Civilian Harm, Wartime Informing, and Counterinsurgent Operations*

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Abstract

A rich body of theory in political economy suggests that civilian support is central to the success of counterinsurgent campaigns. Civilian collaboration can significantly improve military operations, enhance soldier efficiency, and avoid disruption of costly security infrastructure. Yet there have been few direct tests of the claim that harm to civilians, and who harms them, influences when and with whom non-combatants collaborate. We provide such a test, drawing on newly declassified military records and large-scale survey data. We demonstrate that civilians responded to harm suffered in insurgent-initiated attacks by providing intelligence to security forces in Afghanistan. Moreover, we show that these tips improved the success of subsequent counterinsurgent operations. These results clarify the conditions under which civilian casualties can shape the course of internal wars, with economic implications for future military operations and development economics more broadly.

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1 Introduction

The economic effects of insurgency are well documented. Civil conflict's long-run negative macroeconomic consequences (De Groot et al. 2022) are increasingly being detailed in micro-level work. Insurgency reduces human capital (Collier and Duponchel 2013), lowers school enrolment (Bertoni et al. 2019), leads to worse health outcomes (Akresh et al. 2012; Kountchou, Sonne, and Gadom 2019), hinders the growth of formal financial systems (Blumenstock et al., forthcoming), and alters individual risk preferences associated with savings and investment decisions (Callen et al. 2014; Voors et al. 2012). This evidence underscores the need to better understand how governments can undermine violent nonstate actors in the course of internal armed conflict, leveraging civilian collaboration to improve battlefield outcomes and thwart insurgency, thereby avoiding its resulting human and economic costs.

A core insight of both classic (Galula 1964; Thompson 1966) and modern theories of counterinsurgency is that, unlike interstate wars in which the struggle is primarily over control of territory, in irregular asymmetric intrastate wars (Kalyvas and Balcells 2010), rebels and government compete for control and support of the civilian population using service provision and violence (Berman, Felter, and Shapiro 2018). Within this framework, theories of the strategic logic of violence (Kalyvas 2006; Valentino 2014) assert that civilians condition their support of armed actors on how they are treated, an argument formalized in recent work (Berman, Shapiro, and Felter 2011). One particularly valuable component of non-combatant support is the provision of local intelligence on insurgent activity, including rebel recruitment, force movement, and planned attacks (Sonin and Wright 2022). As Kalyvas (2006, 174) observes, "[i]t is widely accepted that no insurgency can be defeated unless the incumbents give top priority to and are successful in building an intelligence organization." Civilian abuse, therefore, can shape the course of internal conflict through its effects on civilian sharing of sensitive information.

In their review of the research agenda on theories of asymmetric conflict, Berman and Matanock (2015) note that direct evidence on civilian sharing of information is largely missing. Instead, researchers have leveraged increased access to survey and conflict microdata to test the observable implications of informational theories and have shown that: (1) self-expressed willingness to inform is linked to coethnicity with security services in surveys from Afghanistan (Lyall, Shiraito, and Imai 2015); (2) in Iraq and Afghanistan, technological changes—which reduce the risks to informing—are associated with lower intensity of insurgent activity (Shapiro and Weidmann 2015; Gonzalez 2022); and (3) insurgent-initiated violence in Iraq at the district level is lower in the week following insurgent attacks that injure or kill non-combatants in that district, and higher in weeks after Iraqi or American forces did so (Condra and Shapiro 2012). The latter finding is consistent with civilians responding to harm from insurgents by withdrawing their support and sharing intelligence with security forces, but is not direct evidence. And prior work also tended to focus only on one step at a time.[1] This dearth of direct empirical evidence for all steps in the theory is due in no small part to the lack of available data on actual information sharing. As Lyall, Shiraito, and Imai (2015, 833) observe: "Information about insurgent groups is a central resource in civil wars: counterinsurgents seek it, insurgents safeguard it, and civilians often trade it. Despite its essential role in civil war dynamics, the act of informing is still poorly understood, due mostly to the classified nature of informant 'tips.'"

Moreover, the observable implications of shifts in violence following civilian harm are often consistent with other explanations of violent outcomes. A decline in insurgent activity following an incidental civilian casualty could also be due to active opposition to rebel control, a refusal to pay "revolutionary taxes" to fund insurgent operations, or a significant decline in

1. Shaver and Shapiro (2021), for example, provide evidence from Iraq that harm to civilians influences hotline tips, but do not evaluate the downstream impact on counterinsurgent activity. Schutte (2017) studies how harm influences one battlefield outcome (IED turn in's), but lacks an evaluation of civilian information sharing and relies on leaked data covering a shorter time period than we do. And Lyall, Blair, and Imai (2013) study how civilians' views of harm depend on the identity of the perpetrator.

recruitment (Berman, Shapiro, and Felter 2011, 811). Similarly, counterinsurgent operations that cause harm to non-combatants provide insurgents with a persuasive tool for mobilizing the civilian population against government forces. Successful insurgent attacks could thus increase following state-initiated harm, either because civilians do not share intelligence to thwart these rebel attacks, or because the insurgents simply have more fighters they can deploy or more financial resources to pay for attacks.

We provide new evidence on the importance of informing in civil war by providing a direct quantitative assessment of the strength of the relationship using newly declassified data on incident-level data on civilian intelligence sharing with the government and insurgent attacks that caused civilian casualties, between 2006 and 2014 in Afghanistan. To our knowledge, this is the first paper to use such granular data on civilian information sharing.

We have two main results. First, and consistent with the theory, we find that harm to civilians during insurgent-initiated events led to increased information flow to the government and its allies. The effect on informing of a one standard deviation increase in the number of insurgent-initiated civilian casualty incidents is small in standardized terms, a .03 standard deviation treatment effect, but statistically robust and represents a fourfold increase from the mean number of tips, amounting to approximately one more tip every two weeks.

