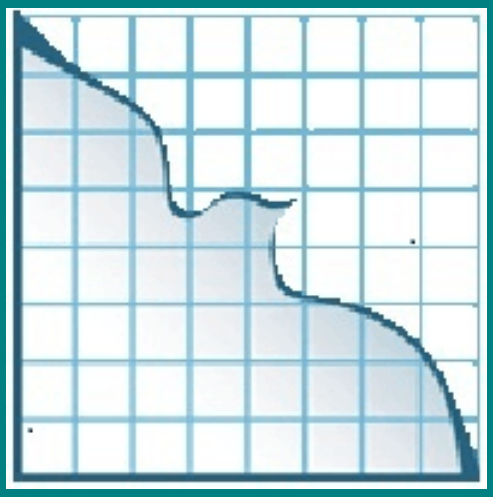
The Economics of Peace and Security Journal



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The Economics of Peace and Security Journal — ISSN 1749-852X — http://www.epsjournal.org.uk

VOL. 9, NO. 1 (2014) – CONTENTS

ARTICLES

SYMPOSIUM: PEACE AND SECURITY IN INDIA. GUEST EDITOR: RUPAYAN GUPTA

The Economics of Peace and Security Journal — ISSN 1749-852X — http://www.epsjournal.org.uk

THE FINANCIAL LEGACY OF AFGHANISTAN AND IRAQ: HOW WARTIME SPENDING DECISIONS WILL CONSTRAIN FUTURE U.S. NATIONAL SECURITY BUDGETS

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Abstract

The Afghan and Iraqi conflicts, taken together, will be the most expensive wars in United States history, totaling somewhere between US$4 to US$6 trillion. This includes long-term medical care and disability compensation for service members, veterans and families, military replenishment, and social and economic costs. The largest portion of that bill is yet to be paid. Since 2001, the U.S. has expanded the quality, quantity, availability, and eligibility of benefits for military personnel and veterans. This has led to unprecedented growth in the Department of Veterans Affairs and the Department of Defense budgets. These benefits will increase further over the next 40 years. Additional funds are committed to replacing large quantities of basic equipment used in the wars and to support ongoing diplomatic presence and military assistance in Afghanistan and Iraq. The large sums borrowed to finance war-related operations will also impose substantial long-term debt servicing costs. As a consequence of these wartime spending choices, the United States will face constraints in funding investments in personnel and diplomacy, research and development, and new military initiatives. The legacy of decisions taken during the Afghan and Iraqi wars will dominate federal budgets for decades to come.

One of the most significant challenges to future United States national security policy will not originate from any external threat. Rather it is simply coping with the legacy of the conflicts already fought in Afghanistan and Iraq. This legacy is debt—promises and commitments that extend far into the future. The war years have left the United States burdened with heavy costs, even with the ground combat phase drawing to a close.[1] These costs include the immediate requirements to provide medical care for the wounded, as well as the accrued liabilities for providing lifetime medical costs and disability compensation for those who have survived injuries. Long-term costs also include structural increases to the military personnel and health care systems, depreciation on military equipment and weaponry, restoring the military, Reserves, and National Guards to prewar levels of readiness, and maintaining a long-term military and diplomatic presence in the region. There are also far-reaching social costs, including the costs of impaired quality of life, families damaged and careers terminated, as well as economic and financial costs that have been estimated (with Joseph E. Stiglitz) in previous writings.[2]

The United States has already spent close to US$2 trillion in direct outlays for expenses related to Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn. This includes direct combat operations, reconstruction efforts, and other direct war spending by the Department of Defense, State Department, Department of Veterans Affairs, and Social Security Administration.[3]

However, this represents only a fraction of the total war costs. The single largest accrued liability of the wars in Afghanistan and Iraq is the cost of providing medical care and disability benefits to war veterans. Historically, the bill for these costs has come due many decades later. For instance, the peak year for paying disability compensation to veterans of the first world war was in 1969—more than 50 years after Armistice. The largest expenditures for veterans of the second world war were in the late 1980s.[4] Payments to Vietnam and first Gulf war veterans are still climbing. The magnitude of future expenditures will be even higher for the current conflicts, which have been characterized by much higher survival rates, more generous benefits, and new, expensive medical treatments. The United States has also expanded veteran's programs, made it easier to qualify for some categories of compensation, and invested in additional staff, technology, mental health care, medical research, and other services designed to improve the situation of newly returning veterans.

The percentage of service members who have required medical care from the Pentagon and VA systems, and who have claimed benefits from the VA and the Social Security

Disability Insurance program (SSDI) has risen to unprecedented levels. More than half of the 1.56 million troops who have been discharged to date have received medical treatment at VA facilities and been granted benefits for the rest of their lives.[5] The costs of providing for these veterans, however, are only a portion of the total accruing personnel and health care costs for the military. Military members and their families are eligible for health coverage through the TRICARE system, which has been growing at an even faster rate than the VA health care system. These accrued wartime liabilities, which have already been incurred but not yet paid, should be considered as an integral part of the overall war costs.

There are substantial social-economic costs that accompany these statistics. If fatalities are accounted for in the same way that U.S. civilian agencies value a life, the value of lives lost adds US$44.6 billion to the cost of the wars. This is the difference between the so-called Value of a Statistical Life (VSL) per life lost, compared with the actual budgetary cost to the Pentagon of paying life insurance and a "death gratuity" to survivors.[6] Other social-economic costs arise from the large number of service members whose lives have been disrupted by physical injuries or mental health disabilities. There are costs to the service members and to their families; in many cases, family members have needed to become full-time caregivers or to significantly alter their employment. These costs are not paid by the government, but are borne by the individuals, families, and communities.[7]

The Pentagon also faces the task of replacing worn-out equipment, which will cost more than the amounts appropriated for this purpose. Equipment, materiel, vehicles, and other fixed assets have depreciated at an estimated six times the peace-time rate, due to heavy utilization, poor repair and upkeep in the field, and the harsh conditions in the region. Even the logistics and cost of transporting equipment out of Afghanistan is predicted to cost billions.[8] The U.S. has also made long-term commitments to the security of Afghanistan including a Strategic Partnership Agreement signed by President Obama and Afghan President Hamid Karzai in 2012 to provide U.S. support through 2024.[9]

Finally, the decision to finance the war operations entirely through borrowing has already added some US$2 trillion to the national debt, contributing about 20 percent of the total national debt added between 2001 and 2012.[10] This level of debt is thus one of the reasons the country faces calls for austerity and budget cuts, which has already had an impact on the military budget through the across-the-board cuts (the "sequester") that were allowed to take effect in 2013. The U.S. has already paid US$260 billion in interest on the war debt. This does not include the interest payable in the future, which will reach into the trillions.[11]

One of the most significant challenges to future United States national security policy will not originate from any external threat. Rather it is simply coping with the legacy of the conflicts already fought in Afghanistan and Iraq. This legacy is debt.

This article will focus on the costs of commitments we have made in four important areas during the Afghan and Iraqi wars: (1) veterans health care and disability compensation; (2) Pentagon personnel and health care policies and benefits; (3) other Department of Defense costs and commitments; and (4) the financing of the wars.

The data presented here update previous estimates for the care of Afghanistan and Iraq veterans based on actual reported data through calendar year-end 2012. It also estimates additional costs that were not considered in previous estimates, including costs incurred by the Department of Veterans Affairs that are related to the wars, costs for active-duty service members, Reservists, Guards, and their families who have been using the Department of Defense health care system (TRICARE), including those who are wounded and being treated in military facilities, and costs to the Department of Defense for personnel, retirement, health care, and military replenishment costs related to decisions made during the past decade.[12]

Veterans health care and disability

Approximately 2.5 million service men and women have served in Operation Iraqi Freedom (OIF), Operation New Dawn (OND), and/or Operation Enduring Freedom (OEF) in Afghanistan to date. There were 6,658 U.S. military fatalities as of 8 March 2013, not including contractors, coalition partners, Afghan and Iraqi partners, and civilians.[13] By September 2012, some 1.56 million U.S. troops had returned home and left active duty, thereby becoming eligible for veterans medical care and benefits.[14]

Veterans from these wars are utilizing VA medical services and applying for disability benefits at much higher rates than in previous wars. There are two cost streams associated with service-connected veterans: (1) the medical costs of caring for them over their life spans, and (2) the cash compensation and other benefits, such as housing loans and home and physical rehabilitation, that are awarded to eligible veterans and their survivors. In 2008, Stiglitz and Bilmes predicted that costs of both medical care and disability benefits for recent war veterans would grow enormously. We predicted that by 2012, some 41 to 46 percent of new veterans would be enrolled in the VA health care system, and that 39 to 43 percent would have

applied for disability benefits. But the original Stiglitz and Bilmes estimates were far too low.[15] The actual number of Afghanistan and Iraq veterans receiving government medical care has grown to more than 56 percent of the total. One out of every two veterans from Afghanistan and Iraq has already applied for permanent disability benefits.[16]

The costs are high due to the level of physical and mental suffering that has afflicted the troops from these wars. The official number of some 50,000 troops "wounded in action" obscures the scale of the health care situation. One-third of returning veterans are being diagnosed with mental health issues, suffering from anxiety, depression, and/or post-traumatic stress disorder (PTSD). More than 253,000 troops have suffered a traumatic brain injury (TBI) and, in many cases, concurrent with a PTSD diagnosis and complicating treatment and recovery.[17] The suicide rate in the Army has more than doubled, with many who attempted suicide suffering serious injuries. The mental health epidemic will increase both immediate and long-term costs. In addition to the spending for mental health clinics, hiring psychiatric personnel, and paying higher disability benefits, research from previous wars has shown that these veterans are at higher risk for lifelong medical problems, such as seizures, decline in neurocognitive functioning, dementia, and chronic diseases.[18]

The VA has processed millions of unique application claims but is still facing a substantial backlog. As a result of increases in workload, benefits, and attempts to meet demand, the VA's annual budget has risen, in real terms, from US$61.4 billion in FY2001 to US$140.3 billion in FY2013,[19] growing from 2.5 to 3.5 percent of the total U.S. federal government budget. This reflects huge investments in personnel, clinics, programs, benefits, mental health, IT, women's health care, claims processing, expanded disability pay, and the decision to provide five years of free health care coverage to all newly returned veterans.

Table 1: Estimated cumulative spending on Iraq and Afghanistan veterans spending, FY2001-FY2013 (US$ billions)

	VA medical	SS disability	VA disability	VA other	Totals
2001	—	—	—	0.0	0.0
2002	0.1	—	0.1	0.0	0.2
2003	0.2	—	0.3	0.0	0.5
2004	0.2	—	0.5	0.0	0.7
2005	0.4	0.1	1.2	0.0	1.7
2006	0.8	0.25	1.6	0.0	2.7
2007	1.1	0.38	2.4	4.7	8.6
2008	2.0	0.45	2.9	5.3	10.6
2009	2.9	0.5	3.5	8.9	15.7
2010	3.8	0.6	5.3	11.7	21.4
2011	3.6	0.7	5.3	12.8	22.4
2012	4.1	0.7	5.7	13.6	24.1
2013	4.4	0.7	6.2	14.5	25.8
Total	23.6	4.4	34.9	71.5	134.3

Source: Congressional Budget Office Historical Tables, U.S. Department of Veterans Affairs, Analysis by Linda Bilmes. Figures are inflation adjusted (2011 dollars).

Veterans medical costs

The U.S. has spent US$23.6 billion during the period FY2001 through FY2013 in providing medical care to OEF/OIF/OND veterans (see Table 1). High medical use is the result of several factors including high survival rates for seriously wounded troops, higher incidence of PTSD and other mental health ailments, more veterans willing to seek treatment for mental health and related problems, and more generous medical benefits, more presumptive conditions, and higher benefits in some categories.

The Veterans Health Administration (VHA) has treated 866,181 (56 percent) of OEF/OIF/OND veterans for a wide range of medical conditions. The most common diagnoses include: Diseases of the musculoskeletal system (principally joint and back disorders), mental health disorders, central nervous system and endocrine system disorders, as well as respiratory, digestive, skin, and hearing disorders.[20] Of this group, 29 percent have been diagnosed with PTSD. Most veterans have been treated for a variety of different conditions. There is virtually no difference between the former active duty service members and Reservists/Guards, with 56 percent of active duty and 55 percent of Reservist/Guards having obtained VA health care.

The costs of VA medical care include the direct costs of providing care to these individuals, through the extensive network of VA clinics, hospitals, and contract medical support as well as the costs of medical programs that the VA has initiated in recent years in response to specific health concerns from the recent conflicts. These include initiatives for studying, treating, and monitoring PTSD among Afghanistan and Iraq veterans, and spending related to prosthetics for amputees, women veterans' health, and traumatic brain injury (TBI).

The present value of the expected total medical care for OEF/OIF/OND veterans already committed to be delivered over the next forty years is projected to be US$288 billion.[21]

Veterans disability costs

The U.S. also has spent billions on disability benefits for OEF/OIF/OND veterans. Including the projected costs for FY 2013, the total amount to date will be nearly US$35 billion (Table 1). The high claims activity is related to better outreach and capacity at the VA, greater availability of information on the internet and through veterans service organizations (VSOs), more conditions that are presumptive in favor of the veteran, and other factors.

As of September 2012, some 783,623 of OEF/OIF/OND veterans (50 percent) have filed disability claims with the VA, of whom 671,299 have been awarded service-connection so far, and 15,521 have been denied. (The rest are pending in the VA system).[22] These applications are complex, with an average claim requesting compensation for eight or more disabling conditions. The complexity of the claims is one of the factors that have led the VA to invest in more personnel and technology to attempt to process the claims more efficiently.

In addition, an estimated US$4.4 billion has been paid out to severely disabled veterans through Social Security Disability Insurance (SSDI). More than 30,000 OEF/OIF/OND veterans have been awarded 100 percent service-connection, which makes them automatically eligible to receive supplemental disability compensation from SSDI.[23] This includes, for example, 6,476 cases of severe penetrating brain injury, and 1,715 individuals with limb amputations.[24] There are more than 145,000 veterans who are 70 to 90 percent service-connected, many of whom also qualify for SSDI. This would include, for example, some of the 42,063 cases of "moderate" traumatic brain injury.

The present value of the expected total veterans's disability benefits already accrued for OEF/OIF/OND veterans and payable over the next forty years is projected to be US$424.5 billion.[25]

Related costs to the Department of Veterans Affairs (VA)

Certain portions of the cumulative growth of the VA budget (from US$61 billion in 2001 to US$140 billion 2013, in constant dollars) are the result of specific decisions, initiatives, programs, benefits, and investments directly related to serving Afghanistan and Iraq veterans. These include expenditures directly related to recent veterans, including readjustment counseling, fast-track processing for OEF/OIF/OND disability claims, hiring of thousands of new mental health professionals to staff clinics for veterans suffering from PTSD, and other items serving the needs of recent veterans.[26] This also includes expenditures which have been undertaken largely due to the current conflict but which will benefit all veterans. The most costly of these are investments in benefits claims processing, including automating the disability claims process (which is currently paper-based), and hiring additional personnel to process disability claims. Congress has appropriated this money due to the VA's inability to cope with the huge influx of disability claims from both recent and earlier veterans.[27] The backlog has been the subject of numerous congressional hearings, Government Accountability Office (GAO) investigations, lawsuits, and media attention. The VA spent US$1.8 billion in 2010, US$2.1 billion in 2011, US$2.0 billion in 2012, and US$2.2 billion in 2013 "to support improved benefits processing though increased staff, improved business processes and information technology enhancements." This spending is in addition to over US$3.3 billion per year for each of the past four years "for a reliable and accessible IT infrastructure, a high-performing workforce, and modernized information systems."[28]

In total, VA has spent a cumulative sum of US$71.5 billion on these war-related initiatives since 2001. Some of the spending will add to the structural base of the VA, particularly the costs related to additional personnel.

Table 2: Total projected veterans medical and disability costs (US$ billions) already spent or accrued (but excluding education benefits)

	Spent to date		*Present value, 2014-2053*	
VA medical	23.6		287.6	
SS disability	4.4		42.3	
VA disability	39.4		419.7	
VA related	71.5		86.6	
Totals	134.3	+	836.1	= 970.4

Source: Table 1 and author's calculations.

Table 3: Annual growth rate of federal health care programs, 2001-2011

	2001	*2011*	*CAGR**
	(US$ billions)		*(in %)*
Medicaid	130	276	7.8
Medicare (net)	217	485	8.4
Veterans medical	21	50	9.1
DoD medical	18	54	11.4

* CAGR=Compound annual growth rate. *Source*: Congressional Budget Office, Analysis by Linda Bilmes.

Total projected Veterans medical, disability, and related costs

The total costs stemming from Afghanistan and Iraq which may therefore be attributed to veterans to date (i.e., year-end 2012) is US$134.3 billion (Tables 1 and 2). The present value

of accrued costs, that is, future medical care and disability benefits already committed but not yet disbursed for OEF/OIF/OND veterans, is estimated at US$836.1 billion (Table 2).[29] This does not include costs associated with the GI Bill, which was enacted in 2008 to provide Afghanistan and Iraq veterans with education benefits on par with those provided to veterans of the second world war. The investment in education for veterans is likely to produce net economic benefits to the nation. It should be noted, however, that the bill will entail budgetary costs, both in direct payments and in administration.

Pentagon medical and personnel costs

The costs associated with veterans are only a portion of the total accruing medical and personnel costs associated with the Afghan and Iraqi wars. Since 2001, the Pentagon base budget (excluding money appropriated for war spending) has increased cumulatively by more than US$1.3 trillion in constant dollars above the levels that were planned prior to 9/11. Much of this increase can be attributed to spending that was related directly or indirectly to Afghanistan, Iraq, and the global war on terror, and much of that is linked to expenditure patterns and decisions regarding personnel levels, pay, and medical care.

Personnel and health care

The cost of military pay and allowances, along with those for military health care, make up about one-third of the Department's budget and have been rising rapidly in recent years while the total end-strength of active duty service members has barely grown.

Military members and their families are eligible for health coverage through the TRICARE system. TRICARE includes the troops who are injured while serving in the war theater (before they are discharged into the veterans system) and their families. TRICARE spending is likely to reach US$56 billion in 2013, up from US$18 billion in 2001, accounting for nearly 8 percent of the total U.S. defense budget. TRICARE is now the fastest growing federal health program—growing at a faster rate than Medicare, Medicaid, or VA health care.

There are several reasons why much of this growth can be attributed to the wars in Afghanistan and Iraq. These include (1) increasing participation in TRICARE, (2) increasing utilization of medical services and treatments by TRICARE members, (3) expanding TRICARE to Reservists and Guards, (4) rising profitability of TRICARE companies, and (5) expanding TRICARE programs for retirees.

As to the first of these—increasing participation in TRICARE—the Pentagon has kept the costs associated with

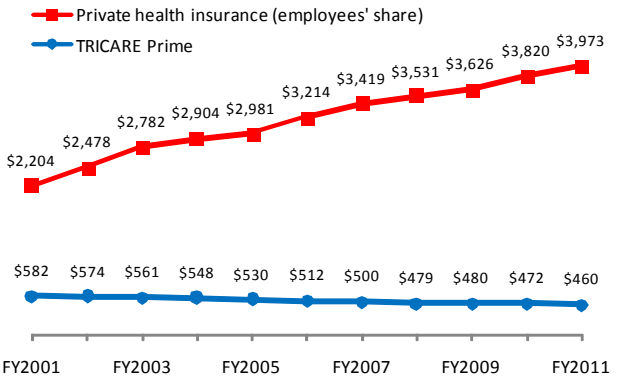

Figure 1: Annual family premiums (in FY2011$). TRICARE Prime premiums vs. private health insurance premiums, FY2001-FY2011. *Source*: Employees' share of insurance premium for typical employer-sponsored family health plan: Medical Expenditure Panel Surveys, 2000-2010; forecasted by the Institute for Defense Analysis in FY2011 based on trends in premiums from Kaiser Family Foundation surveys, as of 10 January 2012.

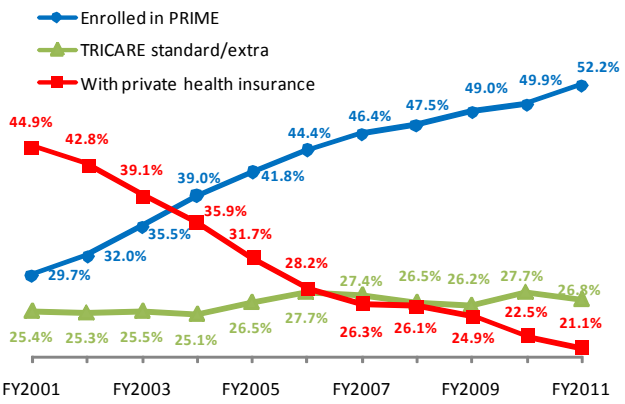

Figure 2: Increased TRICARE and decreased private health insurance coverage, percentage of retiree population (<65 years of age) with health insurance coverage, FY2001-FY2011. *Sources*: DEERS and Health Care Beneficiary Surveys of DoD Beneficiaries, 2001-2011, as of 10 January 2012. *Note*: The Prime enrollment rates include those who also have private health insurance (about 4 percent of retirees).

TRICARE (co-pays, enrollment fees, deductibles, etc.) artificially low between 2000 and 2012 due to reluctance to raise fees during wartime. Individuals and families can purchase health insurance in TRICARE for a small fraction of the private sector rate. The out-of-pocket amount paid by TRICARE Prime recipients for a family of four actually decreased, in real terms, from US$582 in 2001 to US$460 in 2011 (the bottom line in Figure 1). In contrast, during the past decade the market price of health insurance increased steeply (the top line). In fact, the differential between paying for private health coverage compared with TRICARE tripled.

Consequently, the portion of the total health care costs per individual that TRICARE was subsidizing increased. Unsurprisingly, the participation rate among eligible active duty military and family members rose from 30 to 52 percent, while the percentage that carried private health insurance fell from 45 to 21 percent (Figure 2).[30] Although there has been a small increase in fees during FY2013, there was substantial congressional opposition to this increase and it is unlikely that fees will go up again anytime in the near future.[31]

Second, regarding increasing utilization of medical services and treatments by TRICARE members, the number of enrollees and the volume of medical visits, procedures, and claims all increased during the period. Overall, TRICARE added 400,000 new beneficiaries between 2004 and 2011, and the number of annual claims processed grew steadily from 112 million in 2004 to 195 million claims in 2011 (Figure 3).[32] Many of these claims were directly war-related, with much higher utilization by the active duty services and families. For example, since 2004, behavioral health counseling for troops and their families rose by 65 percent and counseling for children of troops rose by 45 percent. Medical visits from active duty troops due to joints and musculoskeletal problems grew from 2.8 million in 2005 to 3.9 million by 2009.[33]

The estimated costs for those who are still serving are large and growing. This includes service members who are wounded on the battlefield and treated within the military medical system, for example, in battlefield medical centers or military hospitals such as the Walter Reed National Military Medical Center (WRNMMC) in Bethesda, Maryland. In 2012 alone, dozens of NATO troops were killed or wounded by members of the Afghan forces (or attackers wearing their uniforms) in so-called green-on-blue attacks. The worst casualties of the entire period occurred during the Afghanistan troop surge. Walter Reed is treating hundreds of recent amputees and severe casualties: The hospital received 100 amputees for treatment during 2010, 170 amputees in 2011, and 107 amputees in 2012.[34] The Marines have suffered an especially high toll.[35]

Third, TRICARE was expanded to the Guards and Reserves who had served in the wars, establishing a new program called TRICARE Reserve Select (TRS). This was a direct response to the fact that a large percentage of those who have served in OEF/OIF/OND have been drawn from Reservists and Guards. Of those who have already been discharged, 43 percent (674,688) are Reservists/Guards and 882,338 (57 percent) are active duty.[36] The TRS program was originally designed for Reservists and Guards who lacked a civilian option, but it has become a default plan for many. The participation rate (and the cost) is likely to increase further when the mandates in the Affordable Care Act take effect.

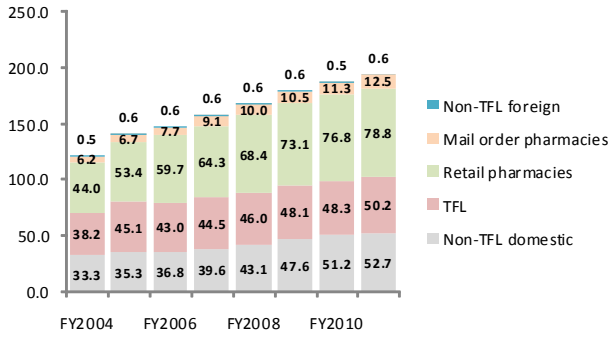

Figure 3: Number of TRICARE claims processed (in millions), FY2004-FY2011. *Note*: TFL=TRICARE for Life program. Foreign claims are excluded. *Source*: MHS administrative data (as of 20 November 2011).

RAND Corporation recently projected that this program will grow significantly in 2013 and 2014, as TRS will become by far the cheapest option for those able to take advantage of it. Currently, some 30 percent of Reservists and Guards are not insured. TRS premiums will be less expensive for these individuals than purchasing health insurance in the private market, through state subsidized health exchanges, or paying a penalty for not having insurance.[37]

Fourth, the private sector health insurance companies that comprise TRICARE have proven to be major beneficiaries of the largesse in military expenditure over the past decade, experiencing large increases in enrollments, revenues, and profits. Taken together, the three companies that have administered TRICARE (Humana, Health Net, and TriWest Health Care)[38] would rank as the 6th largest contractor for the Department of Defense—bigger than KBR, and just below the biggest contracting names such as Lockheed, Northrup Grumman, and Boeing. These firms account for some of the highest profits earned by any company in the war. For example, Humana's TRICARE Premium fee revenues increased from US$2.8 billion to US$4.2 billion between 2001 and 2010, as the company shifted a larger percent of its operations into the government sector.[39]

This situation is hardly surprising, considering that Congress was appropriating gigantic sums to the Department of Defense for the war, through so-called emergency funds, which have little oversight. The TRICARE providers had no incentive to contain costs. The DoD was mostly concerned with the availability and quality of medical care for its troops and reimbursed whatever was requested. The TRICARE beneficiaries, with heavily subsidized co-pays, also have no incentive to economize. An analysis conducted by TRICARE shows that recipients have 30 to 40 percent higher medical utilization rates than civilians and use 30 percent more

prescriptions per year than civilian HMO users (Figure 4).[40]

Finally, fifth, the Pentagon expanded benefits for military retirees, in part because the wartime appropriations climate helped the department persuade Congress to agree to a number of longstanding requests. These included adding "concurrent receipt," an expensive benefit that permitted working-age military retirees who also qualify for VA disability benefits to accept both.

TRICARE also expanded the TRICARE for Life (TFL) program, enacted in 2001, to augment Medicare for military retirees over age 65 and their families. Military service members are eligible to retire after 20 years, and TFL is a popular benefit that has grown rapidly. Unlike Medicare, TRICARE can negotiate for higher rates to pay its providers (regardless of Medicare rates), so there is less likelihood that providers will choose not to accept TFL patients. Like other TRICARE fees, the enrollment fees for TFL are low and it provides additional security for retired military service members and their families.

These decisions will increase the base Pentagon budget permanently and it will continue to grow quickly as the demographics of the population shift more people into these categories. While neither of these decisions was a direct cost of the war, both should rightly be considered as indirect costs. The scale of war appropriations, combined with the desire to improve benefits for the all-volunteer force, created an environment in which it was possible for DoD to enact concurrent-receipt, which it had been advocating for decades. The launch of TFL and its heavily subsidized prices was also made easier by the wartime environment.

In sum, while the Pentagon budget is projected to decrease over the next decade—and assuming the continuation of the sequestration path that went into effect in 2013, the total DoD budget decreases even further—the growth of TRICARE will significantly eat into the base budget. TRICARE presently consumes 8 percent of the defense budget; if it continues to grow at the current rate, it will consume 18 percent of the total DoD budget by 2017, and the core DoD budget not related to medical costs will shrink from 16 percent of total U.S. budget outlays to 10 percent (Figure 5).

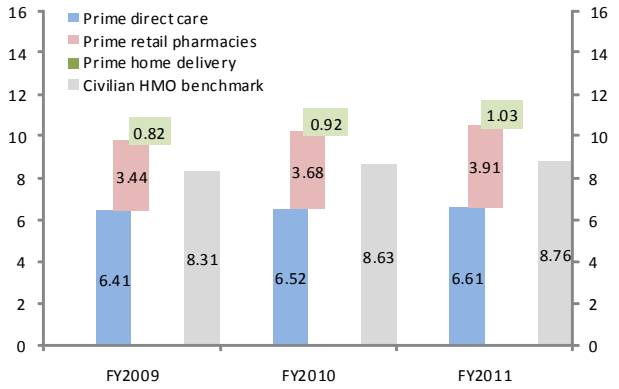

Figure 4: Prescription utilization rates (in percent) by source of care: TRICARE Prime vs. civilian HMO benchmark. *Sources*: MHS administrative data, 30 January 2012, and Thomson/Reuters, Inc., MarketScan Commercial Claims and Encounters Database, 12 December 2011. *Note*: The civilian data for each year were adjusted to reflect the age/sex distribution of the MHS beneficiary population. FY2011 civilian data are based on two quarters of data, which were seasonally adjusted and annualized. (1) Source of care (direct or purchased) is based solely on where care is received, not where beneficiaries are enrolled.

Personnel costs

The second main area of increased military base cost is in pay and benefits. When the Army and the Marines faced recruiting difficulties in 2004, the Pentagon made a number of changes to boost recruiting to the all-volunteer force. These included relaxing some standards for education and fitness among recruits, increasing the number of recruiters, and increasing pay. Congress authorized pay raises above Pentagon request levels.

A key decision was to adopt higher pay scale indexing. Previously, pay increases were linked to the employment cost index (ECI). The new method was to link pay scales to the ECI plus 0.5 percent. This pay enhancement tool was made possible by the overall surge in war spending, but it was not funded through wartime appropriations and it has added another layer of cost to the DoD base. In the FY2012 and FY2013 budget requests, DoD has asked Congress to roll back these benefits, but they are politically untouchable.

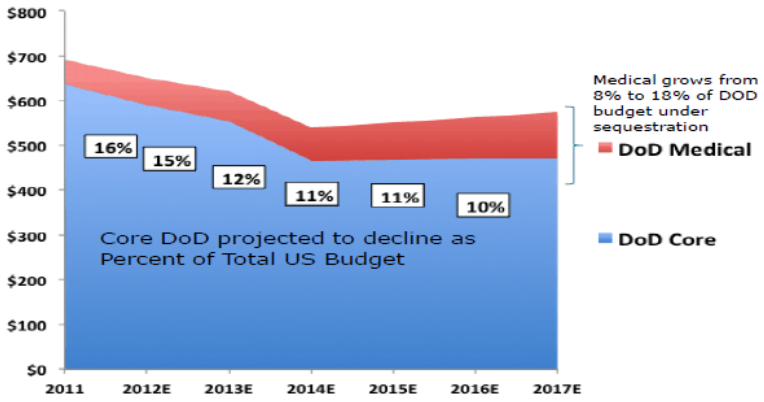

Figure 5: Potential growth of DoD medical costs vs. base (US$ billions).

Another important cost was activating Reservists and Guards and paying them on a full-time basis.[41] This was an extra, incremental expense. In total, more than 670,000 Reservists and Guards have been deployed in the Afghan and Iraqi wars. In addition, these troops were on average five years older and with families, so they were in most cases entitled to receive higher levels of special adjustment pay, combat pay, and parental and other benefits.

One significant personnel cost that is likely to grow in the future as a consequence of the wars is the military retirement pension system. The United States now pays over US$100 billion annually in generous military retirement benefits for those who have served for at least 20 years. There is no pension at all for those who have served for fewer than 20 years. In the Afghan and Iraq conflicts, more than 85 percent of the troops, including nearly all the front-line infantry troops, have not served for that long.[42] Therefore they are not eligible to receive any kind of pension or stipend for their service. The current all-or-nothing system was designed after the second world war and is ill-suited to today's veterans in the all-volunteer force. Many respected military analysts, including Lawrence Korb of the Center for American Progress, have pointed out that it makes little sense to design a system that fails to compensate more than 80 percent of those who fight.

One short-term result of this inequity is that it has placed additional pressure on the veterans' disability benefit system which, in effect, provides a small supplementary income for many returning troops. Many Afghanistan and Iraq veterans have given up several years of their lives, spent time away from their families, sustained minor to moderate injuries, and suffered from quality of life impairment in a number of ways. However, unlike the British and Australian approach, neither the military pension system nor the veterans system in the U.S. compensates for lower quality of life.[43] It is therefore plausible to believe that the veterans' disability benefit has become in some cases a proxy for such compensation, and that some veterans apply for multiple disability benefits to secure some level of permanent income supplement.

The majority of these costly measures—including supplementary pay increases, expansion of TRICARE subsidies, upgrades to the VA system, and increases in eligibility for veterans benefits—were adopted, at least in part, because the U.S. was facing the first big test of the all-volunteer force (AVF). The AVF depends on a pipeline of recruits, and research has shown that the recruiting pool to the AVF is sensitive to economic inducements, including veterans' benefits.[44] But from a budgetary standpoint, these have been hidden costs of the war, in which cumulatively hundreds of billions of dollars have been spent on expanding military health care, pay, recruitment, and service and retirement benefits, without any discussion about how to pay for them. Most of these costs were not covered by war appropriations. And when the topic of pensions is examined in the coming years, it is likely that any reforms that benefit the current generation of veterans will require additional long-term expenditures for the defense department.

Other defense department costs

Military reset

Throughout the war effort, the Pentagon's base budget has been padded with war expenditures. At the same time, the war budget has funded many items that should have been paid for through the regular budget. It is difficult to disentangle these two streams, particularly due to the use of emergency supplemental funding throughout most of the conflict. This funding mechanism is supposed to be reserved for genuine emergencies, such as hurricanes and earthquakes, where the priority is to get the money spent quickly. The requirements for vetting emergency budget requests are much less stringent than for normal budgets, and the spending is outside the regular spending caps imposed by the budget. In the period from FY2001 to FY2010, Congress enacted more than 30 such emergency bills to fund the war, a strategy that has been widely criticized by the Government Accountability Office (GAO), the Congressional Research Service (CRS), the Congressional Budget Office (CBO), and others. Accordingly, the requests received minimal scrutiny and the DoD was able to push through hundreds of billions of dollars in spending items that were not directly related to the war effort as part of the emergency supplemental process.

The CRS and CBO have found it difficult to untangle this record. Certainly, some funds have been appropriated for specific war replacements, such as US$3.1 billion to upgrade 23,000 MRAP vehicles. But CBO found that more than 40 percent of the Army's spending for "reset" (the repair and replacement of war-worn equipment) was not spent on replacing lost equipment or repairing equipment sent home. Instead, these funds went "to upgrade systems, to increase capability, to buy equipment to eliminate longstanding shortfalls in inventory, to convert new units to modular configuration, and to replace equipment stored overseas for contingencies." It is unclear, the CBO stated, how much of this reflected stress on equipment from war operations as opposed to the Department's longstanding wishes to upgrade in these areas.

CRS has reported that much of this equipment was originally slated for repair at a later date, so is being repaired sooner than anticipated.[45] In theory, this would suggest that the

U.S. taxpayer could expect to see a reduction in the regular defense budget to offset the repairs inappropriately allocated to the wars. But the accounting systems at the Pentagon are so inadequate that it is not feasible to pin this down with any degree of accuracy. It seems more likely that the strain of the war has led to a vast understatement of the depreciation of equipment and weaponry. In part, this is due to the wartime decision to use sometimes dubious local contractors to repair and maintain much of the equipment during the war period, many of whom had little training in the maintenance of such equipment.

There will be a large price tag for simply deciding what to leave, destroy, or bring home. Other large price tags will include (1) transporting equipment, troops, and weapons home from Afghanistan, (2) replacing, modernizing, and replenishing equipment, and (3) replacing, modernizing, and replenishing National Guard equipment which has been heavily used during the past decade.

In this analysis, some US$750 billion of this increase has been attributed to the total indirect costs of the Afghan and Iraqi operations, which includes (1) health care costs, (2) personnel, (3) recruitment, (4) overheads related to the procurement, monitoring, legal, evaluation, and other costs related to these programs, (5) and depreciation of ordinary equipment that has been damaged, or consumed, during the wars more rapidly than its peacetime life rate, or that is too expensive to bring back home. This depreciation has not been adequately accounted for in the war appropriations and should in most part be attributed to the original budget through which most of these items were purchased. There are maintenance, repairs, and upgrades charges beyond those included in war appropriations, particularly for helicopters, fixed wing aircraft, light vehicles, and trucks, which have been consumed at several times the peacetime rate. This amount is consistent with other estimates, some of which have been prepared using a different approach.[46]

Ongoing commitments

As of March 2013, there were still more than 60,000 U.S. troops stationed in Afghanistan who will incur operational costs until their withdrawal (scheduled by 2014) and will likely incur many of the medical and disability costs described earlier.

There are also substantial future costs stemming from the commitments the U.S. has made in the region. The U.S. is maintaining a vast diplomatic presence in Iraq and at least 10,000 private contractors providing support in security, IT, logistics, engineering, and other occupations, as well as logistics support and payments for leased facilities in Kuwait.

