European Economic Review 56 (2012) 814–829

Contents lists available at SciVerse ScienceDirect

European Economic Review

journal homepage: www.elsevier.com/locate/eer

Evaluating the labor-market effects of compulsory military service

Thomas K. Bauer [a,*], Stefan Bender [b], Alfredo R. Paloyo [a], Christoph M. Schmidt [a]

[a] Rheinisch-Westfälisches Institut für Wirtschaftsforschung, Hohenzollernstr. 1-3, 45128 Essen, Germany
[b] Institute for Employment Research (IAB), Regensburger Str. 104, 90478 Nuremberg, Germany

ARTICLE INFO

Article history:
Received 22 October 2009
Accepted 2 February 2012
Available online 9 February 2012

JEL classification:
J31

Keywords:
Germany
Regression-discontinuity design
Conscription
White Cohort

ABSTRACT

We identify the causal effect of compulsory military service on conscripts' subsequent labor-market outcomes by exploiting the regression-discontinuity design of the military draft in Germany during the 1950s. Consistent estimates of military service on lifetime earnings, wages, and days of employment are obtained by comparing men born before July 1, 1937 (the "White Cohort") who were exempted from compulsory military service to men who were born on or shortly after this threshold date and who faced a positive probability of being drafted. We find that the putative earnings advantage and wage premium of those who served in the armed forces vanish when selection effects are taken into account.

1. Introduction

The recruitment of military personnel varies considerably across countries and over time. Until recently, most European countries pursued a policy of compulsory military service (CMS). However, since the end of the Cold War, an all-volunteer force made more sense for a number of nations. Germany indefinitely suspended CMS in 2011, with the last set of conscripts ending their service at the end of June. Although military service remains part of Germany's Basic Law (Article 12a), it has been abolished for all practical purposes. Yet, a few European countries are not planning to abandon the military draft (e.g., Austria, Denmark, Switzerland, Norway, and Greece).

Many economic arguments suggest that a professional army should be preferred because of structural inefficiencies and potential long-run costs that may arise in a draft system (see, for instance, Lau et al. (2004) and Keller et al. (2009) for a recent analysis of the dynamic costs of the draft). However, because the cost of running the armed forces is seemingly less under conscription than with an all-volunteer force, the global prevalence of the former remains nontrivial. Indeed, large swaths of South America, Africa, and Asia enforce some form of conscription, making North America and Western Europe the conspicuous exceptions.

Until recently, much less attention has been put on the long-run effects of CMS for the conscripts themselves, both in the economic literature and the public discourse. Draftees have to serve in a period of their lives that is usually characterized by human capital investments, which is disrupted by military service. They may further suffer from a deterioration of their human capital stock during active service. Even though the long-run effects of CMS may be even more important than the structural inefficiencies, empirical evidence on these effects is rather scarce.

This paper emphasizes the long-run effects of conscription by analyzing the impact of CMS on subsequent labor-market outcomes in Germany. However, identifying these effects is problematic for several reasons. Whether someone is drafted is

* Corresponding author. Tel.: +2 34 32 28341; fax: +2 34 32 14273.
E-mail addresses: thomas.bauer@ruhr-uni-bochum.de, thomas.bauer@rwi-essen.de (T.K. Bauer).

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doi:10.1016/j.euroecorev.2012.02.002

partially determined by factors which are directly related to labor-market outcomes, such as health status. Access to information on characteristics which determine draft status would enable the researcher to identify the causal effects of military service by correcting for selection bias. However, these variables are usually not available to the investigator.