Second, we examine whether that increased flow directly affected counterinsurgency effectiveness, as measured through meaningful operational outcomes such as government missions to clear roadside bombs, neutralizing weapons factories, conducting safe house raids, and detaining suspected insurgents. We find that it did. Once again the impacts were modest in standardized terms–ranging from a .03 standard deviation treatment effect of IED tips on roadside bombs found and cleared to a .06 standard deviation treatment effect of all tips on insurgents detained–but very large in terms of changes from the mean rate of such outcomes. And we estimate that every four IED-related tips predicts one additional roadside bomb found and cleared. These effects are consistent with information being an important resource for counterinsurgents in this context.

This evidence from micro-level data on the full causal chain provides the most complete evidence yet that civilian cooperation is a *central resource* in civil wars.[2] As such, this paper contributes to the literature on the microeconomics of violent conflict within the the field of development economics (Verwimp, Justino, and Brück 2019). The results contribute significantly to work on individual decision-making in conflict zones that shows the importance of civilian agency for political and economic outcomes. Micro-level empirical work in this vein has focused on the determinants of participation in various capacities, including joining insurgent groups (Humphreys and Weinstein 2008), avoiding rebel predation (Kaplan 2013), and even voting (Blattman 2009). The results from this paper fill an empirical gap in our understanding of civilian agency as it relates to the dynamics of competition between armed actors in civil war, specifically civilian participation in sensitive information sharing.

In the next section, we review the theory of counterinsurgency that motivates the empirical inquiry. The third section introduces the research design and data used in the micro-level empirical study of Afghanistan. We present the core results of that analysis in the third section and a final section concludes.

2 Theory

From at least the early-1970s military officers writing on counterinsurgency have emphasized the centrality of information.[3] This suggests that information theory should apply to irregular asymmetric conflicts broadly, though how tightly it binds in each case will vary depending on context-specific factors.

2. There are many other interesting questions about how violence against civilians affects civil war dynamics (e.g., the effects of discriminate harm), which are outside the scope of this note.

3. For example, British General Sir Frank Kitson famously argued of the campaign in Malaya that "[i]f it is accepted that the problem of defeating [an insurgent] consists largely of finding him, it is easy to recognize the paramount importance of good information" (Kitson 1971, 58).

Information theory has been formalized in various ways. Berman, Shapiro, and Felter (2011) model a three-way interaction between citizens with political preferences over who controls the territory, insurgents seeking to impose costs on the government, and a government balancing its efforts between militarized counterinsurgency and public goods provision. Khanna and Zimmerman (2017) study a similar interaction but shift the order of play and have rebels fighting over territory vs. simply seeking to cause harm. Vanden Eynde (2018) focuses on the two-way interaction between rebels and civilians but focuses on how shocks to the normal economy shape the capacity of rebels to attack government forces and their incentives to deter information sharing through violence against civilians.

All these variants implicitly or explicitly make four claims:

- information sharing by civilians shapes battlefield outcomes;
- information sharing helps the receiving party (government or insurgent);
- civilians share operationally relevant information in equilibrium; and
- civilians respond to harm by decreasing/increasing information sharing.

To more precisely assess how civilian abuse affects information flow to armed actors and how information affects counterinsurgent effectiveness, we turn next to a micro-level and systematic analysis of these dynamics in Afghanistan.

3 Empirical Design

This section reviews the military records used to track civilian abuse and wartime informing and introduces our identification strategy.

3.1 Data

The newly declassified military records on insurgent activity, harm to civilians, and intelligence reports were compiled by both International Security Assistance Force (ISAF) and Afghan forces (ANDSF). These records of significant activities (SIGACTS) cover 2003 through 2014, documenting more than 270,000 separate events, including: insurgent attacks on government forces, harm to civilians, and civilians' provision of local intelligence to security forces. The data were collected systematically by security forces, not derived from media sources, which avoids concerns about reporting biases in data collected from newspapers and other media, both in Afghanistan and in other conflicts (Weidmann 2016).[4] These data are the most complete account of security operations in Afghanistan currently in the public domain (see SI section A.1). Descriptive statistics for the data are reported in Table 1. There was approximately one tip every 2 weeks in an averaged sized district (approximately 63,700 people).

Table 1: Summary statistics for violence data

Variable	**Mean**	**Std. Dev.**	**Min.**	**Max.**
All Tips	0.008	0.0284	0	2.6667
Tips about Threats to COIN Forces	0.0053	0.0201	0	1.2121
Tips about Threats to Civilians	0.0004	0.0029	0	0.5
Tips about Insurgent Activity	0.003	0.0138	0	1.831
IED Tips	0.0022	0.0097	0	0.5389
Roadside Bombs Found/Cleared	0.0037	0.0179	0	1
Weapon Caches Found/Cleared	0.0012	0.0086	0	0.6475
Insurgents Captured and Detained	0.0012	0.0062	0	0.5319
Tactical Safe House Raids	0.0001	0.0018	0	0.2878
Insurgent CIVCAS	0.0009	0.0051	0	0.5
Combat activity	0.0158	0.063	0	3.0135

Notes: summary statistics are calculated for the sample studied in the main estimating equations (four digits shown). All variables are reported in per 1000 population terms.

The data include details on 97,006 intelligence collection events. These represent a combination of calls to anonymous hotlines, one-off tips from direct civilian-to-security force interactions and reporting by cultivated sources, but do not include intelligence derived

4. Weidmann (2016, 210-211) describes the military records used in our study as the "universe" of insurgent-initiated combat activity.

from monitoring insurgent communications.[5] The data also contain records on 120,247 direct fire, 28,974 indirect fire, and 38,205 IED explosion events. To measure civilian abuse by insurgents, we isolate all insurgent-initiated attacks that caused either a civilian injury or death that was observed by or occurred in the presence of government forces. Following previous literature, we treat injuries and deaths as casualty events. Importantly, since these casualties occur in the context of violence between insurgents and government forces, they are collateral damage; they should not be considered discriminate violence targeted at civilians, which do not enter the data.

We analyze the effects of this collateral damage on informing because harm to civilians associated with insurgent action is central to the relevant theory. We supplement our main analysis with additional evidence from survey data, which demonstrate that estimating the model without data on coalition-initiated civilian casualties is highly unlikely to lead to erroneous conclusions about the reaction to casualties from insurgent-initiated events.

