The economic effects of a counterinsurgency policy in India: A synthetic control analysis

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ABSTRACT

Using the synthetic control method, we analyze the economic effects of a unique counterinsurgency response to the Naxalite insurgency in India. Of all the states affected by Naxalite violence, only one state, Andhra Pradesh, raised a specially trained and equipped police force in 1989 known as the Greyhounds, dedicated to combating the Naxalite insurgency. Compared to a synthetic control region constructed from states affected by Naxalite violence that did not raise a similar police force, we find that the per capita NSDP of Andhra Pradesh increased significantly over the period 1989–2000. Further, we find that the effects on the manufacturing sector are particularly strong. Placebo tests indicate that these results are credible and various difference-in-difference specifications using state and industry level panel data further corroborate these findings.

1. Introduction

Since its independence in 1947, India has faced numerous insurgencies within its borders at various points in time. One of the longest running insurgencies in India is the Naxalite – also known as the Maoist – movement. With the ultimate objective of overthrowing the state by force and establishing a communist regime (Ramana, 2009; Gupta, 2007), the Naxalite movement started in a small village in West Bengal in 1967, and then spread steadily across the country. The insurgency was estimated to be spread over 182 districts in 16 states in 2007 (Ramana, 2009) and account for about 91% of the total violence in India and 89% of the resulting deaths (Government of India, 2005) prompting the former Prime Minister Dr. Manmohan Singh to observe that the Naxalite insurgency is the single biggest internal security threat facing the country.

Of the several states in India that are affected by Naxalite violence, only one state, Andhra Pradesh, raised a specially trained police force dedicated to combating the Naxalite insurgency in 1989. This explicit change in the government's counterinsurgency policy gives us a unique opportunity to analyze the effects of this robust localized security response to the Naxalite insurgency, which has not been previously analyzed. In order to do so we apply the synthetic control methodology (Abadie and Gardeazabal, 2003; Abadie et al., 2010), a recently developed generalization of the difference-in-difference methodology, to get

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around the standard problems of data and sample size limitations faced by empirical studies of interventions such as this that typically occur at the aggregate level.

We find that the introduction of a specialized police force called "Greyhounds" in Andhra Pradesh (AP) in 1989 is associated with an increase in its per capita net state domestic product (pcNSDP) over the period 1989–2000. Further, we find that this is driven by the various subsectors of the non-agricultural sector and that the effects on the manufacturing sector (both registered and unregistered) are particularly strong. Placebo tests indicate that our results are credible. Additionally, these results are robust to various difference-in-difference regression specifications using state and industry level panel data.

While the relationship between insurgency and economic growth is well established in the security economics literature, the economic effects of counterinsurgency policies remain underexplored (Brück and Schneider, 2011). This paper makes two important contributions. First, by analyzing a counterinsurgency policy in India, it builds on the line of work that uses economic indicators to evaluate the effectiveness of security policies in other parts of the world. While state response to insurgencies has been largely examined in terms of effects on the levels of violence, researchers and practitioners have argued that progress of counterinsurgency methods is better assessed via their effect on economic outcomes (Kapstein, 2012). Conflicts cause political instability which negatively affects savings and investment in the economy. Counterinsurgency polices, by reducing uncertainties and boosting confidence of civilians may enhance investment and economic activity (Naor, 2015). If markets efficiently aggregate information, they can be a good indicator of civilians' security outlook and provide an unbiased evaluation of the state's security policy. Further, we also make a methodological contribution by showing how the synthetic control methodology can be applied to study such policies.

Secondly, we also contribute to the study of conflicts in India. Despite now running in its fifth decade, there exist few systematic quantitative studies on the Naxalite insurgency. Cross-sectional studies find poverty, illiteracy, land inequality, forest cover and population share of marginalized castes and tribes to be the main correlates of Naxalite activity at the district level (Borooah, 2008; Iyer, 2009; Gomes, 2015; Hoelscher et al., 2012). Gawande et al. (2015) in a panel data study find that a one standard deviation decrease in renewable resources increased deaths related to the insurgency by nearly 60 percent over the period 2001–2008. Vanden Eynde (2016) finds negative rainfall shocks to increase Naxalite violence against civilians in order to deter them from becoming police informers. The effects of the recent introduction of a large public-works program (the National Rural Employment Guarantee Scheme) on Naxalite violence are mixed: while Dasgupta et al. (2016) find that it decreased conflict, Khanna and Zimmermann (2015) find that it induced an increase in violence in the short-run (possibly due to civilians providing greater information to the police). In the context of the Punjab insurgency during 1980–1993, Singh (2013) finds conflict to reduce long-term investment in agriculture. While these studies examine the correlates and effects of insurgencies, our study is the first to investigate the effects of a counterinsurgency policy in India.

The rest of the paper is organized as follows. Section 2 provides a discussion of related literature, Section 3 outlines a theoretical framework and Section 4 provides a brief history of the Naxalite movement in India and the Greyhounds. Section 5 provides an overview of the synthetic control method of analysis and the data. Section 6 describes the results while Section 7 discusses the findings. Section 8 concludes.

2. Literature review

Fig. 1 provides a framework, derived from Brück et al. (2011), to assess the dynamic three-way relationship between insurgency, counter-insurgency and economic outcomes which we discuss in this section. As the negative relationship between insurgency and economic outcomes is well established in the literature (for example see Blattman and Miguel, 2010), we focus this review on the part of the literature that analyzes the effects of counterinsurgency policies.

The first part of the literature examines the state response to insurgencies in terms of the effects on violence. Insurgencies depend on active support of the civilian population. The "hearts and minds" mechanism posits that by providing the population with better public services, the government can change perceptions of the population towards the government. Civilians would then be less likely to support the insurgency and more likely to supply information to counterinsurgents regarding the whereabouts of
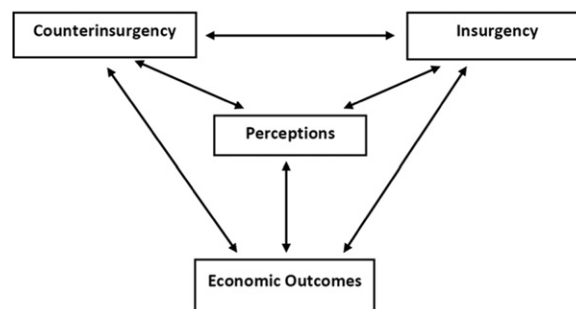

Fig. 1. Insurgency, counterinsurgency, perceptions and economic outcomes.