The U.S. has made extensive commitments to Afghanistan beyond combat. In 2012, President Obama signed an agreement with Afghan President Hamid Karzai, called the Enduring Strategic Partnership Agreement between Afghanistan and the United States, or SPA for short.[47] The SPA is a legally binding executive agreement that runs through 2024. It states that we "commit ourselves to the sovereignty, independence, territorial integrity and national unity of Afghanistan. The Agreement is not only a signal of the United States' long-term commitment to Afghanistan, but it enshrines our commitments to one another and a common vision for our relationship and Afghanistan's future. U.S. commitments to support Afghanistan's social and economic development, security, institutions and regional cooperation are matched by Afghan commitments to strengthen accountability, transparency, oversight, and to protect the human rights of all Afghans—men and women."[48]

Given that Afghanistan is one of the poorest countries in the world, it is widely expected that the U.S. will continue to pay for the upkeep of the army and police force in that country for the foreseeable future. There are many unknowns, for example, whether the nearly 2 million Iraqi refugees who resettled in Syria during the Iraq conflict, and who are now caught up in the Syrian conflict, will require long-term humanitarian or other assistance that will impose additional costs on the United States. Meanwhile, Iraq is still violent and is aligning more closely with Iran. None of these costs, of course, takes into account the human costs of the wars for all the nations involved, which may be impossible to quantify.

Impact of borrowing for the wars

The U.S. has already borrowed some US$2 trillion to finance the Afghan and Iraqi wars and the associated defense build-up, a major component of the US$9 trillion U.S. debt accrued since 2001.

Studies of the budgetary impact of wars funded largely by borrowing naturally focus on the interest costs: Anyone who buys a house or car on credit knows that the interest payments may easily be far larger than the purchase price. But critics say that to include the interest costs is double-counting, and that one should simply determine the (expected) present discounted value of the payments. In previous writings, Stiglitz and Bilmes have argued that if it were costless to raise money, then imposing future costs on the budget through borrowing (necessitating raising more tax revenues in the future) would be of no concern. The timing of financing would be irrelevant. But in reality the costs can be substantial, so that there is a distortionary cost associated with these future budgetary payments. The magnitude of these costs depends on the

magnitude of the distortions associated with a country's tax system.[49] Additionally, the majority of funding for these wars has been from foreign, not domestic lenders.

Therefore it is legitimate to consider the impact of borrowing for these wars. The immediate budgetary cost has been US$260 billion in interest paid for borrowings to date. There are two future costs: Interest accrued but not yet paid on current borrowings, and interest on future borrowings (much of which will be used to service current debt). The potential interest cost of the U.S. war debt reaches into the trillions. But of greater consequence is the fact that we deliberately chose to finance the wars in this fashion, passing on the costs to future generations. As Robert Hormats, the former Vice Chairman of Goldman Sachs, has pointed out, it is unprecedented in U.S. history that we pay for a war entirely from debt, and actually cut taxes repeatedly during wartime (as done in 2001 and 2003).[50] The only previous episode that is at all comparable occurred during the Revolutionary War, when the U.S. colonies borrowed from France.

It is important to note that this borrowing has not been used to invest in the country's capital stock. For example, investing in education, infrastructure, and knowledge benefits the nation, so this is debt for a helpful purpose. By contrast, the war debt has been especially unhelpful. Large amounts have been spent on things that clearly did not benefit the United States—for example, US$87 billion in reconstruction funding for Afghanistan, and US$61 billion in Iraq, much of which has been squandered according to the Special Inspector General for Afghanistan Reconstruction (SIGAR) and Iraq Reconstruction (SIGIR), respectively. Moreover, the war spending diverted resources that might otherwise have been available to help stimulate the economy during 2008-2009, when the U.S. endured the worst economic collapse since the Great Depression.[51]

In addition to the future costs associated with veterans described in this article, we have therefore saddled the nation with the debt for the operational costs of the wars. Already, the national debate over the debt has influenced policy decisions. Despite widespread unhappiness with the sequester mechanism, Congress allowed these across-the-board cuts in the discretionary budget, including the defense and state departments. These cuts are likely to have wide-ranging effects, including cuts to defense-related R&D programs at universities and programs that facilitate a pipeline of recruits into the national security agencies, such as summer internships for students in embassies worldwide. Many in Washington support drastic cutbacks to entitlement programs and other measures in order to reduce the long-term debt obligations of the U.S. government.

Conclusions

By the most conservative reckoning, the Afghan and Iraqi conflicts will cost US$4 trillion, including operations through year-end 2012, accrued veterans medical and disability costs, indirect costs to the Department of Defense, social costs for veterans' families, and interest already paid. Any estimation of macroeconomic costs, such as the impact of higher oil prices on weakening aggregate demand, and the link between oil prices and decisions of the Federal Reserve Bank to loosen monetary and regulatory policy prior to the financial crisis, would easily raise the cost to US$5 or US$6 trillion, even if only a fraction of the "blame" is attributed to the wars.[52] Throughout the past decade, the United States has underestimated the length, difficulty, cost, and economic consequences of these wars, and it has failed to plan how to pay for them.

What did the country buy for US$4 (or more) trillion? The U.S. still faces a perilous international security situation and a fragile economy. Today, as the country considers how to improve its balance sheet, it could have been hoped that the ending of the wars would provide a peace dividend, such as the one during the Clinton administration that helped U.S. Americans to invest more in butter and less in guns. Instead, the legacy of decisions made during the Afghan and Iraqi conflicts will impose significant long-term costs on the federal government and, in particular, on the consolidated national security budget.[53] These decisions extend far beyond the initial choices made to invade Afghanistan, to invade Iraq, and to expand U.S. military involvement in both countries. They include the decisions to expand medical care and disability benefits for war veterans, to grow the Department of Defense medical system, to increase military pay, to mobilize the Guards and Reserves, to deploy and use up large quantities of basic equipment, to support an ongoing diplomatic presence and provide military assistance in the region, and to finance the wars with debt.

The U.S. military is reeling under the large and rapidly-growing cost of the TRICARE health care system, the supplementary military pay raises enacted during the war years, and the diversion of defense budget dollars to support the requirements of veterans, which will dominate future defense spending. These commitments have already cost on the order of US$700 to US$800 billion, and are set to continue, unless there is a significant reversal of current policies. The base VA budget has nearly tripled during the period, with much of this growth now "baked in" to the consolidated national security budget.

Assuming that this pattern continues, there will be a much smaller amount of an already-shrinking defense budget

available for core military functions. There will also be less available for urgent but overlooked needs, including investing more in the human capital of diplomacy, improving accounting and budgeting systems at DoD, green initiatives (when the Pentagon has pioneered efforts to become more energy efficient), and training and education for civilians.

The United States will face difficult trade-offs in funding these long-term obligations as well as military operations, new initiatives, research, development, and diplomacy. The national security agencies, the budgets of which already are scheduled to decrease, will come under more pressure. One likely result is that the budgetary constraints will tilt the U.S. in a direction of fewer military personnel in the forces, due to the immediate and long-term cost of maintaining active-duty end-strength. Instead of end-strength, budget considerations will favor greater investment in unmanned weaponry, robotics, and other technological solutions, which may or may not be a wise choice over the longer-term.

In short, there will be no peace dividend, and the legacy of the Afghan and Iraqi wars will be costs that persist for decades.

Notes

1. A version of this article was first presented at the ASSA meetings in January 2013. A revised version was published in the Harvard Kennedy School Faculty Research Working Paper Series (RWP13-006) in March 2013.

2. Joseph E. Stiglitz and Linda J. Bilmes have written extensively on the long-term costs of war. See Stiglitz and Bilmes (2008) and Bilmes and Stiglitz (2011; 2012).

3. Belasco (2009) estimates US$1.4 trillion through 2012. (The US$2 trillion figure is updated for 2012-2013 expenditures, including additional VA, DoD, Social Security spending and interest paid on money borrowed for the wars.)

4. Edwards (2010a; 2010b). See also Institute of Medicine publications on long-term disability costs, including NRC (2010).

5. VBA (2012).

6. The most significant cost that is associated in economics with lives lost is the VSL. There is a large literature of estimating this value. Government agencies routinely use estimates of the VSL in making decisions, such as weighing the costs and benefits of car or drug safety regulations. The Environmental Protection Agency estimates the VSL at US$6.9 to US$8.7 million. We have used the figure of US$7.2 million, which is the mid-range of numbers used by government agencies. Stiglitz and Bilmes (2008) and Viscusi and Aldy (2003).

7. See Stiglitz and Bilmes (2008).

8. See interviews with then-Secretary Donald Rumsfeld (10 March 2005) in which he estimated that U.S. military equipment such as tanks, Bradley fighting vehicles, and helicopters were being worn out at up to six times the peacetime rate. Also, see interview with then-Deputy Secretary of Defense Ashton Carter (11 July 2012) describing challenges of dismantling 400 bases and transporting 45,000 military vehicles, including 14,000 Mine Resistant Ambush Protected (MRAP) trucks, back from Afghanistan in difficult terrain.

9. President Obama and President Hamid Karzai signed a Strategic Partnership Agreement in May, 2012 that commits the U.S. to assist Afghanistan with security through 2024. Most estimates place the financial obligation in the range of US$8 to US$10 billion annually. See endnote 48.

10. Between 30 September 2001 and 30 September 2012, the total U.S. debt grew from US$5.8 trillion to US$16.0 trillion (U.S. Treasury). According to Edwards (2011), post-9/11 war spending has increased indebtedness by US$1.3 trillion, raised the ratio of public debt to GDP by 9 to 10 percentage points, and probably raised long-term interest rates by 30 to 35 basis points.

11. Edwards (2011; updated March 2013). The total interest on the war debt could reach US$7 trillion, dwarfing all other costs, depending on interest rates, GDP, and the level of future borrowing.

12. This article does not update the macroeconomic analysis developed with Joseph E. Stiglitz previously. See Stiglitz and Bilmes (2008) and Bilmes and Stiglitz (2011; 2012).

13. Department of Defense casualty status data as of 8 March 2013. The organization "icasualties" estimates 8,074 total U.S., U.K., and coalition fatalities since 2001. According to U.S. Government Accountability Office (GAO) reports in 2010, at least 455 U.S. contractors have been killed and 15,000 injured. This is likely to be an underestimate. These may show up as additional costs to Medicare and the U.S. health care system, but are not included in this study.

14. Veterans' medical care is appropriated through the discretionary budget in the Veterans Health Administration (VHA). Once granted, disability benefits are a mandatory authorized entitlement and are administered by the Veterans Benefit Administration (VBA). Some benefits are payable to all veterans regardless of their disability status, including five years of free medical care in the veterans health care system upon their discharge from active duty. Veterans can qualify for a range of compensatory benefits and stipends on approval from the medical and administrative apparatus of the VA. Additionally, veterans may be eligible to receive assistance from other government agencies, such as supplementary disability compensation from the Social Security Administration if they can no longer work.

15. In previous analyses we based the estimates on two scenarios, a best-case scenario and a moderate-realistic scenario. The actual level of medical utilization and disability claims has far exceeded the higher of our estimates.

16. VBA (2012).

17. Fischer (2013).

18. See Hoge, *et al.* (2002). See also work from the Veterans Health Research Institute, Cohen, *et al*. (2009), Boscarino (2008), Boscarino, Forsberg, and Goldberg (2010). The latter study, a study of twin pairs, showed that the highest PTSD sufferers were 3.8 times more likely to have rheumatoid arthritis compared with the lowest sufferers. In addition, see Andersen, *et al*. (2010).

19. See Table 1 in Scott (2012) and "Department of Veterans Affairs FY2013 President's Budget," 13 February 2013.

20. "Analysis of VA Health Care Utilization among Operation Enduring Freedom (OEF), Operation Iraqi Freedom (OIF) and Operation New Dawn (OND) Veterans" (October 1, 2001 to September 30, 2012). Epidemiology Program. Veterans Health Administration. Department of Veterans Affairs (January 2013).

21. The costs described here include the cost of veterans based on administrative records obtained from the VA. It does not include Vet Center data, which would increase the numbers if we had it. The evidence from previous wars shows that the cost of caring for war veterans rises dramatically over time as veterans get older and their medical needs grow. This does not include the cost of veterans beyond age 67, who will also be covered through Medicare, TRICARE for Life, and other systems.

22. VBA (2012).

23. VBA (2012). Social Security provides disability compensation for individuals who cannot work due to disability. Veterans can receive both VA disability compensation and SSDI. Veterans who are service-connected at the 100 percent level automatically qualify for SSDI. Most veterans who are 90 percent service-connected, and many who are 70 to 80 percent would also qualify for this compensation.

24. Fischer (2013).

25. This does not include veterans' education benefits under the GI Bill.

26. These are discussed in detail in the FY2009 through FY2013 VA budgets, and summarized in the "VA Budget Fast Facts" issued with the budget each fiscal year.

27. It is reasonable to attribute this spending to the Afghan and Iraq wars, which have produced a huge upsurge in the number and complexity of disability claims. The VA has expanded eligibility, granted more presumptions to the veteran, increased outreach, liberalized the PTSD stressor definition, and consequently, it has received more than 1 million claims per year during each of the past three years, from all veterans, 2010, 2011, and 2012. If not for the outcry among veterans, and the congressional and public support for them, it is unlikely that the VA would have been able to secure appropriations for this amount of funding at a time of rising deficits and austerity in most of government. These estimates do not include VA capital investments, such as the construction that will serve all veterans, but are primarily targeted toward those returning from Afghanistan and Iraq.

28. See VA Budget Fast Facts, FY2009-FY2013.

29. This figure is not estimated in government accounting. The U.S. consolidated balance sheet lists US$1.3 trillion in liabilities for veterans' compensation and burial benefits (for all veterans) but does not include medical care or pensions in its listing of liabilities. The Congressional Budget Office (CBO) typically projects forward only ten years, with focus on the near-term. In October 2010, CBO estimated that the cumulative health care costs for Afghanistan and Iraq veterans for the years 2011-2020 will be US$40 billion to US$54 billion and will rise steeply as the veterans get older. These estimates are consistent with the projections in this article. However, CBO does not include the cost of disability benefits, Social Security disability, or other VA costs. The actuarial capability of the VA is weak and has been the focus of criticism by the GAO and the Institute of Medicine. In 2009 GAO found that VA's assumptions of the costs of long-term care were "unreliable" because the assumed cost increases were lower than VA's actual spending experience. See GAO-09-664T.

30. "Evaluation of the TRICARE Program: Access, Cost and Quality." FY2012 Report to Congress. Washington, D.C.: U.S. Department of Defense.

31. As of 1 October 2012, TRICARE Prime enrollment fees for uniformed service retirees and families rose from US$230 to US$260 (individual) to US$269.28 and from US$460 to US$520 (families) to US$538.56.

32. Military Health Service, TRICARE 2012.

33. Military Health Service, TRICARE 2012.

34. Data from TRAC2ES as of 28 February 2010, WRNMMC.

35. For example, 25 Marines died and more than 180 were wounded, including many with multiple amputations, from a single battalion in the Fifth Marine Regiment out of Camp Pendleton, California, while it was deployed to Helmand Province in 2010.

36. "Analysis of VA Health Care Utilization Among OEF/OIF/OND Veterans." http://www.publichealth.va.gov/docs/epidemiology/healthcare-utilization-report-fy2012-qtr4.pdf. Released January 2013. Epidemiology Program, Post-Deployment Health Group, VHA.

37. See Hose (2012).

38. In 2012, TRICARE decided to shift its US$20.5 billion contract for western states from TriWest to UnitedHealth Group Inc. (UNH), the nation's largest health insurer by revenue. This will take effect starting 1 April 2013.

39. See company filings at EDGAR, the Security and Exchange Commission's (SEC) online company database.

40. Military Health Service, TRICARE 2012.

41. Reservists and Guards typically are paid for one weekend per month plus special training sessions. Service in the National Guards is paid by the states. If the Guard is called up by the Governor of that state, the state pays. The federal government pays

only if the Guard is called to active national duty, as was the case for Guards who were called to serve in Afghanistan and Iraq.

42. Korb, Rothman, and Hoffman (2012).

43. Some countries, including Australia, Britain, Canada, and New Zealand pay lump-sum quality-of-life impairment stipends to veterans who suffer injuries.

44. Simon and Warner (2007).

45. See CBO (2009); for CRS, see Belasco (2009, pp. 27-30).

46. Winslow Wheeler (2011) estimates that US$720 billion in non-war Pentagon base cost increases should be attributed indirectly to the cost of the conflict: www.costsofwar.org (Brown University study, 2013).

47. The full text of the agreement is available at http://www.whitehouse.gov/sites/default/files/2012.06.01 u.s.-afghanistanspasignedtext.pdf.

48. President Obama and President Hamid Karzai signed the agreement in May 2012. It commits the U.S. to assist Afghanistan with security through 2024. Most estimates place the financial obligation in the range of US$8 to US$10 billion annually. A copy of the actual agreement is available at http://photos.state.gov/libraries/afghanistan/231771/PDFs/2012-05-01-scan-of-spa-english.pdf. A Congressional Research Service paper on the long-term costs of continuing assistance to Afghanistan is available at https://www.fas.org/sgp/crs/row/RL30588.pdf.

49. Bilmes and Stiglitz (2011).

50. Hormats (2007).

51. Joseph Stiglitz was one of many economists who said that the American Reconstruction and Recovery Act should have been bigger in order to help stimulate growth and employment in the U.S. One of the reasons the administration was not able to increase the package was due to the financial constraints imposed by war spending.

52. Oil prices increased from US$23 per barrel prior to the invasion of Iraq to a peak of US$140 in 2008 and since then have stabilized at around US$100 per barrel. On the macroeconomic impact of this and other war costs, see Stiglitz and Bilmes (2008) and Bilmes and Stiglitz (2012).

53. That is, the Pentagon, VA, State, and related budgets.

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SOCIAL CAPITAL, SOCIOPOLITICAL INSTABILITY, AND ECONOMIC DEVELOPMENT: A GENERAL EQUILIBRIUM MODEL

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Abstract

This essay describes the main features of a general equilibrium model of social capital and social conflict. According to the model, agents decide to participate in a number of conflict events while, at the same time, accumulate social capital. In the process, the government interacts with the economic actors by discouraging civil disobedience and social violence. The results show that social conflict is decreasing with the accumulation of physical capital, human capital, social capital, and government expenses on social development programs. Output growth in the economy depends positively upon accumulation of all types of capitals and social development funding, and negatively upon social conflict. More importantly, social capital is found to have a considerable positive effect on growth not only directly via investment, as suggested by recent empirical literature, but also indirectly by reducing the levels of social conflict. The model shows that the growth trajectories of the economy display a history-dependent pattern of growth with multiple-equilibria where countries converge to a nontrivial stable steady-state in the long-run. We also provide evidence in favor of the "club convergence" hypothesis which is predicated upon the initial levels of all types of capitals and the underlying level of social conflict.

A significant insight of New Institutional Economics concerns the identification of transaction costs as serious elements in economic exchange. Their presence led Douglass North and Robert Putnam to recognize, respectively, institutions and social capital as means of mitigating these costs. North defines *institutions* as "... the rules of the game in a society or, more formally, [as] the humanly devised constraints that shape human interaction" and also as "a set of rules, compliance procedures, and moral and ethical behavioral norms designed to constrain the behavior of individuals in the interest of maximizing the wealth or utility of principals." Putman, in turn, defines *social capital* as "the stock of norms of reciprocity and networks of civil engagement that enable people to act collectively" for mutual benefit. Social capital encompasses, at least partially, the concept of institutions, and social norms are the nonformalized realm of social capital, as yet uncodified in law.[1]

After briefly reviewing the concept of social capital and associated empirical work in regard to social capital, trust, and economic growth and development, we sketch a computational model (with some details provided in the Appendix) and present its main findings. Our major contribution in this article lies in the explicit theoretical and empirical inclusion of the concept of social capital in thinking about sociopolitical instability and violence, an inclusion that is frequently ignored in the literature.

Social capital

According to Robert Putman, important relations exists between and among civic engagement, civil society, and social capital. For Putnam, civic engagement and membership in voluntary associations help constitute civil society, and they occupy the space between family and state. Each member of an association agrees to abide by certain rules of behavior and, therefore, generates trust among them. The larger is the number of such associations, the richer society's fabric becomes. This fabric becomes society's social capital. Social capital is important because it encourages and supports decisionmaking. While monitoring the actions of public servants becomes an endless principal-agent problem, social values and norms make individuals more self-aware of the effects of their behaviors and can help lead to socially beneficial self-regulation.

Accordingly, since the early 1990s the concept of social capital has emerged as a useful concept to help explain the effect social forces and collective action may have on economic activity. Along with human and physical capital,

social capital is now recognized as one of the salient elements of capital.

Social capital is captured in social relations, reflecting structural constraints and opportunities, choices, and actions on the part of the individual. It is a bridge that connects individuals with their communities. In principle, the concept is simple: Individual actors acquire social capital with the expectation to profit from this investment in the marketplace, viewed here broadly in all its economic, political, and sociological aspects. Social capital may result in profits in the usual sense but it may also enhance the level of nonpecuniary utility an individual enjoys.

Acquiring, processing, and disseminating information in the marketplace are expensive and take time. Investments in social capital—expressed in terms of social relations and the social ties any one actor has invested in—may substantially reduce the transaction costs associated with identifying and processing the information regarding available opportunities.

By the early 1990s, Putnam's work on the importance of associational activity and group membership on economic performance assumed the main stage. For Putnam, social capital signifies the measurable number and density of a society's human connections and memberships that relate actors to each other through the actions of organized civil society. Putnam's view of social capital as the stock of "norms of reciprocity and networks of civic engagement" contributes to the explanation as to how citizens can overcome obstacles to collective action. He argues that social capital contributes to good governance and economic development and also that it is the outcome of path-dependent historical processes.[2]

Trust, growth, and development

The theoretical development of the concept of social capital found empirical support in the seminal works of LaPorta, *et al*., and Knack and Keefer. LaPorta and colleagues argued, for example, that trust (i.e., social capital) determined the performance of a society's institutions. Empirically, they were interested in the effects of trust on the performance of large organizations in a cross-section of 40 countries. The data supported their hypothesis.[3] Beyond organizations, it has been argued that social trust promotes efficiency in the functioning of democratic processes and enhances the stability of democratic regimes at large. In addition, characteristics such as tolerance and compromise, and its beneficial effects on transaction costs, lead to social capital promoting economic growth and decreasing sociopolitical instability. In particular, Almond and Verba argued that "trust is a generalized resource that keeps a democratic polity operating ... Without it, democratic politics is impossible." Similarly, Inglehart writes

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that "interpersonal trust is a prerequisite to the formation of secondary association, which in turn is essential for effective political participation in any large democracy."[4]

Knack and Keefer, using indicators for trust and civic norms supplied by the World Values Survey and sampling 29 market economies, provide evidence that social capital is associated with measurable improvement in economic performance. Their findings, in turn, set the stage for further empirical research regarding the implications of social capital on economic performance. The importance of social capital has also been linked to policymaking. Several World Bank studies related to its Social Capital Initiative have provided a number of policy prescriptions based on the perceived importance of social capital in low-income, developing countries as a plausible means to counterbalance the effects of poverty.[5]

Woolcock and Narayan provided a concise and practical definition of social capital as "the norms and networks that enable people to act collectively," a definition we adopt for our empirical work. In addition, they recognize that social capital can be an asset or a liability. For instance, where communities and networks are isolated from society's collective interests (as in gangs and drug cartels), social capital becomes a "dark force" that hinders growth and development.[6]

Our use of social capital only considers growth-promoting activities. Its perverse or liability side is viewed as part of social conflict and attributed mainly to three reasons: (1) institutional (e.g., ideological, cultural, and political), (2) behavioral, and (3) economic (e.g., income distribution). This summarizes all types of grievances that have appeared in the social landscape throughout history manifested as rebellions, revolutions, insurrections or, more generally, in a great deal of various forms sociopolitical instability.

Concerning the economic reasons that induce individuals to participate in social conflict, an extensive body of literature exists. Early theoretical and empirical analyses in specific regard to income distribution and sociopolitical instability, for example, include Alesina, Venieris, and their co-authors. These studies documented that economic, social, and political grievances figure prominently among the motivations that set the stage for individuals to engage in sociopolitical instability.[7]

The model

We study the effects of social capital and sociopolitical instability on growth and development by constructing a two-period general equilibrium model in the overlapping generations tradition where consumption by individuals, production decisions by firms, and the services provided by the state all are based on optimal choices by the corresponding agents.

In this model, social capital is accumulated by young adults over successive generations and they transmit the sum of social resources gathered to promote positive collective action. The government plays an important role not only as an enforcer of the rule of law by means of reactive policies that restrain both sociopolitical uprisings and the violation to property rights but also as an entity that designs and implements preventive policies aimed to providing an appropriate climate for the formation of physical, social, and human capital as well as address various social grievances.

We derive the conditions of a general equilibrium with economic, political, and institutional dimensions and, in particular, a competitive equilibrium that is the set of prices and the number of aggregate conflicts that result in a certain level of sociopolitical instability. This assumes certain given laws of motion for social, human, and physical capital as well as a sequence of government policies. Initial values are set for physical capital, average social capital, human capital, and the working population. Consumers maximize utility, firms maximize profits, and government sets optimal policies to maximize capital-deepening, social development, and security, and all markets clear.

This equilibrium is completely specified by the dynamic sequence of aggregate conflicts and average social and physical capital. At each point of time t, a unique equilibrium exists because the objective functions of consumers and firms are strictly concave. A mathematical sketch of the model is provided in the Appendix.

The findings

The results of the model run may be summarized as follows. First, the optimal number of conflicts for individuals and the related levels of sociopolitical instability (SPI) are decreasing as physical, social, and human capital accumulates. Second, fiscal policy instruments (social development programs and police protection) are positively related to all forms of capital. That is, more physical, human, and social capital lead to more funding of social development programs and police spending because optimal policies derived from the planning problem are state-dependent. Intuitively, more accumulation of all forms of capital leads to an increase in output growth which, in turn, increases funding for government policies. Third, when a nation is in a poverty trap because of high levels of SPI, the exercise of macroeconomic stabilization policies might become ineffective. Even if set at their optimum levels, stabilization policies will be unable to lift an economy out of the trap. Fourth, output growth in the economy depends on the accumulation of all types of capitals and social development outlays; conversely, growth relates negatively to political conflict and SPI. Fifth, social capital (i.e., trust and a healthy, active civil society) positively affects output growth, not only directly via investment but also indirectly by reducing rates of internal conflict and SPI.

Sixth, the development trajectories of the economy display a history-dependent pattern of growth with multiple equilibria. Our results provide evidence in favor of the "club convergence" hypothesis in the case of middle and upper-income societies but not in the case of the poorest ones.[8] Seventh, our model provides evidence that countries are poor because they suffer from initial stocks of physical, social, or human capital that are too low and rates of social conflict and SPI that are too high. Eighth, our analysis shows that there is room for policymakers to improve the performance of their economies provided that they take care of the causes of social conflict and SPI. Ninth, the empirical findings confirm the importance of the relationship between social capital and growth: Social capital is capable of affecting growth positively through a number of mechanisms: (1) it raises the performance and stability of government; (2) it provides grounds for more efficient protection of property rights; (3) it inhibits corruption and political conflicts; and (4) it reduces ethnic and religious tensions. All these improve the climate for long-run decisionmaking. Finally, tenth, we identify a number of variables that affect social capital (trust): Group membership and the degree of associational activity increase trust but income inequality reduces trust in a significant way. This suggests that economic polarization has detrimental effects on society not only through "conventional wisdom" mechanisms (i.e., its impact on aggregate demand, increasing conflicts, etc.), but also through its effects on trust.

Conclusion

Social capital is an important determinant for the growth and development of nations. Sociopolitical instability is a central problem of development. Policymakers are ill-advised to ignore the nexus of social capital, sociopolitical instability, growth, and development.

Notes

1. North (1981, p. 201); Putnam (1993, p. 167).

2. Putnam (1993). The notion of "stock" implies that social capital can accumulate through new investments but also that it can deaccumulate through sociopolitical instability (hereafter SPI).

3. LaPorta, *et al*. (1997); Knack and Keefer (1997).

4. Almond and Verba (1963, p. 357); Inglehart (1990, p. 23).

5. Knack and Keefer (1997). Further research: See, e.g., Zak (2001). World Bank: See, e.g., Colletta and Cullen (2002).

6. Woolcock and Narayan (2000). Dark force: Hirshleifer (1994).

7. Venieris and Gupta (1986); Steward and Venieris (1987); Alesina and Perotti (1996).

8. The club convergence hypothesis states that countries with similar initial economic, political, and cultural conditions should all converge to the same level of income per capita. The initial conditions for any form of capital accumulation determine if developing countries can take off and join the wealthy economies or contract into a poverty trap.

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Appendix

Here we present an outline of the model. The full model and the empirical results are available upon request from the corresponding author.

The consumer

Consider a country with a large number of agents who vary in their level of social capital and type of violence displayed in events of social conflict. The index $i \in \varkappa$ identifies individuals by their level of social capital, π^i, so that if $q > p$, then $\pi^q > \pi^p$. Moreover, let j be a dichotomous index assuming the values 0 or 1, depending on whether the i-th individual participates in nonviolent or violent events, respectively. Thus, an agent with social capital π^i who displays violence type j is identified as π^{ij}. Agents live for two periods in overlapping generations. At each point in time young and older adults are alive. It is assumed that agents are productive only when young. Combining these elements, the lifetime utility maximization problem for an ij young individual at time t=1 assumes the form

$$(1)\quad \underset{c_t^{ij},\, c_{t+1}^{ij},\, e_t^{ij}}{Max}\; u(c_t^{ij}, c_{t+1}^{ij}; e_t^{ij}) = (1-\beta)\ln(c_t^{ij}) + \beta\ln(c_{t+1}^{ij}) + \gamma\ln(e_t^{ij}),$$

subject to

$$(2)\quad c_t^{ij} = w_t h_t \pi_t^{ij}(1-\tau_t) - b_t^{ij} e_t^{ij} - s_t^{ij}$$

$$(3)\quad c_{t+1}^{ij} = R_{t+1} s_t^{ij}$$

$$(4)\quad e_t^{ij} \geq 1, \forall i, j, t,$$

where $\beta \in (0,1)$ denotes the preference to consume when young

versus old, $\gamma > 0$ is the preference for participating in conflict events, e denotes the number of conflicts the ij-th individual participates in, b is the cost of participating in events of conflict, and s stands for savings. The solution of this maximization problem yields the following optimum amount of savings and number of conflict events for the individual:

$$(5)\quad (s_t^{ij})^* = \frac{\beta w_t h_t \pi_t^{ij}(1-\tau_t)}{(1+\gamma)}$$

$$(6)\quad (e_t^{ij})^* = Max\left\{\frac{\gamma}{D(1+\gamma)\left[w_t h_t \pi_t^{ij}(1-\tau_t)\right]}, 1\right\}.$$

Next, equation (7) assumes that the social capital of individual ij at time t+1 is related to the social capital previously accumulated and the number of conflicts that the individual participated in during the previous period:

$$(7)\quad \pi_{t+1}^{ij} = \frac{\tilde{\rho}\pi_t^{ij}}{(e_t^{ij})^{\theta}}, \text{ with } \begin{cases} \theta \geq 1 \rightarrow j = 1 \\ 0 < \theta < 1 \rightarrow j = 0 \end{cases},$$

where $\tilde{\rho} = (1+\rho)$ represents the rate of intergenerational transmission of social capital (with $\rho > 0$), while $\theta > 0$ is a dilution effect resulting from the participation of each ij individual in multiple conflict events.

The firm

The second actor in the model is the firm, assumed to maximize profits. That is, a representative firm, at time t, chooses physical capital per effective worker, $\tilde{k}_t \equiv K_t / L_t$, to maximize profits by solving

$$(8)\quad \underset{\tilde{k}_t}{Max}\left[f(\tilde{k}_t) - r_t \tilde{k}\right]_t,$$

where r_t is the rent on physical capital. Solution to this profit maximization problem, using a given production function, yields the firm's demand for physical capital and labor per effective worker and, hence, produces the market clearing wage, w_t, and the return on savings from t–1 to t, $R_t = 1 + r_t - \delta$.

Next, we substitute labor income, determined by the optimization of the firm's behavior, into optimal savings (5) and the optimal number of conflicts (6), to obtain the equilibrium conditions for an individual's utility maximization as a function of the economy's state-variables:

$$(9)\quad s_t^* = \beta(1-\alpha)(1-\tau_t)(1+\gamma)^{-1} k_t^{\alpha} (\sigma_t \pi_t h_t)^{1-\alpha}$$

$$(10)\quad e_t^* = Max\left\{\frac{\gamma}{D(1+\gamma)(1-\alpha)(1-\tau_t)k_t^{\alpha}(\sigma_t \pi_t h_t)^{1-\alpha}}, 1\right\}$$

where σ_t stands for the social development policy instrument and h_t for average human capital. Equation (9) shows that optimal average savings is increasing in physical capital per worker and decreasing in the preference for conflict events. Also note that the government's policy instrument, σ_t, the human capital, h_t, and the average social capital accumulation, π_t, all are positively related to the optimal level of average savings and negatively related to the optimum number of conflict events, as they should.

Next, we aggregate to obtain the equilibrium dynamics for the economy which maps the saving decisions of all individuals into the demand for investment by firms. This yields the law of motion for physical capital (to keep the exposition parsimonious we do not spell out the particulars of the aggregation):

$$(11)\quad K_{t+1} = \sum_{i=1,\forall j}^{N_t} (s_t^{ij})^*.$$

But since we assumed that agent ij is the typical agent in our model, we rewrite the capital market equilibrium condition (11) as the sum of the optimal savings function of the representative agent (9):

$$(11a)\quad K_{t+1} = N_t s_t^*.$$

Because only young adults save, aggregate average savings from time t to time $t+1$ is given by (11a) which, in turn, firms use to invest in physical capital at time $t+1$. Combining equations (11) and (11a) permits us to generate the capital market equilibrium condition which is used by government to derive its optimal policies. This yields the law of motion for physical capital:

$$(12)\quad K_{t+1} = N_t s_t^* = \beta(1-\alpha)(1-\tau_t)(1+\gamma)^{-1} K_t^{\alpha} (\sigma_t \pi_t h_t N_t)^{1-\alpha}.$$

Equation (12) shows that next period's physical capital stock, K_{t+1}, is increasing in the current period's physical, human, and social capital stocks, is decreasing in taxes and preference for conflict events, and increases as funding in social development programs rises.

Next, we obtain the aggregate number of conflicts that take place by summing the optimal conflict functions of all agents. That is, equation (6) at time t:

$$(13) \qquad E_t^* = \sum_{\forall e_t>1} (e_t^{ij})^* + \sum_{\forall e_t=1} (e_t^{ij})^* = \sum_{\forall j=0} (e_t^{ij})^* + \sum_{\forall j=1} (e_t^{ij})^* .$$

Total conflict events are obtained either by aggregation of the number of events the *ij* agent participates in [i.e., first section of the right hand side of (13)], or if conflicts are aggregated according to the type of violence [i.e., second section of right hand side of (13)].

Equation (13) provides us with the total number of conflict events. These are optimally derived considering the set of heterogeneous individuals. It registers the main source of sociopolitical instability in this country. Hence, we can define sociopolitical instability as the following mapping:

$$(14) \qquad SPI = SPI(E_t^*, Z_t): \Re^2 \rightarrow [0,1],$$

where Z_t is a vector of variables that affect the levels of sociopolitical instability such as police expenditure and income inequality, corruption by public officials, and a litany of other grievances. But since $E_t^* = E(k_t, \sigma_t \pi_t h_t)$, then

$$(14a) \qquad SPI_t = SPI(E(k_t, \sigma_t \pi_t h_t), Z_t): \Re^5 \rightarrow [0,1] .$$

In addition to the implied relations this SPI function, and given the monotonic relation between conflicts and SPI, equation (14a) suggests that sociopolitical instability is decreasing in the accumulation of per capita physical capital, social development programs, social capital, and human capital, that is,

$(\delta SPI_t/\delta E_t^*)(\delta E_t^*/\delta k_t) < 0,$
$(\delta SPI_t/\delta E_t^*)(\delta E_t^*/\delta \sigma_t) < 0,$
$(\delta SPI_t/\delta E_t^*)(\delta E_t^*/\delta \pi_t) < 0,$ and
$(\delta SPI_t/\delta E_t^*)(\delta E_t^*/\delta h_t) < 0,$

respectively. The importance of these results is twofold: First, social conflict, derived from individual decisionmaking, is linked to sociopolitical instability in a tractable way and, second, the derived SPI mapping can be verified empirically.