3.2 Estimation Strategy

3.2.1 How does insurgent abuse affect information sharing by civilians?

To estimate the effect of civilian harm in insurgent-initiated events on information sharing with security forces, we begin with the assumption that, conditional on appropriate controls for trends in the conflict, collateral damage to civilians caused by insurgent attacks on military forces is "as if" randomly assigned. This approach is the benchmark specification in previous work (Condra and Shapiro 2012; Shaver and Shapiro 2021). We conduct our analysis at the district level because this is the level at which ISAF, ANDSF, and Taliban forces were organized during the campaign. In this setting, conditioning out district and week fixed effects, as well as short-run trends in overall violence, leaves us with residual

5. Author interview with senior official responsible for data collection and management, May 24, 2017.

variation in civilian abuse that is arguably random.

To begin, we sum all collected intelligence reports, all insurgent attacks with civilian casualties, and all insurgent operations—including direct line-of-sight attacks, indirect mortar and rocket engagements, and improvised explosive device (IED) detonations—by district-week and standardize per 1,000 district inhabitants. Our base model is captured by equation 1:

$$Y_{dt}^{a} = \alpha + \beta_1 CIVCAS_{dt-1} + \zeta_j \sum_{j=1}^{4} (V_{dt-k}) + \mu_d + \eta_t + \epsilon_{dt} \tag{1}$$

where Y_{dt}^{a} is the number of intelligence reports shared with counterinsurgents in district d in week t where the superscript a indicates the type of tip ((1) all tips, (2) threats to COIN forces, (3) threats to civilians, (4) tips about insurgent activity); $CIVCAS_{dt}$ is the sum of insurgent attacks resulting in civilian harm in a given district; V_{dt-k} is the lagged sum of insurgent attacks in previous week k (direct fire, indirect fire, IED explosions); μ_d is a district fixed effect; η_t denotes a week fixed effect; and ϵ_{dt} is the error term. In all models we cluster standard errors at the district level, and regressions are weighted by district population in thousands.

Importantly, there could be a cross-sectional correlation between insurgent-initiated attacks and informing induced by insurgents preferentially targeting pro-government areas as suggested by results in Hirose, Imai, and Lyall (2017).[6] Including district fixed-effects accounts for such enduring political differences.[7]

One might also worry that a move from either side's forces into an area for the fighting season would create both more opportunities for civilian harm and more activity to inform on.

6. Hirose, Imai, and Lyall (2017) provide evidence for such a correlation by showing that favorable sentiment towards international forces in January-February 2011 was positively correlated with insurgent-initiated attacks in the remainder of the 2011 fighting season in a sample of 204 villages in the 13 Pashtun-majority provinces of Afghanistan.

7. To enable assessment of the results' stability to time-varying trends in political conditions and force levels, the SI shows all main results with province × year, province × quarter, and district × year fixed effects.

It is unlikely that such medium-term trends would drive results in an estimation strategy like ours which relies on week-to-week variation in combat events combined with the randomness inherent in harm to civilians during such events. The week is a temporal unit smaller than that at which either side could re-position significant forces.[8] Our main specifications also control for multiple lags of combat incidents, which would account for very short term flows of forces by either side.

3.2.2 Views regarding combatant efforts to avoid harm and attitudes on informing

Despite authors' repeated efforts over several years to gain access to data detailing government-caused civilian casualties, neither U.S. Central Command nor other agencies intend to declassify this information. Lack of such data could lead to biased estimates under two scenarios. First, we may worry that insurgent and government harm occur in offsetting-cycles, such that harm caused by insurgents is correlated with future (but not present) government harm. This would imply that insurgent and government harm are negatively correlated. If government harm is also negatively correlated with tipping (as the informational theory hypothesizes), then our estimates of the impact of insurgent harm would be biased upward (larger magnitude) since government harm remains an omitted variable. Second, civilians might react to relative harm—which actors hurt them more—as opposed to absolute harm. This would lead to a similar type of bias in our estimates. While we cannot evaluate these patterns quantitatively, we have not found systematic qualitative evidence suggesting these dynamics occurred in Afghanistan.

We augment our main results with survey data which provides suggestive evidence that

8. Moving even a company sized unit (about 140 soldiers) for anything other than 48-72 hour operation required substantial construction and logistics support and was not done for such short periods, let alone larger battalion sized elements (500-1000 people) which were the size unit typically moved in and out of districts.

neither of these mechanisms drive the results. Specifically, we study the relationship between self-reported willingness to inform (the survey analogue of tipping) and perceived level of care that government or insurgent forces exercise to avoid harming civilians (the survey analogue of measured harm) in eight waves of the Afghanistan Nationwide Quarterly Assessment Research (ANQAR) survey from 2013 to 2015 ($n = 99,666$ respondents). The survey included questions about insurgent *and* government attempts to avoid civilian harm as well as the willingness of respondents to report roadside bombs (see data description in SI section A.2 for more details).

Since we observe perceived harm by both actors, we can evaluate (a) whether we replicate the results from the observational data and (b) if our estimates of the relationship are sensitive to omitting the survey-based measures of government harm. We do so with equation 2:

$$Y_{idw} = \alpha + \beta_1 GovtNoEffort_{idw} + \beta_2 InsNoEffort_{idw} + \gamma X_i + \mu_d + \eta_w + \epsilon_{idw} \quad (2)$$

where Y_{idw} is whether or not an individual i is 'very likely' to report IED placement to security forces in district d and survey wave w; $GovtNoEffort_{idw}$ or $InsNoEffort_{idw}$ is perception that the government or insurgents do not do enough to prevent civilian casualties; μ_d is a district fixed effect; η_w is a survey wave fixed effect; X_{idw} is a vector of individual-level demographic controls that vary across specifications; and ϵ_{idw} is the error term. In all models we cluster standard errors at the district level, and regressions use district-specific survey weights.

