *** (0.007)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.019 ** (0.006)	-0.019 ** (0.006)	-0.019 ** (0.006)	-0.019 ** (0.006)
	aegean	-0.002 (0.005)	-0.002 (0.005)	-0.002 (0.005)	-0.002 (0.005)
	east marmara	-0.014 ** (0.006)	-0.014 ** (0.006)	-0.014 ** (0.006)	-0.014 ** (0.006)
	west anatolia	-0.014 ** (0.006)	-0.014 ** (0.006)	-0.014 ** (0.006)	-0.014 ** (0.006)
	mediterranean	-0.018 *** (0.005)	-0.018 *** (0.005)	-0.018 *** (0.005)	-0.018 *** (0.005)
	central anatolia	-0.033 *** (0.005)	-0.033 *** (0.005)	-0.033 *** (0.005)	-0.033 *** (0.005)
	west black sea	-0.026 *** (0.005)	-0.026 *** (0.005)	-0.026 *** (0.005)	-0.026 *** (0.005)
	east black sea	-0.047 *** (0.006)	-0.047 *** (0.006)	-0.047 *** (0.006)	-0.047 *** (0.006)
	north east anatolia	-0.074 *** (0.009)	-0.074 *** (0.009)	-0.074 *** (0.009)	-0.074 *** (0.009)
	central east anatolia	-0.099 *** (0.011)	-0.099 *** (0.011)	-0.099 *** (0.011)	-0.099 *** (0.011)
	south east anatolia	-0.072 *** (0.007)	-0.072 *** (0.007)	-0.072 *** (0.007)	-0.072 *** (0.007)
Head R	other	ref	ref	ref	ref
	own child	0.014 *** (0.004)	0.014 *** (0.004)	0.014 *** (0.004)	0.014 *** (0.004)

Table A.27: E. R. for Only Employed Group in Urban Areas (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		urban	urban	urban	urban
Age Dummy	15	ref	ref	ref	ref
	16	0.034 *** (0.002)	0.035 *** (0.003)	0.037 *** (0.001)	0.039 *** (0.003)
	17	0.073 *** (0.005)	0.094 *** (0.005)	0.093 *** (0.003)	0.093 *** (0.003)
	18	0.131 *** (0.008)	0.171 *** (0.009)	0.161 *** (0.004)	0.157 *** (0.007)
Trend	15	-	0.010 * (0.005)	-	-0.003 (0.004)
	16	-	0.010 ** (0.004)	-	-0.006 (0.004)
	17	-	0.005 (0.003)	-	-0.002 (0.004)
	18	-	-	-	-
Trend	15	-	0.010 * (0.005)	-	0.006 (0.005)
	16	-	0.010 ** (0.004)	-	0.007 * (0.003)
	17	-	0.005 (0.003)	-	0.000 (0.003)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.011 (0.006)	-0.004 (0.004)	0.005 *** (0.001)	0.009 * (0.005)
	2006	0.020 * (0.011)	-0.002 (0.008)	0.008 ** (0.003)	0.015 * (0.007)
	2007	0.029 *** (0.009)	0.000 (0.009)	0.012 ** (0.004)	0.017 * (0.008)
	2008	0.030 *** (0.009)	-0.005 (0.010)	0.014 ** (0.005)	0.017 (0.010)
	2009	0.016 (0.012)	-0.027 * (0.012)	0.005 (0.005)	0.007 (0.011)
	2010	0.014 (0.012)	-0.032 ** (0.011)	0.003 (0.005)	0.005 (0.011)
	2011	0.015 (0.011)	-0.036 ** (0.012)	0.004 (0.005)	0.004 (0.012)
	2012	0.010 (0.013)	-0.038 *** (0.012)	0.001 (0.005)	0.002 (0.012)
	2013	-0.010 (0.013)	-0.052 *** (0.011)	-0.015 ** (0.006)	-0.011 (0.011)
household size		0.015 *** (0.001)	0.015 *** (0.001)	0.015 *** (0.001)	0.015 *** (0.001)
age of the hh head		-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)
constant		0.224 *** (0.010)	0.216 *** (0.008)	0.216 *** (0.009)	0.215 *** (0.009)
r-squared		0.097	0.097	0.097	0.097
number of obs.		226,287	226,287	226,287	226,287

Table A.28: E. R. for Only Employed Group in Rural Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		rural	rural	rural	rural
Policy effect	overall	-0.001 (0.008)	0.004 (0.006)	-	-
	15	-	-	0.040 *** (0.010)	0.013 ** (0.005)
	16	-	-	0.026 ** (0.010)	0.014 (0.009)
	17	-	-	-0.010 * (0.005)	0.004 (0.009)
	18	-	-	-0.025 *** (0.006)	-0.009 (0.011)
Sex	male	ref	ref	ref	ref
	female	-0.101 *** (0.003)	-0.101 *** (0.003)	-0.101 *** (0.003)	-0.101 *** (0.003)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.030 *** (0.004)	-0.030 *** (0.004)	-0.030 *** (0.004)	-0.030 *** (0.004)
	lower sec.	-0.132 *** (0.008)	-0.131 *** (0.008)	-0.131 *** (0.008)	-0.131 *** (0.008)
	upper sec.	-0.180 *** (0.011)	-0.179 *** (0.011)	-0.179 *** (0.011)	-0.179 *** (0.011)
	voc. & tech h.s.	-0.194 *** (0.012)	-0.194 *** (0.012)	-0.194 *** (0.012)	-0.194 *** (0.012)
	higher education	-0.237 *** (0.011)	-0.237 *** (0.011)	-0.237 *** (0.011)	-0.237 *** (0.011)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.051 *** (0.010)	0.051 *** (0.010)	0.051 *** (0.010)	0.051 *** (0.010)
	aegean	0.082 *** (0.013)	0.081 *** (0.013)	0.081 *** (0.013)	0.081 *** (0.013)
	east marmara	0.018 (0.011)	0.018 (0.011)	0.018 (0.011)	0.018 (0.011)
	west anatolia	0.031 * (0.015)	0.032 * (0.015)	0.032 * (0.015)	0.032 * (0.015)
	mediterranean	0.039 ** (0.013)	0.039 ** (0.013)	0.039 ** (0.013)	0.039 ** (0.013)
	central anatolia	0.030 (0.021)	0.030 (0.021)	0.030 (0.021)	0.030 (0.021)
	west black sea	0.124 *** (0.017)	0.124 *** (0.017)	0.124 *** (0.017)	0.124 *** (0.017)
	east black sea	0.015 (0.016)	0.015 (0.016)	0.015 (0.016)	0.015 (0.016)
	north east anatolia	0.040 *** (0.011)	0.040 *** (0.011)	0.040 *** (0.011)	0.040 *** (0.011)
	central east anatolia	-0.030 (0.017)	-0.030 (0.017)	-0.030 (0.017)	-0.030 (0.017)
	south east anatolia	-0.067 *** (0.016)	-0.067 *** (0.016)	-0.067 *** (0.016)	-0.067 *** (0.016)
Head R	other	ref	ref	ref	ref
	own child	0.031 *** (0.004)	0.030 *** (0.004)	0.030 *** (0.004)	0.030 *** (0.004)

Table A.28: E. R. for Only Employed Group in Rural Areas (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		rural	rural	rural	rural
Age Dummy	15	ref	ref	ref	ref
	16	0.057 *** (0.004)	0.066 *** (0.003)	0.070 *** (0.004)	0.067 *** (0.004)
	17	0.115 *** (0.008)	0.157 *** (0.003)	0.151 *** (0.007)	0.157 *** (0.004)
	18	0.189 *** (0.011)	0.270 *** (0.006)	0.234 *** (0.009)	0.262 *** (0.009)
Trend	15	-	0.031 *** (0.005)	-	0.023 ** (0.008)
	16	-	0.028 *** (0.003)	-	0.020 *** (0.006)
	17	-	0.015 *** (0.002)	-	0.011 ** (0.005)
	18	-	-	-	-
Trend	15	-	0.031 *** (0.005)	-	-0.017 ** (0.007)
	16	-	0.028 *** (0.003)	-	-0.017 *** (0.005)
	17	-	0.015 *** (0.002)	-	-0.011 ** (0.003)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.017 * (0.008)	-0.050 *** (0.003)	-0.024 *** (0.002)	-0.043 *** (0.006)
	2006	-0.027 (0.016)	-0.075 *** (0.006)	-0.044 *** (0.009)	-0.066 *** (0.011)
	2007	-0.038 ** (0.016)	-0.099 *** (0.010)	-0.062 *** (0.011)	-0.090 *** (0.016)
	2008	-0.022 (0.017)	-0.093 *** (0.013)	-0.044 *** (0.010)	-0.080 *** (0.016)
	2009	-0.042 * (0.020)	-0.120 *** (0.012)	-0.058 *** (0.010)	-0.101 *** (0.019)
	2010	-0.040 * (0.020)	-0.120 *** (0.011)	-0.055 *** (0.010)	-0.101 *** (0.019)
	2011	-0.036 * (0.019)	-0.117 *** (0.011)	-0.052 *** (0.010)	-0.096 *** (0.020)
	2012	-0.070 *** (0.021)	-0.144 *** (0.010)	-0.083 *** (0.010)	-0.122 *** (0.019)
	2013	-0.083 *** (0.022)	-0.148 *** (0.009)	-0.091 *** (0.011)	-0.126 *** (0.019)
household size		0.011 *** (0.001)	0.011 *** (0.001)	0.011 *** (0.001)	0.011 *** (0.001)
age of the hh head		0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
constant		0.144 *** (0.023)	0.127 *** (0.018)	0.128 *** (0.019)	0.127 *** (0.018)
r-squared		0.075	0.076	0.076	0.076
number of obs.		103,422	103,422	103,422	103,422

Table A.29: E. R. for Both Enrolled and Employed Group

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Policy effect	overall	0.007 * (0.004)	-0.001 (0.001)	-	-
	15	-	-	-0.005 ** (0.002)	-0.010 *** (0.002)
	16	-	-	-0.003 (0.003)	-0.007 *** (0.002)
	17	-	-	0.017 *** (0.003)	0.006 ** (0.002)
	18	-	-	0.012 ** (0.004)	0.004 *** (0.001)
Sex	male	ref	ref	ref	ref
	female	-0.031 *** (0.003)	-0.031 *** (0.003)	-0.031 *** (0.003)	-0.031 *** (0.003)
St.Type	urban	ref	ref	ref	ref
	rural	0.005 ** (0.002)	0.005 ** (0.002)	0.005 ** (0.002)	0.005 ** (0.002)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.012 *** (0.002)	0.012 *** (0.002)	0.012 *** (0.002)	0.012 *** (0.002)
	lower sec.	0.010 *** (0.003)	0.010 *** (0.003)	0.010 *** (0.003)	0.010 *** (0.003)
	upper sec.	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)
	voc. & tech h.s.	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)
	higher education	-0.021 *** (0.003)	-0.021 *** (0.003)	-0.021 *** (0.003)	-0.021 *** (0.003)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.035 *** (0.004)	0.035 *** (0.004)	0.035 *** (0.004)	0.035 *** (0.004)
	aegean	0.022 *** (0.004)	0.022 *** (0.004)	0.022 *** (0.004)	0.022 *** (0.004)
	east marmara	0.028 *** (0.003)	0.028 *** (0.003)	0.028 *** (0.003)	0.028 *** (0.003)
	west anatolia	0.010 ** (0.004)	0.010 ** (0.004)	0.010 ** (0.004)	0.010 ** (0.004)
	mediterranean	0.021 *** (0.005)	0.021 *** (0.005)	0.021 *** (0.005)	0.021 *** (0.005)
	central anatolia	-0.003 (0.002)	-0.003 (0.002)	-0.003 (0.002)	-0.003 (0.002)
	west black sea	0.013 *** (0.004)	0.013 ** (0.004)	0.013 ** (0.004)	0.013 ** (0.004)
	east black sea	-0.005 (0.006)	-0.005 (0.006)	-0.005 (0.006)	-0.005 (0.006)
	north east anatolia	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)
	central east anatolia	-0.006 (0.003)	-0.006 (0.003)	-0.006 (0.003)	-0.006 (0.003)
	south east anatolia	-0.012 *** (0.002)	-0.012 *** (0.002)	-0.012 *** (0.002)	-0.012 *** (0.002)
Head R	other	ref	ref	ref	ref
	own child	0.012 *** (0.001)	0.012 *** (0.001)	0.012 *** (0.001)	0.012 *** (0.001)