The state

We close the model by considering the role of government. We assume that policymakers maximize a capital-deepening (growth) function, equation (15), subject to two constraints: first, the capital market equilibrium condition (16) and, second, the government budget balance-relation (17). Note that the budget can easily be expanded to include a deficit or surplus as well as many other items. As usual, though, more detail comes at the cost of less clarity and additional length. No generality is lost with the simpler formulation:

$$(15) \qquad \underset{\sigma_t, P_t, T_t}{Max}\left(\frac{K_{t+1}}{K_t}\right),$$

subject to

$$(16) \qquad K_{t+1} = \beta(1-\alpha)(1-\tau_t)(1+\gamma)^{-1} K_t^{\alpha} (\sigma_t \pi_t h_t N_t)^{1-\alpha}$$

$$(17) \qquad T_t = \sigma_t + P_t.$$

Equation (17) represents the government budget constraint for this planning problem in which tax revenues, T_t, are used to underwrite police expenditure and social development expenses. The optimum values of the various governmental activities are

$$(18) \qquad \sigma_t^* = \left[(1-\omega)(1-\alpha)^2 (\pi_t h_t N_t)^{1-\alpha} K_t^{\alpha}\right]^{1/\alpha}$$

$$(19 \qquad P_t^* = \omega(1-\omega)^{(1-\alpha)/\alpha}(1-\alpha)^{2/\alpha}(\pi_t h_t N_t)^{(1-\alpha)/\alpha} K_t ,$$

and

$$(20) \qquad T_t^* = (1-\alpha)\tau_t^* Y_t = (1-\omega)^{(1-\alpha)/\alpha} (1-\alpha)^{2/\alpha} (\pi_t h_t N_t)^{(1-\alpha)/\alpha} K_t .$$

Equations (18), (19), and (20) show that the activities of the state (e.g., public investment) are increasing in physical capital, K_t, and in aggregate contributions of average social capital and human capital, $N_t \pi_t h_t$.

Empirics

Our tests are based on a sample of 61 developed and developing countries spanning the period 1980-2000. We used a larger time span for SPI. We generated an SPI index by estimating a logit equation that relates government crises to domestic conflict events which capture two types of acts: Violent uprisings and collective protests or anomic violence. For this we used the dataset generated by Banks (1996). We construct the index of SPI by using assassinations (*Assass*), guerilla warfare (*Guerwar*), purges (*Purges*), general strikes

(*Gstrikes*), riots (*Riots*), and anti-government demonstrations (*Antigovdem*) to explain the incidence of major government crises. (The list of variables is in endnote 1.[1]) We also relate government crises to a dichotomous variable, assuming the values 0 or 1, depending on whether a country is a developing or developed economy, respectively. Numbers in parentheses are standard errors.

(21) $SPI_{it} = -2.125 + 0.116(Assass)_{it} + 0.339(Guerwar)_{it}$
(0.046) (0.039) (0.066)
$+ 0.371(Purges)_{it} + 0.546(Gstrikes)_{it} + 0.065(Riots)_{it}$
(0.059) (0.069) (0.035)
$+ 0.054(Antigovdem)_{it} - 0.473(Dum)$
(0.035) (0.137)

Likelihood: -2,602.26 | Obs: 6,889 | Wald Chi-Sq.(7):244.8

We present only a few of the estimated equations. For each, there are several tables of estimates depicting different specifications and using various estimators. The complete set of empirical work is available upon request from the corresponding author.

SPI and internal conflict equations

Hypothesis 1: Conflict and sociopolitical instability decrease when (1) government funding of social development programs rises; (2) social capital increases; (3) human capital increases; and (4) physical capital increases.

(22) $Conflict_i = 7.746 - 0.964(I/GDP)_i - 0.216(SocialDev)_I$
(1.629) (0.359) (0.119)
$- 0.672(Literacy)_i - 0.404(Trust)_i$
(0.202) (0.132)

R-sq. (adj.): 0.377 | Obs: 58 | Estimator: 2SLS
Notes: Instruments for 2SLS regressions include terms of trade, price of investment goods, and inflation rate.

(23) $Conflict_{it} = 5.160 - 0.570(K)_{it} - 0.348(SocialDev)_{it}$
(0.538) (0.263) (0.084)
$- 1.109(School)_{it} - 0.130(Culture)_{it}$
(0.110) (0.043)

R-sq. (adj.): 0.487 | Obs: 725 | Estimator: FE-IV
Notes: Instruments for FE-IV regressions include terms of trade and inflation rate.

(24) $SPI_{it} = 3.064 - 1.356(K)_{it} - 0.208(SocialDev)$
(1.998) (0.468) (0.088)
$- 0.591(School) - 0.385(INGO)$
(0.397) (0.097)

R-sq. (adj.): 0.183 | Observations: 522 | Estimator: FE-IV
Notes: Instruments for FE-IV regressions include terms of trade and inflation rate.

Optimal government policies

Hypothesis 2: Fiscal policy components (i.e., tax revenues, social development, and police protection) are increasing and log-linear in (1) physical capital, (2) social capital, and (3) human capital.

(25) $Taxes_i = -7.109 + 0.120(GDP)_i + 0.114(Primary)_i$
(1.650) (0.048) (0.071)
$+ 0.322(Secondary)_I + 0.995(Civic)_i$
(0.112) (0.454)

R-sq. (adj.): 0.363 | Observations: 54 | Estimator: 2SLS
Notes: Instruments for 2SLS include terms of trade, price of investment goods, and inflation rate.

(26) $Taxes_{it} = -7.511 + 0.172(PhysicalCap)_{it}$
(1.241) (0.048)
$- 0.078(SocialCap)_{it} + 0.488(HumanCap)_{it}$
(0.454) (0.111)

R-sq. (adj.): 0.267 | Observations: 599 | Estimator: FE-IV
Notes: Instruments for FE-IV regressions include terms of trade and inflation rate.

(27) $SocialDev_{it} = -13.279 + 0.285(PhysicalCap)_{it}$
(2.480) (0.088)
$+ 0.707(HumanCap)_{it} + 0.063(SocialCap)_{it}$
(0.163) (0.029)

R-sq. (adj): 0.372 | Observation: 551 | Estimator: FE-IV
Notes: Instruments for FE-IV regressions include terms of trade, price of investment goods, and inflation rate.

(28) $PoliceExp_{it} = -13.852 + 0.225(PhysicalCap)_{it}$
(3.014) (0.115)
$+ 0.538(HumanCap)_{it} + 0.137(SocialCap)_{it}$
(0.199) (0.039)

R-sq. (adj.): 0.309 | Observations: 545 | Estimator: FE-IV
Note: Instruments for FE-IV regressions include terms of trade and inflation rate.

Hypothesis 3: The development trajectory of the economy depends upon (1) physical capital, (2) social capital, (3) human capital, (4) social development policies, and (5) preference for conflict-SPI events. Physical capital (and hence output) growth is increasing in social capital, human capital, and social development programs, and is decreasing in social conflict and SPI.

(29) $\text{Growth}_i = 0.320 - 0.157(\text{GDP80})_i + 0.231(\text{Literacy})_i$
$(0.626)\ (0.048)\qquad (0.117)$
$- 0.182(\text{Conflict})_i + 0.199(\text{Trust})_I$
$(0.080)\qquad (0.081)$

R-sq. (adj): 0.254 | Observations: 62 | Estimator: 2SLS
Notes: Instruments for regressions include ethnic tensions, religious tensions, ethno-linguistic fractionalization, and democratic accountability.

(30) $\text{KGrowth}_{it} = 16.224 + 0.074(\text{SocialDev})_{it}$
$(1.134)\ (0.023)$
$+ 0.301(\text{INGO})_{it} + 0.313(\text{Secondary})_{it}$
$(0.037)\qquad (0.040)$
$- 0.736(\text{InitCap})_{it} - 0.037(\text{Conflict})_{it}$
$(0.050)\qquad (0.009)$

R-sq. (adj): 0.422 | Observations: 483 | Estimator: FE-IV
Notes: Instruments for FE-IV regressions include ethnic tensions, religious tensions, and democratic accountability.

(31) $\text{KGrowth}_{it} = 16.963 + 0.079(\text{SocialDev})_{it}$
$(1.113)\ (0.021)$
$+ 0.494(\text{INGO})_{it} + 0.117(\text{Secondary})_{it}$
$(0.039)\qquad (0.039)$
$- 0.788(\text{InitCap})_{it} - 0.018(\text{SPI})_{it}$
$(0.050)\qquad (0.011)$

R-sq. (adj): 0.427 | Observations: 441 | Estimator: FE-IV
Notes: Instruments for FE-IV regressions include ethnic tensions, religious tensions, and democratic accountability.

Spline regressions

Our model deals explicitly with the basic question of growth and development: "Why are we so poor and they are so rich"? For this reason we add aggregate social behavior to the list of causes for long-run growth and the debate about convergence.

Hypothesis 4: The dependence of physical capital accumulation on preferences for conflict, social development, human capital, and social capital accumulation will yield a history-dependent pattern of growth with multiple steady-state equilibria. The development trajectory of the economy will display three different phases: A poverty trap, a period of transitional dynamics, and a balanced (endogenous) growth path. This implies the presence of "convergence clubs."

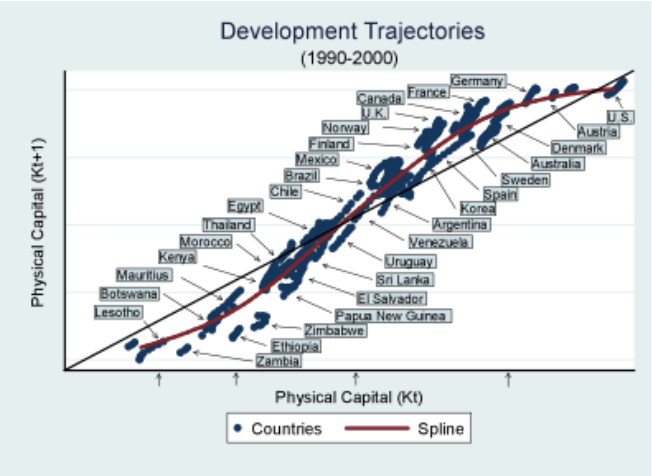

Figure 1: Spline regression.

In accordance with Hypothesis 4, the dependence of output growth on conflict, social development, and the various forms of capital leads to patterns of growth which are characterized not only by differences in structural characteristics but also by differences in initial conditions and, thus, are consistent with the club convergence hypothesis (see, e.g., Zak, 2000).

To test Hypothesis 4, we present an IV-type estimates by using a spline estimator. In particular, we estimate a natural or restricted cubic spline considering the arguments on the right-hand-side of the capital market equilibrium condition as regressors.

(32) $\text{KGrowth}_{it} = 16.753 + 0.030(\text{SocDev})_{it} + 0.347(\text{INGO})_{it}$
$(2.229)\ (0.020)\qquad (0.026)$
$+ 0.139(\text{Secondary})_{it} + 0.23(\text{InitCap1})_{it}$
$(0.039)\qquad (0.094)$
$+ 0.62(\text{InitCap2})_{it} - 2.28(\text{InitCap3})_{it} - 0.02(\text{Conflict})_{it}$
$(0.21)\qquad (0.65)\qquad (0.01)$

R.-sq. (adj): 0.694 | Observations: 498 | Estimator: FE-IV.
Notes: HCSE variances. Instruments for FE-IV regressions include ethnic tensions, religious tensions, and democratic accountability.

The development trajectory portrayed in Figure 1 is consistent with models that display history-dependent patterns of growth and multiple-equilibria (e.g., Zak, 2000). In this sense, our theoretical model and the empirical findings suggest that initial conditions such as the stock of social capital and

base levels of conflict and violence are important in determining whether countries grow or contract into poverty. The role of social capital and social conflict in an economy will eventually determine the developmental path that will be followed by the economy. A visual inspection of Figure 1 is also helpful in validating our results. Recall that the coefficients of initial capital in equations (30) and (31) were negative and statistically significant, pointing out that low-income countries gained growth advantages from being poor in catching up with the wealthy ones. But once we take into account equation (32), we can conclude that the conditional convergence effect of middle and high-income countries eclipses and, therefore, force us erroneously to conclude that all countries converge. Indeed, this is not the case. Poor countries, unfortunately, do not enjoy this benefit.

Note (Appendix)

1. List of variables: *SPI*=Index of Sociopolitical Instability; *Assass*=Number of assassinations; *Gstrikes*=Number of general strikes; *Guerwar*=Number of guerrilla warfare; *Purges*=Number of purges; *Riots*=Number of riots; *Antigovdem*=Number of anti-government demonstrations; *Dum*=Dummy variable; *Conflict*=Number of internal conflicts; *I/GDP*=Investment/GDP; *SocialDev*=Government expenses on social development programs (i.e., health, education, and social security); *Literacy*= Literacy rate; *School*=Level of education considering primary and secondary enrollment; *Culture*=Government expenses on recreational, cultural, and religious affairs; *INGO*=International nongovernmental organizations; *Growth*=Rate of growth of output; *KGrowth*=Rate of growth of physical capital; *GDP80*=GDP in 1980; *InitialCapital*=Initial level of physical capital; *InitialCapital[1]*=Initial level of physical capital at first stage of growth in spline regression (i.e., level of physical capital at first knot); *InitialCapital[2]*=Initial level of physical capital at second stage of growth in spline regression (i.e., level of physical capital at second knot); *InitialCapital[3]*=Initial level of physical capital at third stage of growth in spline regression (i.e., level of physical capital at third knot).

SYMPOSIUM ON PEACE AND SECURITY IN INDIA: AN INTRODUCTION

RUPAYAN GUPTA [Symposium guest editor]
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Abstract
The World Health Organization categorizes violence as including self-harm such as suicide, interpersonal violence such as domestic violence and violent crime, and collective violence such as inter-communal violence and international war. Peace and security issues in India abound in all of these categories. To name a few, they range from cases of farmer suicides, violence against women and female infanticide, religious, communal, and political violence, land-acquisition disputes, crime, policing, regional disputes between Indian states and other groups over scarce natural resources, separatist movements, military expenditure and policy, and territorial disputes and arms races with neighboring countries. This symposium focuses on points of interpersonal and inter-communal violence, largely restricting its attention to India's internal rather than external concerns.

The World Health Organization's *World Report on Violence and Health*, published in 2002 and readily available on the internet, categorizes violence as including self-harm such as suicide, interpersonal violence such as domestic violence and violent crime, and collective violence such as inter-communal violence and international war. Peace and security issues in India abound in all of these categories. To name a few, they range from cases of farmer suicides, violence against women and female infanticide, religious, communal, and political violence, land-acquisition disputes, crime, policing, regional disputes between Indian states and other groups over scarce natural resources, separatist movements, military expenditure and policy, and territorial disputes and arms races with neighboring countries. This symposium focuses on points related to interpersonal and inter-communal violence, largely restricting its attention to India's internal rather than external concerns, and covers issues and topics the editor believes to be of broad, general interest.

Of the six symposium articles, two study the Maoist (Naxalite) insurgency in India. The first, by Saurabh Singhal, analyzes aspects of the effectiveness of the centrally funded Security Related Expenditure Scheme (SRES) in repairing the investment climate of Andhra Pradesh, which has suffered due to the insurgency. The SRES is a fund for India's armed forces to fight the Naxalite insurgency. The author finds the scheme to have had no effect on industrial bank credit taken at the district level. A further disaggregation of the industrial credit data reveals no effects on construction but finds a positive effect on mining and quarrying activity.

While Singhal's article uses economic indicators to assess success or failure of armed counterinsurgency policies, Khanna and Zimmermann analyze whether anti-poverty programs can increase the effectiveness of government forces by improving the relationship between citizens and the state and making civilians more willing to share information on insurgents. The program considered by the authors is the National Rural Employment Guarantee Scheme (NREGS), adopted by the Indian government in 2005. The authors find that the introduction of NREGS led to an increase in violence in the short run, driven by police-initiated attacks, and an increase in the number of captured Maoists. Their results are consistent with the hypothesis that civilians assist the police because of the NREGS. Khanna and Zimmerman's article suggests that the support of local civilians in affected areas might prove crucial in containing insurgencies. Moreover, as schemes like the NREGS promote economically constructive activities, rather than destructive activities, as compared to the SRES they may be considered an attractive method of mitigating violence, or, at the very least, be viewed as playing an important supporting role alongside more traditional arms-based methods.

Amaral, Bandyopadhyay, Bhattacharya, and Sensarma's article analyzes how non-crime conflict affects both crime as well as various determinants of crime. Perhaps surprisingly, they find that in districts affected by the Maoist insurgency, all types of crime are lower than elsewhere. In addition, their article examines key determinants of violent crime, nonviolent crime, and crime against women in India for the period 1990-2007. Looking at conventional determinants of crime (such as law enforcement and economic variables), they also examine how variation in sex ratios affects crime, and whether the gender of the chief political decisionmaker in each state

(i.e., the Chief Minister) affects crime. If not entirely unexpected, the findings are intriguing: While improvements in arrest rates do decrease the incidence of all types of crime, socioeconomic variables carry relatively little explanatory power. Instead, unbalanced sex ratios, particularly in rural areas, do adversely affect crime. And the presence of a woman in a high political capacity does seem to make a difference: If the Chief Minister is female, both violent crime and crimes against women decrease.

The article by Bhushan and Prakarsh also examines crimes against women, but with a focus on domestic violence alone. Specifically, the authors examine the effect of broadcast media on domestic violence norms. They find evidence that regularly accessing both television and radio leads to a small but statistically significant reduction in the probability of women accepting domestic violence. Astonishingly, the effect of media consumption on reducing the acceptability of domestic violence is statistically equivalent to three additional years of education, a sizeable effect indeed. Intriguingly, in India, the effect holds only when television and radio are used concurrently, as complements, and disappears for those women who access only one or the other media outlet.

Practitioners' views on security issues are important to academics and policymakers. Nilanjana Sengupta and Dolon Ganguly provide one such perspective, with their narrative of the Jeevika Development Society's journey through gender, poverty, and domestic violence in rural West Bengal. Among other activities, this not-for-profit, charitable organization, runs a women's rights-based microcredit program that has assisted rural women to address both practical economic needs as well as strategic needs related to gender-based oppression and violence. The authors' narrative provides a fascinating account of many such cases.

The final article in our symposium is wholly in the spirit of peace economics. Through the lens of India' independence movements, Rikhil Bhavnani and Saumitra Jha examine the potential for and limitations of nonviolent civil disobedience to successfully achieve a revolutionary outcome. Two problems need to be overcome: First, how to form a mass movement in the first place and, second, how to keep it peaceful. The authors argue that in the Indian case, the problem of mobilization was solved due to the historic chance occurrence of the Great Depression (1929-1933), which helped to draw important Indian constituencies into the movement and made it more massive in numbers than it had been before. The problem of controlling the masses, once mobilized, was handled by Gandhi by effecting certain innovative changes in the organizational structure of the Congress party, which rewarded nonviolent behavior.

The authors document that when external pressure prompted the British to repress India less harshly, it was easier for Gandhi to control the movement and to secure nonviolent outcomes. In contrast, with harsher punitive measures applied by the British, it became difficult for Gandhi to control the movement and to obtain nonviolent outcomes. The opportunity costs for rulers undertaking repression must thus be made high enough, perhaps through monitoring by the international community, so that peaceful mass protest remains an option. By inflicting audience costs, global society might both have an opportunity and a responsibility to help provide the right circumstances under which peaceful mass protest movements in repressive regimes might thrive and succeed.

Bhavnani and Jha's article highlights the need for further study of peace economics rather than of violence economics. Peace and violence are not symmetric: the absence of violence is not the presence of peace.There is a constructive aspect of studying and thinking about peace and security that goes beyond the traditional realm of conflict or defense economics.

India is a complex nation. An intriguing social experiment, it is truly representative of our desire to achieve unity in diversity. Lessons learned by peace economists, while thinking about Indian peace and security-related issues, no doubt have broader relevance and applicability and may prove useful in promoting harmony in an increasingly interconnected and diverse world. I hope this symposium provokes more such research.

FIGHTING MAOIST VIOLENCE WITH PROMISES: EVIDENCE FROM INDIA'S EMPLOYMENT GUARANTEE SCHEME

GAURAV KHANNA and **LAURA ZIMMERMANN**

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Abstract

The Indian state faces a substantial internal security threat in the form of a Maoist insurgency, but decades of relying predominantly on military strength have not been a successful strategy for resolving the conflict. Recently, there has been a growing interest in whether anti-poverty programs can increase the effectiveness of the government forces by improving the relationship between citizens and the state and making civilians more willing to share information on insurgents. A prime candidate for such a program is the National Rural Employment Guarantee Scheme (NREGS), the world's largest public-works program. We find that the introduction of NREGS leads to an increase in violence in the short run that is driven by police-initiated attacks, and an increase in the number of captured Maoists. These results are consistent with the hypothesis that civilians assist the police because of NREGS, and suggest that the role of civilians in internal conflicts should not be ignored.

Like many other developing countries, the Indian state faces a number of internal conflicts. One of the most important security threats is the Maoist movement, which aims to overthrow the government and has developed into a guerilla force that has a strong presence in many economically underdeveloped areas since its beginning in the late 1960s. In 2006, the Indian Home Ministry estimated the movement to have 15,000 members, to be active in 160 districts, and to control about one fifth of India's forests. According to a declaration by India's Prime Minister Manmohan Singh in 2006, the Maoists are the biggest threat the Indian state has ever faced.[1]

Confronted with such a challenge to its authority, the Indian government's preferred strategy for many years has been to rely almost exclusively on military strength, with both paramilitary forces and the police fighting Maoist cadres for territorial control. The success of this strategy in ending the conflict has been limited, however, although some Indian states have been more successful at suppressing the insurgency than others.

One potential explanation for this outcome is the role civilians play in the conflict. The Maoist insurgency is especially strong in many tribal areas that tend to be rich in natural resources but suffer from chronic underdevelopment and few employment opportunities. Since the Maoists claim to be fighting the government because of its catering to elite interests while neglecting the poor, the civilians' bad economic situation may make them more willing to support the insurgency rather than sharing information about the guerilla forces with the police. This, in turn, limits the government forces' effectiveness in tracking down rebels.

An important implication of this explanation is that the Indian government should combine its military strategy with anti-poverty programs that demonstrate its commitment to improving the economic situation of the poor and improve the relationship between the government and the people. A prime candidate for such a program is the National Rural Employment Guarantee Scheme (NREGS), which is the largest public-works program in the world and was implemented between 2006 and 2008.[2]

In a more technical companion paper, we analyze whether this employment guarantee program has had an impact on the intensity of Maoist violence and find that violence increases in the short run.[3] While we discuss and test several potential explanations for this pattern, the most likely channel is that NREGS improves the relationship between the government and the people and thereby the flow of information that allows the police to track insurgents more efficiently.

In this article, on the other hand, we confirm the main findings of the companion paper by using a simpler empirical strategy, a difference-in-difference approach. The results show again that violence increases in the short run. In addition, we look at two other implications of the citizen-support explanation: If NREGS really induces citizens to share more information with the police, then we would expect police-initiated attacks and the number of captured insurgents

to increase after the introduction of NREGS due to better information, and we find that this is indeed the case.

The following sections briefly describe the literature on the impact of government programs on internal conflicts and provide more detailed information on the Maoist movement and the employment guarantee program. We then discuss the data and the empirical strategy, show the results, and provide some conclusions.

Maoist insurgents in India claim to be fighting because of government catering to elite interests. This may make the poor more willing to support insurgents rather than sharing information about guerilla forces with the police. Thus, anti-poverty programs may potentially serve as a counterinsurgency strategy and lead to more police attacks and higher arrest rates of insurgents, and we find that this is indeed the case.

Studies on the impact of government programs on internal violence

The association between underdevelopment and conflict has been a long studied relationship in the economics literature. Some studies rely on cross-country data and show a correlation between poverty and conflict, whereas other studies conduct a more micro-level analysis. Microanalyses often rely on rainfall as a determinant of income changes and show how adverse economic shocks are a strong determinant of civil wars. Therefore, the broader literature seems to show that underdevelopment is strongly associated with more conflict. There is, however, little research on the impact of development programs itself on internal conflicts. Some recent papers focus on this research question in the context of Iraq, the Philippines, and U.S. food-aid receiving developing countries. The findings are mixed, with some studies reporting positive effects and others estimating negative impacts. Various explanations for these results are advanced, including changes in the economic attractiveness of being an insurgency supporter, the rebels' attempt to appropriate the resources provided by the government program, and the increased willingness of civilians to share information with the police. This pattern could point to the nature of the conflict and the rebels' goals being important for the effectiveness of government interventions, but would also be consistent with violence-reducing impacts only setting in over time, as consistent with the results of our companion paper.[4]

The Maoist insurgency

The Maoists, also often referred to as Naxalites due to the beginning of the movement in the village Naxalbari in West Bengal in the late 1960s, fight the Indian government for its supposedly elitist policies that do not benefit the poor. Having started as a local uprising after landlords attacked a tribal villager, the movement had spread from West Bengal to other Indian states by the early 1970s. A number of rivaling splinter groups continued to be active over the next couple of decades. In 2004, the two biggest groups merged to form the Communist Party of India (Maoist), which is believed to have substantially exacerbated the intensity of the conflict. Attacks by the Maoists often target infrastructure projects such as telecommunication towers, but also include the killing of civilians believed to be police informers and encounters with the police and state paramilitary forces.[5]

The local population, often mainly consisting of tribals (*adivasis*), is often forced to pick sides in the conflict. The Maoists predominantly hide in remote forest areas, which make them dependent on civilians for resources and information on police force movements. They also threaten civilians to not provide similar support to the government forces. Some experts also point to the often excessively brutal way civilians are treated by the police, however, which undermines their trust in the government. According to some expert claims, an important percentage of incarcerated *adivasis* are in jail due to false accusations of being Maoist supporters, for example. Working for one of the conflict parties often also presents one of the few employment opportunities for the local population, since both insurgents and government forces value knowledge about the local conditions. Therefore, *adivasis* function as tacit supporters, informants, and recruited fighters on both sides of the conflict.[6]

The intensity of the conflict seems to have decreased substantially since 2005, however.[7] The insurgents have been losing ground in a number of Indian states, including Bihar and even their stronghold states Jharkhand and Chhattisgarh, while the Maoists seem to have abandoned Andhra Pradesh almost completely. Instead, they appear to be forced to retreat to the Dandakaranya forest area where their headquarters are assumed to be. Better information seems to have been a major factor in this development: While the Maoists accuse the government of turning civilians into police informers and exploiting the information surrendered Maoists have on the organization, the Indian Home Secretary Gopal K. Pillai said in 2010 that the police have become more effective at catching Maoists due to improved information gathering.[8]

The National Rural Employment Guarantee Scheme

The National Rural Employment Guarantee Scheme (NREGS) is India's most ambitious anti-poverty program and the largest public-works program in the world. Based on the National

Rural Employment Guarantee Act (NREGA) that was passed in the Indian parliament in August 2005, the scheme provides a legal guarantee of 100 days of public-works employment annually for each rural household at the minimum wage. Households can choose when to apply for employment and are entitled to unemployment allowance if wages are not paid within 15 days after the work was performed.[9]

NREGS was rolled out in three implementation phases: The first 200 districts received the program in February 2006 (Phase 1), followed by 130 districts in April 2007 (Phase 2), and the remaining non-urban districts in April 2008 (Phase 3). Preference was given to underdeveloped districts. Figure 1 shows that there is a large overlap between Maoist activity and poverty among districts: The red districts are all districts that actually received the employment guarantee program in the first phase, whereas the red-white shaded districts are the Phase 1 districts with at least one incident of insurgency-related violence during our study period. In our empirical analysis we will therefore focus on the first implementation phase. Districts affected by Maoist-related violence are also often referred to as red-corridor districts.

We next discuss our data, empirical strategy, and results.

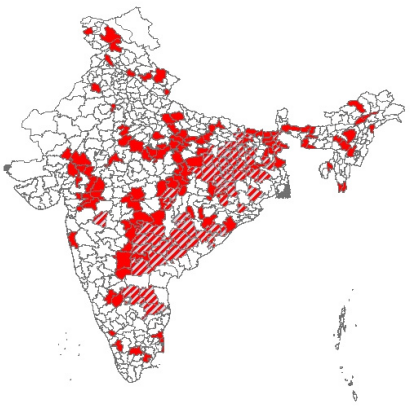

Figure 1: Map of Phase 1 NREGS districts and Maoist-violence affected districts.

Data

We use data on Maoist-related incidents that comes from the South Asian Terrorism Portal (SATP), a website maintained by the Institute of Conflict Management in New Delhi. The institute is a nongovernmental organization that provides consultancy services to governments on insurgency-related activities. Their website collates and summarizes news articles, highlighting the date and location of the incident as well as the number of casualties, injuries, and abductions.

For each district in a given month, we construct a measure of the number of casualties and a separate variable that includes the number of injured, captured, and abducted persons. We also enumerate the total number of incidents and the number of "major" incidents as classified by the website. These are our primary variables of interest. As an extension, we also focus on who initiates the attacks: The police, the Maoists, or an ambiguous party in cases reported as "encounters" between the two. Our dataset includes 1,458 Maoist-related incidents, covering about 2,030 fatalities, and 2,545 injuries, abductions, and captures.

The website begins recording the incidents from January 2005, giving us about thirteen months of data before the first phase of NREGS was implemented. Since we focus on Phase 1 implementation, we use data until March 2007 (after which Phase 2 was implemented). This dataset is combined with information on the assignment of districts to implementation phases, which is available from the official NREGS website.[10] We also collected data on the police force (number of officers, stations, and other measures of police strength) from the Home Ministry of India, which are used as control variables in our regressions.

Using a dataset that relies on news reports has potential drawbacks: Maoist injuries and deaths are difficult to verify, and the police may inflate these numbers or blame Maoists for certain civilian deaths. Some of these issues are alleviated because the police are required to disclose the names and ranks of persons killed to corroborate their reports, and media reports should be less prone to manipulation attempts than administrative sources. In our empirical analysis, these limitations are only a serious concern if the quality of reporting changed systematically after NREGS was implemented in a given district, and we have no reason to believe that this was the case.

Empirical strategy

The empirical strategy used in this article is a difference-in-difference approach. This strategy makes comparisons on two fronts: First, it compares districts that received NREGS in a given phase with districts that did not. Second, it compares districts before and after NREGS was implemented. Since Phase 1 districts were supposed to receive NREGS in February 2006, our regressions therefore compare incidents of violence in Phase 1 districts before and after this date with other districts (Phase 2 and 3) before and after February 2006.

In order for this to be a valid empirical strategy, two assumptions need to be satisfied: The trends in violence between Phase 1 and non-Phase 1 districts need to be the same

before NREGS was introduced (although the violence levels can differ between the two groups), and there should be no other programs or policy changes in NREGS districts that were implemented simultaneously with the employment guarantee program. The second assumption holds since to the best of our knowledge the Indian government did not simultaneously start implementing any other program or policy in exactly the same districts that received NREGS.

One possible concern relating to the first assumption is that political manipulation may have led to the inclusion or exclusion of certain districts. If this manipulation led to the inclusion of districts that had an upward trend in violence, for example, then a normal difference-in-difference approach would produce biased results. In the companion paper, we show that this concern does not affect the results reported in this article: We have information on the government algorithm used to assign districts to implementation phases, allowing us to identify districts that should have received NREGS in Phase 1, and a difference-in-difference specification using this variable instead yields very similar empirical results. The companion paper also uses a different statistical method (a regression-discontinuity design) that does not require this parallel-trend assumption, and the results are again robust to this specification change.

Here, we use the following difference-in-difference regression specification for Phase 1 implementation:

$$y_{it} = \gamma_t + \zeta_d + \beta_1(\text{Phase } 1_i * \text{Post}_t) + \Delta\text{PoliceForce}_{it} + \epsilon_{it}.$$

The outcome variables (y_{it}) are casualties, the number of incidents, the number of "major" incidents, the number of injuries, abductions, and captures, and who initiates the attack in district *i* and month-year *t*. Month-by-year fixed effects (γ_t) control for either seasonal or month-specific spikes in violence and for other time-varying incidents that may affect the entire country. The term ζ_d reflects district-level fixed effects, which help account for the fact that certain districts may have higher levels of violence that are not associated with NREGS. It also controls for other time-invariant district characteristics like the type of socio-political and economic conditions in a district. As there may have been changes in the police force associated with NREGS implementation, the regression controls for estimated changes in police force characteristics using the Home Ministry data.

The coefficient of interest (β_1) is referred to as the difference-in-difference estimator. It is the coefficient on the variable that interacts being in a Phase 1 district (i.e., Phase 1_i = 1 for Phase 1 districts, and 0 otherwise), and the post-implementation period (i.e., Post_t = 1 after February 2006, and 0 otherwise). This coefficient captures the causal impact of receiving NREGS on the incidence of violence in a district.[11]

Results

Table 1 presents the empirical results. Panel A looks at the main variables of interest (deaths, injuries, incidents), whereas Panel B analyzes who initiated these incidents. Focusing on Panel A, we see that the total number of fatalities *increased* by 0.19 deaths a month in a district that received NREGS. Since the mean value of deaths in a typical red-corridor district is 0.44 deaths per month, this represents a 43 percent increase in fatalities. The total number of incidents rose by about 0.065 incidents a month in districts that receive NREGS, which corresponds to a 20.6 percent increase in red-corridor districts. This translates into approximately 410 more deaths in about 140 more incidents over the following year.The number of individuals affected by violence in the form of injuries, abductions, or captures also increased, by 0.05 persons per month. All of these effects are statistically significant, whereas the effect of NREGS on the number of major incidents, while positive, is not statistically different from zero.

Panel B provides insight into who initiates these attacks. Once NREGS is implemented in a certain district, police-initiated attacks *rise*, as do the number of encounters between the police and Maoists. While Maoist-initiated attacks also rise, this increase is not statistically significant.

Overall, these results show that the total number of violence-affected individuals and the number of incidents increase, with the bulk of this effect being driven by police-initiated attacks, and by encounters that take place between police forces and the Maoists usually while the police conduct "combing"-operations in the forests. These patterns are consistent with the idea that the police have better information on Maoist movements after the implementation of NREGS because of larger support by the civilians and therefore more effective tracking of insurgents.

This explanation for the effects of NREGS on Maoist-related violence is also supported by Figure 2, which uses the SATP data to plot the average number of Maoists surrendered or captured by the police in Phase 1 and non-Phase 1 districts over time. The figure highlights the effect of two major events—the passing of the NREGS Act in Parliament, and the implementation of Phase 1. The outcome of interest is the average number of Maoists surrendered or captured in a given month in Phase 1 and non-Phase 1 districts. The figure shows a sharp increase in Phase 1 districts once NREGS is implemented, which starts to decrease after about 8 months of implementation. This indicates the possibility that the police was more successful in catching Maoists right after NREGS

implementation, and that this may lead to a fall in overall Maoist-related activities in the longer run.

Discussion and conclusion

The results reported in this article show that the introduction of NREGS, the world's largest public-works program, has led to an increase of Maoist-related violence in the short run: The number of people affected, both in terms of fatalities as well as in terms of injuries, abductions, and police arrests, increased and there was also a larger number of Maoist-related incidents in treatment areas. The measured effects are large in percentage terms, even compared to the red-corridor districts where most of the violence is concentrated. This increase in violence is driven by police-initiated attacks and a larger number of encounters between police forces and the insurgents rather than by Maoist-initiated attacks. The number of Maoists arrested by the police also sharply increases over time.

The most plausible explanation for these effects is that NREGS has helped the police become more successful at gathering information about the movement of the insurgents, which in turn allows them to be more efficient in tracking Maoists rebels. Being the flagship anti-poverty program of the government, NREGS promises substantial economic benefits both in the form of employment and in terms of improvements in local development through the public-works projects. These anticipated benefits, potentially combined with a feeling that NREGS demonstrates the commitment of the government to helping the poor, may have induced civilians in the Maoist-affected areas to increase their support for the government by sharing more information with the police.

In the companion paper, we test some other implications of this citizen-support channel as well as the predictions of alternative theories. One of the main predictions of the information channel is its dynamic pattern: As long as civilians react to the promise of development rather than waiting for these benefits to actually be realized, they should start sharing information with the police immediately, leading to an increase in violence in the short run. Over time, however, a more effective police force should mean that the insurgents are losing ground and therefore lead to a downward trend in violence. We show in the companion paper that this pattern holds empirically and that it cannot be explained by the two main alternative theories: Both an increase in the opportunity cost of being a Maoist supporter because of NREGS employment and the increased attractiveness of retaining control over NREGS districts because of the assets created by public-works projects imply very different effects of NREGS over time.

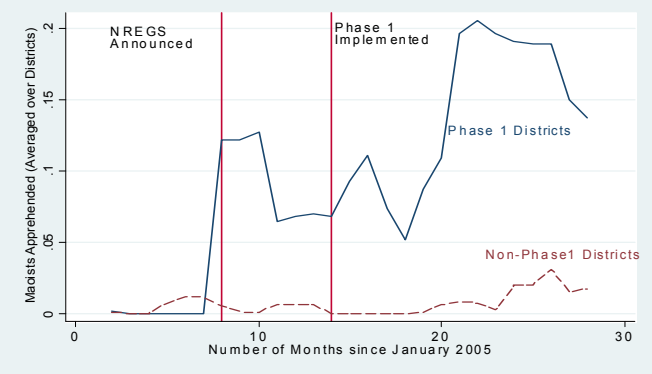

Figure 2: Average (over districts) number of Maoists surrendered or captured in a given month.

What we cannot completely rule out, however, is the hypothesis that police effectiveness increased through a different mechanism than the citizen-support channel: The

Table 1: Main results and "who initiates" the attacks

Panel A: Main variables

	Fatalities	Injuries, abductions, captured	Major incidents	Total incidents
NREGS	0.190***	0.0460***	0.0194	0.0654**
	(0.0713)	(0.0161)	(0.0126)	(0.0259)
Observations	12,069	12,069	12,069	12,069
R-squared	0.356	0.219	0.319	0.446
Mean value –all districts	0.116	0.146	0.015	0.084
Mean value –red corridor	0.441	0.553	0.058	0.317

Panel B: Who initiates the attacks?