3.2.3 How do civilian tips affect battlefield outcomes?

Informational theory hypothesizes that civilian cooperation positively influences counterinsurgents' battlefield success. To quantitatively investigate whether variation in information flow is strategically valuable, we estimate the short term conditional correlation between tipping and various counterinsurgent operations controlling for trends in combat violence and insurgent harm using equation 3:

$$Y_{dt}^{b} = \alpha + \beta_1 Tips_{dt-1} + \zeta_j \sum_{j=1}^{4}(V_{dt-j}) + \theta_j \sum_{j=1}^{4}(CIVCAS_{dt-j}) + \mu_d + \eta_t + \epsilon_{dt} \quad (3)$$

where b denotes the type of counterinsurgent outcome in Y_{dt}^{b}, which can be the number of (1) roadside bombs found and cleared, (2) weapons caches found, (3) safe house raids, or (4) insurgents captured and detained in district d in week t. $Tips_{dt}$ is the sum of all tips or the sum of tips specifically related to IED deployment in a given district-week. As in equation 1, we control for previous levels of insurgent violence. Accounting for violence—including IED deployment—means that any change in the outcome variable associated with tips is not confounded by shifting intensity of combat activity. We also control for previous levels of insurgent-caused civilian casualty events. All models are weighted by district population and include district and time fixed effects. We cluster standard errors at the district level.

4 Results

4.1 Main Results

4.1.1 Insurgent harm increases civilian tips to security forces

We find that civilian harm by insurgents is associated with a significant increase in information sharing with state security forces. These results are robust across different kinds of tips and substantial in magnitude. Table 2 shows the estimated impact of civilian harm on wartime informing using equation 1. The dependent variable in Column 1 is tips aggregated across all types. Columns 2-4 decompose tips by type: threats to counterinsurgents; threats to civilians; and insurgent activities.

Across specifications, there is a statistically significant association between (lagged) insurgent attacks that result in civilian casualties and the number of tips that counterinsurgents receive from civilians. A one standard deviation increase in attacks resulting in civilian casualties (0.322 more civilian casualty events per week in an average sized district) is associated with a 12% increase in informant reports over the weekly mean level (Column 1). This overall effect is largest for tips related to threats against counterinsurgents (2), but there are also statistically significant increases in tips on threats to civilians (3) and insurgent activities (4).

Table 2: Effects of insurgent-initiated civilian casualties on civilians' wartime informing to security forces

	(1) All Tips	(2) Threats to COIN Forces	(3) Threats to Civilians	(4) Tips about Insurgent Activity
CIVCAS, PC (1 WEEK LAG)	0.189***	0.128***	0.00953***	0.0333*
	(0.0519)	(0.0325)	(0.00340)	(0.0172)
SUMMARY STATISTICS				
Outcome Mean	0.00804	0.00529	0.000374	0.00304
Outcome SD	0.0284	0.0201	0.00289	0.0138
PARAMETERS				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
MODEL STATISTICS				
Number of Observations	171936	171936	171936	171936
Number of Clusters	398	398	398	398

Notes: Outcome of interest is tips on specific threats, as noted in column headings. All models are weighted by district population and include district and week fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

4.1.2 Those who feel insurgents do not try to avoid harming civilians express greater willingness to inform

The size and significance of the association between willingness to tip and perceived perceived level of effort in avoiding civilian harm are in the direction predicted by the informational theory, as we see in Table 3 (estimated via equation 2). The magnitude of these effects is large. Those reporting they think insurgents do not try to avoid killing civilians are approximately 25% more likely (relative to the baseline mean of .442) to say they are 'very likely' to provide a tip on an IED if they know about one. These additional results are consistent with the attitudinal mechanism posited by informational theory underlying the behavioral findings reported earlier.

To provide evidence on the potential bias that missing information on Coalition abuse might cause in the behavioral data we examine how including or excluding each measure affects the estimated effect of the other measure in the survey data. Comparing the results in Columns 3 and 5 shows the coefficient on insurgent effort moves by less than 1 percentage point with the inclusion or exclusion of the measure of perceived government effort.

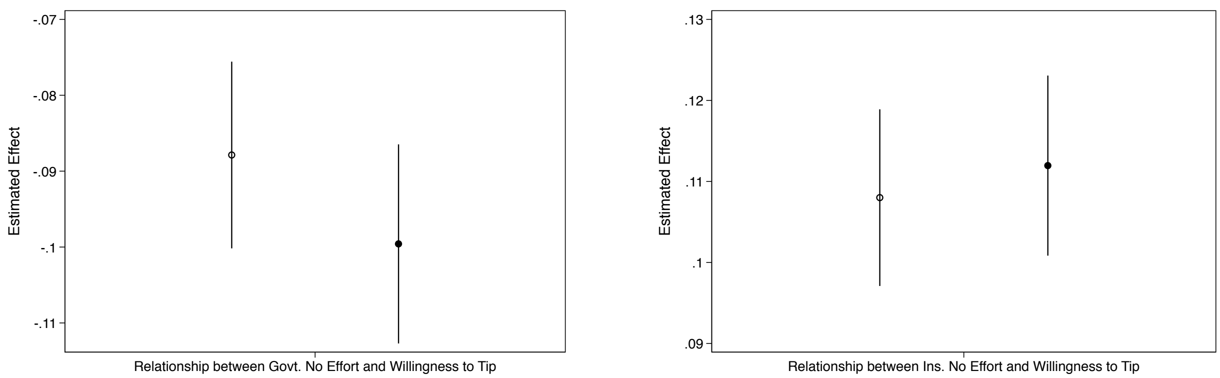
Table 3: Civilians' willingness to tip as function of perceived effort by armed actors to minimize harm to civilians

	(1) Baseline	(2) Baseline w. Political Controls	(3) Baseline w. Political and Security Controls	(4) Baseline w. Political and Security Controls	(5) Baseline w. Political and Security Controls
Govt. No Effort	-0.103***	-0.0951***	-0.0879***	-0.0996***	
	(0.00829)	(0.00786)	(0.00746)	(0.00795)	
Ins. No Effort	0.115***	0.112***	0.108***		0.112***
	(0.00703)	(0.00691)	(0.00661)		(0.00674)
SUMMARY STATISTICS					
Outcome Mean	0.442	0.442	0.442	0.442	0.442
Outcome SD	0.497	0.497	0.497	0.497	0.497
PARAMETERS					
District FE	Yes	Yes	Yes	Yes	Yes
Demographic Controls	Yes	Yes	Yes	Yes	Yes
Interacted Model	No	Yes	Yes	Yes	Yes
Govt. going Wrong Direction	No	Yes	Yes	Yes	Yes
Police Patrols Weekly	No	No	Yes	Yes	Yes
Village Insecure	No	No	Yes	Yes	Yes
Taliban Gaining Strength	No	No	Yes	Yes	Yes
MODEL STATISTICS					
N	99666	99666	99666	99666	99666
Clusters	377	377	377	377	377