Table A.29: E. R. for Both Enrolled and Employed Group (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Age Dummy	15	ref	ref	ref	ref
	16	0.007 *** (0.001)	0.005 *** (0.002)	0.005 *** (0.001)	0.005 *** (0.001)
	17	0.018 *** (0.004)	0.003 ** (0.001)	0.002 ** (0.001)	0.005 *** (0.001)
	18	0.016 *** (0.004)	0.012 *** (0.001)	0.004 ** (0.001)	0.015 *** (0.001)
Trend	15	-	0.005 *** (0.001)	-	0.011 *** (0.001)
	16	-	0.005 *** (0.001)	-	0.009 *** (0.001)
	17	-	0.005 *** (0.001)	-	0.005 *** (0.001)
	18	-	-	-	-
Trend	15	-	0.005 *** (0.001)	-	-0.016 *** (0.001)
	16	-	0.005 *** (0.001)	-	-0.012 *** (0.001)
	17	-	0.005 *** (0.001)	-	-0.004 *** (0.001)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.001 (0.005)	-0.003 (0.001)	0.003 ** (0.001)	-0.005 ** (0.002)
	2006	0.006 (0.007)	0.002 (0.002)	0.010 *** (0.002)	0.000 (0.001)
	2007	0.002 (0.005)	-0.001 (0.001)	0.009 *** (0.002)	-0.003 (0.002)
	2008	0.003 (0.005)	0.003 (0.002)	0.008 ** (0.002)	-0.002 (0.002)
	2009	0.013 * (0.006)	0.017 *** (0.002)	0.016 *** (0.003)	0.010 *** (0.003)
	2010	0.022 *** (0.007)	0.029 *** (0.002)	0.026 *** (0.003)	0.022 *** (0.003)
	2011	0.030 *** (0.008)	0.041 *** (0.002)	0.033 *** (0.004)	0.034 *** (0.003)
	2012	0.039 *** (0.009)	0.051 *** (0.002)	0.041 *** (0.005)	0.043 *** (0.002)
	2013	0.060 *** (0.007)	0.067 *** (0.002)	0.061 *** (0.004)	0.060 *** (0.003)
household size		-0.001 ** (0.000)	-0.001 ** (0.000)	-0.001 ** (0.000)	-0.001 ** (0.000)
age of the hh head		0.000 * (0.000)	0.000 * (0.000)	0.000 * (0.000)	0.000 * (0.000)
constant		-0.004 (0.007)	0.002 (0.004)	0.002 (0.004)	0.001 (0.004)
r-squared		0.027	0.028	0.027	0.028
number of obs.		329,709	329,709	329,709	329,709

Table A.30: E. R. for Both Enrolled and Employed Group of Females

		Model (1)	Model (2)	Model (3)	Model (4)
		females	females	females	females
Policy effect	overall	0.005 (0.003)	-0.001 (0.001)	-	-
	15	-	-	-0.006 ** (0.002)	-0.010 *** (0.002)
	16	-	-	-0.003 (0.003)	-0.004 (0.003)
	17	-	-	0.014 *** (0.003)	0.003 (0.002)
	18	-	-	0.008 ** (0.003)	0.004 (0.002)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	0.006 ** (0.002)	0.006 ** (0.002)	0.006 ** (0.002)	0.006 ** (0.002)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.006 *** (0.001)	0.006 *** (0.001)	0.006 *** (0.001)	0.006 *** (0.001)
	lower sec.	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)	0.002 (0.002)
	upper sec.	-0.003 (0.002)	-0.003 (0.002)	-0.003 (0.002)	-0.003 (0.002)
	voc. & tech h.s.	-0.004 *** (0.001)	-0.004 ** (0.001)	-0.004 *** (0.001)	-0.004 ** (0.001)
	higher education	-0.012 *** (0.003)	-0.012 *** (0.003)	-0.012 *** (0.003)	-0.012 *** (0.003)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.013 *** (0.003)	0.013 *** (0.003)	0.013 *** (0.003)	0.013 *** (0.003)
	aegean	0.017 *** (0.004)	0.016 *** (0.004)	0.016 *** (0.004)	0.016 *** (0.004)
	east marmara	0.023 *** (0.003)	0.023 *** (0.003)	0.023 *** (0.003)	0.023 *** (0.003)
	west anatolia	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)	-0.001 (0.002)
	mediterranean	0.006 * (0.003)	0.006 * (0.003)	0.006 * (0.003)	0.006 * (0.003)
	central anatolia	-0.011 *** (0.002)	-0.011 *** (0.002)	-0.011 *** (0.002)	-0.011 *** (0.002)
	west black sea	0.007 ** (0.003)	0.007 ** (0.003)	0.007 ** (0.003)	0.007 ** (0.003)
	east black sea	-0.002 (0.006)	-0.002 (0.006)	-0.002 (0.006)	-0.002 (0.006)
	north east anatolia	-0.013 *** (0.003)	-0.013 *** (0.003)	-0.013 *** (0.003)	-0.013 *** (0.003)
	central east anatolia	-0.017 *** (0.003)	-0.017 *** (0.003)	-0.017 *** (0.003)	-0.017 *** (0.003)
	south east anatolia	-0.016 *** (0.003)	-0.016 *** (0.003)	-0.016 *** (0.003)	-0.016 *** (0.003)
Head R	other	ref	ref	ref	ref
	own child	0.012 *** (0.001)	0.012 *** (0.001)	0.012 *** (0.001)	0.012 *** (0.001)

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Table A.30: E. R. for Both Enrolled and Employed Group of Females (Cont'd)

		Model (1) females	Model (2) females	Model (3) females	Model (4) females
Age Dummy	15	ref	ref	ref	ref
	16	0.005 *** (0.001)	0.002 (0.001)	0.003 * (0.001)	0.002 (0.001)
	17	0.014 *** (0.003)	0.001 (0.001)	0.001 (0.001)	0.002 (0.001)
	18	0.013 *** (0.003)	0.010 *** (0.002)	0.003 ** (0.001)	0.013 *** (0.002)
Trend	15	-	0.003 ** (0.001)	-	0.008 *** (0.002)
	16	-	0.006 *** (0.001)	-	0.008 *** (0.002)
	17	-	0.004 ** (0.002)	-	0.005 *** (0.001)
	18	-	-	-	-
Trend	15	-	0.003 ** (0.001)	-	-0.011 *** (0.002)
	16	-	0.006 *** (0.001)	-	-0.011 *** (0.001)
	17	-	0.004 ** (0.002)	-	-0.003 ** (0.001)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.001 (0.004)	-0.005 ** (0.002)	0.000 (0.001)	-0.007 ** (0.002)
	2006	0.000 (0.006)	-0.004 (0.003)	0.003 (0.002)	-0.006 ** (0.002)
	2007	-0.001 (0.004)	-0.005 (0.003)	0.004 * (0.002)	-0.007 ** (0.002)
	2008	-0.001 (0.005)	-0.003 (0.003)	0.002 (0.003)	-0.007 ** (0.003)
	2009	0.004 (0.005)	0.005 (0.004)	0.007 ** (0.003)	-0.001 (0.003)
	2010	0.012 * (0.006)	0.015 *** (0.003)	0.015 *** (0.003)	0.009 ** (0.004)
	2011	0.020 *** (0.006)	0.027 *** (0.004)	0.023 *** (0.003)	0.020 *** (0.004)
	2012	0.025 ** (0.008)	0.033 *** (0.003)	0.027 *** (0.004)	0.026 *** (0.004)
	2013	0.036 *** (0.006)	0.038 *** (0.003)	0.036 *** (0.004)	0.032 *** (0.004)
household size		0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
age of the hh head		0.000 * (0.000)	0.000 * (0.000)	0.000 * (0.000)	0.000 * (0.000)
constant		-0.015 ** (0.006)	-0.009 * (0.004)	-0.010 ** (0.004)	-0.010 ** (0.004)
r-squared		0.018	0.019	0.019	0.019
number of obs.		165,131	165,131	165,131	165,131

Table A.31: E. R. for Both Enrolled and Employed Group of Males

		Model (1)	Model (2)	Model (3)	Model (4)
		males	males	males	males
Policy effect	overall	0.009 * (0.004)	-0.001 (0.001)	-	-
	15	-	-	-0.006 ** (0.002)	-0.012 *** (0.002)
	16	-	-	-0.004 (0.003)	-0.011 *** (0.002)
	17	-	-	0.020 *** (0.004)	0.008 ** (0.003)
	18	-	-	0.014 ** (0.005)	0.004 * (0.002)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	0.004 (0.002)	0.004 (0.002)	0.004 (0.002)	0.004 (0.002)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.018 *** (0.004)	0.018 *** (0.004)	0.018 *** (0.004)	0.018 *** (0.004)
	lower sec.	0.017 *** (0.005)	0.017 *** (0.005)	0.017 *** (0.005)	0.017 *** (0.005)
	upper sec.	-0.001 (0.003)	-0.001 (0.003)	-0.001 (0.003)	-0.001 (0.003)
	voc. & tech h.s.	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)	0.003 (0.002)
	higher education	-0.030 *** (0.004)	-0.029 *** (0.004)	-0.030 *** (0.004)	-0.029 *** (0.004)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.055 *** (0.005)	0.055 *** (0.005)	0.055 *** (0.005)	0.055 *** (0.005)
	aegean	0.027 *** (0.006)	0.027 *** (0.006)	0.027 *** (0.006)	0.027 *** (0.006)
	east marmara	0.032 *** (0.003)	0.032 *** (0.004)	0.031 *** (0.003)	0.032 *** (0.004)
	west anatolia	0.019 ** (0.007)	0.019 ** (0.007)	0.019 ** (0.007)	0.019 ** (0.007)
	mediterranean	0.035 *** (0.008)	0.034 *** (0.008)	0.034 *** (0.008)	0.034 *** (0.008)
	central anatolia	0.005 (0.005)	0.004 (0.005)	0.004 (0.005)	0.004 (0.005)
	west black sea	0.018 *** (0.006)	0.018 ** (0.006)	0.018 ** (0.006)	0.018 ** (0.006)
	east black sea	-0.007 (0.006)	-0.007 (0.006)	-0.007 (0.005)	-0.007 (0.005)
	north east anatolia	0.008 * (0.004)	0.008 * (0.004)	0.008 * (0.004)	0.008 * (0.004)
	central east anatolia	0.004 (0.005)	0.005 (0.005)	0.005 (0.005)	0.005 (0.005)
	south east anatolia	-0.009 *** (0.003)	-0.009 *** (0.002)	-0.009 *** (0.002)	-0.009 *** (0.002)
Head R	other	ref	ref	ref	ref
	own child	0.010 *** (0.002)	0.010 *** (0.002)	0.010 *** (0.002)	0.010 *** (0.002)

Table A.31: E. R. for Both Enrolled and Employed Group of Males (Cont'd)

		Model (1) males	Model (2) males	Model (3) males	Model (4) males
Age Dummy	15	ref	ref	ref	ref
	16	0.009 *** (0.002)	0.008 *** (0.002)	0.007 *** (0.001)	0.007 *** (0.002)
	17	0.021 *** (0.005)	0.005 *** (0.001)	0.004 *** (0.001)	0.007 *** (0.002)
	18	0.019 *** (0.005)	0.015 *** (0.002)	0.006 *** (0.002)	0.018 *** (0.002)
Trend	15	-	0.008 *** (0.001)	-	0.014 *** (0.002)
	16	-	0.005 *** (0.002)	-	0.010 *** (0.002)
	17	-	0.006 *** (0.001)	-	0.005 *** (0.001)
	18	-	-	-	-
Trend	15	-	0.008 *** (0.001)	-	-0.020 *** (0.002)
	16	-	0.005 *** (0.002)	-	-0.013 *** (0.002)
	17	-	0.006 *** (0.001)	-	-0.005 *** (0.001)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.004 (0.005)	-0.001 (0.002)	0.006 *** (0.001)	-0.003 (0.002)
	2006	0.012 (0.007)	0.007 ** (0.002)	0.017 *** (0.002)	0.005 ** (0.002)
	2007	0.005 (0.005)	0.002 (0.002)	0.013 *** (0.001)	0.001 (0.003)
	2008	0.008 (0.006)	0.008 ** (0.002)	0.013 *** (0.002)	0.003 (0.003)
	2009	0.021 ** (0.007)	0.027 *** (0.002)	0.025 *** (0.003)	0.020 *** (0.003)
	2010	0.033 *** (0.007)	0.042 *** (0.003)	0.037 *** (0.004)	0.035 *** (0.004)
	2011	0.039 *** (0.009)	0.054 *** (0.003)	0.043 *** (0.005)	0.046 *** (0.004)
	2012	0.053 *** (0.010)	0.067 *** (0.003)	0.056 *** (0.006)	0.059 *** (0.003)
	2013	0.083 *** (0.009)	0.093 *** (0.002)	0.084 *** (0.005)	0.085 *** (0.003)
household size		-0.001 ** (0.000)	-0.001 ** (0.000)	-0.001 ** (0.000)	-0.001 ** (0.000)
age of the hh head		0.000 * (0.000)	0.000 * (0.000)	0.000 * (0.000)	0.000 * (0.000)
constant		-0.020 * (0.009)	-0.014 * (0.007)	-0.013 * (0.006)	-0.015 * (0.007)
r-squared		0.025	0.025	0.025	0.025
number of obs.		164,578	164,578	164,578	164,578