	Police initiated	Maoist against police	Maoist against civilians	Encounters
NREGS	0.0203***	0.00648	0.0129	0.0203***
	(0.00647)	(0.00488)	(0.0121)	(0.00771)
Observations	12,069	12,069	12,069	12,069
R-squared	0.125	0.170	0.309	0.184
Mean value –all districts	0.019	0.011	0.033	0.014
Mean value –red corridor	0.070	0.040	0.123	0.052

implementation of NREGS may have put treated districts more in the spotlight, for example, and may therefore have incentivized the police to work harder. In the companion paper, we present some evidence that at least some versions of this explanation do not hold empirically. We show, for example, that the empirical patterns that we find are not driven by increases in the number of police officers and are not consistent with the government pulling police officers out of untreated neighboring districts to focus on the NREGS districts.

Overall, the empirical analyses in this article and the companion paper, combined with the anecdotal evidence that information-gathering is an important characteristic of the conflict, make the citizen-support channel seem like the most plausible explanation. This conclusion suggests that the introduction of NREGS has helped the government fight the insurgents. An important policy implication of the results is that civilians should be seen as a third key player in internal conflicts and should not be ignored in policymaking and research. Anti-poverty programs that demonstrate the government's willingness to improve the economic conditions of the poor, local population in conflict areas may therefore be a potentially valuable tool in a number of other contexts as well.

At the same time, we still know very little about the long-run success of such a strategy. While the citizen-support channel in the short run merely relies on the promise of development, retaining the support of civilians over time may depend crucially on actually keeping this promise and continuing the commitment to the fight against poverty. In the context of ambitious programs like NREGS where there is growing evidence of severe implementation problems in at least some areas of the country, this means that the program may only be successful in improving the relationship between civilians and the government if the implementation quality of NREGS increases.

Notes

1. Ministry of Home Affairs (2006); *Hindustan Times*,"Naxalism biggest threat: PM" (13 April 2006).

2. The scheme was renamed to Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) in 2009.

3. The companion paper, Khanna and Zimmermann (2013), uses a regression discontinuity design that does not require some of the assumptions that we make in this article with regard to the use of a difference-in-difference approach.

4. Cross-country: Collier and Hoeffler (2007). Micro-level: Do and Iyer (2007); Murshed and Gates (2005); Barron, Kaiser, and Pradhan (2004); Humphreys and Weinstein (2008). Adverse economic shocks: Miguel, *et al*. (2004); Miguel and Satyanath (2011). Impact of development programs on conflict: Berman, *et al*. (2011); Crost, *et al*. (2012); Crost, *et al*. (forthcoming); Nunn and Qian (2012). Companion paper: Khanna and Zimmermann (2013).

5. Naxalites: The correct way of addressing the insurgents is debated. Mukherji (2012) argues that they should be referred to as Maoists rather than Naxalites since the organizations that grew out of the original Naxalite movement of the 1960s mostly reject the actions of the Communist Party of India (Maoist) [CPI(M)] that is largely responsible for the violence in recent years. Intensity of conflict: See, e.g., Kujur (2009); Lalwani (2011).

6. *Adivasi*: a blanket term for a varied set of ethnic and tribal groups thought to constitute the aboriginal population of India. Both sides of the conflict: See, e.g., Bakshi (2009); Mukherji (2012); Lalwani (2011); Sundar (2011).

7. There was a temporary spike in violence in 2009/2010 as a reaction to Operation Green Hunt, a military initiative by the Government of India and some Indian states against the Maoists.

8. Regions, forest areas, headquarters: See, e.g., Mukherji (2012). Home Minister: The summary of a lecture given by Gopal K. Pillai on 10 March 2010 is available at: http://www.idsa.in/event/EPLS/Left-WingExtremisminIndia. A press report from 2007, available on the website www.satp.org, reports: "The CPI-Maoist reportedly issued a press release at Chintapalli village in the Visakhapatnam District, blaming the Police for turning the Girijans (local tribals) into informers by spending huge amounts of money ... [and] that surrendered Maoists are helping the Police, were not leading a normal life and were always with the Police who provided them with all luxuries and used them in combing operations ..."

9. For more details on the scheme see, e.g., Dey, *et al*. (2006); Government of India (2009); Ministry of Rural Development (2010). Some papers have analyzed the economic effects of the program: See, e.g., Berg, *et al*. (2012), Imbert and Papp (2013); Zimmermann (2013).

10. See www.nrega.nic.in.

11. Standard errors are clustered at the district level, which allows observations in the same district to be correlated and therefore produces more conservative estimates than standard errors calculated at the incident level.

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THE ECONOMICS OF COUNTERINSURGENCY: SOME EVIDENCE FROM ANDHRA PRADESH

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Abstract

Present in India since the 1960s, the Naxalite insurgency has steadily spread across the country. Counterinsurgency measures lagged behind and did not follow any systematic process till the early 2000s with the exception of Andhra Pradesh, which in 1989 established the Greyhounds, an anti-Naxalite police force. However, under the Congress-led UPA government (in power since 2004), there has been a concerted effort to tackle the insurgency. This article analyzes the centrally funded Security Related Expenditure Scheme in the context of industrial investments in Andhra Pradesh over the period 2005-2009. I find the scheme to have had no effect on industrial credit at the district level. A further disaggregation of the industrial credit data reveals no effects on construction but finds a positive effect on mining and quarrying activity.

Since its independence, India has been besieged with insurgencies but none have been as enduring as the Naxalite insurgency that currently affects approximately a third of the country's districts, mostly along its eastern seaboard. In India, internal security is primarily the responsibility of the states but in 2005, India's central government expanded a centrally funded Security Related Expenditure (SRE) scheme to compensate states for counterinsurgency expenditures. Despite the government's substantial reliance on this policy, no systematic study has evaluated the efficacy of this policy. This study provides a preliminary evaluation measured in terms of industrial investments made in Andhra Pradesh, a southeastern state, during the new phase of the SRE scheme. The analysis reveals no effects on the construction sector but finds a positive effect on mining and quarrying activity.

Long a hub of Naxalite violence, Andhra Pradesh state was one of the first movers on the counterinsurgency front and in 1989 established a highly trained and motivated anti-Naxalite police force, called the Greyhounds. The progress of counterinsurgency policies is difficult to judge. The notion of front lines does not exist in the traditional sense and the literature has typically relied on measures such as kill-ratios. Recently, however, researchers and practitioners have argued for using economic indicators to assess the progress of counterinsurgency. In addition to the loss of life and property, conflicts cause political instability, which adversely affects saving and investment and results in the loss of economic prosperity. Reduced economic growth can then make a region vulnerable to further political and financial instability.

Counterinsurgency policies, by reducing uncertainties and boosting confidence, may enhance investment and demand. Literature along these lines includes the use of exchange rates to determine the effectiveness of U.N. interventions in Lebanon, the use of equity price indices to assess the prospects of sustainable peace in Sri Lanka, and economic indicators such as bond prices, and of oil and electricity production, to assess recent policies in Iraq.[1] As for India, a 2012 paper analyzed the economic effects of the introduction of the Greyhounds in Andhra Pradesh. The present article analyzes the effectiveness of the centrally funded SRE scheme in Andhra Pradesh, particularly in regard to the amount of industrial investment undertaken in the state.[2]

Insurgency and counterinsurgency

Initially led by radical members of the Communist Part of India (Marxist), the Naxalite movement started as an armed peasant uprising in Naxalbari village in West Bengal in 1967 and then rapidly spread to other parts of India. It aims to overthrow the Indian state and establish a communist regime. Due to both a heavy response from the state and political infighting, the movement splintered into various subgroups and was largely driven underground by the early 1970s.

In Andhra Pradesh, the movement reappeared strongly with the formation of the Communist Party of India (Marxist-Leninist) People's War (also called People's War Group) under the leadership of Kondapalli Seetharamaiah in 1980. While there was little intergroup coordination in the

movement's early phases, quite a few mergers occurred from the mid-1990s onwards. The most significant merger took place in 2004 when the two largest Naxalite groups—the People's War Group in Andhra Pradesh and the Maoist Communist Centre of India (MCCI) in Bihar—merged to form the Communist Party of India (Maoist), or CPI (Maoist). By the government's estimate, 223 districts across 20 states were affected in 2008. In 2006, the Prime Minister of India described the Naxalite problem as the single biggest internal security challenge that the country then faced.[3]

In addition to the rapid spread to the insurgency, another cause of concern was (and is) the increasing lethality of weapons used by Naxalites, moving from homemade weapons to sophisticated rifles (such as the Kalashnikov series and INSAS rifles), light machine guns, rocket launchers, and mines. For example, in 2003, Mr. N. Chandababu Naidu, Chief Minister of Andhra Pradesh, barely escaped a land mine attack by the People's War Group.[4]

Naxalites disrupt the local economy in their areas of operation by destroying public infrastructure such as railway lines, communication towers, roadways, public offices, and schools. One estimate puts the cost of a two-day long economic blockade by Naxalites in June 2007 that targeted public infrastructure at Rs. 1.5 billion. Economic activity is also affected by the increasing incidence of kidnapping for ransom and protection money levied on commercial enterprises. For example, one report on documents seized from Naxalites by the police in 2007 suggests CPI (Maoist) revenue of well over Rs. 10 billion, a large part of which came from extortions. The insecurity created by Naxalite activity has been reported to dampen investments in the affected areas.[5]

Counterinsurgency policies in response to Naxalite activity differs from those of other insurgencies in India in two key ways. First, there is no (direct) involvement of the Indian army and, second, because the insurgency is spread over a large geographical area, state coordination is required. In India, maintenance of law and order is the responsibility of the states and until recently, there was little coordination between the central and the state governments on the approach toward the insurgency. Left to their own devices, the response from the affected states was lacking, with the states largely relying on inadequately trained regular police forces. The central government does step in with support from the central police organizations when requested, but this has been widely acknowledged to have had little effect. From 2005 onward, under the Congress-led UPA government, however, a concerted effort has been made to increase coordination between the affected states and the central government.[6]

Since independence, India has been affected by various violent insurgencies, particularly in states along its eastern seaboard. One such state is the southeastern state of Andhra Pradesh, The article analyzes the effectiveness of India's centrally funded Security Related Expenditure (SRE) scheme, which reimburses states for expenditures incurred in fighting the Naxalite insurgency. Particular attention is paid to the amount of industrial investment undertaken in Andhra Pradesh during the new phase of the SRE scheme.

The Security Related Expenditure (SRE) scheme for Naxalite-affected areas

With many affected states falling short of funds to maintain and improve the state police, the central government implemented the SRE scheme to help fund anti-Naxalite operations in affected districts. The scheme initially operated on a small scale (and often in an *ad hoc* manner) from 1996 to 2004, covering a few districts and only providing 50 percent reimbursement of police expenditure incurred on anti-Naxalite operations.

In 2005, under the new UPA government, the scheme was comprehensively revised. The extent of coverage increased considerably both in terms of the number of districts and the types of expenditure covered. Also, the amount of reimbursement spiked from 50 percent to 100 percent. Among other things, the scheme provides reimbursement for weapons, transportation and communication equipment, special training of state police personnel, provision of insurance for state police personnel, *ex gratia* payment to families of civilians or security personnel killed, rehabilitation of surrendered Naxalites, and community policing.[7]

Under the revised scheme, selection is a two-step process. First, a state is eligible if there exist banned Naxalite groups in the state, if the state has made efforts to tackle the activities of these groups, and if Naxalite activity has hindered development. Second, the eligibility of a district is based on the intensity of Naxalite violence over the past three to five years, the organization of the Naxal groups (even if violence is low), the sophistication of arms used by Naxalites, the presence of front organizations that lend local support, and the measures taken by the local administration.

In terms of geographical coverage, the scheme has expanded from an initial list of 27 districts in 5 states in 1996 to 83 districts across 9 states in 2005.[8] Figure 1 shows the approximate geographical coverage under the scheme. Figure 2 shows the total amount of funds released by the central government to the affected states. The average of annual funds released during the period 2000-2004 was Rs. 150 million. This increased under the new scheme. Over the period

2005-2009, the annual funds released averaged well over half a billion rupees (Rs. 592 million).[9] Similarly, the funds released to Andhra Pradesh doubled from an average of Rs. 37.2 million per annum during 2000-2004 to Rs. 76.3 million per annum during 2005-2009.

The scheme appears to have (partly) met a genuine need for additional funds in the affected states. Faced with repeated requests to increase the number of districts covered by the scheme, the central government expanded the list to 106 districts in 2012 and increased its financial commitment further.[10]

Andhra Pradesh's Greyhounds

In 1989, Andhra Pradesh raised a special state police force, known as the Greyhounds, to counter the Naxalites. This commando force is well-trained in counterinsurgency methods, highly remunerated, well-equipped, and has its own intelligence network. Its members are recruited from the regular police forces for a tenure of three years after which they return to their respective units. The Greyhounds have been widely credited by security experts and policymakers with bringing Naxalite violence in Andhra Pradesh under control.[11]

The Greyhounds force is reported to be the idea of Mr. V.S. Vyas, an officer of the Indian Police Service. Although, Mr. Vyas was assassinated by Naxalites in 1993, the force survived and has grown in numbers from 886 in 1989 to around 2,000 in 2009. Since 2000, the Greyhounds have been providing training to the police forces of other Naxalite-affected states and at the request of the Prime Minister, Dr. Manmohan Singh, some of these states are reportedly raising similar forces themselves.[12]

A 2012 paper examines the extent to which the creation of the Greyhounds mitigated economic losses due to Naxalite violence in Andhra Pradesh. It finds that per capita GDP in Andhra Pradesh over the period 1989-2000 was 16 percent higher than it would have been in the absence of the Greyhounds. This positive effect is traced to the nonagricultural sectors of the state economy and, in particular, to the manufacturing sector and its components (registered and unregistered manufacturing), with effects ranging from 20 to 26 percent increase in the average sectoral output.[13]

These outcomes capture direct and indirect effects of the introduction of the Greyhounds. After all, they do not operate in isolation. Reportedly, good coordination and intelligence sharing takes place with the regular Andhra Pradesh police force, and Greyhound members return to their respective units after their tenure, and this has over time contributed to improved counterinsurgency capabilities of the regular police force as well.[14]

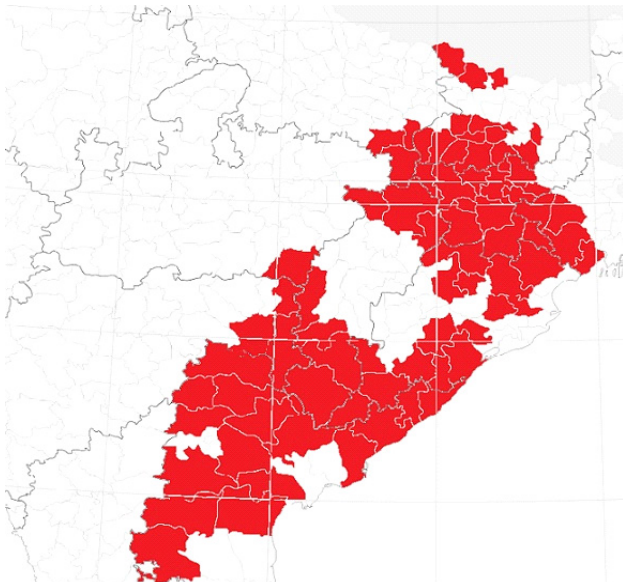

Figure 1: Districts under the SRE scheme. *Note*: District boundaries have changed over time. The figure is an approximate representation of the districts covered under SRE during 2005-2009.

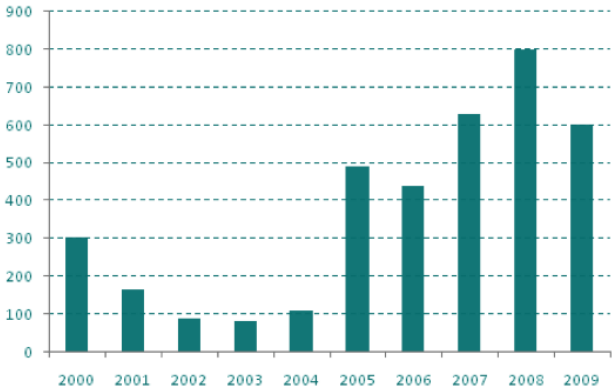

Figure 2: Funds released under the SRE scheme for Naxalite-affected States (in Rs. millions; 2000-2001 to 2009-2010). *Note*: Author's calculations based on data from the Ministry of Home Affairs.

Data and empirical strategy

The empirical research reported here uses the synthetic control method (SCM) developed by Abadie and Gardeazabal for the Basque economy in Spain to estimate how an economy would have grown in the absence of the counterinsurgency policy response. In simple terms, the SCM uses pre-intervention (or pre-"treatment") information on the outcome variables and predictors of interest to weight the control variables in such a way as to resemble the treated unit, thereby creating a "synthetic control." The counterfactual outcome for the treated

unit in post-intervention periods can then be estimated from the outcome for the synthetic control. An extension of the difference-in-difference methodology, SCM relaxes the assumption of a common linear trend between the treated and the control areas in the absence of treatment.[15]

The SCM can be motivated through the following framework.[16] Suppose we have panel data on $J+1$ regions for T periods of time. Only the first region exposed to the treatment from periods T_o+1 to T and the remaining J regions are the controls. The treatment on region i at time t can be written as $\alpha_{it}=Y_{it}^{I}-Y_{it}^{N}$, where the two terms on the right-hand side of the equation denote the outcome with and without treatment, respectively. To estimate the treatment effect for region 1 ($\alpha_{1,To+1,\ldots,\alpha 1,T}$), one needs to estimate what the outcome *would have been* in the absence of treatment for region 1. Assume that Y_{it}^{N} is given by the following model:

$$(1)\ Y_{it}^{N} = \delta_t + \theta_t Z_i + \lambda_t \mu_i + \epsilon_{it}.$$

Here, Z_i is a vector of observed covariates (which may vary with time, but are not affected by the treatment), μ_i are the region-specific unobserved confounders, and ϵ_{it} are mean 0 shocks. Let

$$(2)\ W = \left\{\omega_j\right\}_{j=2}^{J+1}$$

be a set of non-negative weights that sum to one. Each such set of weights represents a particular weighted average of controls, i.e., a particular synthetic control. It can be shown[17] that if there exists a set of weights W^* such that

$$(3)\ Z_1 = \sum_{j=2}^{J+1}\omega_j^* Z_j \ \textit{and}\ Y_{1t} = \sum_{j=2}^{J+1}\omega_j^* Y_{jt} \ \text{for all}\ t \in \{1, \ldots, T_0\}$$

then the treatment effect can be estimated from

$$(4)\ \hat{\alpha}_{1t} = Y_{1t} - \sum_{j=2}^{J+1}\omega_j^* Y_{jt}^{N}\ .$$

In words, the counterfactual outcome for the treated unit in post-treatment periods can be estimated from the weighted average of the outcomes of the controls. In practice, the weights W^* are chosen such that equation (3) holds approximately. Let X_1 be the vector of pre-treatment characteristics of the treated region and X_0 be the matrix of pre-treatment characteristics of the control region. Then the vector of weights W^* is chosen to minimize the square root of $(X_1 - X_0W)'V(X_1 - X_0W)$ subject to the weights being non-negative and summing to 1. Although V can be any positive definite matrix, V is chosen such that the mean square error of the outcome variable is minimized for the pre-treatment period.

The SCM does not allow for inference through the standard asymptotic techniques. Following the literature, we check the significance of the results through placebo tests where the same analysis is performed on each of the potential controls (as if they were treated) and then compared to the baseline results.[18] If the actual treatment effects (baseline) are large relative to the placebos then the result is significant.

This article reports estimates of the economic effects of the SRE scheme in Andhra Pradesh above and beyond any effects of the Greyhounds, and specifically effects on its industrial sector which during the period under consideration accounts, on average, for 25 percent of state GDP. Further, within the industrial sector, the effects on the mining and quarrying and the construction sector are of special interest. Although accounting for less than 3 percent of state GDP, mining and quarrying are of strategic importance. For example, in 2009-2010, Andhra Pradesh accounted for 10.7 percent of the value of mineral output in the whole of continental India, making it the country's most important state in this regard. The state is also a key producer of certain principal minerals such as barytes and mica, accounting for over 99 percent of India's total output. And considering the recent evidence from Northern Ireland that housing prices respond to a decline in violence, the article also reports on the effect of the SRE scheme on construction activity in Andhra Pradesh.[19]

District-level investment measures used are (1) the total amount of industrial credit disbursed by so-called scheduled commercial banks and (2) industrial credit disbursed under the subcategories of mining and quarrying and construction. Scheduled commercial banks include public, private (domestic and foreign), and cooperative banks registered with the Reserve Bank of India. They are the primary source of official credit. Although not including investments financed through other channels such as capital and unofficial money markets, scheduled commercial banks' credit is probably the best available indicator of investment. The data is compiled yearly and available through the Basic Statistical Returns of the Scheduled Commercial Banks of India reports published by the Reserve Bank of India.

The observed covariates used in the construction of the synthetic control are (1) the percentage of the district population that belongs to the Scheduled Caste and Scheduled Tribes (SC and ST, respectively), (2) population density, (3) the percentage of the population living in urban areas, (4) the literacy rate, (5) average household consumption expenditure, (6) the Gini coefficient, (7) the unemployment rate, and (8)

district-level Naxalite activity, coded into an index that ranges from 0 for not affected to 4 for highly affected.[20]

Andhra Pradesh has 23 districts, 16 of which were covered ("treated") under the SRE scheme. The simple average of these districts forms the treated unit while the potential controls (untreated) are the remaining 7 districts in the state. Since the SRE scheme was introduced in 2005, the pre-treatment period is 1999-2004 and the post-treatment period is 2005-2009.[21]

The analysis is terminated in 2009 as the central government launched two other important counterinsurgency policies thereafter. First, in November 2009 the government launched a massive coordinated paramillitary offensive across five states against the Naxalites ("Operation Green Hunt"). Second, in November 2010, the central government launched the Integrated Action Scheme to improve the provision of public goods and services in Naxalite-affected districts.[22]

Results

Pre-treatment covariates and outcomes are used to weight the controls in such a way that they resemble the treated unit in the pre-treatment period. The resulting synthetic control consists of three districts: Cuddapah (42 percent), Nellore (37 percent), and Rangareddy (21 percent). Weights and predictor means used to construct the synthetic control are shown in Tables 1 and 2. The synthetic control constructed using the weights mirrors the treated unit fairly well on all predictors. In particular, the synthetic control does a much better job in resembling the treated unit than, for example, the equally weighted average of the controls.

A visual representation of the SCM indicates little evidence of a treatment effect of the SRE scheme on *total* industrial credit taken in Andhra Pradesh (see Figure 3). Industrial credit taken in the treated unit (that is, the districts receiving SRE funds) is represented by the solid black line. The synthetic control–the untreated districts– is shown by the dashed line and closely mirrors the treated trend in industrial credit taken until 2004, after which there is a slight divergence. Even though there is a steady increase in industrial credit taken in the treated unit, the synthetic control catches up and exceeds the treated unit in 2008 and 2009.

Placebo tests confirm the absence of any significant effect of the SRE scheme on industrial credit as a whole (Figure 4). Here the treated unit is moved to the control pool and the treatment effects are estimated for each of the controls using the same SCM specification. The true treatment gap (indicated by the dark black line) can be compared with the treatment gaps estimated under the placebo tests (indicated by the grey lines).[23] As may be seen in the figure, the baseline treatment effect does not appear to be consistently larger than those from

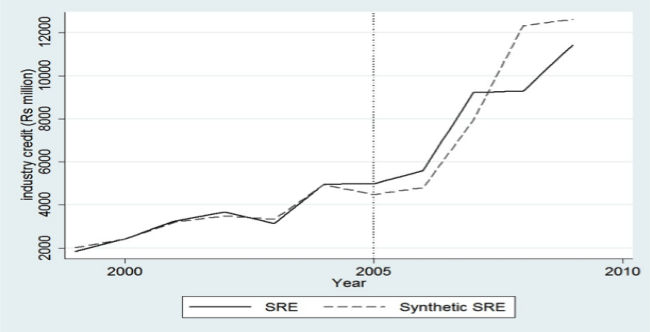

Figure 3: Industry credit trends in treated and synthetic control areas.

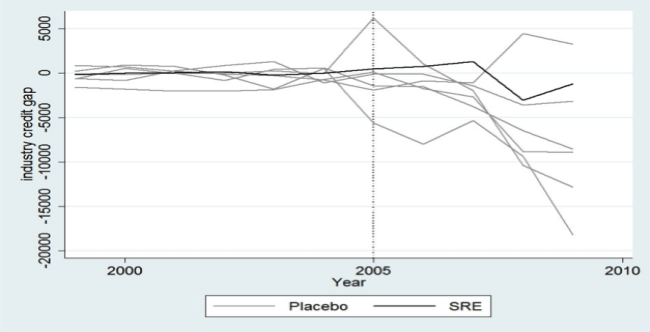

Figure 4: Placebo tests for industry as a whole.

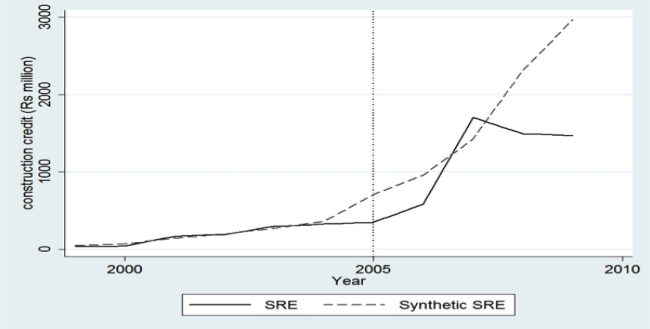

Figure 5: Construction credit trends in treated and synthetic control areas.

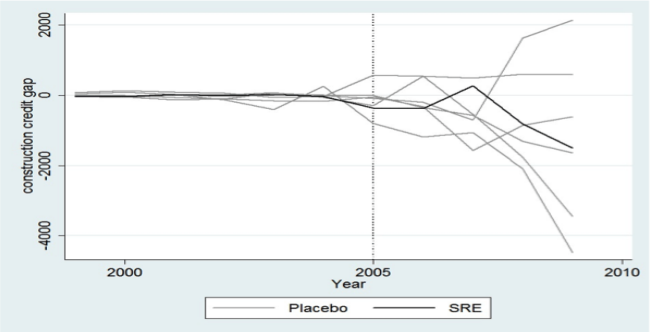

Figure 6: Placebo tests for the construction sector.

While there is little to no effect on industrial credit taken as a whole, treatment effects may exist in particular sectors within industry. Figures 5 (treated v untreated districts) and 6 (placebos) show the results for the construction sector. Similarly, Figures 7 (treated v untreated) and 8 (placebos) show the results for the mining and quarrying sector.

In Figure 5 the synthetic control districts mainly comprise Cuddapah and Nellore (see Table 1), and the figure indicates no effect of the SRE scheme on the treated group of districts: In fact, the control diverges and exceeds the treated unit from 2005 onward. The placebo tests shown in Figure 6 confirm the absence of any effects.

As for mining and quarrying (Figure 7), the synthetic control consists of Cuddapah, Chittoor, Rangareddy, and West Godavari (Table 1) and credit taken in these districts is almost identical to the SRE districts until 2005 (the root mean square error in the pre-treatment period is 3.41). Thereafter, however, a wide gap between the treated unit and the synthetic control opens up and it peaks at Rs. 434 million in 2007. However, this effect vanishes by 2009. Placebo tests (Figure 8) provide some support for this finding as only one placebo permutation lies above the treated unit.

Table 1: Synthetic weights (proportions)

District	*Total*	*Construction*	*Mining*
Hyderabad	0	0	0
Rangareddy	0.21	0	0.22
West Godavari	0	0	0.05
Krishna	0	0	0
Nellore	0.37	0.27	0
Cuddapah (YSR)	0.42	0.72	0.39
Chittoor	0	0.01	0.35

Table 2: Predictor means

Covariate	*SRE*	*-------Synthetic control--------*			*Controls*
		Total	*Construction*	*Mining*	*average*
Violence index	3.88	2.43	2.01	2.43	2.57
Pop. density	272.56	244.75	245.29	307.89	2,721.00
SC/ST pop. (%)	24.57	22.98	21.58	19.76	20.15
Literacy rate	55.50	64.37	63.53	65.42	68.86
Av. pc. cons. exp.	669.24	654.46	691.25	659.00	806.96
Gini coeff.	0.29	0.29	0.30	0.30	0.31
Unemployment rate	1.42	1.36	1.36	1.09	1.34
Urban population (%)	20.41	29.27	22.85	29.09	38.96
Total credit (1999)	1,841.58	2,018.64			10,037.77
Total credit (2002)	3,674.58	3,486.63			17,518.92
Total credit (2004)	4,958.60	4,939.36			24,558.98
Const. credit (1999)	34.99		48.45		298.40
Const. credit (2002)	191.81		198.39		1,728.36
Const. credit (2004)	326.77		359.64		4,459.21
Mining credit (1999)	32.91			36.62	122.23
Mining credit (2002)	68.54			67.92	813.77
Mining credit (2004)	92.32			88.25	315.45

Note: * Credit in millions of rupees (Rs.).

Discussion and conclusion

The article explores links among conflict, security, and economic outcomes in the context of the Naxalite insurgency in Andhra Pradesh, India. Using industrial credit disbursed by commercial banks as a proxy for investment, it finds that the centrally funded Security Related Expenditure scheme did not affect industrial investment activity in Andhra Pradesh over the period 2005-2009. Disaggregating industrial credit taken reveals a positive effect on mining and quarrying but not on construction activity.

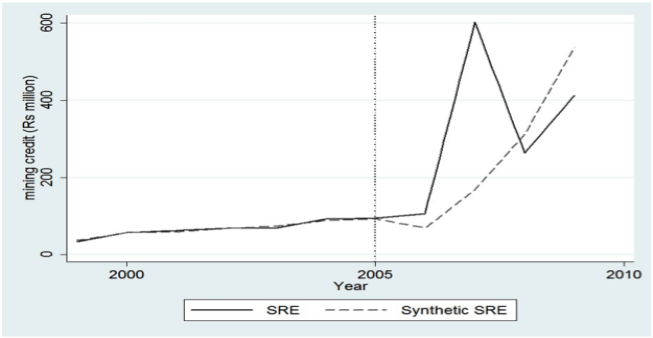

Figure 7: Mining & quarrying credit trends in treated and synthetic control areas.

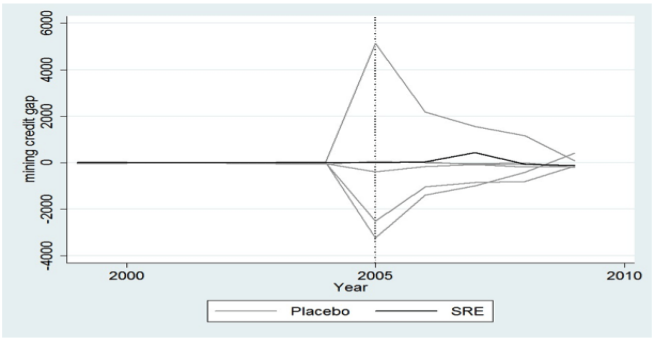

Figure 8: Placebo tests for the mining & quarrying sector.

It must be pointed out that the assumption of no interference between units may be violated in this case study as there may be spillovers beween the districts that were assigned to the treatment and control groups, respectively, and the net effect of which is ambiguous. It is quite possible that the flow of SRE funding to the treated districts resulted in the movement of Naxalites to the untreated districts, thereby lowering their economic activity.[24] But it is also possible that since the central government was funding anti-Naxalite efforts in the treated districts, states were able to channel/divert more funds to the control districts, potentially increasing their economic activity. Another potential source of concern is the variation in treatment over time and across the districts that received the scheme. Presently the central government only provides information on the total amount of funds provided to the affected states under the SRE scheme. If more information becomes available on how the states allocated these funds to the treated districts and how they were spent, it would be interesting to analyze if variations along these dimensions affected violence and economic activity differently.

Nonetheless, the finding that in Andhra Pradesh, the SRE scheme positively affected mining and quarrying but not other industrial activity such as construction is interesting. As discussed, mining and quarrying are strategically important, and it is possible that SRE funds are not improving the security environment in general but only for certain activities such as mining. Future work may extend this kind of analysis to other states covered under the scheme to learn what relationships may be uncovered there. This is important given that the affected states are asking for a further expansion of the scheme.[25]

Notes

1. Use of economic indicators: Kapstein, (2012). Lebanon: Sobel (1998); Sri Lanka (Coyne, *et al*., 2010); Iraq (Chaney, 2008; Amara, 2012).

2. Paper from 2012: Singhal and Nilakantan (2012).

3. "It would not be an exaggeration to say that the problem of Naxalism is the single biggest internal security challenge ever faced by our country ..." PM's speech at the Chief Minister's meeting on Naxalism. http://pmindia.gov.in/speech-details.php?nodeid=302 [accessed 16 January 2014].

4. Weapons used: Ramana (2006). Attack on minister: *The Hindu* (2003).

5. Targets: Ramana (2009b). Blockade: Srivastava (2007). Kidnapping and protection money: Pandey (2009) reports that the lure of extortion revenue was leading to turf wars between Naxal groups. Rs. 10 billion: Singh and Diwan (2010). More recent investigations peg this closer to Rs. 20 billion (*The Times of India*, 2011). Investigations also reveal poppy cultivation to be another important source of revenue. Dampened investment: (The Economic Times, 2010).

6. Little effect: See, g., Jha (2009). This is stressed in point 3 of the government's 14-point policy against the Naxalites: "Naxalism being an inter-state problem, the states will adopt a collective approach and pursue a coordinated response to counter it." (Ramana, 2009a).

7. The exact criteria used for selection under SRE and the full list of expenditure covered are available on the website of the Ministry of Home Affairs: http://www.mha.nic.in/sites/upload_files/mha/files/NM-SRE-Scheme_0.pdf [accessed 16 October 2013].

8. Some of this increase in the number of districts comes from large districts being split into smaller ones.

9. The funds released under the SRE scheme in 2010-11 totaled to Rs. 2.99 billion indicating the dramatic shift in policy. See *Hindustan Times* (2011).

10. Repeated requests: See, e.g., Pattnaik (2009). Expanded list: *Hindustan Times* (2011).

11. Recruited: Achutham (2010); Raju (2010). Widely credited: See, e.g., Sahni (2007).

12. Assassinated: *Times of India* (1993). Greyhound numbers: Shatrugna (1989); Priyadershi (2009). Similar forces in other states: Tiwari (2009).

13. A 2012 paper: Singhal and Nilakantan (2012).

14. Improved counterinsurgency by regular police force: Sahni (2008).

15. SCM: See Abadie and Gardeazabal (2003); Abadie, *et al*. (2010).

16. This is a brief summary. See Abadie and Gardeazabal (2003) and Abadie, *et al*. (2010) for details.

17. It can be shown: See Abadie, *et al*. (2010).

18. Literature: Abadie, *et al*. (2010).

19. Continental India: Though Andhra Pradesh was the leading state, offshore areas accounted for 27 percent of the value of mineral output in India. Baryites and mica: Government of India (2011). Northern Ireland: Besley and Mueller (2012).

20. Naxalite activity: From Ramana (2008). Details on data sources are available directly from the author.

21. Treated districts are Anantapur, Adilabad, East Godavari, Guntur, Karimnagar, Khammam, Kurnool, Medak, Mehboobnagar, Nalgonda, Prakasam, Srikakulam, Visakhapatnam, Vizianagaram, Warangal and Nizamabad. Non-treated districts: Rangareddy, West Godavari, Krishna, Nellore, Chittoor, Cuddapah and Hyderabad. The untreated group is restricted to the state of Andhra Pradesh to ensure that they are similar to the treated districts in all other respects.

22. For more information, see the press release by the Ministry of Home Affairs at http://pib.nic.in/newsite/erelease.aspx?relid=79472 [accessed 16 January 2014].

23. The placebo tests of Hyderabad are excluded in the analysis. As Hyderabad does not lie in the convex hull of its control pool, no combination of weights can find a good fit for it in the pretreatment period.

24. For instance, Hoelscher, *et al*. (2012) find empirical evidence of spillover across neighboring districts.

25. *The Hindu* (2013).

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CRIME AND SOCIAL CONFLICT IN INDIA

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Abstract

This article has two goals. First, using district-level panel data we identify key determinants of violent crime, nonviolent crime, and crime against women in India, 1990-2007. Second, using district-level variation in regard to Maoist-driven social conflict, we examine how social conflict affects crime and its determinants. In addition to conventional determinants of crime (e.g., law enforcement and economic variables), we examine how variation in sex ratios affects crime. We also study whether the gender of the chief political decisionmaker in each state affects crime. We find that improvements in arrest rates decreases the incidence of all types of crimes. Socioeconomic variables have relatively little explanatory power. We also find evidence that unbalanced sex ratios, particularly in rural areas, increase crime. The presence of a female Chief Minister diminishes violent crime and, especially, crimes against women. Finally, we find that in districts affected by the Maoist insurgency, all types of crime are lower and we offer explanations for why that may be the case.

