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## Guns and butter? Fighting violence with the promise of development



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#### ABSTRACT

There is growing awareness that development-oriented government policies may be an important counter-insurgency strategy, but existing papers are usually unable to disentangle various mechanisms. Using a regression-discontinuity design, we analyze the impact of one of the world's largest anti-poverty programs, India's NREGS, on the intensity of Maoist conflict. We find short-run increases of insurgency-related violence, police-initiated attacks, and insurgent attacks on civilians. We discuss how these results relate to established theories in the literature. One mechanism consistent with the empirical patterns is that NREGS induces civilians to share more information with the state, improving police effectiveness.

#### 1. Introduction

Internal military conflicts between government troops and insurgents are common in many developing countries. Governments have traditionally relied heavily on military force, but there is a growing awareness that this alone may not be enough to end violence since insurgents often rely on the loyalty of the local population in their guerrilla tactics and recruit members from economically marginalized groups. In such situations, government anti-poverty programs are increasingly seen as a potential tool for reducing conflict intensity by raising the opportunity cost of being an insurgent and improving the willingness of civilians to support the government. At the same time, however, such programs may increase violence, for instance the resources flowing into conflict areas may make territorial control of these locations more attractive for insurgents. <sup>2</sup>

What effect government programs have on internal conflict intensity is therefore an empirical question. Across a number of different countries and types of programs, recent papers find both positive and negative impacts of government programs on internal conflicts that are typically consistent with more than one explanation.<sup>3</sup> Given this heterogeneity, a deeper understanding of how government programs

of different types and across different contexts affect internal violence is of high policy relevance.

In this paper, we analyze the impact of the world's largest publicworks program, the Indian National Rural Employment Guarantee Scheme (NREGS), on the incidence of Maoist violence in the country, which the Indian Prime Minister referred to as the "single biggest internal security threat". NREGS is based on a legal guarantee of 100 days of public-sector employment to all rural households (about 70 percent of the population) willing to work at the minimum wage, and annual expenditures on the scheme amount to around one percent of Indian GDP. While the program's main goal is to generate labor market opportunities, one of the expectations of the government was to reduce incidents of Maoist-related violence.

Based on the existing literature, it is unclear how NREGS should be expected to affect insurgency-related violence. NREGS operates on a much larger scale than the programs analyzed in the existing within-country analyses, and large implementation problems especially in the initial stages seem to have severely limited the monetary benefits for the poor. Furthermore, as a public-works program, the employment guarantee scheme is a different type of government intervention than the ones analyzed in the literature. These differences in context,

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See e.g. Grossman (1991) for an opportunity cost model and Berman et al. (2011b) for a model of civilian support in the context of street gangs.

<sup>&</sup>lt;sup>2</sup> See e.g. Hirshleifer (1989), Grossman (1991), and Skaperdas (1992).

<sup>&</sup>lt;sup>3</sup> See e.g. Berman et al. (2011a, 2011b), Nunn and Qian (2012), Crost et al. (2012), and Dube and Vargas (2013).

<sup>&</sup>lt;sup>4</sup> Hindustan Times, April 13, 2006: Naxalism biggest threat: PM.

delivery procedures, and scale may have important consequences for the relevance of the various mechanisms via which NREGS may affect conflict.<sup>5</sup>

Our empirical estimation strategy relies on the fact that NREGS was rolled out non-randomly in three implementation phases, with poor districts being treated earlier. The government used a two-step algorithm to assign districts to phases: in the first step, each state received a quota of treatment districts proportional to the prevalence of poverty in that state, and in the second step this quota was then filled with the poorest districts according to districts being ranked on a poverty index. This procedure generates state-specific treatment discontinuities and allows the use of a regression-discontinuity design to analyze the empirical impact of the program. The results show that treatment at the cutoff leads to about 914 more fatalities in about 368 additional incidents over the following year. We find that more attacks are initiated by the police, that insurgents are the most affected group, and that there is little impact on police casualties. There is also some evidence of an increase in the number of attacks by insurgents on civilians. The results are robust across different specifications and predominantly concentrated in the short run.

We discuss the empirical predictions of the most prominent theories in the existing literature. While a public-works program like NREGS may be seen as a combination of an employment intervention and an infrastructure program, the program in its early days hardly seemed to create any non-public assets or destroyable infrastructure (Ministry of Rural Development, 2010). This means that NREGS does not provide many appropriable assets and limits the opportunities for the insurgents to sabotage the scheme. While the public-works scheme also suffers from implementation problems, the actual and especially the expected future benefits from the scheme may therefore play a larger role in explaining the empirical patterns.<sup>6</sup>