Table A.32: E. R. for Both Enrolled and Employed Group in Urban Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		urban	urban	urban	urban
Policy effect	overall	0.007 (0.004)	-0.003 *** (0.001)	-	-
	15	-	-	-0.004 *** (0.001)	-0.008 ** (0.003)
	16	-	-	-0.006 ** (0.003)	-0.008 *** (0.002)
	17	-	-	0.017 *** (0.004)	0.002 (0.002)
	18	-	-	0.012 ** (0.004)	0.000 (0.002)
Sex	male	ref	ref	ref	ref
	female	-0.030 *** (0.003)	-0.030 *** (0.003)	-0.030 *** (0.003)	-0.030 *** (0.003)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.011 *** (0.002)	0.011 *** (0.002)	0.011 *** (0.002)	0.011 *** (0.002)
	lower sec.	0.006 ** (0.002)	0.006 ** (0.002)	0.006 ** (0.002)	0.006 ** (0.002)
	upper sec.	-0.004 (0.003)	-0.004 (0.003)	-0.004 (0.003)	-0.004 (0.003)
	voc. & tech h.s.	-0.003 (0.002)	-0.003 (0.002)	-0.003 (0.002)	-0.003 (0.002)
	higher education	-0.023 *** (0.004)	-0.023 *** (0.004)	-0.023 *** (0.004)	-0.023 *** (0.004)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.032 *** (0.002)	0.032 *** (0.002)	0.032 *** (0.002)	0.032 *** (0.002)
	aegean	0.020 *** (0.004)	0.020 *** (0.004)	0.020 *** (0.004)	0.020 *** (0.004)
	east marmara	0.027 *** (0.002)	0.027 *** (0.002)	0.027 *** (0.002)	0.027 *** (0.002)
	west anatolia	0.008 ** (0.004)	0.008 ** (0.004)	0.008 ** (0.004)	0.008 ** (0.004)
	mediterranean	0.021 *** (0.005)	0.021 *** (0.005)	0.021 *** (0.005)	0.021 *** (0.005)
	central anatolia	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)
	west black sea	0.008 ** (0.004)	0.008 ** (0.004)	0.008 ** (0.004)	0.008 ** (0.004)
	east black sea	0.002 (0.004)	0.002 (0.004)	0.002 (0.004)	0.002 (0.004)
	north east anatolia	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)	0.000 (0.002)
	central east anatolia	-0.005 (0.004)	-0.005 (0.004)	-0.005 (0.004)	-0.005 (0.004)
	south east anatolia	-0.009 *** (0.002)	-0.009 *** (0.002)	-0.009 *** (0.002)	-0.009 *** (0.002)
Head R	other	ref	ref	ref	ref
	own child	0.015 *** (0.002)	0.015 *** (0.002)	0.015 *** (0.002)	0.015 *** (0.002)

Table A.32: E. R. for Both Enrolled and Employed Group in Urban Areas (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		urban	urban	urban	urban
Age Dummy	15	ref	ref	ref	ref
	16	0.009 *** (0.002)	0.010 *** (0.002)	0.009 *** (0.001)	0.009 *** (0.002)
	17	0.023 *** (0.004)	0.010 *** (0.002)	0.009 *** (0.001)	0.012 *** (0.002)
	18	0.026 *** (0.004)	0.023 *** (0.002)	0.015 *** (0.001)	0.025 *** (0.003)
Trend	15	-	0.008 *** (0.001)	-	0.011 *** (0.002)
	16	-	0.006 *** (0.001)	-	0.009 *** (0.001)
	17	-	0.005 *** (0.001)	-	0.005 *** (0.001)
	18	-	-	-	-
Trend	15	-	0.008 *** (0.001)	-	-0.017 *** (0.002)
	16	-	0.006 *** (0.001)	-	-0.013 *** (0.001)
	17	-	0.005 *** (0.001)	-	-0.004 *** (0.001)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.002 (0.004)	-0.002 (0.002)	0.004 *** (0.001)	-0.004 (0.002)
	2006	0.006 (0.007)	0.001 (0.002)	0.010 *** (0.001)	0.000 (0.002)
	2007	0.002 (0.005)	-0.001 (0.002)	0.009 *** (0.001)	-0.002 (0.003)
	2008	0.002 (0.006)	0.002 (0.002)	0.007 ** (0.002)	-0.001 (0.003)
	2009	0.011 (0.006)	0.015 *** (0.003)	0.014 *** (0.003)	0.011 ** (0.004)
	2010	0.023 *** (0.007)	0.031 *** (0.002)	0.027 *** (0.003)	0.027 *** (0.004)
	2011	0.028 ** (0.009)	0.042 *** (0.003)	0.032 *** (0.005)	0.037 *** (0.004)
	2012	0.039 *** (0.011)	0.053 *** (0.002)	0.041 *** (0.006)	0.048 *** (0.004)
	2013	0.060 *** (0.008)	0.068 *** (0.002)	0.060 *** (0.005)	0.063 *** (0.004)
household size		-0.001 ** (0.000)	-0.001 ** (0.000)	-0.001 ** (0.000)	-0.001 ** (0.000)
age of the hh head		0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
constant		-0.006 (0.007)	-0.001 (0.005)	-0.001 (0.005)	-0.001 (0.005)
r-squared		0.028	0.029	0.028	0.029
number of obs.		226,287	226,287	226,287	226,287

Table A.33: E. R. for Both Enrolled and Employed Group in Rural Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		rural	rural	rural	rural
Policy effect	overall	0.009 ** (0.004)	0.003 (0.002)	-	-
	15	-	-	-0.008 * (0.004)	-0.016 *** (0.004)
	16	-	-	0.002 (0.004)	-0.007 (0.005)
	17	-	-	0.018 *** (0.003)	0.014 *** (0.004)
	18	-	-	0.014 *** (0.003)	0.013 *** (0.003)
Sex	male	ref	ref	ref	ref
	female	-0.033 *** (0.003)	-0.033 *** (0.003)	-0.033 *** (0.003)	-0.033 *** (0.003)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	0.012 *** (0.003)	0.012 *** (0.003)	0.012 *** (0.003)	0.012 *** (0.003)
	lower sec.	0.019 *** (0.006)	0.019 *** (0.006)	0.019 *** (0.006)	0.019 *** (0.006)
	upper sec.	0.002 (0.003)	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)
	voc. & tech h.s.	0.011 (0.008)	0.011 (0.008)	0.011 (0.008)	0.011 (0.008)
	higher education	-0.005 (0.006)	-0.005 (0.006)	-0.005 (0.006)	-0.005 (0.006)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.057 *** (0.009)	0.057 *** (0.009)	0.057 *** (0.009)	0.057 *** (0.009)
	aegean	0.043 *** (0.012)	0.043 *** (0.012)	0.043 *** (0.012)	0.043 *** (0.012)
	east marmara	0.045 *** (0.009)	0.045 *** (0.009)	0.045 *** (0.009)	0.045 *** (0.009)
	west anatolia	0.034 ** (0.012)	0.034 ** (0.012)	0.034 ** (0.012)	0.034 ** (0.012)
	mediterranean	0.038 *** (0.010)	0.038 *** (0.010)	0.038 *** (0.010)	0.038 *** (0.010)
	central anatolia	0.009 (0.008)	0.009 (0.008)	0.009 (0.008)	0.009 (0.008)
	west black sea	0.035 *** (0.007)	0.035 *** (0.007)	0.035 *** (0.007)	0.035 *** (0.007)
	east black sea	0.007 (0.007)	0.007 (0.007)	0.007 (0.007)	0.007 (0.007)
	north east anatolia	0.013 * (0.006)	0.013 * (0.006)	0.013 * (0.006)	0.013 * (0.006)
	central east anatolia	0.011 (0.006)	0.011 (0.006)	0.011 (0.006)	0.011 (0.006)
	south east anatolia	-0.001 (0.005)	-0.001 (0.005)	-0.001 (0.005)	-0.001 (0.005)
Head R	other	ref	ref	ref	ref
	own child	0.009 *** (0.002)	0.009 *** (0.002)	0.009 *** (0.002)	0.009 *** (0.002)

Table A.33: E. R. for Both Enrolled and Employed Group in Rural Areas (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		rural	rural	rural	rural
Age Dummy	15	ref	ref	ref	ref
	16	0.003 (0.002)	-0.005 ** (0.002)	-0.005 *** (0.001)	-0.006 *** (0.001)
	17	0.005 (0.004)	-0.014 *** (0.003)	-0.013 *** (0.002)	-0.010 *** (0.001)
	18	-0.004 (0.004)	-0.013 ** (0.006)	-0.020 *** (0.004)	-0.007 * (0.004)
Trend	15	-	0.001 (0.003)	-	0.012 *** (0.003)
	16	-	0.004 (0.002)	-	0.010 *** (0.002)
	17	-	0.005 *** (0.001)	-	0.005 *** (0.001)
	18	-	-	-	-
Trend	15	-	0.001 (0.003)	-	-0.014 *** (0.003)
	16	-	0.004 (0.002)	-	-0.010 *** (0.002)
	17	-	0.005 *** (0.001)	-	-0.005 *** (0.001)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	-0.001 (0.006)	-0.004 (0.004)	0.000 (0.002)	-0.009 *** (0.002)
	2006	0.005 (0.007)	0.003 (0.005)	0.011 ** (0.004)	-0.001 (0.003)
	2007	-0.001 (0.005)	-0.002 (0.004)	0.007 * (0.004)	-0.005 (0.004)
	2008	0.003 (0.005)	0.004 (0.004)	0.009 ** (0.004)	-0.004 (0.004)
	2009	0.015 ** (0.006)	0.019 *** (0.005)	0.020 *** (0.004)	0.007 (0.005)
	2010	0.019 ** (0.007)	0.025 *** (0.006)	0.023 *** (0.005)	0.012 * (0.006)
	2011	0.031 *** (0.006)	0.040 *** (0.006)	0.035 *** (0.004)	0.026 *** (0.006)
	2012	0.039 *** (0.007)	0.048 *** (0.006)	0.041 *** (0.004)	0.034 *** (0.005)
	2013	0.060 *** (0.007)	0.068 *** (0.006)	0.061 *** (0.005)	0.053 *** (0.005)
household size		-0.001 * (0.000)	-0.001 * (0.000)	-0.001 * (0.000)	-0.001 * (0.000)
age of the hh head		0.000 ** (0.000)	0.000 ** (0.000)	0.000 ** (0.000)	0.000 ** (0.000)
constant		-0.011 (0.011)	-0.002 (0.009)	-0.002 (0.008)	-0.003 (0.008)
r-squared		0.028	0.029	0.029	0.029
number of obs.		103,422	103,422	103,422	103,422

Table A.34: E. R. for neither Enrolled nor Employed Group

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Policy effect	overall	-0.054 *** (0.016)	-0.040 *** (0.008)	-	-
	15	-	-	0.012 (0.015)	0.011 (0.011)
	16	-	-	-0.006 (0.008)	-0.003 (0.008)
	17	-	-	-0.128 *** (0.013)	-0.110 *** (0.019)
	18	-	-	-0.065 *** (0.011)	-0.043 ** (0.013)
Sex	male	ref	ref	ref	ref
	female	0.178 *** (0.013)	0.178 *** (0.013)	0.178 *** (0.013)	0.178 *** (0.013)
St.Type	urban	ref	ref	ref	ref
	rural	0.036 *** (0.006)	0.036 *** (0.006)	0.036 *** (0.006)	0.036 *** (0.006)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.058 *** (0.007)	-0.058 *** (0.007)	-0.058 *** (0.007)	-0.058 *** (0.007)
	lower sec.	-0.094 *** (0.008)	-0.095 *** (0.008)	-0.095 *** (0.008)	-0.095 *** (0.008)
	upper sec.	-0.119 *** (0.011)	-0.119 *** (0.011)	-0.119 *** (0.011)	-0.119 *** (0.011)
	voc. & tech h.s.	-0.120 *** (0.013)	-0.120 *** (0.013)	-0.120 *** (0.013)	-0.120 *** (0.013)
	higher education	-0.136 *** (0.012)	-0.136 *** (0.012)	-0.136 *** (0.012)	-0.136 *** (0.012)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.018 ** (0.006)	-0.018 ** (0.006)	-0.018 ** (0.006)	-0.018 ** (0.006)
	aegean	0.003 (0.006)	0.003 (0.006)	0.003 (0.006)	0.003 (0.006)
	east marmara	0.007 (0.004)	0.007 * (0.004)	0.007 * (0.004)	0.007 * (0.004)
	west anatolia	0.045 *** (0.009)	0.045 *** (0.009)	0.045 *** (0.009)	0.045 *** (0.009)
	mediterranean	0.038 *** (0.011)	0.038 *** (0.011)	0.038 *** (0.011)	0.038 *** (0.011)
	central anatolia	0.065 *** (0.012)	0.065 *** (0.012)	0.065 *** (0.012)	0.065 *** (0.012)
	west black sea	-0.009 * (0.004)	-0.009 * (0.004)	-0.009 * (0.004)	-0.009 * (0.004)
	east black sea	-0.002 (0.008)	-0.002 (0.009)	-0.002 (0.009)	-0.002 (0.009)
	north east anatolia	0.102 *** (0.008)	0.102 *** (0.008)	0.102 *** (0.008)	0.102 *** (0.008)
	central east anatolia	0.123 *** (0.013)	0.123 *** (0.013)	0.123 *** (0.013)	0.123 *** (0.013)
	south east anatolia	0.156 *** (0.011)	0.156 *** (0.011)	0.157 *** (0.011)	0.157 *** (0.011)
Head R	other	ref	ref	ref	ref
	own child	-0.069 *** (0.005)	-0.069 *** (0.005)	-0.069 *** (0.005)	-0.069 *** (0.005)