This article examines patterns of interpersonal crime in India for the period 1990-2007. While analyzing how socioeconomic and demographic factors have affected crime, it adds the novel consideration that crime rates may differ between districts affected by Maoist (Naxalite) violence and those that have remained relatively unaffected by it. The analysis of crime across developing countries often takes a backseat in the face of issues such as poverty and lack of effective governance, but it is increasingly understood that there is a close relationship among interpersonal crime, violent social conflict, and socioeconomic backwardness. Despite its economic advancement, India has been facing various instances of social conflict, and the post-2004 revival of Maoist violence presents a particular challenge both in that it burdens law enforcement and in regard to the longer term effect of changing economic conditions that may have precipitated the social conflicts in the first place.[1]

Factors affecting levels, rates, and patterns of crime may vary across conflict and nonconflict districts for several reasons. First, law and order concerns may lead to an increase in police presence in social conflict areas and thus affect interpersonal crime. Second, the distribution of preferences (e.g., attitudes to risk, tolerance for violence) may differ across the population of conflict and nonconflict areas, which could affect both conflict-related violence as well as criminal behavior. Third, socioeconomic factors are often cited as among the causes of social conflict and even without disentangling the cause-effect issue here, one can still study differences in the impact of some such factors on crime across conflict and nonconflict states. In addition, the distribution of people from different castes varies across states (and there is evidence that this plays a role in violent crime in India) but the role of caste may be particularly strong in states affected by social conflict. Fourth, advances in general literacy may lower crime across all states but may have particularly strong effect in social conflict-ridden areas.[2]

Following the traditional economics of crime literature, we first study the broad pattern and determinants of interpersonal crime for India's 16 major states. We then separate the data into Red Corridor districts (where Maoist violence is prevalent) and non-Red Corridor districts to learn whether any differences emerge. The literature on the crime determinants in India has addressed some of the issues raised in this article. But in one such study the authors do not differentiate among different categories of crime and therefore are unable to address the heterogeneity in crime rates within states. In another study, the author examines crime and Maoist violence but does not explore any mechanism to explain why social conflict may affect crime rates differently in Red Corridor districts than in other districts.[3]

Our choices of the determinants of crime are based on what we believe to be important factors that affect the costs and benefits of committing crime, but we consider two additional India-specific factors that can affect crime. The first of these is

the female-to-male sex ratio. Unlike developed countries, which have a stable, naturally balanced sex ratio, Indian states experience considerable variation and imbalance in sex ratios. Second, female political leadership may be expected to affect crime-reporting and enforcement, and particularly in regard to crimes directed against women.

The next section provides a brief background of the Maoist insurgency, followed by a discussion of data, empirical strategy, results, and a concluding section.[4]

This article studies patterns of interpersonal crime in India for the period 1990-2007. While analyzing how socioeconomic and demographic factors have affected crime, it adds the novel consideration that crime rates and crime determinants may differ between districts affected by Maoist (Naxalite) violence and those that have remained relatively unaffected by it. We find that crime is generally lower in districts affected by Naxalite insurgents.

Social conflict in India

India is home to a number of social conflicts at the sub-national level. Measured by intensity, the main ones are the Maoist movement, the Hindu-Muslim communal conflict, various separatist movements in the northeastern states, and Islamic fundamentalist terrorism. These are spread across the country and vary substantially in their magnitude of incidence.[5]

In this article we focus on the Maoist conflict, India's longest-running. It is considered the country's major internal social conflict and its control and eventual cessation is high on the central government's agenda. Among the motives behind the start and diffusion of this social conflict are unequal land distribution and insecure land rights, which mostly affect lower castes and ethnic tribal groups. The land-related social conflict started in 1967 in the village of Naxalbari in West Bengal and spread due to underdevelopment itself and due to the support gained from political parties such as the Communist Party of India (Marxist). For much of its existence, the Naxalite insurgency was highly fragmented, consisting of numerous ideologically opposed groups. It was not until 2004 that its two major groups merged, forming the Communist Party of India (Maoist). This was the starting point of neo-Naxalites and is, for us, the starting point of our analysis. The intensity of this social conflict is highly heterogeneous both across districts within affected states as well as across states.[6]

The general literature suggests that social conflict adversely affects economic growth. This has been shown to hold for Naxalite-affected districts, which are among the poorest in India. Among the major causes that underpin the Naxalite-related unrest are institutional and colonial legacies that cause underdevelopment in the affected districts. Another strand of the literature establishes that adverse climate shocks (or adverse natural resource shocks) increase the intensity of social conflict. The underlying mechanism is that adverse climate shocks are correlated with income shocks. These can intensify social conflict in the form of fighting over resources to alleviate income constraints. Still other authors point to strategic elements. For example, areas suffering adverse climate shocks may be strategically chosen by Maoist insurgents as target areas for conflict.[7]

Abstracting from the cause or causes of the Maoist conflict, we instead ask what role Maoist-driven conflict may have had on various types of interpersonal crime, for example, through policies implemented to control the insurgency. This is important, first, because conflict states may experience higher crime, particularly violent crime, precisely because of the insurgency and, second, by lowering economic growth, social conflict may reduce the opportunity cost of committing nonviolent crime. Further, a general breakdown of law and order may reduce the deterrence effect of law enforcement. Acting against this, there may be an informal law enforcement role that the insurgents may take on, leading to a lowering of interpersonal crime in general. The conflict also has led to an increased military presence in affected states which may have the unintended consequence of lowering rates of interpersonal crime.

Similar to a 2012 paper which addresses the potentially positive consequence of counterinsurgency policies for economic growth, our analysis points to a related conclusion: Our estimates suggest that districts that experience Maoist conflict, interpersonal crime has decreased due to improved policing.[8]

Data and empirical strategy

Our empirical specification is given by the following equation:

$$(1)\quad C_{d,s,t} = \beta_0 + X^1_{d,t}\beta + X^2_{s,t}\beta + \delta_d + \mu_t + \varepsilon_{d,s,t}\ ,$$

where $C_{d,s,t}$ is the logarithm of the crime rate per 100,000 population in district d of state s at time t. X^1 is a vector of district-specific socioeconomic explanatory variables, and X^2 is a vector of state-specific variables. The error-term is given by $\epsilon_{d,s,t}$. Crime and violence rates may depend on unobservable factors, such as social norms and tolerance of crime, that are persistent through time and which can vary across districts. As a result, we include district fixed-effects to account for time-invariant characteristics, δ_d. We also include time-fixed effects to account for national time-variant effects on crime, μ_t. In all regressions, we use robust standard errors clustered at the

district-level to address problems of serial correlation and to allow for heteroskedasticity.

Indian states have independent decisionmaking power over law and order policy. As such, different states may allocate different resources to policing and security. We allow for this by including several state specific variables that control for deterrence. We include crime specific arrest rates and strength of the police force per capita. We expect that an increase in deterrence decreases crime. However, allocation of police resources may not be homogenous within states. District-specific characteristics and special interests such as electoral goals and location of firms may lead to heterogeneous allocation of security goods. But data on district-level deterrence measures is not available and thus we include these measures only at the state level. Unobservable time-varying and time-invariant factors that could influence the allocation of resources are captured by the inclusion of $(\delta_d + \mu_t)$.

We collected district level data on 16 crime categories from the National Crime Records Bureau (NCRB). Using these, we grouped crime into four major groups as defined by the Indian Penal Code. They are: (1) violent crime, (2) property crime, (3) economic crime, and (4) crimes against women. The crime data are commingled and do not allow us to identify crime directly attributable to the Maoist insurgency. For the 16 states, we altogether construct a data panel for 346 districts for the years 1990 to 2007. In addition, to obtain measures for law enforcement, we use state level data on police strength per capita (civil and armed) and arrest rates per category. As mentioned, this information is available only at the state level and not at the district level. Socio-demographic data at the district level is available decennially from the 1991 and 2001 censuses. We match district boundaries to those of 1991 and match state boundaries to those of 2000. Finally, we match this information with political variables collected from election reports issued by the Electoral Commission. We also include real GDP data taken from the Reserve Bank of India, measured at the state level. Descriptions of all variables are in Table A1.[9]

The Government of India's Reimbursement of Security Related Expenditures (SRE) scheme identifies the districts that have been affected by the Naxalite conflict (evaluated by the intensity of the conflict). The central government released Rs. 5 billion (approximately USD80 million) to affected state governments reimbursing them for expenditures incurred as of fiscal year 2004-2005. These include reimbursement for expenditures related to "insurance, training and operational needs of the security forces, rehabilitation of Left Wing Extremist cadres who surrender in accordance with the surrender and rehabilitation policy of the State Government concerned, community policing, security related infrastructure for village defence committees and publicity material."[10]

We use the SRE information to construct a Red Corridor dummy variable. Among the 16 states in our sample, seven have districts affected by the Naxalite conflict. We use the report produced by the Ministry of Home Affairs to construct a dummy variable for districts affected by the Naxalite insurgency, post-2004. This gives us a total of 46 districts that are considered conflict-affected areas, as per the 1990 boundaries. This measure is imperfect as it does not capture the intensity of the social conflict or the expansion of the insurgency since its inception. However, it is a useful summary measure of social conflict.[11]

We employ the following specification to estimate the marginal impact of being in a Naxalite-affected state:

$$C_{d,s,t} = \beta_0 + X^1_{d,t}\beta + X^2_{s,t}\beta + X^1_{d,t}\beta \times RC_{d,t} + X^2_{s,t}\beta \times RC_{d,t} + \beta_k RC_{d,t} + \delta_d + \mu_t + \varepsilon_{d,s,t} \quad (2)$$

which augments equation (1) by including the term $RC_{d,t}$ and the interaction terms with both state- and district-level explanatory variables. All variables are as defined in equation (1) and $RC_{d,t}$ is a (Red Corridor) dummy variable for districts affected by Naxalite conflict, post-2004. This specification explicitly tests for the differential effect of the social conflict on factors determining crime. Results are presented in Tables A3 and A4, to be discussed shortly. A concern in all these specifications is the potential for multicollinearity among the variables. We conducted variance inflation checks which suggest that this is not an issue.

One final concern to address is underreporting. Police-recorded crimes depend on reporting levels and, as a result, some crimes may be left unreported or there can be differences in reporting behavior across states. Underreporting may not be uniform and the probability of reporting can be influenced by factors such as perceptions of policing and citizen empowerment, which may vary across states. Further, the NCRB data consider only the principal crime (i.e., the highest recorded offence). Thus, it is likely that our estimates are affected by underreporting bias. It is of course possible that (under)reporting rates are stable across time in which case this will not affect our estimation but this does not appear to be the case here.[12]

We address these concerns in two ways. First, district fixed-effects control for time-invariant, district-specific factors. As long as such fixed district-specific factors cause persistent underreporting of crime in a district, the inclusion of fixed effects should mitigate some of the concerns over crime misreporting. Second, in equations (1) and (2), richer states

may show higher crime rates due to different reporting behavior or different incentives to commit crimes (e.g., in richer states the incentive to commit property crimes is higher; richer states are also correlated with higher education levels which could increase reporting). Therefore, we conduct a robustness test by weighting the estimation of equation (2) using the inverse of the income level as the weight. Thus, richer states have lower weight than poorer states. Results are reported in Table A4.[13]

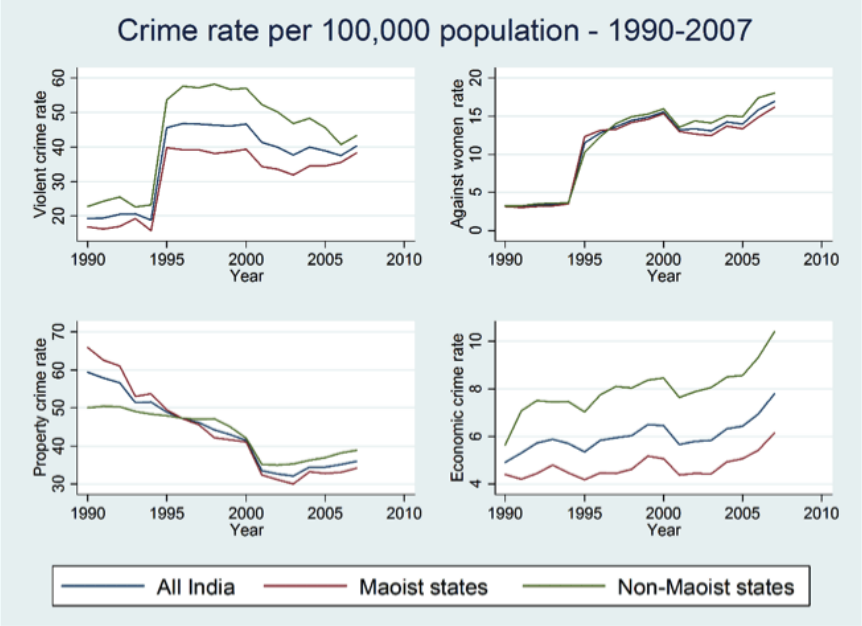

Figure 1: Trends in crime categories in India.

Results

Table A1 presents the definitions, geographic reach, and data sources of all variables included in our estimations. Table A2 presents the descriptive statistics. Areas affected by Maoist conflict are statistically different from nonconflict areas. Crime rates are higher in nonconflict states in comparison to conflict states. Arrest rates are higher in conflict states but police force per capita is lower. Note that in conflict states the police force is supplemented by paramilitary forces, but our measure of law enforcement in conflict states does not account for these additional forces since detailed data are unavailable.[14] Figure 1 depicts the trends in the four crime categories across all-India, Maoist, and non-Maoist states. It is striking to see that while property crime has decreased since the economic liberalization reforms of 1991, violence has increased. Economic crime has also increased but at a level much lower than violent crime. Property crime has decreased faster in Maoist states than in non-Maoist states. Similarly, violence and economic crime rates have been following the same trend as the rest of India although with lower rates.

Table A3 presents the main results. In the very first line, the reported coefficients suggest that crime rates across all crime categories are lower in Red Corridor districts than in other districts. All the other lines in Table A3 report the results by crime determinant and its interaction term with Red Corridor districts. Thus, in the first 2 lines, all arrest rate coefficients are negative and statistically significantly different from zero across all crime categories. A 1 percent increase in arrest rates is interpreted to decreases property crime by approximately 0.19 percent (column 1), violent crime by approximately 0.32 percent (column 3), economic crime by 0.06 percent (column 5), and crime against women by 0.21 percent (column 7). The marginal (interaction) effect of arrests on crime in Red Corridor (RC) districts is not statistically significant across the crime categories except for the case of crimes against women in which higher arrest rates in Red Corridor districts are statistically associated with *increased* violence against women.

The potential deterrent effect of the police force is mixed. For violent crime and crime against women, higher police force levels decrease both crimes, and more so in Red Corridor districts. For the nonviolent crimes—property and economic crime— the effect is that larger police forces are associated with *more* crime but in Red Corridor districts the marginal effect is toward fewer such crimes. This might be capturing the effects of increased paramilitary forces in these areas as well as the increased efforts to control the social conflict in the region. Although this differential impact of policing on crime between social conflict and nonconflict areas may also be picking up reverse causality, lagged values for police force give similar results. The positive coefficient of police force in nonconflict areas could also come from the fact that higher police force levels may lead to more nonviolent crime being recorded in the first place (a police force short on staff may not take these crimes seriously). Since our definition of Red Corridor districts is based on the GOI definition, these areas are known to have an increased police and paramilitary presence, lending credence to our hypothesis that this may be contributing to the lower crime rate.

The role of female political participation is ambiguous and

depends on the level of decisionmaking we consider. An increase in the number of seats held by women in state legislatures does not seem to have an effect on crime. However, having a woman as Chief Minister decreases violent crime and crime against women. The effect is consistent across specifications, and when estimating the effects across conflict states, the role of a woman Chief Minister in reducing crime against women turns out to be especially stronger.

An increase in employment rates reduces economic crime and crime against women. This result is also consistent across specifications. Higher income per capita increases crime for all categories. This is consistent with the fact that in India an increase in income has increased inequality which may increase crime. However, it could also be the case that higher incomes (or richer states) are associated with higher reporting rates. If the positive coefficients are interpreted to mean that poorer states have less crime, then the effect turns out to be stronger in conflict states as seen from the interaction terms between income and the Red Corridor dummy.[15]

The classic theory of crime suggests that criminals engage in illegal activity as an occupational choice or human capital investment opportunity. Individuals decide on whether or not to commit crime based on the expected utility of engaging in criminal activity as opposed to investing in education or legitimate work. Thus, the effect of increased numbers of literates is expected to reduce crime. We do not find evidence of this in the context of our data.

The role of caste is potentially important, particularly for explaining violent crime. However, the percentage of SC or ST in the population does not explain crime in a consistent manner, although Table A3 does show that a higher share of ST population is statistically associated with increased levels of economic crime and crime against women.

We expect that female-to-male sex ratios have an inverse relation to crime given that the propensity of males to commit crime is higher than that for females. Our results show that this inverse relation holds consistently only in rural areas, and that there is no general additional statistically significant effect in the Red Corridor areas.[16]

Finally, note that the results from the weighted regressions (Table A4) are qualitatively unchanged from the results in Table A3. This suggests that our main findings are not driven by states of a particular economic size, rich or poor.

Conclusion

Our analysis of interpersonal crime and social conflict in India shows that deterrence in the form of arrest rates matters in lowering crime and that socioeconomic variables do not systematically influence crime. However, this blanket statement can now be qualified in several important respects. First, the presence of a female state Chief Minister is statistically associated with reduced crime against women specifically and violent crime generally. Second, we find that social norms and practices that continue to skew the female-to-male sex ratio partly explains why violent crime against women continues to rise. In regard to Maoist-driven violence, we find that Red Corridor states have statistically significantly *lower* crime rates as compared to states that are unaffected by the insurgency. We find this intriguing and hope that future work will examine whether this finding is due to larger expenditures on law enforcement with paramilitary forces complementing the police or whether Maoist dominance mitigates interpersonal crime in these states. If it is the former, then this would suggest that expenditure on law enforcement to reduce social conflict may have a diffusion effect in reducing crime in general. While our results point toward this possibility, more research is needed to arrive at firm conclusions.

Notes

1. On Maoists/Naxalites: See, e.g., Kujur (2008). The terms are used interchangeably in this article. On the connections among conflict, crime, and socioeconomic development: See, e.g., HRW (2008); Ramaiah (2011); Demombynes and Ozler (2005); Hoelscher, Miklian, and Vadlamannati (2013).

2. Caste and crime: Ramaiah (2011); Dutta and Husain (2009). Literacy and crime: Machin, Marie, and Vuji (2011).

3. Traditional literature: That is, the literature since Becker (1968). As per the 2001 census, India's 16 major states hold more than 90 percent of its population. We do not consider the least populous states because these do not have consistent crime statistics. One study: Dutta, Husain (2009). Another study: Borooah (2008).

4. Female decisionmaking: Iyer, *et al*. (2012).

5. Intensity: Gomes (2012). Less intense social conflicts and insurgencies include for example the Tamil insurgency movement.

6. Central government agenda: In 2006, India's Prime Minister stated that the Maoist conflict was "the single biggest internal security challenge ever faced by our country." ("Ending the Red Terror." *The Economist*. 25 February 2010). Land rights and distribution: Kujur (2008); Gomes (2012); Iyer (2009). Fragmented Naxalites: Kujur (2008). Heterogenous: Eynde (2013).

7. Miguel and Satyanath (2011); Bholken, Sergenti, and John (2010). The poorest states: Iyer (2009). Institutional and colonial legacies: Gomes (2012). Climate shocks: Bholken, Sergenti, and John (2010). Strategic elements: Eynde (2013).

8. Positive: Singhal and Nilakantan (2012).

9. Arrest rates were not available for molestation, sexual

harassment, cruelty by husband and relatives, and kidnapping and abduction of females. Thus, to compute arrest rates of crimes against women we use only rape and dowry deaths.

10. SRE: GOI (2004); Iyer (2009). Quote: Naxalite Management Division, Ministry of Home Affairs, Government of India.

11. Conflict states: Considering the 1990 borders, the Naxalite-affected states are Andhra Pradesh, Bihar, Madhya Pradesh, Maharashtra, Orissa, Uttar Pradesh, and West Bengal. Ministry of Home Affairs: GOI (2004).

12. Probable underreporting: Prasad (2013).

13. It is worth noting that work comparing reported and self-reported crimes in India shows that even if crime is underreported, the use of police-reported statistics is still informative (see Prasad, 2013).

14. Iyer (2009) mentions that an extra 33 battalions of central paramilitary forces and 32 battalions from the Indian Reserve Force have been deployed to conflict-affected states in order to increase personnel per capita.

15. Increased income inequality and crime: Bandyopadhyay (2011).

16. Crime propensity of males: This general propensity is noted by several researchers, see, e.g., Bennett, Farrington, and Rowell Huesmann (2004). Edlund, Li, Yi, and Zhang (2013) analyze the impact of varying sex ratios on crime for China, the only other country where this specific analysis has been done.

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Table A1: Definitions of variables

Variable	*Definition. Geographic level. Source.*
Property crime rate	Total incidents per 100,000 population. Includes incidents registered under burglary, robbery, theft, and dacoity. District-level. NCRB yearly reports.
Violent crime rate	Total incidents per 100,000 population. Includes incidents registered under total kidnappings, murder, riots, arson, and hurt. District-level. NCRB yearly reports.
Economic crime rate	Total incidents per 100,000 population. Includes incidents registered under criminal breach of trust, cheating, and counterfeiting. District-level. NCRB yearly reports.
Women crime rate	Total incidents per 100,000 population. Includes incidents registered under rape, dowry deaths, molestation, sexual harassment, cruelty by husband and relatives, and kidnapping and abduction of females. District-level. NCRB yearly reports.
Property arrest rate	Arrests per 100,000 population. Arrests of crimes considered under this category. State-level. NCRB yearly reports.
Violent arrest rate	Arrests per 100,000 population. Arrests of crimes considered under this category. State-level. NCRB yearly reports.
Economic arrest rate	Arrests per 100,000 population. Arrests of crimes considered under this category. State-level. NCRB yearly reports.
Women arrest rate	Arrests per 100,000 population. Arrests of crimes considered under this category. Arrest rates were not available for molestation, sexual harassment, cruelty by husband and relatives, and kidnapping and abduction of females. Thus, to compute arrest rates of crimes against women we use only rape and dowry deaths. State-level. NCRB yearly reports.
Police force	Civil and armed police force per 100,000 population. State-level. NCRB yearly reports.
Literacy rate	Literates per total population. District-level. Census 1991, 2001.
% SC/ST	Scheduled Castes/Scheduled tribes as a share of total population. District-level. Census 1991, 2001.
Employment rate	Working population as a share of total population. District-level. Census 1991, 2001.
Income per capita	Real GDP per capita at current prices 93-94. State-level. Census 1991, 2001.
% Seats held by women	% seats held by women in State Legislature. State-level. Election Commission reports.
Gender CM	Dummy for female as Chief Minister in the state. State-level. Election Commission reports.
Sex ratio	Females per males population. District-level. Census 1991, 2001.
Rural sex ratio	Females per males population- rural. District-level. Census 1991, 2001.
Urban sex ratio	Females per males population- urban. District-level. Census 1991, 2001.
RC	Dummy variable if district is considered a part of the Red Corridor post-2004. District-level. Ministry of Home Affairs, report.

Table A2: Descriptive statistics

	All	Non-Maoist states		Maoist States		Difference *	
Variables	*Mean*	*SD*	*Mean*	*SD*			
Property crime rate	41.42	34.07	42.95	34.70	31.56	27.77	11.39***
Violent crime rate	36.98	29.82	38.11	30.87	29.71	20.48	8.40***
Economic crime rate	5.55	5.85	5.84	6.15	3.70	2.69	2.13***
Crimes against women rate	23.58	20.61	24.20	20.34	19.59	21.88	4.61***
Property arrest rate	0.88	0.39	0.86	0.39	0.98	0.34	-0.126***
Violent arrest rate	2.36	2.67	2.34	2.78	2.49	1.72	-0.151*
Economic arrest rate	1.06	0.49	1.05	0.50	1.12	0.44	-0.072***
Crimes against women arrest rate	0.45	0.30	0.44	0.30	0.52	0.30	-0.08***
Police force per capita	1113.39	0.63	116.83	0.69	76.17	0.93	40.66***
Literacy rate	0.43	0.18	0.44	0.18	0.37	0.17	0.071***
% ST	0.09	0.15	0.08	0.14	0.17	0.19	-0.093***
% SC	0.16	0.07	0.16	0.07	0.16	0.07	0.003
Employment rate	0.36	0.09	0.36	0.09	0.38	0.08	-0.0235***
Income per capita	9.32	0.67	9.36	0.009	9.01	0.024	0.357***
Gender CM	0.17	0.38	0.16	0.37	0.26	0.44	-0.093***
% Seats held by women	0.05	0.03	0.05	0.03	0.06	0.03	-0.005***
Sex ratio	0.77	0.25	0.78	0.26	0.75	0.19	0.028***
Rural sex ratio	1.00	0.24	1.00	0.23	1.05	0.32	-0.051***
Urban sex ratio	0.98	0.27	0.98	0.28	0.99	0.19	-0.008
Red Corridor (RC)	0.03	0.17	0.00	0.00	0.22	0.41	-0.220***

Notes: * Difference in means tests between non-Maoist and Maoist areas. Statistically significant differences at the 1%, 5%, and 10% levels are marked as ***, **, *, respectively.

Table A3: Crime and conflict

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variable	*Property crime rate*		*Violent crime rate*		*Economic crime rate*		*Crimes against women rate*	
RC	-2.527**	-0.499	-3.470**	-0.0433	-5.393***	-1.006	-2.658*	0.530
	(1.243)	(0.655)	(1.534)	(1.072)	(2.041)	(1.232)	(1.402)	(0.909)
Arrest rate	-0.188***	-0.199***	-0.320***	-0.327***	-0.055***	-0.0569***	-0.210***	-0.208***
	(0.0446)	(0.0457)	(0.0266)	(0.0258)	(0.0198)	(0.0189)	(0.0185)	(0.0182)
RC*Arrest rate	0.0393	-0.00134	-0.0367	-0.0439	-0.0422	-0.0491*	0.789***	0.895***
	(0.227)	(0.222)	(0.0449)	(0.0461)	(0.0281)	(0.0294)	(0.105)	(0.119)
Police force	0.0862***	0.0772***	-0.104***	-0.120***	0.0689*	0.0563	-0.0555	-0.0700*
	(0.0231)	(0.0221)	(0.0268)	(0.0266)	(0.0379)	(0.0373)	(0.0356)	(0.0368)
RC*Police force	-0.937***	-1.002***	-0.689***	-0.667**	-0.731	-0.668*	-0.826***	-0.765***
	(0.211)	(0.187)	(0.261)	(0.260)	(0.456)	(0.405)	(0.176)	(0.177)
% Seats women	-0.456	-0.399	0.976**	1.245**	-0.432	-0.330	-0.434	-0.258
	(0.382)	(0.363)	(0.493)	(0.481)	(0.539)	(0.550)	(0.538)	(0.528)
RC*% Seats women	-3.776	-3.826	-2.696	-2.457	-4.611	-4.319	-1.333	-0.690
	(2.571)	(2.558)	(2.682)	(2.626)	(3.615)	(3.464)	(1.425)	(1.584)
Gender CM	-0.00261	-0.0000597	-0.184***	-0.184***	-0.0306	-0.0310	-0.0722***	-0.0729***
	(0.0176)	(0.0175)	(0.0258)	(0.0249)	(0.0248)	(0.0244)	(0.0247)	(0.0243)
RC*Gender CM	-0.0113	-0.0152	-0.0729	-0.0685	-0.162	-0.139	-0.221***	-0.204***
	(0.0582)	(0.0602)	(0.0866)	(0.0874)	(0.138)	(0.143)	(0.0754)	(0.0785)
Employment rate	0.401	0.352	-0.801	-0.692	-1.004**	-0.909**	-1.339***	-1.158***
	(0.421)	(0.398)	(0.545)	(0.524)	(0.418)	(0.401)	(0.352)	(0.330)
RC*Employment rate	-1.379	-0.474	-1.336	0.319	-1.481	0.456	-0.256	1.675*
	(1.063)	(0.754)	(1.131)	(1.019)	(1.425)	(1.305)	(1.062)	(0.888)
Income per capita	0.701***	0.704***	0.778***	0.765***	0.286**	0.299**	1.110***	1.136***
	(0.103)	(0.0993)	(0.130)	(0.125)	(0.128)	(0.124)	(0.116)	(0.111)
RC*Income per capita	0.593***	0.543***	0.359**	0.319**	0.487***	0.425**	0.190	0.192
	(0.104)	(0.116)	(0.141)	(0.155)	(0.176)	(0.176)	(0.127)	(0.134)
Literacy rate	-0.0713	0.164	0.136	0.401**	-0.206	0.0120	-0.123	0.0887
	(0.140)	(0.129)	(0.225)	(0.167)	(0.167)	(0.207)	(0.132)	(0.122)
RC*Literacy rate	-0.293*	0.465*	-0.282	0.0628	0.0219	0.405	0.125	0.237
	(0.149)	(0.258)	(0.197)	(0.427)	(0.260)	(0.470)	(0.121)	(0.235)

Table A3: Crime and conflict (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variable	*Property crime rate*		*Violent crime rate*		*Economic crime rate*		*Crimes against women rate*	
% SC	0.985	2.878	-0.150	1.906	2.985	7.367**	1.360	5.555**
	(1.826)	(2.524)	(2.108)	(2.823)	(2.829)	(3.291)	(2.293)	(2.777)
RC*% SC	-0.134	0.166	-0.116	-0.138	2.452	2.311	1.044**	0.721
	(0.683)	(0.660)	(0.691)	(0.718)	(1.623)	(1.404)	(0.501)	(0.467)
% ST	-0.415	0.430	-1.141	0.256	-2.047	0.168	-1.280	0.624
	(0.889)	(0.913)	(1.169)	(1.425)	(1.724)	(1.524)	(1.464)	(1.104)
RC*% ST	-0.319	0.0785	-0.688*	-0.376	-0.273	0.0864	-1.311***	-1.162***
	(0.356)	(0.280)	(0.382)	(0.325)	(0.482)	(0.455)	(0.219)	(0.235)
Sex ratio	-0.204**		-0.0154		-0.0687		0.0102	
	(0.0866)		(0.0472)		(0.122)		(0.0788)	
RC*Sex ratio	1.925		4.186**		4.817		4.948***	
	(1.588)		(1.822)		(2.945)		(1.427)	
Urban sex ratio		0.0335		0.0761		0.119		0.0582
		(0.0669)		(0.0779)		(0.100)		(0.0692)
RC* Urban sex ratio		-0.0265		-0.162		-0.404**		0.167
		(0.120)		(0.159)		(0.197)		(0.103)
Rural sex ratio		-0.441***		-0.612***		-0.476**		-0.452***
		(0.143)		(0.131)		(0.196)		(0.153)
RC* Rural sex ratio		-0.211		0.103		-0.0270		0.142
		(0.168)		(0.224)		(0.254)		(0.164)
Observations	6,211	6,149	6,211	6,149	6,187	6,128	6,204	6,145
Adj. R-squared	0.792	0.794	0.701	0.709	0.674	0.673	0.830	0.835

Notes: Robust standard errors in parentheses are clustered at district level. All regressions include district and year fixed effects. Coefficients statistically significant at the 1%, 5%, and 10% levels are marked with ***, **, *, respectively.

Table A4: Robustness test using weighted regressions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variable	*Property crime rate*		*Violent crime rate*		*Economic crime rate*		*Crimes against women rate*	
RC		-1.005		-3.101**		-3.974*		-2.851*
		(1.740)		(1.527)		(2.139)		(1.518)
Arrest rate	-0.205***	-0.192***	-0.323***	-0.317***	-0.0482**	-0.0514***	-0.230***	-0.237***
	(0.0452)	(0.0459)	(0.0260)	(0.0262)	(0.0194)	(0.0194)	(0.0195)	(0.0196)
RC*Arrest rate		0.113		-0.0440		-0.0464*		0.923***
		(0.294)		(0.0477)		(0.0278)		(0.152)
Police force	0.155***	0.147***	-0.0290	-0.0414	0.113***	0.0950**	0.0514	0.0370
	(0.0283)	(0.0289)	(0.0281)	(0.0295)	(0.0407)	(0.0396)	(0.0331)	(0.0339)
RC*Police force		-0.0947		-0.112		-0.102		-0.458***
		(0.223)		(0.236)		(0.360)		(0.157)
% Seats women	-0.605	-0.763*	0.852*	0.582	-0.405	-0.640	-0.623	-0.839
	(0.381)	(0.392)	(0.472)	(0.488)	(0.525)	(0.535)	(0.523)	(0.542)
RC*Seats women		-0.471		-0.397		-1.688		0.652
		(2.904)		(2.752)		(3.621)		(1.529)
Gender CM	-0.0672***	-0.0570***	-0.260***	-0.245***	-0.0687***	-0.0516**	-0.183***	-0.163***
	(0.0164)	(0.0173)	(0.0269)	(0.0284)	(0.0235)	(0.0242)	(0.0248)	(0.0250)
RC*Gender CM		-0.143		-0.165*		-0.260		-0.315***
		(0.0937)		(0.0988)		(0.159)		(0.0828)
Employment rate	0.569	0.668	-0.708	-0.561	-1.072**	-0.941**	-1.095***	-1.011***
	(0.445)	(0.452)	(0.561)	(0.567)	(0.43)	(0.424)	(0.366)	(0.364)
RC*Employment rate		0.185		-0.552		-0.326		0.555
		(1.251)		(1.146)		(1.450)		(1.065)
Literacy rate	-0.253	-0.163	-0.0551	0.0418	-0.300*	-0.256	-0.363*	-0.252*
	(0.191)	(0.138)	(0.254)	(0.223)	(0.169)	(0.165)	(0.186)	(0.138)
RC*Literacy rate		-0.254		-0.269		0.0483		0.160
		(0.174)		(0.206)		(0.270)		(0.129)
% SC	1.504	1.066	0.327	-0.282	3.445	2.901	1.810	1.173
	(1.866)	(1.780)	(2.134)	(2.104)	(2.965)	(2.805)	(2.257)	(2.106)
RC*% SC		-1.525*		-1.102		1.697		-0.0216
		(0.912)		(0.690)		(1.541)		(0.494)

Table A4: Robustness test using weighted regressions (continued)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Variable	*Property crime rate*		*Violent crime rate*		*Economic crime rate*		*Crimes against women rate*	
% ST	-0.692	-0.477	-1.470	-1.222	-2.198	-2.047	-1.658	-1.397
	(0.924)	(0.823)	(1.192)	(1.172)	(1.744)	(1.679)	(1.451)	(1.372)
RC*% ST		-1.056***		-1.163***		-0.745		-1.752***
		(0.382)		(0.363)		(0.481)		(0.209)
Sex ratio	-0.198**	-0.208**	0.000788	-0.0186	-0.0304	-0.0571	0.0247	0.00598
	(0.0804)	(0.0831)	(0.0515)	(0.0512)	(0.118)	(0.119)	(0.0681)	(0.0680)
RC*Sex ratio		2.152		4.691**		5.035		5.290***
		(2.303)		(2.096)		(3.094)		(1.790)
Observations	6,211	6,211	6,211	6,211	6,187	6,187	6,204	6,204
Adj.R-squared	0.782	0.784	0.696	0.698	0.672	0.676	0.819	0.822

Notes: Robust standard errors in parentheses are clustered at district level. All regressions include district and year fixed effects. Coefficients statistically significant at the 1%, 5%, and 10% levels are marked with ***, **, *, respectively.

THE EFFECT OF MEDIA ON DOMESTIC VIOLENCE NORMS: EVIDENCE FROM INDIA

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Abstract

Greater access to media may influence norms about domestic violence. It may lead to greater acceptance of violence due to an increase in the incidence of violence or to lower acceptance due to a change in gender norms. Applying a difference-in-differences methodology to the National Family Health Survey, India (1998-99 and 2005-06), we find evidence that regularly accessing television and radio leads to a small but statistically significant reduction in the probability of women accepting domestic violence. The effect of regularly accessing both media is equivalent to the effect of three additional years of education on reducing acceptability of domestic violence. This suggests that increasing access to both media may lead to greater empowerment of women in India.

Physical, sexual, and psychological violence against women is an issue of huge public health and human rights significance. The World Bank's *World Development Report 2012* finds that women are at far greater risk of experiencing violence committed by an intimate partner or somebody they know than from violence by other people. And yet, 29 percent of women in a sample of 41 countries agree that wife-beating is justified for arguing with the husband, 25 percent for refusing to have sex, and 21 percent for burning food when cooking.[1]

Domestic violence is a global concern, and it is particularly widespread in India. While there have been many studies on the economic reasons for the persistence of gender inequalities, there has been less research on how underlying cultural beliefs on gender-based violence can be changed toward positive, nonviolent, and more peaceful outcomes. Our study adds to this literature by focusing on the use or "consumption" of media. In particular, we are interested in the interaction effects, if any, of consuming both television and radio, as possible channels by which attitudes toward domestic violence may be influenced.