Overall, our paper contributes to our understanding of the impact of government programs on insurgency-related violence in a number of ways. First, the empirical findings suggest that NREGS led to an increase in violence in the first year of implementation, and especially the first few months. This means that dynamic patterns are important, which so far have been largely ignored in the literature. Second, the results and circumstantial evidence are consistent with a citizensupport explanation in which the introduction of NREGS makes civilians more likely to assist the state in the fight against insurgents, although we cannot fully reject other non-mutually excludable explanations, such as a battle over expected future resources. Third, while most of the existing literature focuses on programs that are implemented quite well, the Indian context provides the often more realistic case of a government initiative that at least initially faced severe implementation issues. Our results paired with other evidence from the literature suggest that the promise of development in the form of anticipated program benefits may already have important consequences for conflict intensity. Fourth, in contrast to most of the existing literature that focuses on infrastructure programs and foodaid schemes, NREGS is mainly a job-creation program. Based on our results, the impacts of a public-works program on violence are more similar to infrastructure programs (Crost et al., 2014) and food-aid schemes (Nunn and Oian, 2012) than US-implemented reconstruction programs (Berman et al., 2011b) at least in the short run, albeit for plausibly different reasons. Fifth, the program in question is much larger in scale than the other studied programs and the conflict has been the major internal security threat for one of the world's largest countries since the late 1960s.

The remainder of this paper is structured as follows: Section 2 provides some background on the Maoist movement and NREGS,

whereas Section 3 discusses potential hypotheses regarding the impact of NREGS on violence. Section 4 describes the empirical strategy and the data. Section 5 presents the main results as well as some extensions and robustness checks, and Section 6 concludes.

#### 2. Background

#### 2.1. The Naxalite movement

According to the Government of India, the Naxalite movement is one of India's most severe threats to national security. In 2006, Prime Minister Manmohan Singh famously referred to it as "the single biggest internal security challenge ever faced by our country". Members of the movement are typically called Naxalites or Maoists.

Naxalites have been operating since 1967, but violence exacerbated after the two biggest previously competing Naxalite groups joined hands to form the Communist Party of India (Maoist) in 2004 (Lalwani, 2011). The Indian Home Ministry believed the movement to have around 15,000 members in 2006, and to be active in 160 districts (Ministry of Home, 2006). Fig. 1 shows all the districts that experienced at least one Maoist incident between January 2005 and March 2008, the period studied in this paper, in black, dark grey and light grey. As can be seen, Naxalite-affected districts are concentrated in the eastern parts of India. These areas are often referred to as the Red Corridor.

The Naxalites' main goal is to overthrow the Indian state and to create a liberated zone in central India, since they believe that the Indian government neglects the lower classes of society and exclusively caters to the elites. Decades of using military force have been largely unsuccessful in suppressing the movement. A number of researchers note that India traditionally relies almost exclusively on military strength to fight the Naxalites (see e.g. Banerjee and Saha, 2010; Lalwani, 2011). Many observers also refer to the often widespread disregard for local perceptions as well as the sometimes excessively brutal nature of police force behavior that affects many civilians (Bakshi, 2009; Lalwani, 2011; Sundar, 2011).

Both Maoists and security forces believe that civilians have a lot of information on the insurgents, so pressures on the local tribal population (called *adivasis*) to pick a side and cooperate with one of the conflict parties are high. The Naxalites' continued survival depends on help from civilians who hide them and provide them with resources and information. Maoist insurgents often warn the local population not to provide shelter or information to police forces, for example, and instead ask them to keep track of government personnel and their actions. *Adivasis* also face economic incentives to join the conflict: many areas face chronic underdevelopment, and since their knowledge of local conditions in the often remote forest areas is very valuable, working for one of the conflict parties allows the poor to earn some income (Mukherji, 2012).

In consequence, many *adivasis* are involved in the conflict as tacit supporters, informants and recruited fighters on both sides, and switching sides once conditions change is not uncommon. Vanden Eynde (2011) also shows that Naxalite violence against civilians increases after negative rainfall shocks, which is consistent with his theoretical model in which Maoists try to prevent the local population from being recruited as government informants during bad economic times. A number of instances where Maoists left leaflets after killing civilians, accusing them of being police informers, are also in line with the idea that Maoists retaliate against civilians who help the police. 9

In light of this complex situation, the view that military force alone is not effective in solving the Naxalite problem in the long run seems to

<sup>&</sup>lt;sup>5</sup> See e.g. Berman et al. (2013).

<sup>&</sup>lt;sup>6</sup> See e.g. Dutta et al. (2012) and Niehaus and Sukhtankar (2013) for implementation issues with NREGS.

<sup>&</sup>lt;sup>7</sup> Hindustan Times, April 13, 2006: Naxalism biggest threat: PM.

<sup>&</sup>lt;sup>8</sup> See e.g. Mukherji (2012).

<sup>&</sup>lt;sup>9</sup> See Online Appendix for some examples and details about the connection between the Maoist conflict and politics.

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