Table A.34: E. R. for neither Enrolled nor Employed Group (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		all	all	all	all
Age Dummy	15	ref	ref	ref	ref
	16	0.041 *** (0.006)	0.051 *** (0.015)	0.058 *** (0.010)	0.055 *** (0.008)
	17	0.138 *** (0.023)	0.236 *** (0.021)	0.230 *** (0.012)	0.218 *** (0.011)
	18	0.260 *** (0.015)	0.330 *** (0.018)	0.315 *** (0.006)	0.330 *** (0.012)
Trend	15	-	0.020 * (0.010)	-	0.000 (0.010)
	16	-	0.019 ** (0.008)	-	0.007 (0.007)
	17	-	-0.003 (0.011)	-	0.018 ** (0.006)
	18	-	-	-	-
Trend	15	-	0.020 * (0.010)	-	0.014 (0.011)
	16	-	0.019 ** (0.008)	-	-0.001 (0.007)
	17	-	-0.003 (0.011)	-	-0.019 ** (0.006)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.022 (0.026)	0.006 (0.014)	0.018 * (0.010)	0.007 (0.009)
	2006	0.020 (0.030)	-0.007 (0.017)	0.000 (0.007)	-0.016 (0.011)
	2007	0.056 ** (0.020)	0.019 (0.010)	0.024 ** (0.008)	0.001 (0.014)
	2008	0.033 (0.028)	-0.013 (0.019)	0.019 (0.016)	-0.012 (0.018)
	2009	-0.004 (0.032)	-0.058 ** (0.019)	-0.015 (0.013)	-0.057 ** (0.022)
	2010	-0.024 (0.031)	-0.082 *** (0.021)	-0.035 ** (0.012)	-0.082 *** (0.021)
	2011	-0.042 (0.031)	-0.102 *** (0.020)	-0.054 *** (0.012)	-0.104 *** (0.022)
	2012	-0.052 (0.036)	-0.097 *** (0.020)	-0.057 *** (0.014)	-0.099 *** (0.022)
	2013	-0.098 ** (0.036)	-0.118 *** (0.018)	-0.092 *** (0.014)	-0.122 *** (0.022)
household size		0.013 *** (0.002)	0.013 *** (0.002)	0.013 *** (0.002)	0.013 *** (0.002)
age of the hh head		-0.001 *** (0.000)	-0.001 *** (0.000)	-0.001 *** (0.000)	-0.001 *** (0.000)
constant		0.173 *** (0.032)	0.136 *** (0.020)	0.136 *** (0.020)	0.141 *** (0.018)
r-squared		0.152	0.155	0.155	0.156
number of obs.		329,709	329,709	329,709	329,709

Table A.35: E. R. for neither Employed nor Enrolled Group of Females

		Model (1)	Model (2)	Model (3)	Model (4)
		females	females	females	females
Policy effect	overall	-0.057 ** (0.019)	-0.041 *** (0.011)	-	-
	15	-	-	0.013 (0.018)	-0.005 (0.014)
	16	-	-	-0.009 (0.014)	0.004 (0.015)
	17	-	-	-0.142 *** (0.014)	-0.118 *** (0.016)
	18	-	-	-0.062 *** (0.014)	-0.033 * (0.018)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	0.047 *** (0.009)	0.047 *** (0.009)	0.047 *** (0.009)	0.047 *** (0.009)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.070 *** (0.009)	-0.070 *** (0.008)	-0.070 *** (0.008)	-0.070 *** (0.008)
	lower sec.	-0.123 *** (0.009)	-0.123 *** (0.009)	-0.123 *** (0.009)	-0.123 *** (0.009)
	upper sec.	-0.186 *** (0.010)	-0.186 *** (0.010)	-0.186 *** (0.010)	-0.185 *** (0.010)
	voc. & tech h.s.	-0.171 *** (0.012)	-0.171 *** (0.012)	-0.171 *** (0.012)	-0.171 *** (0.012)
	higher education	-0.222 *** (0.010)	-0.221 *** (0.010)	-0.221 *** (0.010)	-0.221 *** (0.010)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.032 ** (0.012)	-0.032 ** (0.012)	-0.032 ** (0.012)	-0.032 ** (0.012)
	aegean	0.001 (0.006)	0.001 (0.006)	0.001 (0.006)	0.001 (0.005)
	east marmara	0.004 (0.006)	0.004 (0.006)	0.004 (0.006)	0.004 (0.006)
	west anatolia	0.070 *** (0.010)	0.070 *** (0.010)	0.070 *** (0.010)	0.070 *** (0.010)
	mediterranean	0.052 *** (0.010)	0.052 *** (0.010)	0.052 *** (0.010)	0.052 *** (0.010)
	central anatolia	0.099 *** (0.016)	0.099 *** (0.016)	0.099 *** (0.016)	0.099 *** (0.016)
	west black sea	-0.031 *** (0.007)	-0.032 *** (0.007)	-0.031 *** (0.007)	-0.032 *** (0.007)
	east black sea	-0.030 ** (0.011)	-0.030 ** (0.011)	-0.030 ** (0.011)	-0.030 ** (0.011)
	north east anatolia	0.160 *** (0.010)	0.159 *** (0.010)	0.159 *** (0.010)	0.160 *** (0.010)
	central east anatolia	0.198 *** (0.019)	0.198 *** (0.019)	0.198 *** (0.019)	0.198 *** (0.020)
	south east anatolia	0.225 *** (0.016)	0.225 *** (0.016)	0.225 *** (0.016)	0.225 *** (0.016)
Head R	other	ref	ref	ref	ref
	own child	-0.139 *** (0.007)	-0.139 *** (0.007)	-0.139 *** (0.007)	-0.139 *** (0.007)

Table A.35: E. R. for neither Enrolled nor Employed Group of Females (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		females	females	females	females
Age Dummy	15	ref	ref	ref	ref
	16	0.051 *** (0.006)	0.071 *** (0.013)	0.071 *** (0.007)	0.078 *** (0.007)
	17	0.160 *** (0.027)	0.269 *** (0.021)	0.262 *** (0.012)	0.250 *** (0.011)
	18	0.304 *** (0.015)	0.373 *** (0.022)	0.358 *** (0.009)	0.381 *** (0.020)
Trend	15	-	0.021 (0.012)	-	0.011 (0.013)
	16	-	0.013 (0.008)	-	0.001 (0.009)
	17	-	-0.003 (0.011)	-	0.023 ** (0.008)
	18	-	-	-	-
Trend	15	-	0.021 (0.012)	-	0.004 (0.013)
	16	-	0.013 (0.008)	-	0.007 (0.008)
	17	-	-0.003 (0.011)	-	-0.024 ** (0.008)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.015 (0.029)	0.003 (0.015)	0.013 (0.009)	-0.001 (0.012)
	2006	0.007 (0.036)	-0.015 (0.022)	-0.011 (0.011)	-0.029 (0.018)
	2007	0.043 * (0.022)	0.012 (0.015)	0.013 (0.011)	-0.015 (0.022)
	2008	0.011 (0.033)	-0.029 (0.027)	0.002 (0.023)	-0.039 (0.027)
	2009	-0.032 (0.035)	-0.080 ** (0.025)	-0.041 ** (0.016)	-0.094 ** (0.031)
	2010	-0.061 (0.033)	-0.112 *** (0.028)	-0.069 *** (0.015)	-0.128 *** (0.030)
	2011	-0.088 ** (0.035)	-0.141 *** (0.027)	-0.097 *** (0.017)	-0.159 *** (0.031)
	2012	-0.101 ** (0.042)	-0.139 *** (0.027)	-0.104 *** (0.019)	-0.159 *** (0.031)
	2013	-0.156 *** (0.040)	-0.161 *** (0.024)	-0.146 *** (0.017)	-0.184 *** (0.031)
household size		0.019 *** (0.002)	0.020 *** (0.002)	0.020 *** (0.002)	0.020 *** (0.002)
age of the hh head		-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)	-0.002 *** (0.000)
constant		0.437 *** (0.031)	0.392 *** (0.020)	0.394 *** (0.019)	0.396 *** (0.020)
r-squared		0.182	0.185	0.185	0.185
number of obs.		165,131	165,131	165,131	165,131

Table A.36: E. R. for neither Enrolled nor Employed Group of Males

		Model (1)	Model (2)	Model (3)	Model (4)
		males	males	males	males
Policy effect	overall	-0.051 *** (0.015)	-0.038 *** (0.008)	-	-
	15	-	-	0.012 (0.013)	0.028 * (0.014)
	16	-	-	-0.001 (0.006)	-0.009 * (0.004)
	17	-	-	-0.112 *** (0.015)	-0.100 *** (0.022)
	18	-	-	-0.068 *** (0.010)	-0.050 *** (0.010)
Sex	male	-	-	-	-
	female	-	-	-	-
St.Type	urban	ref	ref	ref	ref
	rural	0.021 *** (0.004)	0.021 *** (0.004)	0.021 *** (0.004)	0.021 *** (0.004)
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.048 *** (0.007)	-0.048 *** (0.007)	-0.048 *** (0.007)	-0.048 *** (0.007)
	lower sec.	-0.069 *** (0.012)	-0.070 *** (0.012)	-0.070 *** (0.012)	-0.070 *** (0.012)
	upper sec.	-0.058 *** (0.014)	-0.057 *** (0.015)	-0.057 *** (0.015)	-0.057 *** (0.014)
	voc. & tech h.s.	-0.070 *** (0.017)	-0.070 *** (0.017)	-0.070 *** (0.017)	-0.070 *** (0.016)
	higher education	-0.058 *** (0.017)	-0.059 *** (0.017)	-0.059 *** (0.017)	-0.059 *** (0.017)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.004 (0.008)	-0.003 (0.008)	-0.003 (0.008)	-0.003 (0.008)
	aegean	0.008 (0.009)	0.009 (0.009)	0.009 (0.009)	0.009 (0.009)
	east marmara	0.011 ** (0.005)	0.011 ** (0.005)	0.012 ** (0.005)	0.012 ** (0.005)
	west anatolia	0.024 * (0.012)	0.024 * (0.012)	0.024 * (0.012)	0.024 * (0.012)
	mediterranean	0.024 * (0.012)	0.025 * (0.012)	0.025 * (0.012)	0.025 * (0.012)
	central anatolia	0.031 ** (0.011)	0.032 ** (0.011)	0.032 ** (0.011)	0.032 ** (0.011)
	west black sea	0.015 ** (0.005)	0.016 ** (0.005)	0.016 ** (0.005)	0.016 ** (0.005)
	east black sea	0.030 *** (0.009)	0.030 *** (0.009)	0.030 *** (0.009)	0.030 *** (0.009)
	north east anatolia	0.037 ** (0.012)	0.037 ** (0.012)	0.037 ** (0.012)	0.037 ** (0.012)
	central east anatolia	0.046 *** (0.008)	0.045 *** (0.008)	0.045 *** (0.008)	0.046 *** (0.009)
	south east anatolia	0.090 *** (0.009)	0.091 *** (0.009)	0.091 *** (0.009)	0.091 *** (0.009)
Head R	other	ref	ref	ref	ref
	own child	0.052 *** (0.008)	0.052 *** (0.008)	0.051 *** (0.008)	0.051 *** (0.008)

Table A.36: E. R. for neither Enrolled nor Employed Group of Males (Cont'd)

