Occupational Fatalities and the Labor Supply: Evidence from the Wars in Iraq and Afghanistan

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ABSTRACT
I find that full information utility maximization models are insufficient to explain the recruiting response to deaths of US soldiers in recent years. Using data of all applicants to the enlisted US military during the wars in Iraq and Afghanistan, deaths had a small but significant deterrent effect on recruiting in the soldiers’ home counties. The deterrent is larger for deaths from the same county than for deaths from neighboring counties or for out of county but in state deaths. The effect exhibits significant heterogeneity: deaths in Iraq decrease recruiting, while deaths in Afghanistan may increase recruiting, and the deterrent is more negative in less populous and more racially diverse counties; it is smaller or even positive in counties that voted for George W. Bush.

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1. Introduction

In a standard full information utility maximization model, one would predict that, all else equal, an increase in a profession’s risk of death would decrease the desirability of employment in that profession. I present evidence from the United States military that this may not be the best model to explain behavior. Parts of the military can at times be similarly dangerous as the most dangerous civilian job, and the military employs many more people. I show that enlistees are responding differently to deaths from their county than to deaths from farther away, a finding that cannot be explained by easier access to news of local events. In contrast to standard predictions, I also show that job-related deaths can sometimes lead to increases in employment in an industry.

The purpose of this paper is to empirically test whether deaths of employees in a given occupation affect selection into that same occupation by other potential employees in the way that simple models predict. Since the time of Adam Smith, economists have used models with compensating differentials to explain wages in occupations entailing varying levels of risk or unpleasantness (Smith, 1776/2003Smith, 1776/2003). Researchers have estimated how compensating differentials vary based on individual characteristics (e.g. age, gender, or being a single parent), but all these models either

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assume that safety is a normal good or estimate it as such.\footnote{See DeLeire and Levy (2004), Biddle and Zarkin (1988) and Garen (1988), Thaler and Rosen (1976) build a model involving insurance that indicates that job safety is not necessarily normal with respect to property income, since property income is not at risk in the labor market and reduces the need for insurance, acting as a substitution effect.} To examine this question empirically, I use new data from US soldiers in the wars in Iraq and Afghanistan and analyze how deaths affected the enlistment decisions of young Americans, but the results may also apply to a few other occupations.

One possibility is that when someone dies in an occupation, the siblings and friends of the deceased, and the population in general, would come to disapprove of the occupation (perhaps due to an increased assessment of their own risk) and become less likely to join. Since military pay is set at the same base rate across the country, I essentially hold compensation constant and look at the labor supply response to changes in perception of risk in my analysis. A standard model of compensating differentials would imply that if the wage were constant but assessment of risk increased, fewer would apply. However, if one was personally convinced of the virtue or necessity of the occupation in which the death occurred, then a sense of duty, patriotism, or pride might lead one to become more likely to join the occupation after an employee from the local area has been killed.

A few examples illustrate the point. The New York City Fire Department implements a recruitment policy giving a 10-point bonus on the employment exam to any applicant who is the child of a firefighter who was killed on 9/11.\footnote{See http://www.nytimes.com/2001/11/12/us/nation-challenged-recruit-self-described-slacker-decides-he-s-ready-be-soldier.html} The legacy points led to a minor uproar when they were initially refused to 13 applicants whose parent had died due to 9/11-related illnesses, but not at the World Trade Center on September 11.\footnote{http://www.nytimes.com/2001/11/12/us/nation-challenged-recruit-self-described-slacker-decides-he-s-ready-be-soldier.html} Dan Barta joined the Binghamton, NY police force after his father was killed in the line of duty, saying "it has been my dream since that day [the day my father was killed] to be a Binghamton Police Officer."\footnote{http://www.wbng.com/home/Serving-the-community-A-family-legacy-230269421.html} Similarly, the “sandhogs” who do the dangerous work of boring the tunnels under New York City often follow in (fallen) friends’ footsteps.\footnote{http://www.nyc.gov/html/fdny/html/community/ff/ffact.html}

This possible incentive effect is not unique to a single instance, and perhaps it is not unique to the military, though at least one example from the military received media attention: 61-year-old orthopedic surgeon Bill Krissoff acquired an age waiver and enlisted in the Navy Medical Corps after his son Nathan was killed in the Marines in Iraq.\footnote{See http://www.npr.org/templates/story/story.php?storyId=17013597} Since some of the Marine Corps’ support operations are provided by the Navy, serving in the Navy Medical Corps enabled Krissoff to give medical care to those with whom his son had fought and died.

Is there a model that can test whether these examples are evidence of a general phenomenon in military recruiting? This paper is an empirical test of the size of the deterrent or incentive effect of deaths in the military on recruiting, and an analysis of when the effect may be larger or smaller. My analysis draws on a valuable new dataset obtained through Freedom of Information Act requests, comprising the complete set of active duty enlisted applicants to the military from 2001 to 2006, matched with detailed data on every death of a US soldier that occurred in Operation Iraqi Freedom and Operation Enduring Freedom (i.e., the war in Afghanistan) during the same period. I have made these datasets publicly available on the Internet using Harvard’s Dataverse.\footnote{http://198.180.109.124/contribute/index.php?storyId=17013597. There is also anecdotal evidence that recruiting stations were overwhelmed with potential recruits after 9/11, but it is a goal of this paper to empirically determine whether increased risk actually led to more or fewer recruits. Compare http://www.nytimes.com/2001/11/12/us/nation-challenged-recruit-self-described-slacker-decides-he-s-ready-be-soldier.html, which describes an individual motivated to enlist to http://www.nytimes.com/2001/09/16/us/after-attacks-military-despite-national-rush-emotion-recruiting-centers-aren-t.html, in which recruiters claim not to have seen a significant increase in qualified recruits.}

With detailed geographic and date information, I am able to analyze recruiting at the county-month level, a significant improvement upon much of the literature. I use data on the home locations of recently killed troops and correlate the deaths of soldiers from the local area with the local rates of recruiting. I flexibly control for the underlying characteristics of counties as well as nation-wide changes over time using county, monthly, and state-year fixed effects. After controlling for these underlying characteristics, the hometown of the fatality is arguably exogenous. I use this source of variation to analyze the causal effects of local deaths on local military recruiting.\footnote{See http://198.180.109.124/contribute/index.php?storyId=17013597} I find that when a soldier died in Iraq or Afghanistan, that soldier’s home county saw a decrease in recruiting of over one percent. However, deaths of soldiers in Iraq lead to a larger reduction in recruiting, while deaths of soldiers in Afghanistan may actually lead to a small increase in recruiting. There are also differences across ethnic demographic, economic, and political lines. The deterrent effect is significantly larger in counties with higher than average African-American populations and is significantly smaller (and sometimes even positive) in counties with higher unemployment, and counties that voted for George W. Bush in 2000 or 2004.
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