Pathways linking media to domestic violence attitudes

Media exposure can be a positive source for changing social norms. For example, one study on the effect of cable television on women's status in the Indian state of Tamil Nadu finds that the introduction of cable television with programs that present urban attitudes and values is associated with a 16 percent decrease in women's reported acceptance of domestic violence and an 8.8 percent decrease in their preference for giving birth to sons, as well as increases in women's autonomy and participation in household decisionmaking.[2]

In contrast, another study finds that better television signal reception in Indonesian villages is associated with substantially lower levels of participation in social activities, such as neighborhood associations and school committees, and lower self-reported measures of trust. This suggests that people may substitute some of the time they used to spend on social activities or household duties toward media consumption. Substitution of time away from traditional duties such as cooking or looking after children conceivably could lead to more domestic violence: In household surveys husbands often blame the wife for neglecting household duties to justify wife beating. An increase in the incidence of violence can make attitudes toward violence more accepting. Indeed, there is a large literature in psychology on the Stockholm Syndrome, where one intimate partner intermittently harasses, intimidates, threatens, beats, or otherwise abuses the other without breaking the emotional bond between them. Additionally, In India, some of the spousal violence experienced may be a male response to increasingly modern attitudes adopted by women.[3]

We study the relation between domestic violence norms and exposure to television and radio because despite the increasing popularity of cable television, other media such as non-cable television and radio continue to be widely accessed in India.[4] The focus of media is entertainment but in contrast to television, radio has emerged as a vital source of local public information. If information is complementary to entertainment in influencing norms, we can expect interaction effects of these media sources in changing domestic violence norms.

Similarities and differences in the content of television and radio programs may have a substitution or complementary effect on shaping attitudes toward gender and domestic violence. For instance, information about local employment or political opportunities for women, or stories about empowered women on local radio channels, may reinforce the influence of seeing empowered and independent women on television.

Using household-level data from two rounds of the National Family Health Survey (NFHS) of India, conducted in 1998-99 and 2005-06, the main finding of our study is that there is no significant effect on women's acceptance of domestic violence when they switch into either only watching television or only listening to radio in the 2005-06 period. However, the effect of television when a woman starts accessing both media regularly in the second period is associated with a 3.6 percent reduction in the probability of accepting violence (this is, after controlling for socioeconomic variables such as education of the woman, and location and wealth of the household). Strikingly, the effect is three times larger than is the effect of an additional year of education.

The article uses household-level data from two rounds of the National Family Health Survey (NFHS) of India, conducted in 1998-99 and 2005-06. The main finding is that there is no statistically significant effect on women's acceptance of domestic violence if they switch, between the first and second survey round, only to watching television or only to listening to radio. However, the effect of television when a woman starts accessing both media regularly in the second period is associated with a 3.6 percent reduced probability of accepting violence. The effect is surprisingly strong: about three times as large as is the effect of an additional year of education.

Media in India

Television was introduced in India in 1959, with almost all broadcasting in the hands of the state. The entry of private and foreign broadcasters in the early 1990s transformed the Indian television industry from a government-owned single network to a multichannel industry and significantly increased the amount of choice of programming for the Indian audience. The program offerings on cable television differed greatly from government programming that had primarily focused on news or information about national development. Many new soap operas introduced in the early 2000s revolved around themes of family and gender and showed women protagonists who were independent and assertive, and who often had a career or worked outside the home. These programs were an instant success and attracted very high viewership all over India.[5]

The public radio broadcaster, All India Radio (AIR), was established in 1936 to "inform, educate, and entertain the masses" and today has a network of 237 broadcasting centers, covering 27 languages, and reaching 99 percent of India's population. Radio has been employed as a medium for social change, such as state-supported radio rural forums for agricultural communication and promotion of adult literacy, and it continues to be an excellent source of information about social development and women's welfare.

Domestic violence norms in India

Violence against women is a major concern in India. According to a 2009 report on gender equality and women's empowerment, 39 percent of currently married women aged 15-49 have experienced some kind of violence (physical, emotional, sexual) at least once in their current marriage, and 27 percent have experienced such violence in the 12 months prior to the National Family Health Survey of India, 2005-06. The most common form of emotional violence is humiliation by the husband in front of others. The most common form of physical violence is being slapped. And yet, 54 percent of women and 51 percent of men in India continue to agree with one or more of the reasons posited by the Survey for "acceptable" wife-beating. The data also suggest that violence is more likely to be deemed justified when women violate behavior expected of them in their gendered roles as wives, mothers, and daughters-in-law, such as neglecting the house or the children.[6]

Data

We use data from the National Family Health Survey (NFHS) of India, a large-scale multi-round survey conducted by the International Institute for Population Sciences with a representative sample of households throughout India. Three survey rounds have been conducted. We are using only those conducted in 1998-99 (NFHS-2) and in 2005-06 (NFHS-3) as detailed information on attitudes toward domestic violence is only available for these two surveys. NFHS-2 collected information from approximately 90,000 ever-married women in the age group 15-49 years. NFHS-3 expanded the scope of the survey by interviewing approximately 124,000 women of the same age group (both ever- and never-married), 109,000 households, and 74,000 men. The surveys provide information on a range of demographic, social, and economic variables such as infant and child mortality, utilization and quality of health and family planning services in the household, and indicators of household wealth, such as ownership of durable goods.

In both NFHS-2 and 3, women are asked if they believe it is justified for their husband to beat them for one or more of the following reasons: (1) if she leaves the household without

telling him; (2) if she neglects the household or children; (3) if she does not cook food properly; and (4) if he suspects her of being unfaithful. The main outcome measure of our study captures whether a woman respondent believes that domestic violence is justified (or "acceptable") in at least one of these four situations. The NFHS surveys also provide information on households' access to media and the frequency with which these media are used. We use the frequency of accessing media as the main explanatory variable. In addition, as control variables we use the surveys' rich respondent and household characteristics such as education of the respondent and indicators of household wealth.

Identification strategy

A central empirical concern is that these empirical estimates may be statistically biased. For instance, it is possible that at any given time, women who do not believe violence is justified may be more empowered and may access more media to begin with. Correlations between media and acceptance of domestic violence might then be spurious. To address this concern, this study uses both spatial and temporal variation. Our study focuses on the relationship between *changes* in media access over time in each location and *changes* in attitudes toward violence in the same location. We employ a difference-in-differences strategy to isolate any such effect. This strategy isolates the effect of accessing media from other factors that may be correlated with both media use and attitudes toward domestic violence, such as greater economic prosperity or an increase in the levels of women's education, by controlling for baseline levels of household income and education as well as media access and also by controlling for general time trends in both media access and attitudes toward domestic violence.

Our specification also includes state fixed effects to account for fixed differences between states that may be correlated with media access and potentially can affect acceptance of domestic violence. For example, the levels of economic development and cultural norms about gender and violence may be different in different states. Also, media exposure of people living in diverse regions of India may be dissimilar due to varying levels of fluency in Hindi, the language of national broadcaster. We are able to account for these relatively stable factors through state fixed effects.

The dependent variable in this study—acceptance of domestic violence—is coded as a binary variable (it takes the value 0 if the respondent does not accept violence and 1 if she does); thus, we use both logit and probit models. The main regression specification is as follows:

$$(1)\ \text{Accept}^*_{ijt} = \alpha_0 + \alpha_1 \text{Post}_t + \alpha_2 \text{TF}_{ijt} + \alpha_e \text{RF}_{ijt} + \alpha_4 (\text{TF*RF})_{ijt} + \alpha_5 (\text{Post*TF})_{ijt} + \alpha_6 (\text{Post*RF})_{ijt} + \alpha_7 (\text{Post*TF*RF})_{ijt} + \mathbf{X}_{ijt}\beta + \gamma_j + \epsilon_{ijt}.$$

$Accept^*_{ijt}$ is a measure denoting the probability that respondent i in state j at time t accepts domestic violence for at least one reason. As this probability is not directly observable, we use the actual acceptance of violence, $Accept_{ijt}$, to estimate the association between explanatory variables and the probability of accepting violence. The explanatory variables are as follows:

- *Post* is a time dummy (0 for 1998-99; 1 for 2005-06);
- TF_{ijt} is a dummy variable for whether the respondent watches television at least once a week (0 if no; 1 if yes);
- RF_{ijt} is a dummy variable for whether the respondent listens to the radio at least once a week (0 if no; 1 if yes);
- $\boldsymbol{X}_{ijt}$ are respondent and respondent's household characteristics that may be correlated with the frequency of accessing media and acceptance of violence; we control for respondents' education and occupation, location of the household (rural or urban), and wealth, religion, and caste of the household;
- γ_j are state fixed effects.

Errors are clustered at the state level to account for serial correlation between standard errors. The binary logit model estimates the effect of each of the explanatory variables on the probability of outcome $Accept_{ijt}$ =1, i.e., the acceptance of violence. A positive sign for a coefficient indicates that a particular variable is correlated with an increase in the probability of accepting violence.

The coefficients α_2, α_3, and α_4 are the differences at baseline between respondents who access media frequently and those who do not. For example, the probability of accepting violence is higher by α_2 (or lower, if α_2 is negative) for a respondent at baseline who watches television regularly but does not access radio regularly compared to a respondent who does not access either medium regularly.

A positive sign for the α_7 coefficient suggests that, in the 2005-06 period, women believe it is more acceptable for their husbands to beat them if they spend time accessing both television and radio. In contrast, a negative sign would indicate a net complementary effect between accessing both media leading to a decrease in the probability of acceptance of violence by women.

Main results

Table 1 reports the estimations for the main specification.

Columns (1) and (3) show the results for the logit and probit models, respectively, and columns (2) and (4) report the marginal effects. (Column (5) shows OLS results by way of comparison.)

We find that the direct effects of only watching television or only listening to radio are statistically insignificant (the *TF* and *RF* lines in Table 1), as are all the interaction effects except that for accessing both television and radio (the Post*TF*RF line). The latter effect is associated in a statistically significant way with a 3.6 percent reduction in the probability of the acceptance of violence [columns (2) and (4)]. This suggests a complementary effect of television and radio on the probability of women accepting domestic violence.

In addition, the level of education of the respondent and rural location of the household are statistically significant.. A small increase in education, say by one year, is associated with a 1.3 percent decrease in the probability of accepting violence. Rural location is associated with 5.2 percent higher likelihood of a woman accepting violence from her husband. This result suggests that greater education of women can be a particularly powerful force in changing attitudes toward domestic violence and women's status in society. It is noteworthy that exposure to both television and radio equals the effect of about three additional years of education on reducing acceptability of domestic violence.

Table 1: Probability of accepting violence

Variables	*Logit* *(1)*	*Marginal Probit effects* *(2)*	*(3)*	*Marginal OLS effects* *(4)*	*(5)*
Post	-0.188	-0.041	-0.115	-0.041	-0.043
	(0.188)	(0.041)	(0.116)	(0.041)	(0.043)
TF	0.127	0.028	0.076	0.027	0.025
	(0.09)	(0.02)	(0.054)	(0.019)	(0.019)
RF	0.014	0.003	0.008	0.003	0.001
	(0.074)	(0.016)	(0.045)	(0.019)	(0.016)
TF*RF	-0.095	-0.021	-0.056	-0.020	-0.018
	(0.072)	(0.016)	(0.044)	(0.016)	(0.015)
Post*TF	-0.014	-0.003	-0.006	-0.002	-0.002
	(0.107)	(0.023)	(0.064)	(0.023)	(0.023)
Post*RF	0.101	0.022	0.063	0.022	0.024
	(0.089)	(0.02)	(0.054)	(0.019)	(0.02)
Post*TF*RF	**-0.162***	**-0.036***	**-0.100***	**-0.036***	**-0.037***
	(0.087)	(0.019)	(0.052)	(0.019)	(0.019)
Education	**-0.061*****	**-0.013*****	**-0.037*****	**-0.013*****	**-0.013*****
	(0.003)	(0.001)	-0.002	(0.001)	(0.001)
Rural location	**0.236*****	**0.052*****	**0.146*****	**0.052*****	**0.050*****
	(0.038)	(0.008)	(0.024)	(0.008)	(0.007)
Add'l cntrols	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes
Observations	197,279	197,279	197,279	197,279	197,279

Notes: Robust standard errors clustered at the state-level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1. The dependent variable, acceptance of violence, is a dummy variable that takes the value 1 when the respondent agrees with at least one reason for domestic violence. *TF* and *RF* are dummy variables for whether the respondent accesses each media at least once a week. Additional controls include: education of the respondent in years; location of the household in a rural or urban area; whether the respondent has a job (work=1 if yes); type of toilet facility and source of drinking water of the household; household has electricity, refrigerator, bicycle, motorcycle, car, and telephone; religion and caste of the respondent's family. The observations are weighted for sampling probabilities. State FE refers to state fixed-effects. Coefficients on dummies for states, religions, castes, and variables that indicate a household's wealth are not reported here.

Subsidiary results

The conceptual framework suggests two channels through which access to media could affect acceptance of violence. The first suggests that media access may positively influence norms about women's status in society and hence reduce women's acceptance of violence. In contrast, the second channel posits that greater access to media may mean that women spend more time away from household duties, making them more likely to experience, and thus to accept, violence. Our findings suggest that the first channel dominates.

To investigate the first channel, we analyze the effect of media access on the variable *money* (whether the woman has a say in how to spend household income). Column (1) of Table 2 finds that while over time women have greater say in how to spend household income, there is no statistically significant association of this with switching into accessing either television or radio over time.

To check for the theoretical possibility of an increase in the acceptability of violence following an increase in access to media, we analyze changes by individual reasons for accepting violence. The individual reasons for accepting violence are: (1) *Go* (the wife leaves the house without telling the husband); (2) *Neglect* (she neglects the house or children); (3) *Cook* (she does not cook properly); and (4) *Not faithful* (he suspects her of being unfaithful). It can be argued that cooking and taking care of the household are more time intensive and may be adversely affected by watching television or listening to radio. But suspicion of being unfaithful and leaving the house without

telling the husband do not involve a cost imposed by access to media. Thus, if the second channel of an increase in violence acceptance due to media access has explanatory power, the difference-in-differences coefficients for *Neglect* and *Cook* are expected to be positive as opposed to *Go* and *Unfaithful*, which would be expected to remain negative as in the baseline regression.

Columns (2) to (5) of Table 2 show that switching into accessing either only television or only radio (the *TF* and *RF* lines) does not have any statistically significant effect on the probability of accepting violence for any reason. The complementary effect of accessing television and radio on acceptance of violence is significant for the reasons *Go* and *Not faithful*, but not for *Neglect* and *Cook*. This suggests that although the second channel cannot be rejected as the coefficients for *Neglect* and *Cook* regressions are statistically insignificant and negative, the evidence for time substitution driving a change in norms through an increase in violence appears to be relatively weak.

Table 2: Violence mechanisms (marginal effects logit models)

Variables	(1) *Money*	(2) *Go*	(3) *Neglect*	(4) *Cook*	(5) *Not faithful*	(6) *Violence*
Post	**0.089****	-0.037	-0.022	-0.022	-0.061*	**-0.514****
	(0.028)	(0.037)	(0.036)	(0.035)	(0.036)	(0.016)
TF	**0.021****	0.026	**0.031***	0.015	0.005	-0.025
	(0.010)	(0.016)	(0.017)	(0.016)	(0.014)	(0.019)
RF	-0.003	0.001	-0.007	-0.014	-0.021	-0.005
	(0.009)	(0.014)	(0.014)	(0.010)	(0.013)	(0.018)
TF*RF	0.024	-0.017	-0.02	-0.002	0.0004	0.009
	(0.010)	(0.013)	(0.014)	(0.011)	(0.015)	(0.014)
Post*TF	0.010	-0.015	-0.005	0.003	-0.0003	**0.056****
	(0.018)	(0.021)	(0.017)	(0.019)	(0.020)	(0.019)
Post*RF	0.006	0.019	0.026	0.023	**0.038****	0.028
	(0.026)	(0.017)	(0.018)	(0.018)	(0.016)	(0.020)
Post*TF*RF	0.001	**-0.028***	-0.024	-0.025	**-0.028****	**-0.049****
	(0.028)	(0.017)	(0.018)	(0.020)	(0.013)	(0.018)
Add't controls	Yes	Yes	Yes	Yes	Yes	Yes
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	42,853	201,089	201,239	201,045	199,360	81,995

Notes: Robust standard errors clustered at the state-level are in parentheses. *** p<0.01, ** p<0.05, * p<0.1. *Money* is a measure of women's status, which takes value 0 if the female respondent does not have a say in how to spend household income and 1 if she does, either alone or jointly with her husband. The individual reasons for accepting violence are: *Go* (the wife leaves the house without telling the husband); *Neglect* (she neglects the house or children); *Cook* (she does not cook properly); *Not faithful* (he suspects her of being unfaithful). *Violence* is a dummy variable for whether a woman has experienced domestic violence (0 if no, 1 if yes).

A change in the incidence of violence due to greater media access may lead to a change in the acceptance of violence by women. We use the variable *Violence*, defined as whether a woman has experienced domestic violence, as the dependent variable in the main specification. Column (6) shows that for women who switch into only listening to radio, there is no correlation between probability of experiencing domestic violence and listening to radio. In contrast, women who switch into watching only television are 5.6 percent more likely to experience domestic violence. This indicates that there may be some substitution between household duties and watching television that increases the probability of experiencing violence, or women who watch TV may have become more outspoken and this makes their husbands react with more violence. In contrast, when women switch into watching both media, the interactive effect between the media is associated with a 4.9 percent decrease in the probability of being beaten, consistent with the complementary effect between television and radio found in the main result (Table 1). This could be either because accessing both media leads to a change in gender norms, or because women who access both media allocate their hours between household duties and accessing media differently from women who access only one medium. The lack of detailed variables on gender norms and information on the amount of time respondents spend on each of these activities limits our ability to explore this possibility further.[7]

Policy

Violence has large economic costs, including the loss of women's labor hours and productivity. The average cost per incidence of violence, according to one paper, was about one third of the monthly household income in slum and rural communities.[8]

Our study examines two channels through which media access could have affect acceptance of violence: Accessing media could positively influence norms about women's status and reduce acceptance of violence or it may lead to substitution away from household duties, which may then increase the probability of experiencing and accepting violence. Using household-level data on media use and acceptance of violence by women, we find evidence that regularly accessing both television and radio has, over time, a small but statistically significant effect on reducing the probability of women accepting violence. This association holds only when women

access both media regularly, indicating a complementary effect of accessing television and radio in reducing acceptance of violence. We do not find strong evidence for the substitution hypothesis. Strikingly, the effect of regular access to both television and radio on reducing the acceptability of domestic violence is statistically equivalent to having three additional years of education. This shows that in cases where educational attainment is costly, either because of lack of schools or due to high opportunity costs for adults, nudges toward improving access to both radio and television can increase the voice of women within the household.

The results of our analyses are but a first step toward informing policymakers on the most effective ways of imparting information to empower women in India. State policies that subsidize and encourage the use of complementary media together may help to bring about a change in women's acceptance of domestic violence and perhaps also influence other norms about gender and women's status in society. Future studies may delve into understanding the opportunity cost of accessing different media and advance our knowledge about how the content of media and its duration may affect domestic violence norms.

Notes

1. See the World Development Report 2012 on Gender Equality and Development for additional information.

2. Jensen and Oster (2009).

3. In contrast: Olken (2009). Wife beating: See IIPS (2009). Stockholm Syndrome: See Dutton and Painter (1981). Modern attitudes: Simister and Mehta (2010).

4. The three most popular radio stations attracted about 40 million listeners collectively in 2008, a reach comparable to that of the press and private television channels (Ranganathan and Rodrigues, 2010).

5. See Ranganathan and Rodrigues (2010) and Munshi (2010) for more details.

6. IIPS (2009).

7. See Bhushan and Singh (2013) for heterogeneous effects by literacy and geographical location, as well as robustness checks.

8. Burton, *et al*. (2000).

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GENDER, POVERTY, AND DOMESTIC VIOLENCE IN RURAL BENGAL: THE JEEVIKA DEVELOPMENT SOCIETY'S JOURNEY THROUGH WOMEN'S RIGHTS-BASED MICROCREDIT PROGRAMS

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Abstract

To understand the nature of the links among gender, poverty, and violence in specific sociocultural contexts, this article unravels a complex web of interactions among the Jeevika Development Society, the communities in which its members live, and women's individual initiatives. It also examines the process by which ruptures are made in these links through women's active participation in the Society. The article asks whether economic outcomes facilitated by the organization have any impact, or are impacted upon, by gender relations at home, which manifest themselves through different forms of violence. It further explores whether dimensions of participation that are more social than economic, such as voluntary work with anti-violence forums as well as positions of leadership in the Society, create possibilities of empowerment that are stronger and more direct than the possibilities that may emerge through economic gains alone.

Third world feminist writing since the 1970s, especially in India, has, on the one hand, located women's poverty within the multiple axes of class, caste, and gender in postcolonial societies and, on the other hand, refuted the dominant Western feminist projection of women in these contexts as victims of violence and subordination. Third world feminist writing focused on recovering women's voices, roles, and agencies in art, literature, political, and economic life. In the post-globalization phase, specifically after the onset of Structural Adjustment Programs (SAP) in 1991, much has been written on the adverse effects of economic reforms on poor and vulnerable populations, especially of women.[1] In the midst of global discontent with neoliberal reforms, policymakers, including international development organizations such as the World Bank, "discovered" women as target groups of positive social and economic intervention owing to their historical roles in managing families in poverty and their potential to contribute to economic development.[2]

As from the 1970s, feminist writing had been exploring the relationship between women and development highlighting both the exclusion of women from processes of development as well as the need to critique models of development based on exploitative modes of production. Such writing also gave rise to issues of women's agency and empowerment encompassing multiple dimensions of women's attainment that needed to be situated within the nexus of patriarchy, state, and capital. The empowerment discourse, which resurged in policy literature of national governments as well as international organizations in the 1990s and thereafter, was a much altered version of this. It individuated the question of women's empowerment from its larger structural connections with state and capital, focused more on individual enterprise than on collective action, and in many cases also reduced the complex dynamics of empowerment to narrow economistic dimensions that would have trickle-down effects on social dimensions of wellbeing.[3]

It is around the same time that microfinance programs for women became popular the world over, inspired by the success of institutions such as the Grameen Bank of Bangladesh. Microfinance programs required minimum state financial investment and could be built on a model of commercial viability where the onus of microenterprise development as a poverty alleviation tool rested on individual loan beneficiaries. At one level, this was a strategy of banking the unbankable, owing to joint liability and peer monitoring, as against traditional methods of collateral deposit. At another level, by targeting women one could have continuous access to a captive

population (moreover, with low mobility) who used small doses of loans for building or expanding small enterprises, traditionally identified as womanly, and who could also be counted on to prioritize family welfare over irregular personal expenditures.

Only much later was it realized that poor people need loans for a variety of purposes, including consumption smoothing and crisis management. Many organizations then brought these categories within their ambit. Even in this case, poor people had the option of formal sources of credit, based on market rates of interest, instead of depending solely on informal moneylenders. It was also claimed that by placing financial resources, however small, in the hands of women, microcredit programs would enhance women's economic self-sufficiency leading to empowerment. The Indian government took active part in microfinance schemes first by making it a primary plank of its anti-poverty program (*Swarnajayanti Grameen Swarozgar Yojna*) and through the aegis of the National Bank for Agriculture and Rural Development (NABARD), which linked the vast network of commercial and rural banks to women's self-help groups (SHGs). The government sought out various nongovernemental organizations (NGOs) as allies in this process. NGOs engaged in microcredit delivery both independently and in collaboration with the government.

Currently, three principal models of microcredit operate in the Indian context. First are government-run or government-supported programs with a small element of subsidy in credit or interest. Second is commercial microfinance, operating through nonbank financial intermediaries, which are for-profit organizations involved in minimalist credit delivery. And third are NGOs, which offer credit-plus programs. These combine a mix of microfinance with other capacity-building programs, many of which are funded by national and international development institutions. Jeevika Development Society (henceforth Jeevika) broadly falls within the third category. A small number of programs have invested in building community-based organizations, and Jeevika has been one of these few.

The different SHGs promoted by Jeevika are now federated into a community-run organization named *Swayamsampurna* (a Bengali word meaning self-sufficient), which deals with loans, savings, and other financial services. Jeevika continues to guide the Swayamsampurna but focuses more on capacity-building and other initiatives aimed at generating awareness, creating employment opportunities, and challenging violence or discrimination faced by women.

This article contextualizes the issue of women's empowerment in this historical trajectory of understanding the women and development question. In the later part of the 1990s, when women emerged through policy discourse as a major target group for development, India, like many other "third world" nations experienced a sudden rise in the number of microfinance programs and institutions. Microfinance was beginning to be seen as a "magic bullet" that would transform lives and bring about social and economic empowerment of women and their families.[4] A vast critical literature exists today to show that this relationship between microfinance and empowerment is tenuous and nonlinear.[5] This article unravels a complex web of interactions between the Society, i.e., Jeevika, the communities in which its members live, and women's individual initiatives to understand the nature of the links among gender, poverty, and violence in specific sociocultural contexts. It also examines the process by which ruptures are made in these links through women's active participation in Jeevika. The article asks whether economic outcomes facilitated by the Society have any impact, or are impacted upon, by gender relations at home, which manifest themselves through different forms of violence. It further explores whether dimensions of participation that are more social than economic, such as voluntary work with anti-violence forums as well as positions of leadership in the Society, create possibilities of empowerment that are stronger and more direct than the possibilities that may emerge through economic gains alone.

To understand the nature of the links among gender, poverty, and violence in specific sociocultural contexts, this article unravels a complex web of interactions among the Jeevika Development Society, the communities in which its members live, and women's individual initiatives. It also examines the process by which ruptures are made in these links through women's active participation in the Society. The article asks whether economic outcomes facilitated by the Society have any impact, or are impacted upon, by gender relations at home which manifest themselves through different forms of violence. It further explores whether dimensions of participation that are more social than economic, such as voluntary work with anti-violence forums as well as positions of leadership in the Society, create possibilities of empowerment that are stronger and more direct than the possibilities that may emerge through economic gains alone.

We argue that while direct economic wellbeing and control are important pathways of empowerment, they are neither enough nor absolutely necessary to challenge patriarchal dominance or violence. Violence, understood in the broad spaces of the emotional, physical, sexual, and material, and embedded within patriarchal heterosexual families, can be combated by a combination of economic self-sufficiency, a sense of contribution, dignity, and confidence, and most importantly by a sense of association with a support group that

can be counted upon as a concrete alternative for material and ideological struggles. In short, when women's fallback position increases in terms of social and economic alternatives, so does their ability to negotiate the everyday violence of their lives, be it through open resistance or subversion. An organization like Jeevika facilitates this rich mix of social, economic, and ideological support that enables some if not all women to envision a different life for themselves.

Methodology

The article uses the standpoints of both the insider and outsider. One of its authors has been leading the Society for more than a decade; the other has been independently associated with the Society as a researcher-activist for more than five years. While this introduces a certain familiarity and power between the researchers and the researched, it also enables us to draw upon a rich host of experiences and previous research as well as facilitating a "talking point."

For the purpose of this article, the authors conducted 22 individual, semi-structured interviews with four categories of women. The first were members in positions of leadership in Swayamsampurna or its allied bodies such as *Alor Disha* (a women's group working on the issue of violence against women).In the second category were members who have taken production loans from Swayamsampurna to either start or expand their own microenterprises. The third category consists of members who have taken production loans for their husband's or family's business. The fourth category includes survivors of violence who have sought active support of Alor Disha in dealing with their cases of violence.

The reason for this purposive sampling was to bring to the fore links between economic participation or leadership and gender relations at home. Although many loans are taken for purposes other than production, production loans, whether for self or family, enable a closer scrutiny of ownership of business, participation in the business, and control over income streams at home and in the business. Positions of leadership have interesting noneconomic dimensions of empowerment, including dignity and confidence and a sense of social contribution. Narratives of survivors of violence tried to link the debilitating aspects of economic and social violence and the role organizations like Jeevika play in creating a platform for alternative modes of survival.

The sample is not representative and indicates some of the ways in which the multiple axes of gender, poverty, and violence can be interpreted through life stories of women surviving in such contexts. Additionally, the article also draws on the personal experiences of the authors and the rich host of information and data existing within the Society.

Situating Jeevika's women's rights-based approach in the empowerment discourse

Founded in 1990, Jeevika was registered as a Society (a charitable, not-for-profit organization) in 1994 to provide women access to financial resources and livelihood opportunities. Jeevika's micro-savings and credit program and its income generation program were launched in 1990. Right from inception, one of the stated goals of Jeevika was to build transparent, self-sustaining, and democratic institutions, and to transfer their ownership to the rural women. Starting with 90 women in three villages, By 2008, Jeevika's microfinance program evolved into a 500-group financial federation—called Swayamsampurna. Registered as a Mutual Benefit Trust in 2010, the federation is owned and managed by rural women. At the time of writing, Swayamsampurna works with more than 9,000 women in 704 SHGs across 51 villages that are spread across three blocks in the district of South 24 Parganas in West Bengal, India. Of these villages, some are located fairly close to Kolkata while some are very remote.[6]

Women's practical and strategic needs

Following Caroline Moser, we differentiate between practical and strategic needs of women, the former responding to certain, immediate needs for survival and the latter relating to change in the structure and nature of gender relations. Microcredit, whether taken for consumption, emergency, or microenterprise, often responds to a practical need for human survival. Whether this practical need can be converted to address a strategic gender need depends largely on processes of negotiation and bargaining stimulated by practical need as well as Swayamsampurna's overall engagement with the member beyond the immediate need.

Moser discusses various approaches to the woman in development question in which the equity approach appears effective since it has the ability to take into account women's practical as well as strategic needs. Most microfinance organizations, however, follow an efficiency approach to the women in development question. Such approaches, as condoned by organizations like the USAID, the World Bank, and the OECD, have often shifted the emphasis, "... away from women and toward development on the assumption that increased economic participation for 'third world' women is automatically linked with increased equity." Given that productivity and efficiency are two main approaches of Structural Adjustment Programs, national governments—including India's—have readily adopted this approach, focusing on microfinancial services with, at best, additional doses of vocational training, while steering clear of any conscious challenging of gender relations at home.[7]

One scholar argues that this toned-down version of the equity approach arises out of the reluctance of development agencies to interfere with gender relations constructed in specific societies. In a Bangladeshi study, for instance, it was found that repayment demands along with contentions over control of the loan have led to increased violence against women. Another study, a survey on urban microfinance in Delhi, India, observes that institutional staff advise women to comply with family wishes so that such institutions do not lose legitimacy in the community. Thus, while women work more to support families, their rights do not necessarily increase. This resonates in some feminization of poverty studies when scholars point out that in recent times "third world" women are experiencing a rise in responsibility and labor time without concomitant rise in rights and entitlements.[8]

Jeevika is exceptional in this regard as it consciously tries to establish links between credit and rights. Using group formation around microfinance as an entry point, Jeevika simultaneously engages in awareness generation and political mobilization beyond it. Day-long training events attended by all groups discuss not only financial administration and management but also women's economic and social rights. In addtion, three-day training workshops are held throughout the year, in locations outside the village, in which issues of women's rights, violence, and hurdles to entrepreneurship are discussed. Group meetings, held once a month, typically discuss social issues along with monetary transactions and also provide information about financial services, programs and workshops on gender rights, and vocational training available for members.

A bottom-up approach and the importance accorded to participatory development is clear from the fact that nearly all members are aware of the changes that have occurred through ownership transfer from Jeevika to Swayamsampurna. During the formative phase of Swayamsampurna, a large part of the new operational policy was based on discussions with ordinary members and their expressed needs. (Incidentally, the policy of not requiring a male guarantor for Swayamsampurna loans was inspired by the suggestions of ordinary group members who felt that it would violate their independence to use loans without the knowledge of their husbands.)

As from the late 1990s, Jeevika identified sexual control, violence, and restrictions on women's mobility as major deterrents of women's economic and social wellbeing. Keeping this in mind, community-initiated rallies, theater performances (Jeevika has its own theater repertory consisting of members of the community), and other events were organized to annually commemorate the International Women's Day and the International Fortnight Protesting Violence against Women and Girls. This was followed by the launch of Rapid Response Training (RRT) in 2002, which is a set of training programs that equip women with hands-on skill to respond to acts of violence against women and girls as and when they occur in their lives or in their neighborhood. Out of the RRT grew a voluntary forum, called Alor Disha. Since its inception, Alor Disha has been dealing with more than 150 cases of violence each year. Jeevika also runs an income generation program, which not only conducts vocational training (including knowledge of computers) but also offers opportunities of working in production units such as soft toy-making and tailoring.

A Bangladeshi study found that repayment demands along with contention over control of loans have led to increased violence against women. Another study—a survey of urban microfinance in Delhi, India—observes that institutional staff advise women to comply with family wishes so that the institution of family does not lose legitimacy in the community. Thus, while women work more to support families, their rights do not necessarily increase. Jeevika is exceptional in this regard as it consciously tries to establish links between credit and rights.

For a long time, Jeevika insisted on training and production at its main office so as to create an incentive for increased mobility. However, it was felt that reproductive responsibilities and sexual control tie women down in such ways that they are unable to respond to this incentive. In view of this, Jeevika has recently started village-based income generation training and production units with the hope that once women start production, incomes generated would enable them to bargain for greater mobility at a later stage.

Community leadership

Perhaps the most important contribution of Jeevika has been in developing community leadership for members to manage and own their own institution. Thus, Swayamsampurna is run by a 12 member Board of Trustees who act as a Board of Directors, and 11 of whom are community members elected through the General Body (comprising all members of Swayamsampurna). The remaining Director is an official of Jeevika nominated by the General Body. The vast network of group meetings, collections of savings, and loan installments, as well as loan disbursement, is done mainly by loan officers, who are members of the community appointed by Swayamsampurna through a process of examination. Swayamsampurna support staff provide additional assistance to the loan officers. The process of loan screening and sanction is done by the Board of Directors with input from the loan officers. Swayamsampurna now independently applies for loans from banks and other

institutions as well as depending on the financial return on its loans to cover its running costs. The savings are collected and deposited in area-based bank accounts of Swayamsampurna.[9]

On the question of empowerment, third world feminists have continuously emphasized increased capacities of self-reliance and internal strength rather than power over people. Empowerment is identified as the right to determine life choices and to influence the direction of change through the ability to command both material and nonmaterial resources. One author writes that empowerment cannot be bestowed by a third party; it has to be claimed by the disempowered. At best, development agencies can facilitate conditions for women to empower themselves.[10]

Investment in community leadership that enables women to decide and act on behalf of an organization creates such capabilities which may have a direct or indirect effect on the realm of choices in women's personal lives. Jeevika's interventions in the form of leadership building, consciousness raising, forums for creative expression, and campaigns against violence integrate the service delivery model of microfinance with the enhancement of capacities for self-reliance, strength, and confidence. Thus there is a deliberate attempt to create adequate support networks and strategies that have possibilities to transform economic transactions into a socio-political struggle for re(en)visioning individual lives.

To what extent do these institutional processes remove constraints in the direction desired by women in terms of their own choices and wellbeing? Do these shifts redefine what has been called the (im)possible, the (im)probable, the natural, the normal, or what counts as a problem? In other words, does association with Jeevika give rise to processes by which "women redefine and extend what is possible for them to be and do in situations where they have been restricted, compared to men, from being and doing"? The following discussion tries to understand these processes through empirical research.[11]

Stories of struggle, survival, and change

Bhabani Sardar,[12] Secretary, Swayamsampurna, remembers her impetus to join Jeevika about 12 years ago: "I did not initially think about loans. Savings was one issue but what attracted me most was that some of the women used to go out for one day trainings ... I felt this would give me a scope to move out of the house. For ten to fifteen years after marriage, I could not go anywhere. I had been converted into an inert object of labour. I used to feel claustrophobic. It was as if a dam was waiting to burst. There was a huge pressure building inside me. I felt that perhaps my association with Jeevika would give me an opportunity to step out."[13] Many women, especially women in leadership positions, echo Bhabani's sentiment. Most of them, including members of Alor Disha, are also members of Swayamsampurna and have taken loans for their own or their family's business. But the main driving force in their lives seems to be the support group and voluntary work that they are part of. Victims of domestic violence during some part of their lives, such women have used the opportunity given by Jeevika to transcend narrowly defined, family-bound lives and obtain ideological and material tools to justify resistance and change.

Ranu Mondol, an activist with Alor Disha, who walked out on her husband after extreme violence, seems to have outgrown the need for self-pity: "Now I feel that what happened to me was probably for the best. Otherwise, as a married woman in exploitative conditions, I would never have reached so far. My fulfillment in life comes from helping so many women in distress. This has given me a recognition and purpose which otherwise I would never have reached." As a full-time activist, Ranu appears on television shows, is invited to many workshops by other organizations, including the government, is consulted by the village level governing body, the *Panchayat*, in cases of violence, has traveled widely, and is familiar with the law enforcement and judicial systems. The fight for justice through the intervention of Alor Disha has taken Ranu, and many like her, far beyond the concerns of their own cases to connecting with a larger social cause. This also serves to make the personal, political.

A loan officer, Sipra Biswas, another victim of violence and continuous sexual control by her husband, says that after seeing the condition of women in the villages she visited, she realized that this was not a problem that was only her destiny. In fact she was better off than many other women in similar conditions because she had at least been able to step out. The job with Swayamsampurna has not only given her a steady income with which to justify her mobility to her husband, but has brought her in contact with a large network of colleagues who help her strategize ways of coping with violence and who give her the moral support to question domination in her life.