		Model (1) males	Model (2) males	Model (3) males	Model (4) males
Age Dummy	15	ref	ref	ref	ref
	16	0.031 *** (0.007)	0.029 * (0.016)	0.044 ** (0.013)	0.031 *** (0.008)
	17	0.113 *** (0.020)	0.198 *** (0.021)	0.195 *** (0.012)	0.180 *** (0.010)
	18	0.213 *** (0.015)	0.283 *** (0.018)	0.269 *** (0.007)	0.277 *** (0.010)
Trend	15	-	0.018 * (0.010)	-	-0.012 (0.010)
	16	-	0.026 ** (0.009)	-	0.014 * (0.007)
	17	-	-0.001 (0.011)	-	0.015 * (0.007)
	18	-	-	-	-
Trend	15	-	0.018 * (0.010)	-	0.025 * (0.012)
	16	-	0.026 ** (0.009)	-	-0.010 (0.007)
	17	-	-0.001 (0.011)	-	-0.015 ** (0.006)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.029 (0.025)	0.008 (0.015)	0.024 * (0.011)	0.014 (0.009)
	2006	0.030 (0.025)	-0.002 (0.014)	0.010 (0.006)	-0.007 (0.008)
	2007	0.065 *** (0.019)	0.022 * (0.010)	0.032 *** (0.005)	0.012 (0.009)
	2008	0.054 * (0.024)	0.000 (0.014)	0.035 *** (0.010)	0.009 (0.012)
	2009	0.025 (0.030)	-0.038 ** (0.016)	0.011 (0.011)	-0.024 (0.016)
	2010	0.012 (0.029)	-0.055 ** (0.018)	-0.002 (0.011)	-0.042 ** (0.015)
	2011	0.002 (0.029)	-0.069 *** (0.017)	-0.012 (0.011)	-0.057 *** (0.016)
	2012	-0.004 (0.031)	-0.059 *** (0.017)	-0.012 (0.011)	-0.046 ** (0.017)
	2013	-0.041 (0.033)	-0.076 *** (0.015)	-0.038 ** (0.012)	-0.065 *** (0.016)
household size		0.006 *** (0.001)	0.007 *** (0.001)	0.007 *** (0.001)	0.007 *** (0.001)
age of the hh head		0.000 (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
constant		0.030 (0.033)	0.002 (0.023)	-0.001 (0.025)	0.009 (0.021)
r-squared		0.070	0.073	0.073	0.074
number of obs.		164,578	164,578	164,578	164,578

Table A.37: E. R. for neither Enrolled nor Employed Group in Urban Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		urban	urban	urban	urban
Policy effect	overall	-0.058 ** (0.018)	-0.043 *** (0.008)	-	-
	15	-	-	0.019 (0.015)	0.019 (0.011)
	16	-	-	-0.001 (0.008)	-0.003 (0.009)
	17	-	-	-0.141 *** (0.014)	-0.123 *** (0.021)
	18	-	-	-0.072 *** (0.011)	-0.046 *** (0.012)
Sex	male	ref	ref	ref	ref
	female	0.155 *** (0.014)	0.155 *** (0.014)	0.155 *** (0.014)	0.155 *** (0.014)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.064 *** (0.006)	-0.064 *** (0.006)	-0.064 *** (0.006)	-0.064 *** (0.006)
	lower sec.	-0.095 *** (0.007)	-0.095 *** (0.007)	-0.096 *** (0.007)	-0.096 *** (0.007)
	upper sec.	-0.120 *** (0.010)	-0.120 *** (0.010)	-0.120 *** (0.010)	-0.120 *** (0.010)
	voc. & tech h.s.	-0.122 *** (0.012)	-0.122 *** (0.012)	-0.122 *** (0.012)	-0.122 *** (0.012)
	higher education	-0.135 *** (0.011)	-0.135 *** (0.011)	-0.135 *** (0.011)	-0.135 *** (0.011)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	-0.001 (0.006)	0.000 (0.006)	0.000 (0.006)	0.000 (0.006)
	aegean	0.008 (0.006)	0.009 (0.006)	0.009 (0.006)	0.009 (0.006)
	east marmara	0.012 ** (0.005)	0.012 ** (0.005)	0.013 ** (0.005)	0.013 ** (0.005)
	west anatolia	0.040 *** (0.009)	0.040 *** (0.009)	0.040 *** (0.009)	0.040 *** (0.009)
	mediterranean	0.044 *** (0.009)	0.045 *** (0.009)	0.045 *** (0.009)	0.045 *** (0.009)
	central anatolia	0.042 *** (0.012)	0.042 *** (0.012)	0.042 *** (0.012)	0.042 *** (0.012)
	west black sea	0.028 *** (0.006)	0.028 *** (0.006)	0.028 *** (0.006)	0.028 *** (0.006)
	east black sea	0.018 (0.011)	0.018 (0.011)	0.019 (0.011)	0.019 (0.011)
	north east anatolia	0.117 *** (0.011)	0.117 *** (0.011)	0.117 *** (0.011)	0.117 *** (0.011)
	central east anatolia	0.086 *** (0.012)	0.086 *** (0.012)	0.086 *** (0.012)	0.086 *** (0.012)
	south east anatolia	0.127 *** (0.011)	0.127 *** (0.011)	0.127 *** (0.012)	0.127 *** (0.011)
Head R	other	ref	ref	ref	ref
	own child	-0.090 *** (0.005)	-0.089 *** (0.005)	-0.090 *** (0.005)	-0.090 *** (0.005)

Table A.37: E. R. for neither Enrolled nor Employed Group in Urban Areas (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		urban	urban	urban	urban
Age Dummy	15	ref	ref	ref	ref
	16	0.043 *** (0.006)	0.054 *** (0.016)	0.062 *** (0.012)	0.058 *** (0.008)
	17	0.149 *** (0.027)	0.259 *** (0.024)	0.254 *** (0.014)	0.238 *** (0.012)
	18	0.283 *** (0.018)	0.369 *** (0.020)	0.348 *** (0.008)	0.370 *** (0.012)
Trend	15	-	0.027 ** (0.010)	-	0.003 (0.009)
	16	-	0.024 ** (0.009)	-	0.011 (0.008)
	17	-	0.001 (0.012)	-	0.025 *** (0.006)
	18	-	-	-	-
Trend	15	-	0.027 ** (0.010)	-	0.013 (0.009)
	16	-	0.024 ** (0.009)	-	-0.003 (0.007)
	17	-	0.001 (0.012)	-	-0.026 *** (0.006)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.023 (0.029)	0.001 (0.016)	0.019 (0.012)	0.001 (0.009)
	2006	0.010 (0.034)	-0.025 (0.018)	-0.012 (0.008)	-0.037 ** (0.011)
	2007	0.043 * (0.022)	-0.005 (0.011)	0.006 (0.009)	-0.026 * (0.013)
	2008	0.024 (0.031)	-0.035 * (0.019)	0.008 (0.018)	-0.036 * (0.017)
	2009	-0.013 (0.036)	-0.082 *** (0.020)	-0.025 * (0.013)	-0.082 *** (0.023)
	2010	-0.024 (0.035)	-0.097 *** (0.022)	-0.037 ** (0.012)	-0.099 *** (0.020)
	2011	-0.038 (0.035)	-0.113 *** (0.022)	-0.051 *** (0.013)	-0.117 *** (0.021)
	2012	-0.058 (0.041)	-0.117 *** (0.021)	-0.064 *** (0.014)	-0.121 *** (0.021)
	2013	-0.098 ** (0.041)	-0.124 *** (0.019)	-0.090 *** (0.015)	-0.130 *** (0.021)
household size		0.015 *** (0.002)	0.016 *** (0.002)	0.016 *** (0.002)	0.016 *** (0.002)
age of the hh head		-0.001 ** (0.000)	-0.001 ** (0.000)	-0.001 ** (0.000)	-0.001 ** (0.000)
constant		0.175 *** (0.034)	0.133 *** (0.022)	0.132 *** (0.023)	0.139 *** (0.020)
r-squared		0.149	0.153	0.153	0.153
number of obs.		226,287	226,287	226,287	226,287

Table A.38: E. R. for neither Enrolled nor Employed Group in Rural Areas

		Model (1)	Model (2)	Model (3)	Model (4)
		rural	rural	rural	rural
Policy effect	overall	-0.042 *** (0.012)	-0.032 ** (0.010)	-	-
	15	-	-	-0.002 (0.014)	-0.007 (0.014)
	16	-	-	-0.015 (0.009)	0.000 (0.008)
	17	-	-	-0.095 *** (0.012)	-0.079 *** (0.017)
	18	-	-	-0.041 *** (0.011)	-0.034 * (0.018)
Sex	male	ref	ref	ref	ref
	female	0.227 *** (0.014)	0.226 *** (0.014)	0.227 *** (0.014)	0.226 *** (0.014)
St.Type	urban	-	-	-	-
	rural	-	-	-	-
Highest ed. of household head	not completed ed.	ref	ref	ref	ref
	primary school	-0.040 *** (0.009)	-0.040 *** (0.009)	-0.040 *** (0.009)	-0.040 *** (0.009)
	lower sec.	-0.090 *** (0.013)	-0.089 *** (0.013)	-0.089 *** (0.013)	-0.089 *** (0.013)
	upper sec.	-0.117 *** (0.017)	-0.116 *** (0.017)	-0.116 *** (0.017)	-0.116 *** (0.017)
	voc. & tech h.s.	-0.110 *** (0.022)	-0.110 *** (0.022)	-0.110 *** (0.022)	-0.110 *** (0.022)
	higher education	-0.143 *** (0.021)	-0.143 *** (0.021)	-0.142 *** (0.021)	-0.142 *** (0.021)
NUTS 1 Regions	istanbul	ref	ref	ref	ref
	west marmara	0.000 (0.014)	0.001 (0.014)	0.000 (0.014)	0.000 (0.014)
	aegean	0.036 ** (0.012)	0.036 ** (0.012)	0.036 ** (0.012)	0.036 ** (0.012)
	east marmara	0.027 * (0.013)	0.027 * (0.013)	0.027 * (0.013)	0.027 * (0.013)
	west anatolia	0.118 *** (0.021)	0.118 *** (0.021)	0.118 *** (0.021)	0.118 *** (0.021)
	mediterranean	0.067 *** (0.015)	0.067 *** (0.015)	0.067 *** (0.015)	0.067 *** (0.015)
	central anatolia	0.138 *** (0.018)	0.138 *** (0.018)	0.138 *** (0.018)	0.138 *** (0.018)
	west black sea	0.002 (0.015)	0.002 (0.015)	0.002 (0.015)	0.002 (0.015)
	east black sea	0.036 * (0.018)	0.036 * (0.018)	0.035 * (0.018)	0.035 * (0.018)
	north east anatolia	0.145 *** (0.015)	0.145 *** (0.015)	0.145 *** (0.015)	0.145 *** (0.015)
	central east anatolia	0.208 *** (0.017)	0.208 *** (0.017)	0.208 *** (0.017)	0.208 *** (0.017)
	south east anatolia	0.254 *** (0.013)	0.254 *** (0.013)	0.254 *** (0.013)	0.254 *** (0.013)
Head R	other	ref	ref	ref	ref
	own child	-0.043 *** (0.007)	-0.043 *** (0.008)	-0.043 *** (0.008)	-0.043 *** (0.008)

Table A.38: E. R. for neither Enrolled nor Employed Group in Rural Areas (Cont'd)

		Model (1)	Model (2)	Model (3)	Model (4)
		rural	rural	rural	rural
Age Dummy	15	ref	ref	ref	ref
	16	0.037 *** (0.007)	0.043 *** (0.010)	0.048 *** (0.006)	0.048 *** (0.007)
	17	0.113 *** (0.016)	0.181 *** (0.015)	0.174 *** (0.008)	0.169 *** (0.009)
	18	0.208 *** (0.009)	0.236 *** (0.015)	0.237 *** (0.004)	0.236 *** (0.015)
Trend	15	-	0.005 (0.012)	-	-0.005 (0.013)
	16	-	0.009 (0.007)	-	-0.003 (0.007)
	17	-	-0.011 (0.008)	-	0.003 (0.007)
	18	-	-	-	-
Trend	15	-	0.005 (0.012)	-	0.014 (0.016)
	16	-	0.009 (0.007)	-	0.002 (0.007)
	17	-	-0.011 (0.008)	-	-0.006 (0.006)
	18	-	-	-	-
Year Dummy	2004	ref	ref	ref	ref
	2005	0.017 (0.020)	0.016 (0.011)	0.017 ** (0.005)	0.017 (0.010)
	2006	0.036 (0.021)	0.032 * (0.015)	0.026 *** (0.006)	0.028 * (0.013)
	2007	0.079 *** (0.015)	0.072 *** (0.012)	0.062 *** (0.009)	0.060 ** (0.019)
	2008	0.047 ** (0.020)	0.036 * (0.020)	0.043 ** (0.013)	0.037 (0.022)
	2009	0.011 (0.022)	-0.004 (0.016)	0.006 (0.013)	-0.003 (0.025)
	2010	-0.030 (0.022)	-0.046 ** (0.019)	-0.034 ** (0.012)	-0.045 (0.025)
	2011	-0.059 ** (0.021)	-0.076 *** (0.018)	-0.063 *** (0.012)	-0.076 ** (0.026)
	2012	-0.046 * (0.024)	-0.051 ** (0.018)	-0.047 *** (0.013)	-0.053 * (0.027)
	2013	-0.103 *** (0.024)	-0.097 *** (0.015)	-0.097 *** (0.012)	-0.100 *** (0.026)
household size		0.008 *** (0.001)	0.008 *** (0.001)	0.008 *** (0.001)	0.008 *** (0.001)
age of the hh head		-0.001 *** (0.000)	-0.001 *** (0.000)	-0.001 *** (0.000)	-0.001 *** (0.000)
constant		0.147 *** (0.030)	0.122 *** (0.020)	0.123 *** (0.021)	0.125 *** (0.020)
r-squared		0.158	0.159	0.159	0.159
number of obs.		103,422	103,422	103,422	103,422