Notes: Outcome of interest is respondent reporting being 'very likely' to report tip on IED if known (from ANQAR survey waves 20-27). 'Govt./Ins No Effort'=1 if respondent thinks government/insurgents does not do enough to prevent the killing and injuring of civilians; non-response to both questions are parameterized separately (coefficients omitted). All models include survey sample weights. All models include fixed effects for district, SES, ethnicity, gender, and ANQAR survey wave. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

To ease interpretation, we depict these results visually in Figures 1a and 1b. The size and significance of the association between willingness to tip and perceived lack of insurgent effort to minimize harm to civilians is in the direction predicted by the informational theory and moves by less than 1% with the inclusion or exclusion of the corresponding measure of perceived government effort. The estimated coefficients are statistically indistinguishable when we compare models with and without the data missing from our main specification (Coalition abuse).

Figure 1: Civilians' willingness to tip as function of perceived effort by armed actors to minimize harm to civilians



(a) Government

(b) Insurgents

Notes: Panel A displays the estimated effect of no perceived Government effort to minimize civilian harm on willingness to tip when the model includes the variable on no perceived Insurgent effort (open circle, Column 3 of Table 3) and when the model excludes the variable (filled circle, Column 4 of Table 3). Panel B displays the estimated effect of no perceived Insurgent effort to minimize civilian harm on willingness to tip when the model includes the variable on no perceived Government effort (open circle, Column 3 of Table 3) and when the model excludes the variable (filled circle, Column 5 of Table 3). Bars indicate 95% confidence intervals.

4.1.3 Civilian tips improve battlefield outcomes

We next report how information sharing affects meaningful operational outcomes. In Table 4 we show the effects on IEDs found and cleared (Column 1), weapons caches found and cleared (2), insurgents captured (3), and tactical safe house raids (4). Insurgent-inflicted civilian casualties lead to a subsequent increase in each of these operational outcomes that are vital to the success of counterinsurgency. The effects are substantively large. A one standard deviation increase in IED-related tips (0.616 more IED-related tips per week in an average sized district), for example, is associated with a 16.8% increase in roadside bombs found and cleared over the weekly mean level. This effect size amounts to approximately one more IED found per week for every four tips in an averaged sized district.

Recall that these model specifications account for shifts in the intensity of violence, enabling us to address concerns about potentially confounding factors. For example, one might be concerned that tips about IED deployment and IEDs neutralized may be mechanically correlated with the number of IEDs deployed. We can rule this out since our model partials out the variation in IEDs cleared that is correlated with shifts in IED deployment.[9] Together with the evidence on increased information sharing, this stands as remarkably strong and consistent evidence that harm inflicted on civilians in civil war has strategic consequences.

4.1.4 Supplemental Results

In SI, we provide a series of robustness checks for the main results. First, we evaluate whether there is a substantial difference in estimated magnitudes across the full sample relative to the period characterized by the most intense annual fighting season (Tables SI-2, SI-3, SI-4 and SI-5). Results are largely unaffected. Second, to account for spurious results due to trends which could affect both insurgent activity and tips, such as the deployment of additional government or ISAF forces, we estimate the models with four lags of the dependent variable as added regressors (Tables SI-6 and SI-7). Third, we estimate unweighted regressions (Tables SI-8 and SI-9). Fourth, we provide further evidence that the informational mechanism drives the effects of tips on counterinsurgent outcomes. While the estimated coefficients on all

9. One alternative to this specification would be to study the clear-rate: the percentage of IEDs deployed that are neutralized before they detonate. The central concern we have with this approach is econometric: the clear-rate is undefined for district-weeks which experience no IED activity. This would create an unbalanced panel, breaking the panel difference-in-differences (unit and time fixed effects) approach we take here.

Table 4: Effects of wartime informing on counterinsurgent operational outcomes

	(1) Roadside Bombs Found/Cleared	(2) Weapon Caches Found/Cleared	(3) Insurgents Captured and Detained	(4) Tactical Safe House Raids
IED Tips, pc (1 Week Lag)	0.0645***	0.0272***		
	(0.0131)	(0.00820)		
All Tips, pc (1 Week Lag)			0.0136***	0.00260***
			(0.00300)	(0.000550)
Summary Statistics				
Outcome Mean	0.00371	0.00121	0.00123	0.000108
Outcome SD	0.0179	0.00857	0.00622	0.00183
Parameters				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
Civ Cas Trends	Yes	Yes	Yes	Yes
Model Statistics				
Number of Observations	171936	171936	171936	171936
Number of Clusters	398	398	398	398

Notes: Outcome of interest is specific counterinsurgent outcomes, as noted in column headings. All models are weighted by district population and include district and week fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

(lagged) tips and (lagged) tips specifically on IEDs deployed are statistically significantly related to IEDs and weapons caches found as outcomes, the size of the effect of specific tips is substantially larger (Table SI-10).

Finally, we provide further evidence to address concerns about omitted variable bias in the core results. One concern might be that what drives variation in information sharing is not variation in insurgent-inflicted harm to civilians, as we argue, but rather simply variation in insurgent presence in an area. There could be a mechanical relationship whereby both information sharing and insurgent-initiated incidents increase when more Taliban are in an area to inform on. Our main specifications include multiple lags of combat activity and Taliban activity, which should go some way to dispelling this concern. We also show that the main results (linking harm and tips, and then information sharing to counterinsurgent outcomes) are robust to the inclusion of an additional set of fixed effects in our models to control for changes in presence of armed actors over longer periods. Specifically, we add to the district and week-of-year fixed effects already in the main specifications a series of interactive fixed effects: province × year, province × quarter-year, and district × year. For models with tips as the outcome variable, results of these regressions are shown in Tables SI-11, SI-12, and SI-13. For counterinsurgent operations as the outcome variable, see Tables SI-14, SI-15, and SI-16. The direction of the results is unaffected and the magnitudes change little, though some coefficients are estimated less precisely in models that include district × year fixed effects.