The narratives throw up the fact that activist work as well as income generating work give some women a purpose in life beyond the family and some others a way to negotiate restrictions imposed by the family. Those associated with loans and income generation alone may not have the kind of articulation of rights and change as those more actively associated with rights-based programs, but they nevertheless show a degree of control over their lives which participation in economic activities have made possible. Thus, stories of joint business where women are equal participants in labor effort and financial management arise in two cases: first through cooperative families where there is an absence of violence and active support of the husband in jointly advancing the welfare

of the family and, second, in cases where the husband is indifferent or incompetent to provide for the family's need on his sole initiative.

Joint control of business in cooperative families

Sumana Sardar, Pramila Naskar, and Reba Naskar fall within the first category. Reba and her husband sell *phuchka* (a type of snack) in separate areas of a neighborhood. They jointly prepare the material and travel to their roadside stalls in the same van, returning home together, after the day's marketing. The motivation to work jointly came from their desire to augment income and retain two physical spaces for sale of their snack. Although her husband is careful and does not squander money, Reba is mainly in charge of monetary decisions. Her husband has a bank account because of his earlier MGNERGS (Mahatma Gandhi National Rural Employment Guarantee Scheme) work but now insists on Reba becoming a joint account holder.

Sumana took loans from Swayamsampurna for her family's pig farm business. Initially, they had a poultry farm which suffered huge losses due to an attack of Bird Flu disease. At that time, her husband was looking after this business alone. The loss of poultry due to Bird Flu led to huge debt in her husband's name. Faced with dire poverty, Sumana started tailoring work while her husband worked as a daily wage laborer and, bit by bit, repaid the debts. It was a tale of joint endeavor at making ends meet. Perhaps this cooperation won his confidence and, at a later stage, when they gathered enough money to start a pig farm, she was counted as an ally. In charge of cleaning the pigs, caring for the new-born pigs, and administering medicines, Sumana leaves sales management and financial dealings to her husband. However, she shows an awareness of prices and dealers and the places from which medicines and food are procured for the pigs. At one point, when her husband fell ill, Sumana managed the whole business on her own. Her husband seems to trust her with budgets and money and has even bought land in her name.

Pramila Naskar took loans from Swayamsampurna for her husband's garment business, which has expanded from a home-based affair to a full-fledged shop. She herself binds *bidis* in the morning and sits in her husband's shop in the evening. A large part of their business runs on credit advance and her husband is in charge of collecting installments while she looks after the sales. She herself travels to wholesale dealers in distant locations, accompanied or unaccompanied by male family members, to procure garments of her choice. It is quite notable that she has exact knowledge about the business's turnover, the existing amount of advances in the market, and the exact number of customers. Most decisions, by her account, are jointly taken by her and her husband and the money from the business is kept with her.

Strategic control of business in noncooperative families

Deepa Sardar falls within the second category. Faced with violence and an alcoholic husband, Deepa took over the running of a tea and snack shop in order that her family may survive. She does the major work from cooking to procurement to general management of the shop, although her husband sits in the shop and controls the cash. Deepa won her husband's confidence by entrusting the management of finances to him and by giving him the sense of being the actual owner despite the fact that she is the one who actually puts her brains and labor to it. Deepa says: "It's important for a man to be there. It's difficult for a woman alone in the shop ... all types of customers come ... so a man is needed. People will be afraid to say anything if he is there. He sits in the shop but I do all the work from cooking to washing. He says that if he is there, there will be fewer problems because the customers know that the shop owner is here." At the beginning of the interview, she says that she hands the finances to her husband because she is not careful with money. But at a later stage of the interview, she mentions: "I should not demean him by keeping the money with me. He gives me what I need, so why should I keep the money? It's the same whether it is with me or him." Perhaps her apparent acceptance of his superiority has given her the scope to earn a living for the family and counter the violence she faced by proving her commitment both to the family's economic wellbeing while conforming to the ideology of male superiority.

Relinquishing control of business to the male

In other instances of loans taken for a family business, the woman does not seem to have much of a role beyond being the vehicle for the loan. Two distinct patterns emerge in these cases. First, there are cases where the woman has intrinsic faith in the male provider model and is satisfied by the benevolence of her husband. Second, there are cases where the woman has suffered so much violence that she has lost interest in any cooperative structure of family business.

Sarika Naskar and Sulata Adhikary belong to the first category. Sarika took a loan from Swayamsampurna for her husband after his employer, a garment manufacturer, instituted a factory lock-out. She herself manages livestock and poultry and helps him in home-based sales, as per his instructions. The entire business, financial dealings, and control are in his hands. Sarika, however, does not have any qualms about this. She says, "My husband has always helped me and even my natal family, be it my sister's marriage or my mother's illness. My

mother could not give the promised dowry but I have never been harassed about this. So I realised that these people are really very good. My husband is not like other men. So why should I not listen to him? Why should I do anything on my own?" It would appear that violence and material deprivation are normalized in marital relations to such an extent that any exception to the rule make women grateful to the point of servitude and anxious to conform to expected norms.

The same is the story of Sulata Adhikary who has taken loans for her husband's auto rickshaw lease and seems extremely grateful for finding a husband who takes care of her material and health needs. Her gratitude overflows when she mentions that her husband has bought a house in her name, reposing trust in the fact that there is no difference in whether the title deed is in her name or his since they are to spend their lives together. To convince the interviewers of her husband's affection and care she mentions how her husband appointed a paid domestic worker at a time she was ill and bed-ridden. Her gratitude has paid off in the fact that over the years her husband entrusts money to her hands. Sulata immediately dismisses the relevance of Jeevika's rights-based program in her own life by stating that her life story does not require any such arbitration. One wonders at her aggressive denial of violence or violation of rights, whether a large part of this is a strategy to ensure continued good behavior and benevolence of her husband. Could any questioning of gendered norms, which she is careful to avoid, result in a breakdown of this benevolence?

Sikha Das falls within the second category. She takes no interest in her husband's business primarily because she is disillusioned about any cooperative endeavor in the family. A member also of *Alor Barta* (a forum of Jeevika for preventing child marriage), she has taken many loans for her husband's hotel business. Herself a victim of child marriage and having faced extreme sexual and physical violence at her marital home, she hands the loans to her husband and takes no further interest. The financial turnover from the business is good and now, after many years of violent marriage, she has some measure of peace and material wellbeing. Sikha leaves finances to her husband and finds her sense of self-worth mainly through her activist work with Alor Barta. The small stipend she earns through this is hers to spend. Perhaps her endurance of violence over the years and the fact that she does not contest her husband's financial control earns her the peace to do activist work. However, the activist work has given her an insight and perspective that enables her to critique and protest her previous suffering. She says: "If I had the knowledge and confidence that I have gained through Alor Barta earlier, I would have taught him a lesson at that time. Now I answer him back in everything. One day he told me, you have learnt to speak a lot. I retorted saying that of course I have, there would be a difference in the way a fourteen year old girl talks and a woman of my age talks. I told him that as a young girl I had accepted everything he asked me to. Now it can no longer be like that."

Financial control within normative boundaries

It is interesting that even in cases where women take an active part in their husband's business and are also largely in control of the finances, there is a sense of dependence and obligation. Despite having a joint account from which she can withdraw money as required, Sumana says that she does not spend money in large amounts without her husband's knowledge: "Since I do not earn the money myself, I cannot give any loan to the members of my natal family without the knowledge of my husband. I cannot take such risk. If I earned on my own then I could have taken a risk and given that money from my own income." She plans to revive her tailoring business once they have enough money to keep hired labor for looking after the pig farm.

Does independent production/business by women then give them a larger measure of control and enable a questioning of gendered norms of wifehood and motherhood? Most women who run successful business on their own started production activities following widowhood, desertion, or the incapacity of husbands to take economic responsibility. For instance, Sarbani Mondol started her saree and garments business about 25 years ago when her husband was ill and unable to take care of the family. Initially, she worked as a paid domestic worker and soon realized that a business would give her greater income and self-reliance. She herself traveled to the wholesale dealer markets to establish contacts and now runs a successful business from her home and also door to door. She controls her own money and has also bought land in her own name. Faced with material deprivation where her in-laws did not give her enough to eat, she decided that she has to arrange for her own keep. Her husband was not directly violent but never protested against violence meted out by her in-laws. Now she interprets her husband's support as lack of interference in her activities. She owns title deeds of land, has financial investments in her name, and is the person approached by family members for any financial advice and help. Sarbani justifies single ownership and single or joint investments through the fact that her husband is illiterate and largely indifferent to the problems faced by the family. Despite being such a successful woman professionally, she mentions that her grandson will inherit all her property while she would marry off her grand-daughter to a suitable groom. Her own life of professional success does not

translate into a desire to secure her grand-daughter's future through property or other investments.

Jhumpa Baidya started her business life by selling dry fish and tea packets door to door. She has now progressed to selling puffed rice and spices. Born into a well-off family, based on false information she was married to a poor man with a huge number of dependents. Faced with abject poverty and material deprivation in terms of food, medicines, and other necessities, she decided to start working despite resistance from her home. Even before she came in touch with Jeevika, she had a strong determination to change her life. She threatened her in-laws and husband with counter-violence if she was stopped from working. Interestingly, neighbors and roadside people with whom she had business dealings in the village came to her support. She was always praised for her ability to work hard, and since she spent for the welfare of the entire family, the dams of resistance gradually eroded. A woman who had actually threatened to "cut her mother-in-law into pieces" or to move to a separate house with her children if she was prevented from working, Jhumpa turns a complete somersault when she mentions at the end of the interview: "A woman can run a business when there is dire need, but the man has to do things like going to market to buy things for family. A woman should not do this. If a man does the things that a woman does, he is not a man, he will be counted a woman."

Bharati Bag and Pramita Halder both started their independent businesses after their husbands' deaths. While Bharati expanded the grocery shop owned by her deceased husband with the help of Swayamsampurna loans, Pramita started a fish business. Although the management of the shop is entirely in her own hands, Bharati seems to be dependent on the set of contacts developed by her deceased husband. She controls the finances but her adult son helps in market-related activities. She is also planning to start a new business for her son, with the help of people she knows, so that he can have independent work and earnings.

Pramita used to live in a rented apartment with her husband and children in the city of Kolkata. After her husband's death, she was brought back to her village by her brothers who feared that she would get into an amorous liaison and jeopardize the future of her children. Pramita started a fish business in her own area. She procures fish from a wholesale market near her village and sells them near her home. Although she admits that she can augment her sales if she moved further away to a bigger market, she feels that doing business near her home keeps her safe and enables her to garner her brothers' support in case of any difficulty. It is quite clear that she accepts sexual regulation as an inevitable and legitimate part of her life and pursues her business within these limits. If earlier her brothers had objected to her moving out, now her sons have assumed that role.

Survivors of violence

The story is markedly different for survivors of violence who live separate from their husbands. Perhaps the total breakdown of a marital state and the fact that they have nothing to lose anymore give them a confidence to question both the primacy of marriage or its trauma and the need to conform to ideals of motherhood or wifehood.

Sumita Ghosh and Priya Das, both survivors of violence who came to Alor Disha for support with their cases, started economic activities after being deserted by or separated from their husbands. While Sumita makes a meager income through selling paper packets and is unable to move out of the house because of the burden of care for her small children, Priya has forged out a different life for her own. Supported by her parents for further education and child care, she is in the last stages of nursing training and earns considerable income through her appointment at a cancer hospital in the city. She seems disinterested in the divorce and maintenance case and looks forward with zest to a new-found career.

Ranu Mondol and Lata Mazumdar, both activists with Alor Disha, were victims of domestic violence and live separate from their husbands. Economic activities and activism define their lives, and they seem to have found a new direction and meaning of life that enable them to politicize and overcome the initial trauma of their lives. Both agree that the material provision they received at their husband's home had a high physical and emotional cost, and that they are better off now in terms of independence, control, and peace.

Women leaders

Narratives of women in leadership positions within Swayamsampurna or the rights-based forums of Jeevika, irrespective of whether they are married or separated, mark a clear departure from other accounts. Besides working as a tailor, Madhumita Bag, a Swayamsampurna board member, also works as an insurance agent with two organizations. She got information about the insurance agent jobs through her network of associations in Swayamsampurna. Despite the fact that from her childhood she was technically equipped to earn and run her household, she was a lone warrior in negotiating domestic violence and managing family survival. Her position in Swayamsampurna has helped more in terms of resisting violence than creating income. Madhumita says: "Ever since Jeevika started holding meetings in my house and tried to first make my husband understand and later threaten him, he has stopped the physical battering. Even when he raises his hand

now to slap me ... he stops midway." But the emotional violence continues. Her husband suspects her even now whenever she goes out for work and meetings, and she has to keep him informed all the time. Initially, neighbors had also slandered her when she went out for meetings or work. Now the same neighbors are scared of her because of her role and interventions in cases of violence in the village. There is an overall idea that Madhumita is powerful and should be left alone. However, Madhumita mentions that if the emotional torture stopped, she would be able to move about freely without the mental burden and this would help her even further in augmenting her income.

While some women use threats and open resistance, based on organizational support, others use subversive tactics to negotiate violence at home. Sipra Biswas, a loan officer, mentions that she uses alternative tactics for justifying her work outside home. Owing to her husband's erratic and insufficient income, she stressed the need for a stable income to legitimize her job. When her husband became violent, incited by the comments of other family members and neighbors, she convinced him that those people were jealous of the economic wellbeing brought about by a double income. To appease the family members, Sipra lamented the failure of her husband to be a sufficient provider and said that she did not have the luxury of sitting at home.

Even now, Sipra has to face continuous surveillance by her husband and make legitimate excuses for any delays in her regular office timings. Raised by a single mother, Sipra had always felt that she lacked support in case she went against the wishes of her husband. Jeevika has emerged as a platform that gives her this support. Sipra's motivation to join Jeevika, much before she became a loan officer with Swayamsampurna, stemmed from the desire to step out of the house. Even now the job means much more than income to her. However, she carefully hides these dimensions of her life from her husband and in-laws. She also makes financial investments without the knowledge of her husband and places her professional engagements in the framework of family wellbeing and income. Sipra further mentions that the constant nagging and suspicion by her husband had initially affected her work performance, and that she would often make mistakes in calculations, fatal in her job as a loan officer. However, by means of her association and exposure through Jeevika, she has learned to deal with these issues intelligently and become less emotionally affected by such issues.

There are many more instances of women making voluntary savings, fixed deposits, or earning incomes without the knowledge of their husbands. Sometimes this is motivated by the fact that husbands would then stop contributing to the household, sometimes by the fact that husbands would wrest control over the finances, and sometimes simply by a sense of securing one's future or the future of one's children independently.

Economic independence helps but more important is the ideological apparatus or the existence of a human support network that can support women's attempts to rupture violations of rights and physical integrity.

From domestic chores to rights and joint management

Interestingly, in none of the accounts is there any stark evidence of a reorganization of reproductive responsibilities. Most women engage in economically gainful activities after completing their required domestic chores at home. Sometimes however, husbands or children come forward to assist in cooking and other activities in cases of joint business or self-business once it has been established that the whole family gains economically from such activities.

In a case such as Sipra Biswas, the household gives her work schedule preference on weekdays because she has a time-bound regular job. On weekends, however, no such cooperation is available and she has to make up for her absence on weekdays. A large part of this minimal cooperation has been hard-earned and is as much related to the life cycle of women as to the success of their economic ventures. Most women respondents, with few exceptions, were married at an early age (between 14 and 17 years) and are now in their forties with grown-up children. Their initial journey through business, singly or jointly, has been riddled with hurdles, mostly in terms of restrictions on mobility on the ground of sexual control. It is only after years of establishing credibility and legitimacy through their investment in family welfare that such women have been able to earn a measure of cooperation and control.

Women not directly associated with Jeevika's rights-based programs do not echo the same attachment to the organization or articulate the same language of rights. However, all of them seem aware of the existence of such programs. Many survivors of violence came in touch with Jeevika through information given out by ordinary members. The authors' own experience of working with members over several years show a marked difference in responses during one-day or three-day training events, discussing gender rights and entrepreneurship. From a situation in which women found it impossible to articulate that they can have a role in major family decisions or found it a matter of shame that they were the principal breadwinners, some change has inevitably been wrought.

Whether or not situations have actually changed for a large section of women on the ground cannot be ascertained through these few interviews. However, the authors' experience of working with groups and the interviews themselves are proof that women can find a new political language of rights. Perhaps they are still hesitant to admit to the failure of the male provider model or assert that they can and do take decisions at home, but the language of "joint decision making" and "joint management" have entered the vocabulary. This by itself is a harbinger of change. In the absence of concrete alternatives for emotional, economic, and social support, marriage continues to define identities and security. Only in extreme cases of violation of rights and physical integrity, do marriages break down. However, many women negotiate the multiple deprivations and indignity, sometimes through manipulation, sometimes through conformity, and sometimes through open challenge. Economic independence helps, but more important is the ideological apparatus or the existence of a human support network that can support these attempts at ruptures.

Concluding discussion

Jeevika's journey began with a focus on meeting practical needs of women by enabling the flow of money into women's hands and that could be used for a variety of purposes, ranging from consumption to production. A number of development organizations as well as women's groups have tread on this path since the 1990s. What perhaps marks Jeevika apart is its integration of a rights-based approach into the microfinance program and its successful effort in developing leadership from within the community. Not only leaders, but also community members related to Jeevika simply through the savings and loan cycle are aware of the multifarious activities and programs Jeevika undertakes. Even if they do not identify these as necessary or relevant for their lives, it creates a window through which information and ideas seep in and which can be used as reference by other women in distress. Most women who have emerged as leaders have one thing in common: They were excited more by the prospect of stepping out and engaging in Jeevika's rights-based activities rather than by income generation, loans, or savings alone. Sometimes this was prompted by extreme forms of violence, sometimes by a childhood desire to explore life that had been stifled through years of wifehood and motherhood. Their association with Jeevika has given them recognition and self-esteem that money alone could not bestow, and it is on the basis of these that they are able to challenge, fight, or negotiate much of the patriarchal dominance in their lives. For women associated with production, loans have helped, and perhaps it is not a matter of coincidence that they seem equally aware of the financial rules of Jeevika as well as the financial negotiations of their own or family business.

Perhaps the main contribution of Jeevika is to provide a support network of people, resources, and income generation that pushes for a redefinition of what is possible or impossible for women to achieve or to enable them to imagine a life beyond motherhood and wifehood. Not many are ready to take this up. But the few who do have a place to go.

Revisioning lives

All respondents agree that Jeevika has meant a certain measure of independence and opportunity and seem aware of the transfer of ownership from Jeevika to Swayamsampurna. Some women other than leaders have also been part of training programs and been able to justify overnight stays by citing organizational demands. Jeevika, in a way, has given them a reasonable excuse to step out and to spend some time free of regular bondage. The leaders have moved a step further and converted this to a revisioning of their lives in which they are able to consider single lives with satisfaction or strategize within marital homes to snatch a share of their freedom. This perhaps is the potential Jeevika has attempted to create for a movement toward meeting strategic gender needs. No single organization can create a radical change when relations of gender and economic opportunities available to women are deeply entrenched in a patriarchal society. But Jeevika does offer a platform of support, both ideological and material, for those who want to take the plunge and defy such norms.

It is interesting to note that while economically successful women who are also in control of finances continue to rely on benevolent and cooperative families or echo the logic of family welfare to justify their entrepreneurship, it is the leaders who push back the limits of what is considered legitimate for a woman to do and to be. Many women who earn and control incomes have been able to make this journey because of the breakdown of the male provider model or because of the absence of a benevolent patriarch. In fact, in the undercurrents of their narrative one can discern a tone of lament that they did not have the opportunity to live typical lives of dependence and care. It is rather in the voices of the leaders that we see any significant challenge to such notions of dependence. Many such women, even if they continue traditional roles in their family, do it with an awareness of an asymmetry of gendered roles. Sometimes, preserving the general framework of traditional roles is a strategy to ensure an unquestioned continuation of their association with the organization. But their articulation shows great clarity of thought in discerning the difference in situations at home and the organization.

Although association with Jeevika or association with income-generating activities have led to abatement of open violence or even given them a measure of control and increased decisionmaking, they are aware of double roles and double lives played out on an everyday basis. They seem aware that while the position and dignity in Jeevika derives from their work and commitment, at home position and dignity depends on their ability to discharge the traditional duties of wife and mother. However, the presence of Jeevika helps, not only in the abatement of violence but also in giving them an identity which is built on their contribution as an activist and worker.

It is in this context perhaps that Jeevika has been able to facilitate a change in the ideological frame of gender relations at home. Some of the leaders mention that they continuously speak to their sons, daughters, and daughters-in-law about the ideas they gain through Jeevika so that they are able to carve out a life different from their own. For most such women, who are less educated and married young, and who lived violent lives during early years of marriage, Jeevika promises more than loans. One survivor of violence, who is yet to emerge from her trauma, mentions that although her case did not go much forward despite help from Alor Disha, she has made valuable friends in the group. She talks about her "friends" in Alor Disha whose houses she frequents whenever depression and pain eat away at her and when the slandering in her neighborhood goes beyond tolerance. Perhaps the main contribution of Jeevika therefore is to provide a support network of people, resources, and income generation that pushes for a redefinition of what is possible or impossible for women to achieve or to enable them to imagine a life beyond motherhood and wifehood. Not many are ready to take this up. But the few who do have a place to go.

Notes

1. See, e.g., Banerjee (1997); Standing (1999); Chandrasekhar and Ghosh (2002); Mukherjee (2004); Patnaik (2006).

2. See John (1996); Sengupta (2013).

3. Brym, *et al.*, (2005); Sengupta (2013).

4. Kabeer (2005).

5. Hashemi, Schuler, and Riley (1996); Goetz and Sengupta (1996); Hulme and Mosley (1996); Rogaly (1996); Khandker (2005); Armendariz and Morduch (2007); Cull, Kunt, and Morduch (2008).

6. A Block is an area-based unit of administrative governance. Each state, say, West Bengal, is divided into several Districts. Each District, say, South 24 Parganas, is divided into several Blocks, each of which has several villages under its purview. At the village level, the governing body is the *Panchayat*. The government appoints several people at the Block level to look into the welfare and development of villages in that Block. It is supervised by the Block Development Officer.

7. For a detailed description of women and development, including efficiency and equity approaches, see Moser (1989). Quote: Moser (1989, p. 1813).

8. One scholar argues: Buvinic (1983). Bangladeshi study: Rahman (1999). Urban microfinance in Delhi: Jitha (2013). Feminization of poverty studies: Cagatay (1998); Chant (2006).

9. Swayamsampurna lends to its members at a rate of, say, 2 percent per month (the monthly interest to be paid decreases with the gradual repayment of principal loan amount) and also charges a processing fee of 1 percent of the total loan amount discharged. A part of the interest income is used to repay with interest the loans Swayamsampurna has taken from banks and other organizations for on-lending. The remaining interest income and processing fee covers operational costs including salary to loan officers and stipends to board members.

10. One author writes: Mosedale (2005).

11. The (im)possible: Hayward (1998). Quote: Mosedale (2005, p. 252).

12. To protect their identities, the names of all respondents have been changed.

13. Direct interview quotes are left with the original spelling.

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GANDHI'S GIFT: LESSONS FOR PEACEFUL REFORM FROM INDIA'S STRUGGLE FOR DEMOCRACY

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Abstract

We examine the potential and limitations of nonviolent civil disobedience through the lens of the evolution of an iconic success: India's struggle for democratic self-rule. We summarize evidence consistent with a theoretical framework that highlights two key challenges faced by nonviolent movements in ethnically diverse countries. The first challenge, that of forging a mass movement, was met through the brokering of a deal that took advantage of an external shock (in this case, the Great Depression) to align the incentives of disparate ethnic and social groups toward mass mobilization in favor of democracy and land reform. The second challenge, that of keeping the mass movement peaceful, was accomplished through organizational innovations introduced by Mohandas Gandhi in his reforms of the constitution of the Congress movement in 1919-23. These innovations took the movement from one dominated by a rich elite to one organized on the principle of self-sacrifice. This permitted the selection of future leaders who could then be trusted to maintain nonviolent discipline in pursuit of the extension of broad rights and public policy objectives.

We have a power, a power that cannot be found in Molotov cocktails, but we do have a power.

Power that cannot be found in bullets and in guns, but we do have a power.

It is a power as old as the insights of Jesus of Nazareth and as modern as the techniques of Mohandas K. Gandhi.

—Dr. Martin Luther King[1]

There were moments in the twentieth century when activists believed that a new technology of political organization—that of mass nonviolent civil disobedience—yielded a new power for affecting institutional change around the world. Drawing upon age-old religious traditions common to many of the major faiths of the world, the idea of eschewing violent action in favor of nonviolent resistance was not new. Yet, modern techniques of civil disobedience incorporated new organizational ideas that have been credited with a number of remarkable successes. These include the ceding of democratic rights to 30 million South Asians by the British Empire in the 1930s and the civil rights movement in the United States in the late 1950s and the 1960s.

However, nonviolent civil resistance can also fail. Modern scholars of civil resistance point to the issue of maintaining nonviolent discipline in the face of provocation as an important missing piece in our understanding of how to make civil resistance work.[2] And on the ground, as historic episodes such as the violence of the 1942 Quit India movement, the race riots that followed the 1950s and 1960s U.S. civil rights movement, and the 2011 Arab spring and the battles in Cairo's Tahrir Square demonstrate, movements that begin peacefully can be prone to rapid breakdown into violence that further facilitates repression.

In this overview article, we summarize research in progress that examines the potential and limitations of nonviolent civil disobedience through the lens of the evolution of an iconic success: India's struggle for democratic self-rule.[3] We begin by sketching a theoretical framework to delineate conditions under which nonviolent mass movements can succeed and when they may fail. We show that even in environments conducive to nonviolent effectiveness, such as when policymakers face greater costs to violent crackdowns of nonviolent movements relative to their nonviolent counterparts, there remain two key challenges faced by nonviolent movements. The first is the challenge of mass mobilization: Nonviolent movements, more so than violent movements, are only effective when they are large in scale. This problem becomes even more challenging when attempting to mobilize across ethnic groups, which often differ in their policy preferences and suffer from weakened abilities to communicate, coordinate, and sanction across ethnic lines.

We examine the potential for and limitations of nonviolent civil disobedience through the lens of the evolution of an iconic success: India's struggle for democratic self-rule. We identify two key challenges: First, that of forming a nonviolent mass movement in the first place and, second, how to keep it nonviolent once formed. We find that both unexpected external events as well as organizational innovation within Gandhi's mass movement were important. We employ unique datasets and draw tentative lessons for cases other than India.

The second challenge lies in overcoming the enhanced temptations faced by members of large mobilized groups to turn violent, whether to secure short-term gains from mob action or in response to manipulation by agents who stand to gain from political violence. We provide general patterns from cross-campaign data which are consistent with these challenges.

Motivated by these patterns, we discuss how despite the fact that both these challenges were particularly accentuated in the South Asian case, they were overcome. We argue that the first challenge, that of forging a mass movement, was accomplished through the brokering of a deal that took advantage of external shocks (in this case, the Great Depression) to align the incentives of disparate ethnic and social groups toward mass mobilization in favor of democracy and land reform. The second challenge, that of keeping the mass movement peaceful, was met through organizational innovations introduced by Mohandas Gandhi in his reforms of the constitution of the Congress movement in 1919-23. These took the movement from one dominated by a rich elite to one organized on the principle of self-sacrifice, selecting future leaders who could then be trusted to maintain nonviolent discipline in pursuit of the extension of broad rights and public policy objectives. We characterize these reforms in light of the economics of club goods, describing how Gandhi's reforms created incentives that ironically mimic those used by terrorist organizations and extreme religious cults to develop within-group trust.[4]

We then outline new and emerging evidence documenting the historical importance of organizational innovations and incentives in shaping the nature and success of the Indian independence movement, drawing upon a range of hitherto largely untapped sources, including recently released intelligence reports gathered by the British, as well as internal Congress correspondence. We conclude by arguing that a key, but hitherto mostly neglected, aspect of Gandhi's Gift—the example of nonviolence applied to India's independence struggle—lies in understanding these organizational innovations. We discuss how these findings relate to contemporary movements for democracy.

Theoretical framework

It is useful to sketch a theoretical framework to help understand the potential and limitations of nonviolent civil disobedience as a technology, and the role played by mobilization and leadership. Suppose that individuals in a society differ in their "type," defined as the cost to them of engaging in violent action. Factors such as military training and combat experience may lower such costs, or conversely there may be cultures of honor that make it more costly for some to "turn the other cheek" when confronted with violence. Also assume that individuals can choose at some cost to join a movement, and subsequently, whether within a movement or not, to engage in violence.[5]

Further, assume that a movement becomes more intense if more people are mobilized and if they possess commonly accepted organizational leadership. The benefits to movement intensity from having a leader are relatively small when few people are people mobilized, but increase as the numbers rise. Thus, leaders complement followers in forging a more intense movement, be it through directing individuals toward common objectives, organizing logistics, or other relevant activity.

Suppose there are two possible types of potential benefit from increasing the intensity of movements: private benefits that only accrue to movement members, and public benefits that accrue to all. Further suppose that leaders of a movement, if they exist, can decide whether to permit or penalize violent acts within the movement. A more intense movement that *permits* violence can be used both to influence public policy and public goods provision, but also allows local private gains to both its leaders and followers through the ability to loot the property of other individuals or groups more effectively. In contrast, define a nonviolent movement—one that *prohibits* violence—as different from other movements only in that its strategy either requires its leader to expel members who engage in violence or imposes sufficient penalties on violent members to check their behavior. Both types of movements may allow some private gains to members, such as status benefits within the organization. However, all other things being equal, movements that permit violence have greater potential for private gains than those that constraint violence.

Finally, suppose that after these private gains are realized, an external decisionmaker seeks to minimize the cost imposed by the movement either by granting a policy concession, by ignoring the campaign, or by violent repression. In our motivating case, the decisionmaker encompasses the British government, of course. Suppose that the decisionmaker gets the same fixed payoff from a policy concession, such as

granting the democratic franchise. In contrast, the costs of both ignoring a campaign and of engaging in violent repression are not fixed but are increasing in a movement's intensity, with doing nothing being the lower cost option for dealing with small movements, and violent repression becoming cheaper for the decisionmaker when confronted with larger and more intensive movements.

A crucial condition for the relative effectiveness of violent and nonviolent campaigns comes from changes in the relative cost to a decisionmaker from choosing to violently repress a campaign as that campaign's intensity rises. We will say that the environment is in the *audience* state when the relative cost of violently repressing a nonviolent campaign becomes higher than violently repressing violent campaigns as campaign intensity rises, and in the *isolated* state when repressing nonviolent campaigns violently becomes relatively cheaper than repressing violent campaigns as campaign intensity rises.

Audience and isolated states can be thought of as corresponding to the role played by the international system and the media. In isolated environments where no one outside the movement and the State are aware of violent repression, it is arguably cheaper to violently suppress groups committed to nonviolence than those who are willing to retaliate. In contrast, in the audience state, greater reputational costs or other penalties imposed on the decisionmaker may exist for violently suppressing a nonviolent campaign as opposed to one that has committed violence.

An audience state may be more likely when a pro-democracy international hegemon exists or where individuals have access to freer media, as has been increasingly the case with today's social networking technologies. In our motivating case of Indian independence, the British, particularly during the civil disobedience movement and the second world war, were able to censor much of the Indian media yet were deeply concerned about American opinion as well as that of some of their own constituents.[6]

This setup makes explicit a number of the assumptions we believe necessary for a nonviolent campaign to work and suggests some of the challenges that such campaigns may face. Working backwards, note first that, in this setup, the only advantage that nonviolent campaigns have over campaigns that tolerate violence arises in the higher costs decisionmakers face in violently repressing them rather than granting policy concessions. This advantage holds only if the campaign is sufficiently intensive (i.e., sufficiently large and organized) so that, had it been violent, the decisionmaker would prefer to violently repress the campaign over ignoring it or granting the policy concession *and* if the decisionmaker faces audience costs that make suppressing nonviolent campaigns costlier than suppressing violent campaigns.

Thus, nonviolent movements require both sufficient scale and the presence of audience costs to repression to be more effective at influencing public policy than movements that permit violence. In addition, in our framework, nonviolent campaigns also face greater difficulties in both recruitment and organization relative to similar campaigns that do not penalize violence. First, nonviolent movements lack some of the private gains that violence can permit. From the perspective of private gains, a movement that does not penalize violence will be more favorable to its leaders and potentially more attractive to a broader range of types of followers than an otherwise similar nonviolent movement, as a nonviolent movement limits the private gains from looting or expression that can be had through violent action. In essence, it is easier to mobilize a mob that contains opportunists who use a movement to settle scores and to loot than to mobilize a group that is willing to give up the prospect of short-term gain and willing to "turn the other cheek" despite provocation.[7]

A second aspect to note is that keeping movements peaceful becomes harder as they grow. As movements increase in size and intensity, both leaders and followers have an increasing incentive to allow violence for private gains, even if this may compromise the chances of subsequently gaining a public policy concession. Thus, leaders of movements seeking to impose nonviolent discipline must not only forego their own temptation to permit violence; increasingly they must organize effective penalties on their followers to prevent a nonviolent movement from unraveling into violence.

This is particularly hard as nonviolent leaders actually have few options for penalizing violence. While leaders that permit violence can also potentially use the threat of violence to impose discipline, the worst a nonviolent leader can do to any specific individual is to make that member indifferent between participating or not, i.e., to expel him or her. But because the policy gains are public goods, members of large movements may have an incentive to turn to violence, knowing that even if they are expelled from the movement, they will benefit from any policy concessions regardless. All that individual members stand to lose are the private benefits from staying within the nonviolent movement.

But another penalty available is for a leader to refuse to (continue to) direct the movement. Given the complementarity between leaders and followers, this will reduce the movement's intensity and may reduce the probability of public policy gains for all. If there are few commonly acceptable leaders and the complementarity between leaders and followers is sufficiently large, this otherwise weak threat may shift a marginally violent type of follower from preferring violence to maintaining

nonviolent discipline. Indeed, this approach was one exercised on a number of occasions by Mahatma Gandhi.

With such weak penalties available for those who might choose to engage in violence, personnel selection becomes critical for nonviolent movements. A key challenge is to identify and mobilize enough of a select group of followers who are willing to forego the temptation of violence in favor of national objectives, and an even more select group of leaders to forego even greater such temptations, so that the movement is sufficiently intensive and yet able to maintain nonviolent discipline.

Ethnic differences can make it particularly difficult to support these incentives. Ethnic groups may have different policy preferences, reducing the benefits from a single policy concession and thus to a cross-ethnic movement as a whole. This makes it difficult for a movement to grow in scale beyond an ethnic group. Differing policy preferences can also accentuate the challenge of followers accepting a common leader. The potential lack of a replacement, stemming from the threat of resignation we just discussed, may however strengthen the power of any leaders that do emerge.[8]

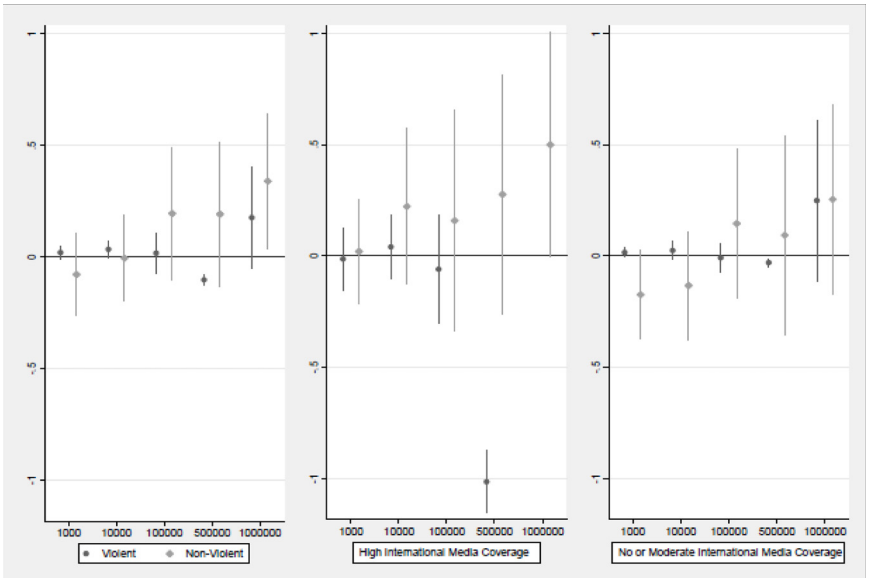

Figure 1: Effectiveness of violent and nonviolent campaigns, by size and international media coverage, 1945-2006. *Notes*: Estimated coefficients of size on the probability of success, controlling for country fixed effects. Standard errors clustered at the country level. N=1594 campaign-years, spanning 250 campaigns with >1000 members that held goals of regime change, independence, or self-determination. "Success" defined as campaign achieving 100% of stated goals. Size is a lower bound estimate. Left: All-campaign years; Middle: Campaign-years that attracted high international coverage; Right: Campaign-years that attracted no, low, or moderate international coverage. *Source*: Authors' calculations based on NAVCO 2.0 dataset (Chenoweth and Lewis, 2013).

To summarize: Nonviolent movements can be more successful than violent movements at achieving policy outcomes. But this depends upon their ability to mobilize *en masse* and on whether external decisionmakers face audience costs. Moreover, leaders and followers in movements that become large face heightened private temptations to exploit a movement through its increased capacity for violence. Thus nonviolent movements must depend more heavily than other movements on the selection of leaders, as well as followers, who are willing to forego the temptations that an increase in the size of a movement brings. Finally, the problems of finding such recruits, and of developing a commonly acceptable leadership to discipline them, are accentuated in socially divided societies.