B TURKISH SUMMARY / TÜRKÇE ÖZET

ZORUNLU OLMAYAN EĞİTİMDE SÜRE UZATIMI REFORMUNUN GENÇLERİN EĞİTİM VE İSTİHDAMI ÜZERİNE ETKİLERİ

Giriş

Bu tez, zorunlu olmayan orta öğretim süresinin üç yıldan dört yıla artışının 15-18 yaş arası bireylerin eğitimsel kazanımları ve istihdamı üzerindeki etkisini araştırmayı hedeflemektedir. Bilindiği üzere, eğitime erişim anlamında kızlar erkek çocukların, kırsal kesimdeki çocuklar kentli çocukların gerisinde kalmaktadır. Bu nedenle, politikanın çocukların alt grupları üzerinde farklı etkilerinin olup olmadığı da inceleme konusudur.

İlk olarak politikanın eğitimsel sonuçlarına odaklanıyoruz. Özellikle, 15-18 yaşındakilerin herhangi bir seviyede eğitim görüyor olup olmaması, lise seviyesinde eğitim görüyor olup olmaması ve lise mezuniyetiyle ilgileniyoruz. Eğitim alanı ilgili araştırma sorularımız şunlardır:

- Zorunlu olmayan eğitimin uzatılması gençlerin eğitim görmesini önemli ölçüde etkiliyor mu? Öyleyse;
  - Eğitim görme oranını artırıyor mu düşürüyor mu?
  - Etki, yaş gruplarına (15, 16, 17 ve 18), cinsiyete ve yerleşim türüne (kentsel-kırsal) göre değişiyor mu?
- Zorunlu olmayan eğitimin uzatılması, üst ortaöğretimde eğitim görmesini önemli ölçüde etkiliyor mu?
  - Eğitim görme oranını artırıyor mu düşürüyor mu?

- Etki, yaş gruplarına (15, 16, 17 ve 18), cinsiyete ve yerleşim türüne (kentsel-kırsal) göre değişiyor mu?

- Zorunlu olmayan eğitimin uzatılması, lise mezuniyet oranını önemli ölçüde etkiliyor mu?
  - Eğitim görme oranını artırıyor mu düşürüyor mu?
  - Etki, yaş gruplarına (15, 16, 17 ve 18), cinsiyete ve yerleşim türüne (kentsel-kırsal) göre değişiyor mu?

İkinci araştırma alanımız, politikanın işgücü piyasası üzerinde yarattığı sonuçlardır. Bu kapsamda 15-18 yaş grubundaki çocukların çalışma olasılığındaki değişimi araştırıyoruz. Şu soruları soruyoruz:

- Zorunlu olmayan eğitimin uzatılması, gençlerin istihdam olasılığını önemli ölçüde etkiliyor mu? Öyleyse;
  - İstihdam edilme olasılığını artırıyor mu azaltıyor mu?
  - Etki, yaş gruplarına (15, 16, 17 ve 18), cinsiyete ve yerleşim türüne (kentsel-kırsal) göre değişiyor mu?

Son araştırma alanımız, 15-18 yaşındakilerin müşterek zaman kullanımıdır. Bu doğrultuda gençleri eğitim görme ve çalışma durumlarına göre dört gruba ayırıyoruz: sadece okula gidenler (çalışmadan), sadece istihdam edilenler (okula devam etmeden), hem okula giden hem de çalışanlar ve ne okula giden ne istihdam edilenler. Müşterek zaman kullanımına ilişkin ana sorular şunlardır:

- Zorunlu olmayan eğitimin uzatılması, gençlerin müşterek zaman kullanımını önemli ölçüde etkiliyor mu? Öyleyse;
  - Nasıl etkiliyor?
  - Etki, yaş gruplarına (15, 16, 17 ve 18), cinsiyete ve yerleşim türüne (kentsel-kırsal) göre değişiyor mu?

Literatür Tarama

Bir bireyin eğitim alıp almama kararını inceleme konusunda literatür farklı görüşler sunmaktadır. Beşerî sermaye teorisi bağlamında eğitime yatırım üretkenliği arttırmanın bir yolu olarak görülmekte ve artan üretkenlik sonucu ücretlerin arttığını öne sürmektedir. Beşerî sermaye teorisinin hâkim anlatısı, bireylerin rasyonel olduğunu, yaşam boyu kazançlarını maksimize ettiğini söyler. Genel olarak, beşerî sermayede yatırım kararı, yatırımın maliyetlerini ve faydalarını tartmaya dayanır. Iskonto oranı, ücretlerdeki eğitime göre artış, eğitimin maliyeti, işgücü piyasasında bulunulan süre ve borçlanma sınırı bireyin kazanç maksimizasyonunu etkileyen faktörlerdir (Becker, 1962, 1964).

Diğer taraftan, eleme hipotezi istihdam piyasasını eksik ve asimetrik enformasyon ile tanımlar. Açıklamak gerekirse, bir birey kendi marjinal üretkenliği hakkında bilgiye sahiptir; ancak, bir işveren, işe almadan önce bireyin üretkenliğine ilişkin hiçbir bilgiye sahip değildir. Eleme hipotezinde eğitimin rolü, beşerî sermaye teorisinin aksine, bireylerin üretkenliklerini artırma yolu değildir. Bunun yerine eğitim, çalışanların bireylerin önceden var olan özelliklerini göstermesini sağlar. Diğer bir deyişle eğitim üretkenliği işaret eden bir mekanizma olarak görülmektedir (Schultz, 1972).

Psacharopoulos ve Patrinos (2004) ilköğretim ve alt orta öğretimin getirisinin üst orta öğretimden daha yüksek olduğunu göstermektedir. Benzer bir hesaplamayla Türkiye için yapılan çalışmada bunun tersi bir sonuç bulunmaktadır. İlköğretim, alt orta ve üst orta diplomasının kazanımlar üzerindeki etkisini sırasıyla yüzde 6, yüzde 14 ve yüzde 19 olarak bulunmuştur (Aydemir & Kırdar, 2017).

42 ülkeden oluşan bir örneklem kullanarak, Hertz ve diğerleri (2007) ebeveyn eğitimi ile çocuğun eğitimi arasındaki korelasyonu hesaplamaktadır. Ebeveynlerin ve çocukların eğitim seviyesi arasındaki korelasyonun son elli yıl için yaklaşık 0,4 olduğunu ve sabit olduğunu bildirmişlerdir. Yazarlar tarafından, Güney Amerika, Batı Avrupa ve Amerika Birleşik Devletleri için korelasyon katsayıları sırasıyla 0,60, 0,40 ve 0,46 olarak rapor edildi. Aydemir ve Yazıcı (2019), Türkiye'deki her ilin gelişmişlik

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düzeyini kullanarak kuşaklar arası eğitim korelasyonunu ölçmektedir. Kadınların eğitim sonuçlarının, daha gelişmiş bölgelerde ebeveynlerinin eğitim sonuçlarına daha az bağımlı olduğunu; ancak erkekler için böyle bir ilişki bulunmadığını bildirmektedirler. Ayrıca, çocukluk dönemindeki ikamet yerinin, ergenlik dönemindeki ikamet yerine kıyasla daha güçlü bir ilişki bulmuşlardır.

Smits ve Hoşgör (2006) tarafından, 1998 Türkiye Nüfus ve Sağlık Araştırması kullanılarak, aile özelliklerinin Türkiye'nin okullaşma sonuçları üzerindeki etkisini analiz etmek için bir çalışma yapılmıştır. Kızların ilkokula katılımını açıklayan en önemli faktörlerin sahip oldukları erkek kardeş sayısı, her iki ebeveynin eğitimi ve annenin Türkçe konuşup konuşamaması olduğu görülmüştür. Türkçe bilmeyen annelerin kızlarının ilköğretime kayıt yaptırmama olasılığı, anneleri Türkçe bilenlere göre altı kat daha yüksek olduğu bulunmuştur. Aksine, erkeklerin ilköğretime kaydolması için, annenin eğitiminin veya annenin Türkçe dil yeterliliğinin herhangi bir etkisi olmadığını buluyorlar.

Kırdar (2009), Türkiye'deki okul kayıtlarındaki etnik eşitsizlikleri hem eğitim gördüğü seviye düzeyinde hem de okulu bırakma zamanları açısından incelemektedir. Kadınlar için, etnik Türkler ile etnik Kürtler arasındaki öğrenim görme farkı, bölgesel ve ailevi özellikler ve annenin Türkçedeki yeterliliği kontrol edildikten sonra bile varlığını sürdürmektedir. Öte yandan erkekler için, ikamet yeri ve aile özelliklerini kontrol ettikten sonra, etnik Türkler ile etnik Kürtler ve Arapların kayıt oranları arasındaki uçurumun erkekler için ortadan kalktığını bulmuştur.

Duflo (2001), 1973–1974 ve 1978–1979'da Endonezya hükümetinin okul inşaat programını kullanarak, yeni inşa edilen ilkokulların eğitim görmeye etkisini araştırmaktadır. Bin çocuk başına inşa edilen her yeni okul için bireylerin eğitim aldığı yılda 0.12 ila 0.19 arasında bir artış ve ortalama olarak 0.25 ila 0.40 artış olduğunu hesap ediyor. Dahası, programa tamamen maruz kalan ilk kohortun kazançlarında yüzde 1.5 ila 2.7 arası artış bulmuştur. Okul inşaatı programından kaynaklanan genel kazanç artışı yüzde 3.0 ila 5.4 arası olarak tahmin edilmektedir. Son olarak Duflo, programın eğitime sağladığı ekonomik getiriyi yüzde 6.8 ila 10.6 olarak ölçmektedir.

1997 eğitim reformunun çocukların okul sonuçlarına etkileri Kırdar, Dayıoğlu ve Koç (2016) tarafından 2003 ve 2008 Türkiye Nüfus ve Sağlık Araştırmaları kullanılarak incelenmiştir. Yazarlar, politikanın kentsel-kırsal ve okula erişimdeki cinsiyet farkını nasıl değiştirdiğini anlamakla özellikle ilgileniyorlar. Yazarlar, kırsal alanlarda ve kızlar için daha yüksek bir politika etkisi bulmayı bekliyorlar. Yeni politika hem kentsel hem de kırsal alanlarda okullaşma maliyetini düşürse de politikanın uygulanmasının doğası gereği kırsal alanlarda okullaşma maliyetindeki düşüşün daha yüksek olduğu iddia edilmektedir. Ayrıca, okullaşma talebinin fiyat esnekliğinin kızlar için daha yüksek olduğunu savunuyorlar. Politikanın, okullaşmanın fiyat esnekliğinin yüksek olduğu yerlerde daha fazla etkilediği düşüncesiyle, eğitim maliyetlerindeki düşüşün kız çocuklarını daha fazla etkilemesi ve bunun sonucunda da cinsiyet farkını azaltması beklenmektedir.