5 Conclusion

In this research note, we present a direct empirical test of key elements of the information sharing theories of civil war that have shaped the academic study and military doctrine of counterinsurgency for the last half century. These theories posit that governments' military success at the tactical level depends on civilians sharing critical information about insurgent identities, whereabouts, and activities. Civilians, in turn, punish combatants for harming them by sharing or withholding support and local intelligence. We provide compelling evidence that in Afghanistan, civilian harm in insurgent-initiated events led to increased information sharing with the government, and that such information sharing was associated with subsequent counterinsurgent operational effectiveness.

Of course, a macro-level political-military strategy involves broader considerations. As critics of the campaign in Afghanistan have argued, consolidating military control is only a small part of what is required to create a legitimate government (Eikenberry 2013). Information sharing may help government forces and their external supporters win battles; a broader strategy is required to win wars.

We highlight several promising avenues for future research. First, the willingness of civilians to share information may be mediated by the type, intensity, and spatial proximity of combatant abuse. Second, information-sharing might influence other wartime dynamics, including the resolve and capacity of insurgents to fight and the ability of rebels to credibly bargain with state rivals. If insurgents know that civilian abuse affects information sharing, then engaging in civilian abuse is a particularly costly signal of insurgent resolve and capability. Finally, winning local support for counterinsurgent campaigns is a core motivation of military aid provision and drives many recent empirically-focused social science articles investigating the effects of aid as a tool to win "hearts and minds" and thereby both establish territorial and popular control and reduce insurgent violence (Berman, Shapiro, and Felter 2011; Child 2019; Crost, Felter, and Johnston 2014; Lyall 2019; Sexton 2016). Yet we still know relatively little about how civilian sympathies and insurgent strategy respond to these aid interventions.

The insights of this paper are relevant to a number of ongoing conflicts. Although our quantitative analysis focuses on insurgent-initiated civilian harm, our results speak to harm caused by government forces as well. They suggest that attempts to minimize civilian harm will likely help government forces more effectively combat insurgencies and thereby contribute to rebuilding social and political order.

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SUPPORTING INFORMATION

— For Online Publication Only —

Supplemental Tables

A Data

A.1 Conflict Data

The data on insurgent activities, civilian casualties, and information received by ISAF and Afghan forces was received and processed by Authors. The data were declassified and released to them by the U.S. Department of Defense and provide the precise timing and locations (often accurate to the nearest minute and within several meters, respectively) of hundreds of thousands of incidents of insurgent violence throughout the Afghanistan war.

Insurgent Attacks and Civilian Casualties. The dataset is constructed from reports provided by U.S., Afghan, and other ISAF military and police units and includes more than 200,000 observations of attacks perpetrated by insurgents with corresponding details on the weaponry used, as well as whether civilians were (unintentionally) killed or injured in the course of the attack. We use these data as our measure of insurgent violence and civilian casualties in estimated models.

Information Sharing. The dataset also includes tens of thousands of specific incidents of information received by counterinsurgent forces about insurgents. These include specific threats posed by insurgents, frequently identified by the specific attack type (e.g., direct fire, indirect fire, improvised explosive device) as well as reported locations of insurgents. We do not observe the means of collection (in-person, hotline, etc.). Some reports may have been captured via signals, though former ISAF officials indicate these events were unlikely to be released with our records request. If present, however, these records would likely bias our results toward zero.

Counterinsurgent Outcomes. Finally, the dataset includes a variety of details related to operational outcomes, including IEDs found and cleared, weapons caches found and cleared, tactical raids of safe houses, and operations resulting in captured insurgents.

A.2 Survey Data

We use waves 20-27 of the Afghanistan Nationwide Quarterly Assessment Research (ANQAR) platform for models reported in Table 3. The Afghan Center for Socio-Economic and Opinion Research (ACSOR) enumerated these waves of the survey. Using a grid-based random walk method, the firm surveyed ten households from the randomly sampled villages within a district. When ACSOR could not access sampled villages, intercept interviews were used to collect information from residents traveling in neighboring areas.

We analyze responses to three questions in the ANQAR surveys:

1. "If you knew that an IED had been planted, how likely would you be to report it?" Coded 1 if response was 'very likely' and 0 otherwise.

2. "Do you think the Afghan National Defense and Security Forces (ANDSF) do enough to prevent the killing or injuring of civilians?" Coded 1 if the response is "No, I think the ANDSF doesn't do anything" and 0 otherwise.

3. "Do you think the insurgents do enough to prevent the killing or injuring of civilians?" Coded 1 if the response is "No, I think the insurgents don't do anything" and 0 otherwise.

B Descriptive Statistics

Table SI-1: Summary statistics for ANQAR survey data

Variable	Mean	Std. Dev.	Min.	Max.
Very likely to report IED	0.442	0.497	0	1
Govt. No Effort to prevent CIVCAS	0.089	0.285	0	1
Ins. No Effort to prevent CIVCAS	0.648	0.478	0	1

Notes: summary statistics are calculated for the sample studied in the main estimating equations (three digits shown). All variables are weighted by district population (following the main specification).