General patterns

Using cross-campaign data, it is a useful first check to see whether our theoretical framework matches general patterns of success and failure of violent and nonviolent campaigns. Thus, Figure 1 employs the NAVCO 2.0 dataset of 250 nonviolent and violent campaigns between 1945 and 2006. It compares campaigns within the same country, showing how different sizes of violent and nonviolent campaigns in a year affect the probability that a campaign successfully achieves its policy objectives. Campaign sizes are measured on the horizontal axes of the three-panel figure.

The panel on the left differentiates between violent (darker vertical bars) and nonviolent (lighter vertical bars) movements. The probability that a campaign achieves 100 percent of its stated objectives is, if anything, lower for nonviolent campaigns than for violent campaigns with less than 100,000 or so members. But an increase in scale brings a rise in their relative effectiveness.

When one separates campaign-years (within the same country) between those that attracted high international media coverage (middle panel) from those with less coverage (right panel), nonviolent movements are no more successful than violent ones under little or moderate media coverage but strikingly more likely to be successful when they exceed 500,000 or so members *and* the international media take an interest.

Consistent with our theory, then, the relative policy

effectiveness of nonviolent campaigns appears to rise with movement size and the audience costs imposed via international media. Yet, as our theory also outlines, this may be only part of the overall picture: Although increased scale may make a nonviolent campaign more effective, if it maintains discipline, it may also lead to an increased temptation for members of nonviolent campaigns to turn violent. Table 1 compares campaigns from the same country-year in their relative probability of turning violent and shows that large nonviolent campaigns, and campaigns that start off with attempts to embrace groups across ethnic lines, are more likely to turn violent.

Table 1: Size, cross-ethnic campaigns, and transitions from nonviolence to violence

	(1)	(2)	(3)
Outcome:	Campaign turns violent = 1	Nonviolent to violent = 1 No change = 0 Violent to nonviolent = –1	
	Probit dF/dX	*OLS*	*Ordered Probit*
Campaign size >100,000	0.293* (0.145)	0.038* (0.017)	0.454* (0.226)
Campaign spans ethnic lines	0.003* (0.001)	0.001 (0.001)	0.002 (0.003)
Country FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Sample	Country-years with variation	Full	Full
R-squared		0.15	
Observations	217	1,594	1,589

Notes: Column (1) includes only campaigns in country-years in which some campaigns transition from primarily nonviolent to violent and other campaigns in the same country-year do not. Columns (2) and (3) includes all campaign-years. Column (3) re-parameterizes the outcome to rank campaigns that transition to nonviolent practices (-1), retain existing practices (0), or turn violent (+1). Standard errors clustered at the country level. * significant at 10%; ** 5%; *** 1%. *Source*: Authors' calculations based on NAVCO 2.0 dataset (Chenoweth and Lewis, 2013).

The example of South Asian independence

The broad patterns discussed thus far make the achievements of South Asian independence movements even more remarkable. The 1947 independence of what would become today's India, Pakistan, and Bangladesh was the first major reversal of a process of colonization by Europeans that had been continuing since the liberation of the states of Latin America in the aftermath of the Napoleonic wars (Figure 2). This made South Asia a prominent example for civil rights and independence movements yet to come around the world.

How and why then did a broad coalition of South Asians from across ethnolinguistic and economic lines push for democratic self-determination? How was this coalition largely successful at maintaining a nonviolent mass movement and why did it also, at times, fail? In Bhavnani and Jha (2014a) we provide the first systematic evidence on the relative importance of economic, cultural, and organizational factors in mobilizing the Indian subcontinent's remarkably diverse population into one of the world's first nonviolent mass movements in favor of democratic self-government. We exploit a range of hitherto largely untapped subnational (administrative, district-level) data, assembling novel data on mobilization, including terrorist acts between 1893 and 1936, votes and turnout in the first provincial elections in 1936, newly declassified intelligence reports on violent insurrection and nonviolent protest during the civil disobedience movement in 1930 and the Great Rebellion of 1942 against British rule, and internal Congress party accounts of membership and mobilization. Our work draws upon original archival correspondence and records from the Indian Office Records and National Archives in the United Kingdom, the National Archives of India in New Delhi, and the papers of the All-India Congress Committee and Bombay Pradesh Congress, both now housed in the Nehru Memorial Library.

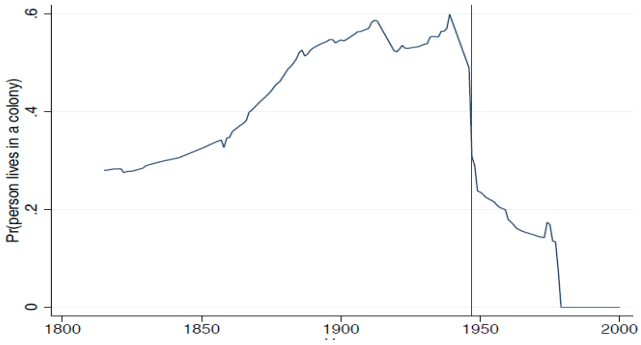

Figure 2: World trends in decolonization. *Note*: The vertical line marks the independence of India and Pakistan in 1947. *Source*: Authors' calculations based on Cross-National Time-Series Data Archive.

While this work is still in progress, the emerging evidence points to an intriguing set of patterns that motivate a major re-evaluation of the lessons to be learned from India's freedom struggle. As discussed, our theoretical framework points to two key challenges of nonviolent mobilization in the South Asian context: mobilizing sufficient numbers of followers across ethnic and societal lines, and selecting leaders and followers

that can impose and accept nonviolent discipline. In our working paper and broader book project (2014a; 2014b), we argue, and provide evidence, that economic shocks from the Great Depression (1929-1933) were important for encouraging mobilization across ethnic lines, while Gandhi's reforms of the Congress movement (1919-23) were particularly important for the selection of leaders that could be trusted to subsequently impose nonviolent discipline.

A common view of the history of India's independence struggle is shaped by its ultimate success, that of a sequence of successful mobilizations, masterminded by Gandhi, that built upon themselves and culminated with independence in 1947. Table 2 summarizes our contrasting reinterpretation of the struggle and suggests the generalizable lessons it provides. First, we observe that nonviolent mass mobilization in India was only truly successful in achieving substantial policy concessions in one campaign: the civil disobedience movement (1930-1932) that began with a tax revolt in the form of Gandhi's Salt March, and was called off only after the Viceroy, Lord Irwin, agreed to a pact that allowed salt concessions, released civil disobedience prisoners, recognized the Congress party as a key interlocutor for the political fate of India, and paved the way for the Government of India Act of 1935. This Act granted the first broad democratic franchise in South Asian history, expanding the number of people with the right to vote from 0.65 percent in 1934 to 14 percent of the adult population, or 30.1 million people, in elections that began to be implemented a year later. The Act also provided substantial autonomy over local public goods to new provincial legislatures. This victory arguably also made subsequent concessions, including independence, become much more likely. We argue that the civil disobedience movement benefitted from having solved both of the key challenges of nonviolence: first, incentives for mass mobilization were created by economic shocks that swayed agriculturalists—a key constituency—in Congress' favor, and second, Gandhi's organizational reforms, which helped impose nonviolent discipline.

Table 2: Economic shocks and organizational reform in India's independence struggle

Movement	*Leadership & organization*	*Incentives for mass mobilization*	*Achieves aims*
Nationalism before Gandhi, 1885-1918	No: Leaders selected by elite status	No: Ethnic movements; elite movements	No: No policy concessions; violent repression (Sedition Act 1919)
Mobilization attempt 1: *Khilafat*/non-cooperation movement, 1919-1922	Yes: **Gandhi's Reforms**: Leaders selected by costly sacrifice for nonviolent action	No: Aims misaligned with agricultural sector and across ethnic movements	No: No policy concessions; Hindu-Muslim violence
Mobilization attempt 2: Civil disobedience movement, 1930-1932	Yes: Nonviolent leaders selected	Yes: **Great Depression** allows coalition formation with agricultural sector	Yes: Gandhi-Irwin Pact 1932; Gov't India Act 1935 provides local autonomy and extends franchise
Mobilization attempt 3: Quit India movement: August 1942	No: Comprehensive detention of nonviolent leaders	Yes: Coalition established	No: Campaign turns violent; violent repression; no further policy concessions

Source: Bhavnani and Jha (2014b).

In contrast, attempts by Indian nationalists to influence British policy prior to Gandhi, and Gandhi's own other great mobilization attempts, the non-cooperation movement of 1919-22 and the Quit India movement of 1942, failed to achieve any policy concessions. These failures are, however, deeply informative about the conditions under which nonviolent movements can achieve success.

Prior to 1919, it was unclear how important the Indian National Congress would be for Indian politics. The Congress was an elite group, financed and dominated by affluent English-speaking professionals, particularly lawyers and businessmen. This group pushed for greater Indian consultation on government within the British Empire. In parallel with this organization were regional groups of more extreme nationalists who, through newspapers and terrorist acts, conducted a campaign for independence. A number of these regional

nationalist groups were following the playbooks of European nationalism. For example, the prominent nationalist "Lokmanya" Bal Gangadhar Tilak in Poona used his newspaper, *Kesari* [Saffron], to propagate nationalism, most notably by adopting Hindu symbols, such as promoting a minor festival for the god Ganesha into a major religious and political event, and promoting the exemplar of the Maratha ruler Shivaji Bhosle who had fought the Mughal empire. Both of these symbols appear to have been aimed at forging a Hindu "imagined community" and coincided with Hindu-Muslim rioting. *Kesari*'s circulation remained limited regionally. Even among Hindus, Tilak's attempts to propagate Shivaji, a local ruler, as a symbol of nationalist resistance in Bengal, on the other side of the subcontinent, met with little success. Bengal itself was viewed by the British as a key center for nationalism in this period, mainly focused on an urbanized affluent elite, known as the *bhadralok*, or "respectable ones." In fact, between 1893 and 1918, of the 276 seditious incidents recorded in the Sedition Committee report of 1918, 71 percent occurred within a single province, Bengal, with the provinces of Punjab (12 percent) and Bombay (4 percent) the nearest rivals. More than 90 percent of the events involved attempted or actual violence, including armed theft, murder, and bombings, while other acts included seditious speeches and the dissemination of articles.[9]

Gandhi's reforms

This first phase—combining a small and almost exclusively elite-led Congress agitating peacefully even while low-level violent sedition, bomb-throwing, and other acts of terrorism were perpetrated, mainly by those outside the Congress organization—lasted until around 1919. This was a period when grievances were particularly accentuated, since the British reneged upon Viceroy Lord Montagu's declaration that India would receive dominion status (i.e., self-government) in return for military support during the first world war. Instead, in response to the Sedition Committee report, the government imposed a series of laws aimed at curtailing "sedition" and limiting public assembly (Sedition Act, 1919).

It was then that Gandhi returned from South Africa and introduced the techniques of nonviolent civil disobedience to the subcontinent as well as pushing for, and obtaining, a broad reform of the Congress organization. The Congress went through a large-scale reorganization during the period 1919-23, adopting a new constitution that changed its steering body, the All-India Congress Committee, from one that in 1919 was dominated by elites, particularly lawyers (65 percent), to one that by 1923 was representatively elected from district Congress committees that had emerged to span British India (Table 3).[10] The organization extended down to the *taluk* (an administrative subdivision) and village level, where each village with more than five Congress members was entitled to a committee and to send delegates to the *taluk* and district committees. Following Gandhi's reforms in 1920, members of these committees of the Indian National Congress were required to give up any positions that they enjoyed with the British government, and lawyers in the leadership had to give up the practice of law in British courts. Engaging in nonviolent civil disobedience could lead to arrest and prison time, often involved hard labor, and became an organization-specific investment.

Table 3: Composition of delegates to the All-India Congress Committee, 1919-1923

Year	*1919*	*1920*	*1921*	*1922*	*1923*
Members	*160*	*162*	*163*	*338*	*338*
% Lawyers	65.0	64.8	50.9	23.1	21.3
% Journalists	7.5	7.4	11.7	6.2	8.6
% Businessmen	6.9	7.4	8.6	5.6	4.4
% Doctors	4.4	3.7	4.3	4.7	4.7
% Landowners	4.4	4.9	2.5	2.4	1.5
% Teachers	3.8	3.1	4.3	3.0	3.0
% Others	5.0	5.6	6.1	6.8	6.5
% Congress workers	0.0	0.0	0.6	4.4	8.0
% Unknown	3.1	3.1	11.0	43.8	42.0

Source: Authors' calculations based on Krishna (1966, p. 424). During Gandhi's reforms of the Congress movement, the proportion of lawyers fell considerably while those not classified (likely non-elites) rose.

Important work, beginning with Laurence Iannaccone, has pointed to costly investment in group-specific identity, such as sacrifice, as a form of screening device in cults and clubs, where a key objective is to maintain small group size and screen for trustworthy members. This logic has been found particularly applicable to violent mobilization along ethnic and religious lines, including among organized crime and terrorist organizations. Violent acts and crimes that reduce a member's outside options often play the role of a group-specific investment. In contrast, we suggest that civil disobedience provides a dimension of public sacrifice, including incarceration and "turning the other cheek" when faced with brutal law enforcement, that has a similar clubs good structure but can transcend sectarian and ethnolinguistic differences and also facilitate nonviolence. In India, political incarceration provided a movement-specific investment that was potentially open to all, regardless of their initial cultural and resource endowments. As Table 3 suggests, the number of members whose professions were not identifiable (and thus were more

likely to be non-elites) increased from 3.1 percent to 42.0 percent over a five-year period.[11]

The selection of leaders, rather than being based on elite status, instead became one based on sacrifice. In the language of our framework, Gandhi's reforms created a process for screening of potential leaders who either are nonviolent types, received sufficient private gains from being part of the movement, or internalized its public policy objectives. These leaders, in turn, could later be entrusted with large-scale mobilization despite its temptations.

Having a cadre of leaders is beneficial to nonviolence, but, as discussed, nonviolent leaders' ability to maintain discipline is weak. Thus, selection of followers is also important. The costly signals that even the lowest-level Congress volunteer had to provide begin to make more sense in this context. In November 1921, the Congress sought to centralize the process of volunteer recruitment, issuing general instructions which required all volunteers to give up any military-style uniforms, banned the carrying of any weapons, ruled out the enlistment of any "known to be a bad character," and required volunteers to make a pledge of obedience and of nonviolence. Congress leaders and volunteers were also enjoined to spend at least an hour every day spinning cloth.[12]

The Khilafat and non-cooperation movements, 1919-1922

The reorganization of the Congress coincided with Gandhi's first attempt at mass mobilization in India. This occurred in part to challenge the Sedition Act that made protests illegal, but also to create solidarity with the Muslim community, which feared for the fate of the Ottoman Sultan, the titular Caliph of Sunni Islam. Pan-Islamic nationalists, many of whom were concentrated in India, formed the *Khilafat* (Caliphate) conference to pressure Britain into maintaining the Caliph's authority. Arguing that national unity required mass mobilization of both Hindus and Muslims on this issue, Gandhi asked "how can twenty-two crore [ten million] Hindus have peace and happiness if eight crore of their Muslim brethren are torn in anguish?" As we discuss in Bhavnani and Jha (2014b), despite having developed a subcontinental organization, the combined non-cooperation—*Khilafat* movement was small-scale, particularly compared to those that came after, and although Gandhi himself attracted large crowds, the movement itself failed to attract much concrete civil disobedience outside India's towns.[13]

An important test of the Congress organization came on 4 February 1922. A joint *Khilafat*/non-cooperation movement nonviolent protest in the town of Chauri Chawra was fired upon by police, leading to the deaths of three protestors. The demonstrators became a mob, which burned down the police station, killing 22 policemen. Gandhi immediately called a halt to the non-cooperation movement and was effective in implementing this nationwide.

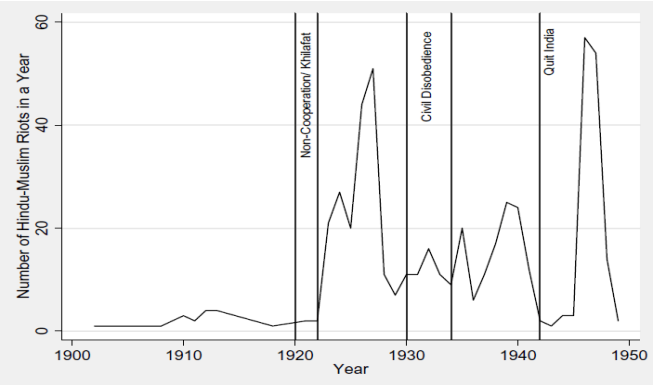

Figure 3: Satyagraha movements and Hindu-Muslim riots. *Source*: Jha (2013) and Wilkinson (2005).

Ultimately, however, the non-cooperation movement and the *Khilafat* agitation failed to achieve significant reforms.[14] Further, there was a breakdown of cooperation between the Muslim *Khilafat* movement and the mainly Hindu Congress. Consistent with our framework, local politicians appeared to have taken advantage of the new era of mobilization, and this led to the first major wave of civil Hindu-Muslim rioting in South Asian history (Figure 3).

While Congress, under Gandhi's influence, developed the basic organization and techniques for nonviolence in this first attempt at nationwide mass civil disobedience, an underlying lack of aligned incentives, both between the *Khilafat* and Congress movements, and between the non-cooperation movement and many that it had hoped to mobilize, may have played a key role both in the limited success of the movement and in the ethnic conflict that resulted where its mobilization efforts had at first met success.

The civil disobedience movement, 1930-1932

What the Congress leadership needed was a set of incentives that would make self-rule attractive. One problem was that India's abundant factor was agriculture, and thus the majority of Indians employed in the agricultural sector arguably benefitted from the higher relative prices for agricultural goods available abroad under Britain's policy of trade openness as compared to the platform of protectionism promised by the industrialist-supported Congress.

As Figures 4 and 5 suggest, the Great Depression had a large negative effect on a key benefit of Empire: the benefits from trade.[15] Farmers began to switch from growing non-food crops for export to growing food. In this manner they reduced

their reliance on world demand and thus on their reliance on both the trade and extension services provided by various intermediaries, including landlords, and the trade openness policy of the British. The Congress party appears to have seized upon the reduced enthusiasm of farmers for British rule and promised them land redistribution from the now redundant landlord class. Jawaharlal Nehru became the first major politician to speak on the need for land reforms in 1929, a topic that became a key part of the Congress platform not long afterward. It was soon after the Great Depression struck—on 26 January 1930, and thenceforth celebrated as Independence Day—that Congress officially changed its platform from self-government within the British empire to *Purna Swaraj* and initiated its next great attempt at mass mobilization, the civil disobedience movement. It is this movement, enjoying both the Congress' organization and, for the first time, the aligned incentives of the poor in both rural and urban sectors, that proved the most successful of all of Gandhi's campaigns. These led, as we discussed, to the granting of provincial legislatures and to India's first elections with a substantial franchise in 1936.[16]

We can use the election outcome to check whether Congress mobilization did in fact respond to depression-era export shocks. Panels *a* and *b* of Figure 6 (on the next page) show the relation of the value of exports between 1923 and 1933 to the relative support for the Congress and the Muslim League. Note, in Panel *b*, that the Muslim League, the only other national party allowed to contest the elections (the Communists were not permitted to participate), has very low support even among Muslim constituencies, and does best among the winners from the Great Depression, i.e., in areas that saw only small adverse, or even positive, effects of the depression on the value of their export goods. The Congress, in contrast, did worst both among the relative economic winners and the extreme losers but garnered substantial support among communities in which the depression's adverse effects were more moderate. The voting outcome suggests that those hit worst by the depression, particularly those who had failed to change away from exportables, were not coordinated into support for the opposition. This is consistent with the lack of attraction that Congress' autarkic platform might yield to those who could not easily substitute away from export goods production. Instead of being a rebellion of those facing the hardest times, support for Congress came from districts that were more insulated from the depression or able to adjust more easily to domestic production.

The Quit India movement, 1942

One might expect that, having built a new mass coalition in favor of independence—and a cadre of leaders committed to nonviolent discipline by 1932—the Congress would now enjoy great success. Indeed, Gandhi's third attempt at nonviolent mobilization was proclaimed on 9 August 1942, with the maximalist objective that the British should "Quit India."

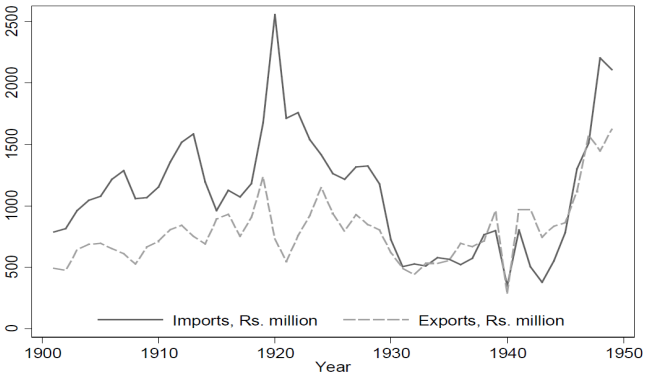

Figure 4: India's trade with the British Empire. *Source*: Data from Mitchell (2003).

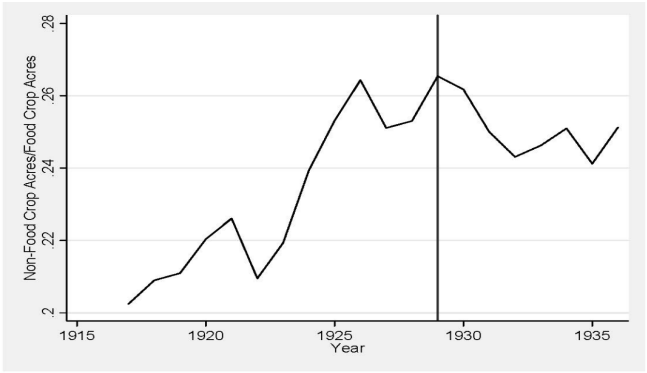

Figure 5: Ratio of non-food to food crop acreage. *Source*: Agricultural censuses, 1929-1935.

However, the Quit India movement failed. Draconian British countermeasures were employed to decapitate the Congress organization. Ironically, these countermeasures now allow us to empirically evaluate the role of leadership in maintaining nonviolence. On 3 August 1942, a "most secret" telegram was dispatched to all Provincial Governors. It detailed that in the event that the Congress should pass the Quit India resolution at its upcoming meeting, the Governors should "arrest ... all individuals whom they consider competent and likely to attempt to organise and launch mass movement. No individual will be arrested merely as a member of unlawful association general object being not to fill the jails but to limit the number of arrests to those regarded as essential for dislocation of the Congress organisation." In a synchronized action, which commenced within a few hours after the protests

began, the British arrested and imprisoned an estimated 60,000 Congress cadres, including the entire national leadership. This process was made easier by the fact that many leaders had been gathered in Bombay at the All-India Congress Committee meeting. Heavy war-time censorship exercised at the time has long concealed the full magnitude of the mobilization.[17]

By for the first time bringing together all declassified reports on the Quit India movement from each province, we believe that we can shed new light on its dynamics. While much work remains to be done, the basic patterns are illuminating. Figure 7 reveals that on the day of the Quit India resolution—8 August 1942—there was a spike in nonviolent protests across the subcontinent. The overnight arrest of much of the Congress leadership removed a key element in maintaining nonviolent discipline. Consistent with our theory, this led to an overnight spike in violent actions; actions that would continue to erupt intermittently for the next few months, even as there was a consistent fall in nonviolent mobilization.

In internal war-time Congress correspondence, the role that the arrest of leadership played in causing the movement to turn violent is also evident. The internal *Report of August 1942 Struggle*, penned during war-time by an anonymous member of the Bombay Pradesh Congress Committee (PCC) explains:

> For the sake of proper understanding of the situation it must be made clear here that the Congress machinery that came to assume charge of affairs in the City was not appointed by the Provincial Congress Committee or by any other competent Congress authority. The PCC had not drawn out any plan since it had not instructions from the Working Committee. What subsequently happened was more accidental than a result of any previous planning. It is evident from what followed that those in charge of the Congress machinery had no special partiality for strict non-violence as interpreted by Mahatma Gandhi. This will explain some of the incidents that occurred during the campaign towards the end of 1942.[18]

The change in the nature of the Quit India protests from nonviolent to violent following the arrests of the Congress leadership likely reduced the costs to the British to respond with violent repression. The suppression of the movement required 8 British brigades and 57 Indian battalions. The Royal Air Force even machine-gunned civilians from the air.[19] American and Chinese nationalist pressure to grant concessions abated, and Congress leaders would spend the rest of the war in jail. They would emerge four years later to find that their support, particularly among Muslims, had eroded and their position to speak for all ethnicities diminished. While the

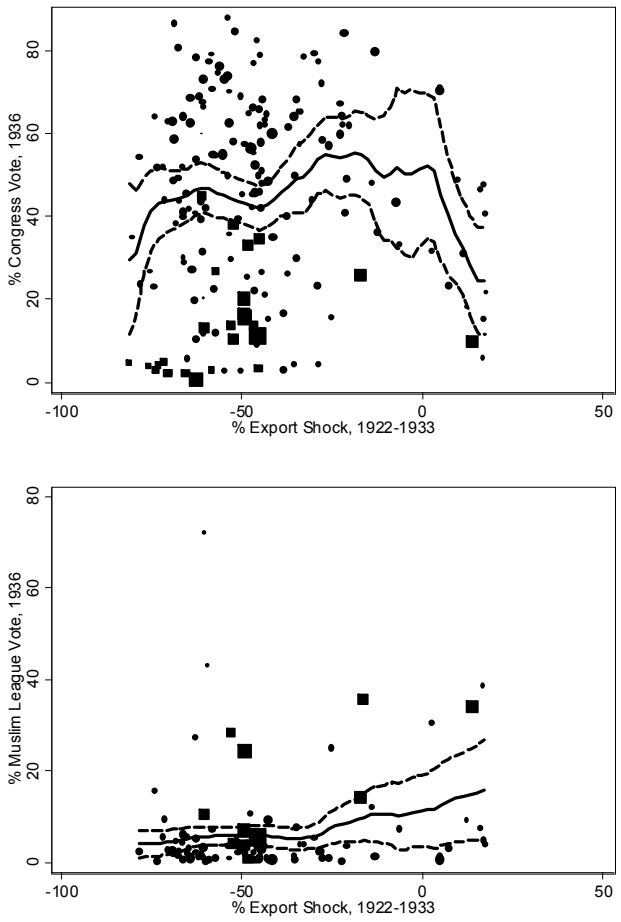

Figure 6: Export shocks and votes, 1922-1933. *Notes*: Local polynomial smooths (solid lines) weighted by district populations, with 95% confidence intervals (dashed lines). Marker sizes denote relative populations. Square markers are for Muslim-majority districts. *Source*: Bhavnani and Jha (2014b).

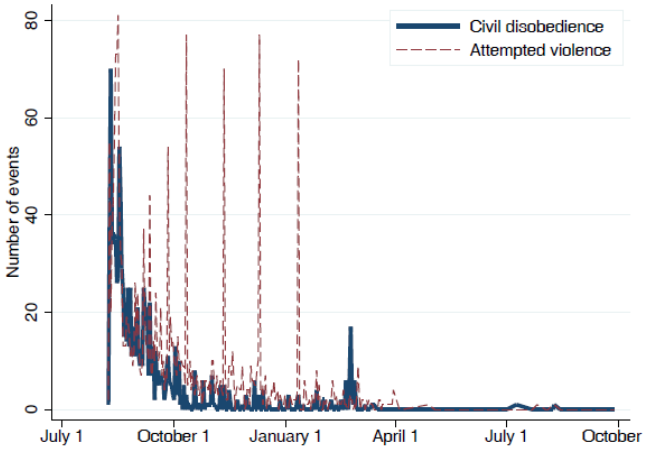

Figure 7: Nonviolent and violent protests, 1941 and 1942. *Source*: Authors' calculations based on intelligence reports for each province.

successes of the civil disobedience movement arguably made India's independence feasible and likely, the failure of the Quit India movement may have done the same for the subsequent partition of the subcontinent into India and Pakistan.

Discussion

This article summarizes some of our research in progress that examines both the potential and the limitations of nonviolent civil disobedience through the lens of the evolution of an iconic success, India's struggle for democratic self-rule. Our theoretical framework highlights the need for an audience to impose costs on those who would use violent repression of nonviolent movements, as well as on two key challenges faced by nonviolent movements in ethnically diverse countries, even if such audiences do exist. The first is the challenge of mass mobilization across ethnic lines. The second lies in overcoming the enhanced temptations faced by members of large mobilized groups to turn violent, whether to secure short-term gains from mob action or in response to manipulation by agents who stand to gain from political violence. These challenges appear to match general patterns from cross-campaign data.

Sustaining a nonviolent movement requires identifying and mobilizing sufficient numbers of potential followers willing to forego temptations to engage in violence in favor of national objectives as well as leaders who forego even greater such temptations so that the movement is sufficiently intense while still maintaining nonviolent discipline.

Our theory suggests two design elements for those who seek peaceful reform. The first design element is to choose the public objective that would be most attractive to large numbers of potential nonviolent types rather than attracting those that may prefer violence. While sectarian and other ethnically-delimited objectives may be relatively more effective in mobilizing people—partly out of the threat that other ethnic groups may mobilize instead—such ethnic mobilization is also relatively conducive for violence and limits scale to that ethnic group. In contrast, campaigns against the restrictions on political rights or the imposition of taxes that are common to all may encourage fewer potentially violent types to join and have the potential to mobilize across ethnic lines. The Congress' use of common economic and political issues, using a platform of the salt tax, protectionism, land reform, and democracy to mobilize a nonviolent cadre of Indians in the successful civil disobedience movement in 1930 contrasts favorably to the ethnic mobilization and lack of aligned interest of the *Khilafat* movement and the parallel non-cooperation movement in the 1920s.

A second, oft-overlooked, key to ensuring nonviolent discipline lies in the organizational incentives of the movement. We argue that in the early 1920s, although lacking a broadly attractive public objective, Gandhi's reforms transformed India's independence movement. The Congress went from a group dominated by elites—many with strong ties to the existing regime and thus good outside options—to a new cadre structure that allowed leadership candidates from both existing elites and non-elites to advance within the movement if they were willing to sacrifice potential private objectives for nonviolent public objectives. While the required loss of offices within the existing regime reduced the benefits for defection, Gandhian requirements of self-sacrifice—from the mundane, such as yarn spinning, to the physically dangerous, such as the courting of arrest for civil obedience and engaging in hard labor in British jails—helped individuals signal their trustworthiness to accept nonviolent discipline and thus assume leadership within the movement. This signal, in contrast to similar screening devices by cults and terrorist organizations, was explicitly nonviolent and nonsectarian. Those Congress members that made such organization-specific investments early, in the 1920s, when the Congress had little chance of assuming government, became leaders in the 1930s, permitting the key success of the civil disobedience movement. The importance of this selection of leaders in keeping the movement nonviolent was put into sharp relief in the final great mobilization of 1942, when the synchronized arrest of 60,000 Congress leaders led to a rapid breakdown of nonviolent discipline.[20]

Early Indian nationalists sought to adopt the playbook of terror and sectarianism employed by nationalists in the West. Yet, a key part of Gandhi's gift may lie in his reorganization of a movement that took the screening devices of religious cults and terror organizations and instead found a method to select nonviolent leaders and followers. While social movements often emphasize the importance of sheer numbers in attaining policy objectives, movements that seek peaceful reform may gain from trading off scale with the selection of followers that are willing to sacrifice short-term private gains for long-term public ones. Furthermore, the dimension of visible sacrifice, particularly the use of courting arrest for acts of civil disobedience that Gandhi used are not India-specific but may provide avenues for finding trustworthy leadership elsewhere.

South Asia's struggle for independence has long been an example for freedom struggles around the world. There may yet be more that it can teach us.

Notes

1. Transcribed from King: A Filmed Record ... Montgomery to Memphis. Produced by Ely Landau, 1970, Library of Congress/Kino Lorber, 00:01:25-00:01:49.

2. See, for example, the very useful overviews in Schock (2013, p. 284) and Chenoweth and Cunningham (2013). On civil disobedience generally, see Helvey (2004); Sharp (2005); Schock (2005); Shaykhutdinov (2010); and Chenoweth and Stephan (2011).

3. Bhavnani and Jha (2014a).

4. Mimic: See Iannaccone (1992); Berman and Laitin (2008).

5. Theoretical framework: See Bhavnani and Jha (2014a; 2014b). Factors: See, e.g., Akerlof and Kranton (2000); Grosjean (2011); Jha and Wilkinson (2012).

6. Pro-democracy hegemon: Boix (2011). The British: See for example the 5 February 1930 confidential dispatch from Gerard Campbell, British Consul-General in San Francisco, to Sir Esme Howard, the British Ambassador in Washington early in the civil disobedience movement (IOR L/P& J/6/1989): "... I am sincerely convinced that the more friendly relations which have recently been established between Great Britain and the United States may be endangered if irresponsible Indians are allowed to go around the country telling half-educated Americans of the oppression and brutalities suffered by their fellow countrymen, for these stories will be believed unless someone who can rightfully claim to have the requisite knowledge is at hand to check or deny them. If the Indian extremists follow up their campaign with a plea for financial assistance, there is no knowing how much they may be able to collect from the sort of people who seem to derive enjoyment from subscribing to any unworthy cause and especially from those who, from their youth up, have been taught to be hostile, rather than friendly disposed towards anything British ..." For similar concerns during the Quit India movement, see Sir R. Campbell to Mr. Eden, Telegram L/PO/6/102s: f 7 (Mansergh, 1976, p. 659). Many accounts also emphasize the role of the presence of the world media in mitigating British repression of the Dandi Salt March in 1930, and of television in shaping broader public opinion on the violent repression of civil rights activists in the United States.

7. We differ in this respect from existing scholarship (e.g. , Chenoweth and Stephan, 2011) that suggests that nonviolent movements are cheaper to join than are violent movements, as less is required of nonviolent agents. Our account instead emphasizes that effective nonviolent movements are both more difficult to mobilize and to organize, because committed followers do not stand to gain from the benefits of violent mobilization and movement leaders are unable to leverage the payoffs to violence to maintain nonviolent discipline.

8. Different policy preferences: See, e.g., Alesina, Baqir, and Easterly (1999). Another issue is that when there are ethnic groups with differing policy preferences, individuals may choose to join different movements with competing policy objectives. Here, strategic complementarities may exist: Mobilization and violence by one ethnic movement may increase the incentives to mobilize by members of other ethnicities to avoid being caught off-guard. In such competitive environments, members of movements that permit violence may once again see growth in membership that nonviolent cross-ethnic movements may not. For examples of this type of ethnic security dilemma from the Balkans, South Asia, and elsewhere, see Posen (1993); Kaufmann (1996); Fearon (1998); Jha and Wilkinson (2012).

9. Congress was an elite group: Krishna (1966). Imagined community: See, e.g., Anderson (1983); Jaffrelot (2008). Met with little success: Sedition Committee (1918, p. 19). In fact: Authors' calculations based on Sedition Committee (1918).

10. Also see Krishna (1966).

11. Iannaccone (1992). Particularly applicable: See, e.g., Berman and Laitin (2008).

12. The pledge reads: "I shall faithfully and diligently carry out all instructions received from my superiors. I shall observe pledge of nonviolence in word and in deed, and shall inculcate spirit of nonviolence amongst others. I shall regard this pledge as binding upon me so long as policy of nonviolence is continued by Nation. I shall run all risks attendant upon performance of my duty." IOR/L/PJ/6/1778, File 7359 Decision of the All India Congress as to Organisation and Control of National Volunteers.

13. Gandhi quote: Lelyveld (2011, p.157).

14. Kemal Ataturk would depose the Ottoman Sultan, relieving the British of the responsibility and removing the main reason for the Muslim mobilization.

15. In Figure 4, note that following the repatriation of war materiel between 1918-1921, India returned to similar levels of imports and exports to the prewar period. Also note that relative to these benchmarks, trade with the British Empire took a sharp dip as the Great Depression struck in 1929-1930.

16. Nehru: See Malaviya (1954).

17. Quote: Government of India, Home Department to Secretary of State, Telegram, L/ P & J/8/597:118-19.

18. Report of August 1942 Struggle. Bombay Pradesh Congress Committee papers. Nehru Memorial Library Special Collections, 1942/BPCC/File 29.

19. As Linlithgow wrote to the Secretary of State for India: "If you have any trouble in the debate [in Parliament] about shooting from air, it may be worthwhile mentioning that in many cases this action was taken against mobs engaged in tearing up lines on vital strategic railways in areas which ground-floor forces could not reach ... But this is not true of all cases in which firing occurred from aircraft ..." –Viceroy to Sec. State (4 October 1942).

20. We have assumed that certain societies are likely to be in the audience state largely for exogenous reasons. However, as discussed, the presence of an audience is critical for nonviolent movements, and they may be able to influence such attention on some margin. In our book project (Bhavnani and Jha, 2014b), we discuss strategies famously employed by Gandhi to attract international media coverage, from the use of symbols, his own correspondence and publicity outlets, to the

slow pace of the Dandi Salt March to allow media attention to grow.

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