Kırdar ve diğerleri şu sonuçları aramaktadır: kentsel alanlarda cinsiyete göre, kırsal alanlarda cinsiyete göre, erkekler için kırsal / kentsel ikamete göre ve kadınlar için kırsal / kentsel ikamete göre öğrenim görme durumu. İlk olarak, kentsel alanlarda cinsiyete göre analiz, kentsel alanlardaki politikanın güçlü bir etki farkı yaratmadığını göstermektedir. Ayrıca, politikanın zorunlu eğitim sonrası eğitim üzerindeki etkisinin kentli erkeklere kıyasla kentli kadınlar için zayıf olduğunu belirtiyorlar. Genel olarak, politika yeni genişletilmiş zorunlu eğitim seviyelerinde cinsiyet farkının azaltılmasına katkıda bulunmadığını rapor ediyorlar. Dahası, erkekler için lise sınıflarının tamamlanmasındaki artış ile cinsiyet farkını daha da kötüleştirildiği gösterilmekte. İkinci olarak, kırsal kesimde cinsiyete göre yapılan analiz, politikanın zorunlu eğitimi tamamlayan kadın sayısının yüzde 70'e varan oranda artırılması açısından faydalı olduğunu göstermektedir. Ancak politika, eğitimdeki cinsiyet farkını daraltmaya yardımcı olmamıştır. Üçüncüsü, erkekler için kentsel / kırsal ikametgâh tarafından yapılan analiz, politika nedeniyle hem kırsal hem de kentsel alanlarda erkeklerin zorunlu eğitime kayıt oranlarının arttığını göstermektedir. Kırsal alanlardaki artış daha yüksek, bu da politikanın farkı etkin bir şekilde daralttığını gösteriyor. Dördüncüsü, kadınlar için kentsel / kırsal yerleşim yeri analizi, daralan bir öğrenim görme farkı bulmaktadır, ancak bu etki, kadınlar için erkeklerden daha yüksektir. Son olarak, yazarlar tamamlanmış eğitim yıllarının bir analizini sunmaktalar. Kentli erkeklerde ve kadınlarda 15 yaşında 0.4 ila 0.5, 17 yaşında 0.7 ila 0.8, 15 yaşında 1.0 ila 1.0 ve kırsal

kesimde yaşayan erkek ve kadınlarda 1.3 ila 1.4 eğitim yılı öğrenim artışı bulmaktadırlar.

Kurumsal

1997'den önce, Türkiye'deki okul sistemi beş yıllık zorunlu ilköğretim, üç yıllık zorunlu olmayan alt ortaöğretim ve üç yıllık zorunlu olmayan üst ortaöğretim eğitimden oluşuyordu. Beşinci sınıfı tamamlamak, bir ilkokul diploması almak için yeterliydi. Sekizinci sınıfı tamamlamak alt ortaöğretim diploması ve on birinci sınıfın tamamlanması da lise diplomasına hak kazandırıyordu.

1997 yılında karara bağlanan sekiz yıllık zorunlu eğitim yasası, 1997-1998 öğretim yılının başında yürürlüğe kondu ve 1987 doğum kohortu ve sonrasını etkiledi. Türkiye'deki eğitim sistemi 1997'den 2012'ye kadar olan sürede ilköğretim ve alt ortaöğretim arasında ayrım yapılmıyordu. İlköğretim ve alt ortaöğretim, 6-13 yaşlarını kapsayan sekiz yıllık sürekli zorunlu eğitim olarak düzenlenen temel eğitim altında birleştirildi. Zorunlu eğitim süresinin uzatılması diploma alımını da yeniden tanımladı. Sekizinci sınıfı tamamlayan öğrenciler bir temel eğitim diploması aldılar.

2012 yılında milli eğitim sisteminde, halen yürürlükte olan, büyük bir yapısal değişiklik yapılmış ve zorunlu eğitim 12 yıla çıkarılmıştır. Zorunlu eğitimin uzatılmasının yanı sıra diploma alma süreleri, sınıflandırma ve koşulları da yeniden tanımlandı. İlköğretim dört yıla indirildi ve ortaöğretim, dört yıllık alt ve dört yıllık üst ortaöğretim olarak ayrıldı. 12. sınıfı başarıyla tamamlayan öğrencilere temel eğitim diploması verilmektedir. Bu sistem halk tarafından 4 + 4 + 4 eğitim sistemi olarak bilinmektedir. Politika reformu ayrıca zorunlu ilköğretime başlangıç yaşını 6'dan (72 ay) 5.5'a (66 ay) düşürmüştür. Aileler çocuklarının henüz okula hazır olmadığını doğrulayabilmeleri durumunda altı yaşından itibaren okula gönderme opsiyonu da bulunmaktadır.

Bu çalışmayı ilgilendiren reform, 2005 yılında uygulanmaya konulan, üst ortaöğretimin üç yıldan dört yıla çıkarılmasıdır. Bu reform ile birlikte opsiyonel

hazırlık sınıfları, birkaç elit lise dışında, son bulmuştur. Bu reformun temel motivasyonu Türkiye'nin Avrupa Birliği uyum kriterleri doğrultusunda adım atmasıdır. Sürenin uzatımına ek olarak birtakım uygulamalar daha yürürlülüğe konulmuştur. Bunlardan biri de meslek teknik liseleri ile genel liselerin ilk öğretim yılı için benzer müfredat uygulaması ve üst ortaöğretimin ilk yıl sonuna kadar ikisi arasında geçişe izin vermesidir. 2005'teki eğitim reformu, 2005-2006 öğretim yılında üst orta öğretime başlayanları etkiledi. Eğitim reformundan önce üst düzey ortaöğretime kayıtlı olanlar eski üç yıllık müfredata tabi idiler. Ayrıca, 2004-2005 öğretim yılında hazırlık sınıfında olan öğrenciler de aynı şekilde eski üç yıllık müfredata tabi tutuldu.

Reform ile birlikte lise eğitiminde net okullaşma oranında kayda değer bir gelişme olmuştur. 2014 yılında Türkiye'de 14-16 yaş grubunun yüzde 54.87'si lise eğitimine kayıtlıydı. Orta öğretimde net okullaşma oranı erkek ve kadınlarda sırasıyla yüzde 59.1 ve yüzde 50.5 olarak tespit edildi. Eğitim reformunun uygulanmasından sonra, net okullaşma oranı kadınlarda erkeklerden biraz daha fazla olmak üzere artmıştır.

Eğitim reformunun ilk mezunları, 2008-2009 öğretim yılının sonunda mezun olanlardır. Reformun tam olarak uygulanmasını izleyen ilk yılda erkek mezun sayısında önemli bir azalma ve kadın mezunların sayısında düşük bir azalma vardır. Bu düşüş için iki açıklayıcı faktör var. Birinci neden, 2007-2008 öğretim yılında mezun olanlardır. Bu mezunlar 2004-05 öğretim yılında hazırlık sınıfına gidenler, 2004-2005'te dört yıllık bir müfredatla okullara başlayanlar veya bir sınıf tekrarlayanlardı. 2007-2008 eğitim-öğretim yılı sonunda 140 bin kadın ve 182 bin erkek liseden mezun oldu. İkinci neden, 2008-2009 öğretim yılında ortaöğretimin dördüncü sınıfında okuyan öğrenci sayısıdır. O yıl dördüncü sınıfta sadece 590 bin öğrenci vardı, bu bir önceki yıl üçüncü sınıftaki 967 bin öğrenciye göre çok düşük bir sayı. Bu düşüş, yukarıda belirtilen mezunlardan kaynaklanmaktadır.

Data ve Tanımlama

Ampirik analizimizde, temel veri kaynağı Türkiye'yi ulusal düzeyde temsil eden Hanehalkı İşgücü Anketi (HİA) mikro verileridir. Bu anket Türkiye İstatistik Kurumu (TÜİK) tarafından yapılmaktadır. 2004 yılından bu yana, anketin sonuçları, İstatistik Bölgeleri Birimleri Sınıflandırma (İBBS) düzeyine göre, iki düzeyde yıllık olarak verilmektedir. İBBS1 ve İBBS2, başlıca sosyo-ekonomik bölgeleri ve temel bölgeleri temsil etmektedir. Anketin ilk bölümü, hanehalkı üyelerinin kişisel özellikleri hakkında bilgi toplar. İkinci bölüm istihdam üzerinedir. Anketin diğer bölümleri işten elde edilen gelir, işsizlik ve geçmiş iş tecrübesi hakkında bilgi toplar. Anketin temel amacı, 15 yaş ve üzeri bireylerin işgücü piyasası hakkında bilgi toplamaktır. Buna rağmen, HİA ayrıca 14 yaşında ve daha küçük bireylerin eğitimsel kazanımı gibi kişisel özellikler hakkında bilgi toplar.

Bu çalışmada Türkiye için HİA'nın 2004-2018 datalarını kullanıyoruz. Çalışma karma veri üzerinde yürütülüyor. 1987-1996 doğum kohortlarını kullanıyoruz. 1987 doğum kohortu 1997'deki eğitim reformundan etkilendiğinden, 1987'den önce doğanlar veri setinden çıkarıldı. Benzer şekilde, 1997 ve sonrasında doğanlar, 2012 eğitim reformunun bu doğum kohortları üzerindeki etkisinden dolayı çıkarılmıştır. Ek olarak, eksik gözlemler nedeniyle altı gözlem düşülmüştür.

Veri setinden analiz amaçlarına göre oluşturulmuş iki örneklemimiz var. İlk örneklem, eğitim, istihdam ve müşterek zaman kullanım analizi için kullanılacak 15-18 yaş grubudur. 15-18 yaş grubu 1987-1996 doğum kohortları için, 2004 ile 2013 HİA arasındaki verilerden çıkarılmıştır. Bu örneklemdeki gözlem sayısı 329,709'dur.

İkinci örneklem 20-24 yaş grubudur. Bu örneklem, üst ortaöğretimde mezuniyetteki değişikliği değerlendirmek için kullanılır. 20-24 yaş grubu 1987-1996 doğum kohortları için, 2007 ile 2018 HİA arasındaki verilerden türetilmiştir. Bu örneklemdeki gözlem sayısı 306,415'tir.

Eğitim için üç bağımlı değişken kullanılmaktadır. Bunlar, herhangi bir eğitime devam ediyor olup olmama, üst ortaöğretime devam ediyor olup olmama ve lise ya da üstünü

tamamlayıp tamamlamadır. Sırasıyla, örneklemin yüzde 56.1, yüzde 50.0 ve yüzde 54.4'ünü oluşturmaktadır. İşgücü analizi için istihdam edilip edilmeme bağımlı değişkeni kullanılmaktadır. Örneklemin yüzde 19.7'si bu tanıma girmektedir. Son olarak, müşterek zaman kullanımı için sadece okula gidenler (çalışmadan), sadece istihdam edilenler (okula devam etmeden), hem okula giden hem de çalışanlar ve ne okula giden ne istihdam edilenler şeklinde bir ayrım vardır. Bunların dağılımı sırasıyla: yüzde 52.1, yüzde 15.7, yüzde 4.0 ve yüzde 28.2'dir.

Analizlerde kullanılan sosyo-ekonomik karakteristikler şu şekildedir. 15-18 örneklemi için: cinsiyet, yerleşim tipi, yerleşim yeri (İBBS1), hane reisinin tamamladığı en yüksek eğitim seviyesi, cevaplayanın hane reisinin çocuğu olup olmadığı ve hane reisinin yaşı. 20-24 örneklemi için: cinsiyet, yerleşim yeri (İBBS1), cevaplayanın hane reisi olup olmadığı ve medeni durum.

Politika değişikliğinin, nüfusun bir alt kümesinin eylemlerinde bir değişikliğe yol açtığı duruma doğal deney denir. Bu çalışmadaki ampirik analiz, politikanın müdahale öncesi ve sonrası grupların okullaşma ve istihdam sonuçları üzerindeki etkisini değerlendirmeyi amaçlamaktadır. Reform, 1991 ve sonrasında doğanları etkilemesinden ötürü, 1991 ve sonrası doğum kohortunu reformdan etkilenenler; 1990 ve öncesini ise etkilenmeyenler olarak ayrıştırıyoruz. Politika değişikliğinden etkilenmiş etkilenmemiş grupları karşılaştırmak için yaygın olarak kullanılan mikro ekonometrik analiz araçlarından biri olan, Farkların Farkı Tahmincisi (Meyer, 1995) yöntemini analizimizde kullanacağız.

Gruplar arasında özellik dağılımının farklı olma ihtimali vardır. Bu tür gözlemlenebilir karakteristik farklılıklar, regresyona ek bir açıklayıcı değişken vektörü dahil edilerek kontrol edilebilir. Farkların Farkı metodolojisinin altında yatan temel varsayım, ortak eğilim varsayımıdır. Dışsal müdahalenin yokluğunda, zaman etkilerinin tedavi ve kontrol grubu arasında yaygın olduğu varsayılmaktadır (Cameron ve Trivedi, 2005).

İlk modelimiz, yıl içinde bir fark olmadığını ve yaş grupları üzerindeki politika etkisini varsaymaktadır. Yıl ve politikanın farklı yaş grupları üzerindeki etkisini kontrol etmek için bu varsayımı gevşetmekteyiz. Model (2) yıla bağlı bir etkiyi ve yaş grupları

üzerinde aynı politika etkisini varsaymaktadır. Model (3), yaşa göre değişen politika etkisini ve aynı yıl etkisini varsaymaktadır. Son olarak, Model (4) yıl sabit etkisi ve yaşa göre değişen politika etkisine izin vererek model (1)'i genişletir.