In reaction to such deficiencies, previous studies relied on instrumental-variable (IV) estimates (Angrist, 1990; Angrist and Krueger, 1994; Imbens and van der Klaauw, 1995). These efforts found either a negative effect or no effect of military service on subsequent earnings. For instance, using the year of birth as an instrument for the probability to be drafted for the Vietnam War, Angrist (1990) estimated that 10 years after the war, white veterans realized approximately 15 percent lower annual wages than nonveterans. However, the wage differentials between nonwhite veterans and nonveterans were not statistically significant. Based on IV estimates that utilize the relationship between the date of birth and veteran status, Angrist and Krueger (1994) found that World War II veterans earn the same as nonveterans, if not less. Imbens and van der Klaauw (1995) used variations in the probability to be drafted for CMS across birth cohorts to instrument for military service. They show that 10 years after CMS in the Netherlands, those who served earn on average 5 percent less than those who did not serve.[1]

It is important to note that in the studies of Angrist (1990) and Angrist and Krueger (1994), the samples include people who were actually in a war. In the present study, the sample excludes people who were in combat duty. This might explain the negative impact of serving in the Vietnam War on the earnings of veterans. Although, updated estimates by Angrist and Chen (2011) using the same instrumental variable reveal effects that are nearly zero in later periods of the life cycle.

In our analysis, we complement traditional estimation methods with a regression-discontinuity (RD) approach to obtain consistent estimates of the effects of peacetime CMS on subsequent labor-market outcomes. The RD design used here is based on a discontinuity in the probability to be drafted for CMS across birth cohorts in Germany. When creating the new armed forces in the second half of the fifties, all men born before July 1, 1937 were exempted from CMS. On the other hand, men born on July 1, 1937 and after faced a positive probability of being drafted. Based on this rule, we use observations on the so-called "White Cohort" (*weißer Jahrgang* in German, i.e., men who neither served during World War II nor were required to perform CMS) as a control group.

Cross-sectional comparisons of the labor-market outcomes for men who served in the *Bundeswehr* (German armed forces) with those who did not indicate that those men who served apparently enjoy a wage premium in the civilian labor market. This premium, together with the fact that they remain employed longer than those who did not enter the armed forces, translate to a lifetime earnings advantage of about 12 percent. However, we find that the superior labor-market performance of the draftees is merely the result of the nonrandom selection mechanism used at that time to admit conscripts. The wage, employment, and earnings differentials vanish when we control for selection bias.

One potential issue that could threaten the validity of the reported estimates is the link between CMS and education. For instance, if people entered the university to avoid the draft (Card and Lemieux (2001) show this for the US during the draft for the Korean War), the additional human capital acquired will affect future labor-market performance. Our own estimates reported in Bauer et al. (2011) indicate that a similar phenomenon occurred in Germany for the period under study. We discuss how this may affect our results and how we addressed this issue in Section 4.3.

The rest of the paper is structured as follows. Section 2 describes the institution of compulsory military service in Germany. Section 3 contains the data description and our sample selection while Section 4 provides the estimation results. To conclude, we summarize our findings and provide a commentary on the generalizability of the results in Section 5.

2. Compulsory military service in Germany

The membership of West Germany in NATO required the creation of the *Bundeswehr* with a projected maximum strength of around 500,000 soldiers. The West German parliament decided at this time that the *Bundeswehr* should be composed largely of conscripted men. The corresponding law (*Wehrpflichtgesetz*) regulating the introduction of CMS passed the parliament in July 1956. According to this law, all able-bodied men born after June 30, 1937 have to serve in the armed forces. The first 10,000 conscripts entered in May 1957 and they had to serve for 12 months.

In 1962, the duration of CMS was extended to 18 months and has changed several times since then. In West Germany, women were exempted from CMS. Women were allowed to work voluntarily for the military only in medical professions. In January 2001, the law allowing women to enter combat duty came into force. For conscientious objectors, the German constitution and the *Wehrpflichtgesetz* provide the opportunity to perform an alternative type of service. This alternative service mainly comprises auxiliary activities in the health-care sector. In the birth cohorts relevant for the empirical analysis, the fraction of conscientious objectors is small. The first 340 conscientious objectors started their service in April 1961. Until the 1970s, the annual number of conscientious objectors stayed at a negligible level (Haberhauer and Maneval, 2000).

In principle, the regulations governing conscription are simple. All men of a particular birth cohort are called for medical and psychological evaluations around their 18th birthday. Based on these examinations, they are divided into three groups: (a) those with good health are categorized as being fit for service; (b) men with smaller health problems are

[1] In Imbens and van der Klaauw (1995), the length of conscription is 14 months, which is two months longer than the service rendered by men in our sample.