C Supplementary Results

Table SI-2: Effects of insurgent-initiated civilian casualties on civilians' wartime informing to security forces (June-October only)

	(1) All Tips	(2) Threats to COIN Forces	(3) Threats to Civilians	(4) Tips about Insurgent Activity
CIVCAS, PC (1 WEEK LAG)	0.191***	0.141***	0.00794**	0.0339**
	(0.0553)	(0.0371)	(0.00345)	(0.0143)
SUMMARY STATISTICS				
Outcome Mean	0.00845	0.00571	0.000384	0.00317
Outcome SD	0.0285	0.0207	0.00292	0.0132
PARAMETERS				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
MODEL STATISTICS				
Number of Observations	89550	89550	89550	89550
Number of Clusters	398	398	398	398

Notes: Outcome of interest is tips on specific threats, as noted in column headings. Estimated only during the short fighting season (June to October). All models are weighted by district population, include district and week fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-3: Effects of wartime informing on counterinsurgent operational outcomes (June-October only)

	(1) Roadside Bombs Found/Cleared	(2) Weapon Caches Found/Cleared	(3) Insurgents Captured and Detained	(4) Tactical Safe House Raids
IED Tips (1 Week Lag)	0.0632***	0.0197***		
	(0.0162)	(0.00711)		
All Tips (1 Week Lag)			0.0130***	0.00312***
			(0.00360)	(0.000701)
Summary Statistics				
Outcome Mean	0.00395	0.000961	0.00129	0.000114
Outcome SD	0.0178	0.00637	0.00658	0.00209
Parameters				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
Civ Cas Trends	Yes	Yes	Yes	Yes
Model Statistics				
Number of Observations	89550	89550	89550	89550
Number of Clusters	398	398	398	398

Notes: Outcome of interest is specific counterinsurgent outcomes, as noted in column headings. Estimated only during the short fighting season (June to October). All models are weighted by district population, include district and week fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-4: Effects of insurgent-initiated civilian casualties on civilians' wartime informing to security forces (May-October only)

	(1) All Tips	(2) Threats to COIN Forces	(3) Threats to Civilians	(4) Tips about Insurgent Activity
CIVCAS, PC (1 WEEK LAG)	0.204***	0.141***	0.00651**	0.0527***
	(0.0538)	(0.0366)	(0.00328)	(0.0157)
SUMMARY STATISTICS				
Outcome Mean	0.00850	0.00576	0.000379	0.00314
Outcome SD	0.0287	0.0210	0.00291	0.0132
PARAMETERS				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
MODEL STATISTICS				
Number of Observations	103878	103878	103878	103878
Number of Clusters	398	398	398	398

Notes: Outcome of interest is tips on specific threats, as noted in column headings. Estimated only during the long fighting season (May to October). All models are weighted by district population, include district and week fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-5: Effects of wartime informing on counterinsurgent operational outcomes (May-October only)

	(1) Roadside Bombs Found/Cleared	(2) Weapon Caches Found/Cleared	(3) Insurgents Captured and Detained	(4) Tactical Safe House Raids
IED Tips (1 Week Lag)	0.0627***	0.0206***		
	(0.0137)	(0.00717)		
All Tips (1 Week Lag)			0.0121***	0.00289***
			(0.00337)	(0.000719)
Summary Statistics				
Outcome Mean	0.00386	0.00104	0.00125	0.000112
Outcome SD	0.0175	0.00695	0.00645	0.00201
Parameters				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
Civ Cas Trends	Yes	Yes	Yes	Yes
Model Statistics				
Number of Observations	103878	103878	103878	103878
Number of Clusters	398	398	398	398

Notes: Outcome of interest is specific counterinsurgent outcomes, as noted in column headings. Estimated only during the long fighting season (May to October). All models are weighted by district population, include district and week fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-6: Effects of insurgent-initiated civilian casualties on civilians' wartime informing to security forces, including lags of dependent variable

	(1) All Tips	(2) Threats to COIN Forces	(3) Threats to Civilians	(4) Tips about Insurgent Activity
CIVCAS, PC (1 WEEK LAG)	0.0237	0.0279*	0.00676**	0.00585
	(0.0225)	(0.0150)	(0.00278)	(0.0101)
SUMMARY STATISTICS				
Outcome Mean	0.00804	0.00529	0.000374	0.00304
Outcome SD	0.0284	0.0201	0.00289	0.0138
PARAMETERS				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
MODEL STATISTICS				
Number of Observations	171936	171936	171936	171936
Number of Clusters	398	398	398	398

Notes: Outcome of interest is tips on specific threats, as noted in column headings. All models are weighted by district population, include four lags of the dependent variable, as well as district and week fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-7: Effects of wartime informing on counterinsurgent operational outcomes, including lags of dependent variable

	(1) Roadside Bombs Found/Cleared	(2) Weapon Caches Found/Cleared	(3) Insurgents Captured and Detained	(4) Tactical Safe House Raids
IED Tips (1 Week Lag)	0.0181**	0.00910***		
	(0.00701)	(0.00286)		
All Tips (1 Week Lag)			0.00659***	0.00133***
			(0.00175)	(0.000492)
Summary Statistics				
Outcome Mean	0.00371	0.00121	0.00123	0.000108
Outcome SD	0.0179	0.00857	0.00622	0.00183
Parameters				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
Civ Cas Trends	Yes	Yes	Yes	Yes
Model Statistics				
Number of Observations	171936	171936	171936	171936
Number of Clusters	398	398	398	398

Notes: Outcome of interest is specific counterinsurgent outcomes, as noted in column headings. All models are weighted by district population, include four lags of the dependent variable, as well as district and week fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-8: Effects of insurgent-initiated civilian casualties on civilians' wartime informing to security forces, unweighted regressions

	(1) All Tips	(2) Threats to COIN Forces	(3) Threats to Civilians	(4) Tips about Insurgent Activity
CIVCAS, PC (1 WEEK LAG)	0.0445	0.0339	0.00296	-0.00105
	(0.0473)	(0.0257)	(0.00270)	(0.0199)
SUMMARY STATISTICS				
Outcome Mean	0.00952	0.00621	0.000424	0.00402
Outcome SD	0.0386	0.0267	0.00464	0.0210
PARAMETERS				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
MODEL STATISTICS				
Number of Observations	171936	171936	171936	171936
Number of Clusters	398	398	398	398

Notes: Outcome of interest is tips on specific threats, as noted in column headings. All models include district and week fixed effects. Models are unweighted. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-9: Effects of wartime informing on counterinsurgent operational outcomes, unweighted regressions

	(1) Roadside Bombs Found/Cleared	(2) Weapon Caches Found/Cleared	(3) Insurgents Captured and Detained	(4) Tactical Safe House Raids
IED Tips (1 Week Lag)	0.0656***	0.0223***		
	(0.0112)	(0.00509)		
All Tips (1 Week Lag)			0.0117***	0.00231***
			(0.00289)	(0.000711)
Summary Statistics				
Outcome Mean	0.00438	0.00138	0.00123	0.000131
Outcome SD	0.0215	0.0106	0.00800	0.00259
Parameters				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
Civ Cas Trends	Yes	Yes	Yes	Yes
Model Statistics				
Number of Observations	171936	171936	171936	171936
Number of Clusters	398	398	398	398