Genel olarak, zorunlu olmayan üst ortaöğretime devam oranı, reformdan etkilenenler için daha yüksektir. Değişim 0.38'den 0:57'ye, 19 yüzde puanlık önemli bir artış kaydedilmiştir. Bu artışı çoğunlukla 17 ve 18 yaş gruplarındaki yüksek kayıtlara bağlayabiliriz çünkü politikadan etkilenen 15 ve 16 yaşındaki gruplarda ortalama eğitime devamlılıkta sadece küçük bir artış vardır. 1991'den önce doğmuş olanlar için en az lise mezunu olanların ortalaması 0.54'tür. 1991 ve sonrasında doğanlar için aynı değer 0.55'tir. Politika sonra genel mezuniyette bir yüzde puanlık bir artış vardır.

Tüm yaş gruplarında ne istihdam edilmiş ne de eğitim gören ortalama oranı, reformdan etkilenenler için belirgin şekilde daha düşüktür. Etkilenen grup için oran yüzde 24 iken karşılık gelen oran etkilenmeyen grup için yüzde 36'dır. Gruplar arasındaki bu eksi 12 puanlık farka, sadece eğitim gören oranında yüzde 14'lük bir artış eşlik etmektedir. İlginç bir şekilde, sadece istihdam edilenlerin oranı etkilenen grup için azalırken hem istihdam edilen hem de eğitim görenlerin oranında artış kaydedilmiştir.

Ampirik Sonuçlar

Tüm kestirimler En Küçük Kareler yöntemi kullanılarak yapılmıştır. Buna ek olarak, hem 15-18 örneklemi hem de 20-24 örneklemi için cinsiyet ve 15-18 örneklemi için yerleşim yeri (kentsel / kırsal) için ayrı kestirimler yapılmaktadır. Analizlerde örnekleme ağırlıkları kullanılmaktadır. Standart hatalar doğum yılı düzeyinde kümelenmiştir.

Sonuçlar, hem herhangi bir seviyede eğitim için hem de üst ortaöğretim seviyesinde eğitim için olumlu bir politika etkisi olduğunu ortaya koymaktadır. Üst ortaöğretim seviyesinde öğrenim 6.2 ila 7.9 yüzde puan artarken, herhangi bir eğitim seviyesinde öğrenim 4.7 ila 6.7 yüzde puan arasında anlamlı ölçüde artmıştır. 15 ila 18

yaşındakilerin çoğunluğu lise eğitimine devam etmektedir. Dolayısıyla, üst orta öğretim düzeyindeki bir artış, herhangi bir eğitim düzeyinde kaydı arttırmaktadır.

Politikanın etkisi cinsiyete göre farklılık göstermekte. Politikanın bir sonucu olarak, lise eğitiminde öğrenim görme, kızlarda 5.0 ila 6.6 yüzde puan ve erkekler için 7.3 ila 9.0 yüzde puan artmaktadır. Buna göre, herhangi bir seviyede eğitim görme, kızlar için 4.3 ila 6.0 yüzde puan ve erkekler için 5.0 ila 7.3 yüzde puan artmaktadır. Politikanın cinsiyetler üzerindeki etkisi, üst ortaöğretime kayıt için istatistiksel olarak anlamlı olduğu bulunmuştur.

Politikanın bir sonucu olarak, üst ortaöğretime kayıt kentsel alanlarda 6.7 ila 8.5 yüzde puan ve kırsal alanlarda 4.6 ila 5.4 yüzde puan artmaktadır. Buna bağlı olarak, herhangi bir eğitim düzeyindeki kayıt, kentsel ve kırsal alanlar için sırasıyla 5.4 ila 7.7 yüzde puan ve 2.8 ila 4.3 yüzde puan artmaktadır. Hem herhangi bir eğitime hem de lise eğitimine devamdaki puan farkı istatistiksel olarak anlamlıdır. Bu nedenle, politika, kırsal alanlardaki kayıtlarda bir iyileşmeye sebep olsa da kentsel-kırsal eğitim açığını daha da kötüleştirmektedir.

Politikanın 15, 16, 17 ve 18 yaşındakiler üzerindeki etkisini daha detaylı araştırmamız sonucumda 15 ve 16 yaşındakiler üzerindeki ve 17 ve 18 yaşındakiler üzerindeki etkinin farklı olduğunu bulduk. 15 ve 16 yaşındakiler arasında, politikanın her iki model spesifikasyonunda da anlamlı olan bir politika etkisi yoktur. Öte yandan, politikanın tüm alt gruplarda 17 ve 18 yaşındakiler üzerinde anlamlı bir etkisi vardır.

Politika, eğitime katılımı olumlu etkilese de mezuniyet üzerinde aynı doğrultuda etkiler gözlemlemiyoruz. Tam tersi olarak, politikanın lise eğitiminden mezun olma olasılığını azalttığını gözlemledik. Bulgular, lise süresinin 3 yıldan 4 yıla uzatılması sonucunda lise mezuniyetinin 4.5 ila 4.7 yüzde puan arasında düştüğünü göstermektedir. Politikanın, her iki cinsiyet için de liseden mezun olma olasılığı üzerinde benzer etkileri vardır. Mezuniyetteki düşüşün büyüklüğü kızlarda ve erkeklerde sırasıyla 4.5 - 4.6 yüzde puan ve 4.4 - 4.7 yüzde puandır. Cinsiyete göre liseden mezun olma olasılığı üzerinde politikanın etkisi arasında önemli bir fark yoktur.

Politikanın, iki model spesifikasyonunda da tutarlı olan istihdam üzerinde genel bir etkisi yoktur, ancak ikinci model, genel istihdamda 0,8 puanlık bir düşüş önermektedir. Her iki model de kadınların istihdamının reformdan etkilenmediğini öne sürüyor. Ancak, politikanın erkek istihdamı üzerinde bir etkisinin olduğunu görüyoruz. Sonuçlar, erkek istihdamının 1.4 yüzde puan azaldığını göstermektedir. Ayrıca, politikanın cinsiyetler üzerindeki etkisi istatistiksel olarak anlamlı bulunmuştur. Analize göre, politikanın kırsal kesimdeki istihdam üzerinde önemli bir etkisi yoktur. Bununla birlikte, kentsel alanlarda istihdam, küçük çapta da olsa, politika nedeniyle değişmiştir. Politika değişikliği, kentsel alanlarda istihdamı 1.2 - 1.4 yüzde puan düşürmüştür. Analizlerimize göre, model (1)'de politikanın kentsel ve kırsal alanlara etkisi arasındaki 2.0 yüzde puanlık fark istatistiksel olarak anlamlıdır.

Genel olarak, sadece eğitim görme olasılığının 4.8 – 6.0 yüzde puan arttığı tahmin edilmektedir. Bu artışa, sadece çalışan grupta yer almada 0.7 ila 1.3 yüzde puanlık bir düşüş ve ne istihdam ne de eğitim göre grubunda 4.0 ila 5.4 yüzde puan düşüş eşlik etmiştir. Her iki faaliyette de bulunma olasılığı üzerindeki politikanın etkisine dair çok az anlamlı bir etki görülmemektedir.

Kadınlar üzerindeki politika etkisi iki grupta önemli ölçüde gözlemlenmiştir: iki faaliyette de bulunmayanlar ve sadece eğitim görenler. Politika, her iki faaliyete de katılmama olasılığını 4.1 ila 5.7 yüzde puan düşürdü. Aksine, kadınların sadece eğitim görme olasılığını 4.4 ila 5.5 yüzde puan arttırdı. Politika erkekler için sadece istihdam edilme ihtimali üzerinde anlamlı bir etkisi var. Politikanın bir sonucu olarak, sadece istihdam edilme olasılığı 1.3 ila 2.2 yüzde puan azaldı ve ne eğitime katılma ne de istihdam edilme olasılığı 3.8 ila 5.1 yüzde puan kadar azaldı. Sadece eğitim görme olasılığı ise 5.2 ila 6.5 yüzde puan kadar arttı.

Tüm alt gruplarda, sadece eğitim görme olasılığındaki en büyük artış, kentsel alanlarda yaşayanlar arasında görülmektedir. Politika, yalnızca okula gitme olasılığını 5.7 ila 7.0 yüzde puan artırmıştır. Yalnızca istihdam edilme ve iki faaliyete de katılmama olasılığına sırasıyla 1.3 ila 2.2 yüzde puan ve 3.8 ila 5.1 yüzde puan azaltmıştır. Kırsal kesimdeki grubun, daha küçük ölçekte de olsa, yalnızca okula gitme olasılığı üzerinde benzer etkiler gözlemlemekteyiz. Sadece eğitim görme olasılığı kırsal kesimde

yaşayanlar için 2.6 ile 3.4 yüzde puan artmıştır. Ayrıca politika, iki faaliyetin hiçbirinde bulunmama olasılığını 3.2 puan ile 4.2 yüzde puan düşürmüştür.

Sonuç

Bu tezde 2005 yılındaki eğitim reformunun eğitim, işgücü ve zaman kullanım sonuçları incelenmiştir. Bu bağlamda, gençlerin herhangi bir eğitim düzeyinde eğitim alması, lise eğitimine devamı, lise mezuniyeti, istihdam ve zaman kullanımındaki değişiklikleri inceledik. Bu analizler için, 2004 – 2018 yılları için yapılan Türkiye Hanehalkı İşgücü Anketini kullanıyoruz. Politika etkisini tahmin etmek için, Farkların Farkı metodolojisini kullanıyoruz. Kestirimler En Küçük Kareler yöntemi kullanılarak yapılmıştır.

Analizlerimizde, hem herhangi bir eğitim düzeyine devam hem de üst orta öğretime devam üzerinde olumlu bir politika etkisi bulunmuştur. Bir yıllık ek eğitim nedeniyle lise diploması almanın maliyetinin artmasına rağmen, 15 ve 16 yaşındakilerin politikadan eğitime devam açısından etkilendiğine dair kanıt bulamadık. Bu nedenle, genel eğitime devamdaki artışın, 17 ve 18 yaşındakilerin artışlarına bağlanabilir.

Politika, erkeklerin yanı sıra kadınların da eğitime katılımını iyileştirse de artışın büyüklüğü cinsiyete göre farklılık göstermektedir. Politikanın bir sonucu olarak, okula kayıtta önceden var olan cinsiyet farkı kızlar ve erkekler arasında genişlemektedir. Eğitimin uzatılması eğitim maliyetinde bir artışa yol açmaktadır. Finansal kısıtlamaların olduğu bir ortamda, kültürel değerlerle ya da geri dönüş beklentisiyle motive olan ebeveynler, oğullarını kızlarına göre öncelik veriyorlar.

Politikanın kentsel ve kırsal alanlardaki eğitim üzerindeki etkisini karşılaştırdığımızda da benzer gözlemler yapılabilmektedir. Politika, kırsal alanlardaki eğitime devamı hem üst ortaöğretimde hem de herhangi bir okul düzeyinde arttırmaktadır. Bununla birlikte, politikanın kentsel alanlar üzerindeki etkisi daha yüksektir. Sonuç olarak, politika, kırsal alanlardaki eğitime devamında bir iyileşme olsa da kentsel-kırsal eğitim açığını daha da kötüleştirmektedir.

Politikanın üst orta öğretimden mezun olma olasılığı üzerinde olumsuz sonuçları vardır. Mezuniyet olasılığının 4.4 yüzde puan azaldığı bulunmaktadır. Politikanın genç erkekler ve kadınlar üzerinde benzer etkileri vardır.

Politikanın genel istihdam olasılığını marjinal düzeyde etkilediğini görüyoruz. Modelimiz, gençlerin istihdam olasılığının 0.8 yüzde puan azaldığını göstermektedir. Politikanın istihdam üzerindeki etkisini cinsiyetlere göre karşılaştırdığımızda, politikanın erkeklerin istihdam olasılığını 1.4 puan düşürdüğünü görüyoruz. Buna karşılık kadın istihdamı politikadan önemli ölçüde etkilenmiyor.

Analizimiz son olarak örneklemi kayıt ve istihdam durumuna göre dört gruba ayırdığımız gençlerin zaman kullanımı üzerine analizimiz – sadece eğitim gören, sadece istihdam edilmiş hem eğitim gören hem de istihdam edilmiş ve ne eğitim gören ne de istihdam edilmiş – ile devam etmektedir. Bu bağlamda analizlerimiz, politikanın sadece eğitim görme olasılığını arttırdığını göstermektedir. Buna ek olarak, politikanın esas olarak ne istihdamda ne de eğitim kurumlarına kaydolmamış gençleri eğitime yönlendirdiği görülmektedir.

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