



The effects of compulsory military service exemption on education and labor market outcomes: Evidence from a natural experiment[☆]



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ARTICLE INFO

Article history:

Received 30 January 2015

Revised 19 June 2016

Accepted 27 June 2016

Available online 5 July 2016

JEL Classification:

C21

I21

I26

J21

J31

Keywords:

Compulsory military service

Draft avoidance

Intention to treat

Education

Earnings

ABSTRACT

Based on a law enacted in November 1999, males born on or before December 31st 1972 are given the option to benefit from a paid exemption from compulsory military service in Turkey. Exploiting this natural experiment, we devise an empirical strategy to estimate the intention-to-treat effect of this paid exemption on education and labor market outcomes of the individuals in the target group. We find that the paid exemption reform reduces the years of schooling among males who are eligible to benefit from the reform relative to the ineligible males. In particular, the probability of receiving a college degree or above falls among the eligible males. The result is robust to alternative estimation strategies. We find no reduction in education when we implement the same exercises with (i) data on females and (ii) placebo reform dates. The interpretation is that the reform has reduced the incentives to continue education for the purpose of deferring military service. We also find suggestive evidence that the paid exemption reform reduces the labor income for males in the target group. The reduction in earnings is likely due to the reduction in education. It should be noted, however, that due to the characteristics of the population on the treatment margin, the external validity of these results should be assessed cautiously.

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1. Introduction

There is a reviving interest in understanding the impacts of compulsory military service on education and labor market outcomes. In theory, there are costs and benefits of compulsory military service. It is costly for several reasons including human capital depreciation, foregone labor market experience, and foregone earnings. These costs can get larger as the duration of service increases. It also has potential benefits. It is often argued that military service provides unique opportunities to equip individuals with valuable technical skills and discipline that may lead to increased productivity in civilian life. Besides its effect on labor market outcomes, compulsory military service may indirectly affect educational attainment of individuals. In most countries, military service is delayed for those

[☆] We thank the seminar participants at the Central Bank of the Republic of Turkey, Ozyegin University, and the participants of the European Society for Population Economics Conference in Izmir, Royal Economic Society Conference in Brighton, and the Koc University/EAF Workshop in Istanbul for helpful comments. We are particularly grateful to Daniel Rees (the Editor) and two anonymous referees for very useful suggestions and careful reading. The views expressed here are of our own and do not necessarily reflect those of the Central Bank of the Republic of Turkey. All errors are ours.

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who are enrolled in higher education. Therefore, individuals may attend higher education to avoid or postpone their required military service. Increased education may, in turn, raise earnings capacity. Overall, the net impact of abolishing compulsory military service on education is likely to be negative, whereas the net impact on labor market outcomes is ambiguous. The empirical evidence is also mixed with some studies suggesting that abolishing compulsory military service can have positive effects on labor market outcomes, while others reporting zero or negative effects.

In this paper, we study the impact of a law – enacted on November 1999 – offering the option to benefit from a one-time paid exemption from compulsory military service in Turkey. Males born on or before December 31st 1972 – 27 years old and above at the time of the reform – are the eligible group, while those who were born on or after January 1st 1973 are ineligible. The amount of the required payment is 15,000 Deutschmark (approximately \$8000) –20,000 Deutschmark (approximately \$10,650) for males above 40 years old.¹ The timing of the reform is purely exogenous, because the main motivation behind the reform is to partially compensate the deficit resulting from the devastating earthquake took place in Izmit – a province close to Istanbul – on August 1999. Based on this reform, a male born on December 31st 1972 is offered the option to relax his military service constraints in exchange for some cash, while another one born 24 h later is not offered the same option. The duration of compulsory military service, which was 9–18 months at the time of the reform, increases the appeal of the paid exemption option. This natural experiment enables us to empirically assess whether the education and labor market outcomes in the treatment group differ from the outcomes in the control group.

We use the 2004–2013 waves of the Turkish Household Labor Force Survey micro-level data sets in our empirical analysis. We cannot observe details on military service; so, whether the individual has benefited from paid exemption or not is unobserved to the econometrician. Instead, we observe the birth dates of the survey respondents, so that we can clearly distinguish between the eligible males from the ineligible ones. Thus, within a narrowly defined birth-date interval centered around the reform date, there exist males who have deferred their military obligations both on the left- and right-hand sides of the reform date. Part of the males born before the cutoff date have chosen to benefit from the exemption. As a result, comparing the outcomes on both sides of the cutoff date with each other identifies the impact of the reform. Although the treatment and control groups are randomly assigned, not everyone in the treatment group used the option. The quasi-experimental design is set up based on the initial assignment and not on the treatment eventually received. Due to imperfect compliance, our estimates should be interpreted as the “intention-to-treat” effects. In other words, we estimate the overall intention-to-treat effect of the paid ex-

emption reform (which also includes the imperfect compliance margin) rather than the pure causal effect.

We apply three different econometric specifications: direct approach, difference in differences, and triple difference. In all of these exercises, we consistently report that paid exemption significantly reduces the total years of completed education. Our estimates suggest a reduction in the range of 0.15–0.20 years, on average. We interpret this result as an evidence of decreased incentives to continue education for males in the treatment group relative to those in the control group. We further present evidence that the reduction in the years of completed schooling comes from the decline in the probability of receiving a college degree or above. This implies that continuing higher education is partly seen as a means to defer military service; thus, in the absence of compulsory military service, part of the males would not stay enrolled in higher education. We also present suggestive evidence that the labor income also tends to decline within the eligible group. To support this result, we provide IV estimates exploiting the variation in schooling outcomes as a consequence of the exogenous policy shift. Jointly evaluating the results on education and earnings, we conclude that the reduction in earnings is likely due to the reduction in education. To check the robustness of these results, we perform two different empirical exercises. First, we perform the same set of regressions for females. We find no effect both for education and earnings. Second, we set two different placebo treatment dates and perform regressions for males as if the paid exemption reform is implemented on these dates rather than the original treatment date. Again, we report no effect for education and earnings.

We would like to emphasize at this stage that the natural experiment that we analyze targets potentially highly-educated males. Based on the brief description of the reform provided above, those who are 27 years old or older have been given the option to benefit from paid exemption. In this group of males, those who have deferred their military service are likely to be either enrolled in college or in graduate education. In this sense, we analyze the impact of paid exemption on the outcomes of better-educated individuals. Our findings also confirm this view: the paid-exemption reform reduces probability of receiving a college degree or above suggesting that enrolling in college or graduate school partially serves as a means for deferring required military service in Turkey.

The plan of the paper is as follows. [Section 2](#) reviews the literature on compulsory military service and relates/compares our paper to the relevant work in the literature. [Section 3](#) describes the institutional environment in Turkey. [Section 4](#) provides a definition of our data and presents the details of our identification strategy. [Section 5](#) discusses the results. [Section 6](#) frames and interprets the estimates. [Section 7](#) concludes.

2. Related literature

There is a large literature investigating the impact of compulsory military service on various outcomes. Research on compulsory military service is useful for policy, because there is an ongoing debate about the costs and benefits of

¹ In Turkey, per capita GDP in 1999 was around 4000 USD, which means that the required payment was much larger than the per capita national income figures at the time of the reform.

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