Notes: Outcome of interest is specific counterinsurgent outcomes, as noted in column headings. All models include district and week fixed effects. Models are unweighted. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-10: Effects of wartime informing on counterinsurgent operational outcomes, comparing tip types

	(1) Roadside Bombs Found/Cleared	(2) Roadside Bombs Found/Cleared	(3) Weapon Caches Found/Cleared	(4) Weapon Caches Found/Cleared
All Tips (1 Week Lag)	0.0161**		0.0117***	
	(0.00678)		(0.00403)	
IED Tips (1 Week Lag)		0.0645***		0.0272***
		(0.0131)		(0.00820)
Summary Statistics				
Outcome Mean	0.00371	0.00371	0.00121	0.00121
Outcome SD	0.0179	0.0179	0.00857	0.00857
Parameters				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
Civ Cas Trends	Yes	Yes	Yes	Yes
Model Statistics				
Number of Observations	171936	171936	171936	171936
Number of Clusters	398	398	398	398

Notes: Outcome of interest is specific counterinsurgent outcomes, as noted in column headings. All models are weighted by district population, and include district and week fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-11: Effects of insurgent-initiated civilian casualties on civilians' wartime informing to security forces, with province × year fixed effects

	(1) All Tips	(2) Threats to COIN Forces	(3) Threats to Civilians	(4) Tips about Insurgent Activity
CIVCAS, PC (1 WEEK LAG)	0.143***	0.0995***	0.00816***	0.0286**
	(0.0422)	(0.0258)	(0.00284)	(0.0144)
SUMMARY STATISTICS				
Outcome Mean	0.00804	0.00529	0.000374	0.00304
Outcome SD	0.0284	0.0201	0.00289	0.0138
PARAMETERS				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
MODEL STATISTICS				
Number of Observations	171936	171936	171936	171936
Number of Clusters	398	398	398	398

Notes: Outcome of interest is tips on specific threats, as noted in column headings. All models are weighted by district population and include district and week fixed effects, as well as province × year fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-12: Effects of insurgent-initiated civilian casualties on civilians' wartime informing to security forces, with province × quarter-year fixed effects

	(1) All Tips	(2) Threats to COIN Forces	(3) Threats to Civilians	(4) Tips about Insurgent Activity
CIVCAS, PC (1 WEEK LAG)	0.126***	0.0897***	0.00703***	0.0224*
	(0.0380)	(0.0244)	(0.00266)	(0.0131)
SUMMARY STATISTICS				
Outcome Mean	0.00804	0.00529	0.000374	0.00304
Outcome SD	0.0284	0.0201	0.00289	0.0138
PARAMETERS				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
MODEL STATISTICS				
Number of Observations	171936	171936	171936	171936
Number of Clusters	398	398	398	398

Notes: Outcome of interest is tips on specific threats, as noted in column headings. All models are weighted by district population and include district and week fixed effects, as well as province × quarter-year fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-13: Effects of insurgent-initiated civilian casualties on civilians' wartime informing to security forces, with district $\times$ year fixed effects

	(1) All Tips	(2) Threats to COIN Forces	(3) Threats to Civilians	(4) Tips about Insurgent Activity
CIVCAS, PC (1 WEEK LAG)	0.0381	0.0256	0.00529**	0.00386
	(0.0383)	(0.0221)	(0.00247)	(0.0165)
SUMMARY STATISTICS				
Outcome Mean	0.00804	0.00529	0.000374	0.00304
Outcome SD	0.0284	0.0201	0.00289	0.0138
PARAMETERS				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
MODEL STATISTICS				
Number of Observations	171936	171936	171936	171936
Number of Clusters	398	398	398	398

Notes: Outcome of interest is tips on specific threats, as noted in column headings. All models are weighted by district population and include district and week fixed effects, as well as district $\times$ year fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-14: Effects of wartime informing on counterinsurgent operational outcomes, with province $\times$ year fixed effects

	(1) Roadside Bombs Found/Cleared	(2) Weapon Caches Found/Cleared	(3) Insurgents Captured and Detained	(4) Tactical Safe House Raids
IED Tips, pc (1 Week Lag)	0.0616***	0.0250***		
	(0.0123)	(0.00724)		
All Tips, pc (1 Week Lag)			0.0133***	0.00258***
			(0.00276)	(0.000682)
Summary Statistics				
Outcome Mean	0.00371	0.00121	0.00123	0.000108
Outcome SD	0.0179	0.00857	0.00622	0.00183
Parameters				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
Civ Cas Trends	Yes	Yes	Yes	Yes
Model Statistics				
Number of Observations	171936	171936	171936	171936
Number of Clusters	398	398	398	398

Notes: Outcome of interest is specific counterinsurgent outcomes, as noted in column headings. All models are weighted by district population and include district and week fixed effects, as well as province $\times$ year fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-15: Effects of wartime informing on counterinsurgent operational outcomes, with province × quarter-year fixed effects

	(1) Roadside Bombs Found/Cleared	(2) Weapon Caches Found/Cleared	(3) Insurgents Captured and Detained	(4) Tactical Safe House Raids
IED Tips, pc (1 Week Lag)	0.0579***	0.0216***		
	(0.0117)	(0.00629)		
All Tips, pc (1 Week Lag)			0.0130***	0.00257***
			(0.00271)	(0.000627)
Summary Statistics				
Outcome Mean	0.00371	0.00121	0.00123	0.000108
Outcome SD	0.0179	0.00857	0.00622	0.00183
Parameters				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
Civ Cas Trends	Yes	Yes	Yes	Yes
Model Statistics				
Number of Observations	171936	171936	171936	171936
Number of Clusters	398	398	398	398

Notes: Outcome of interest is specific counterinsurgent outcomes, as noted in column headings. All models are weighted by district population and include district and week fixed effects, as well as province × quarter-year fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table SI-16: Effects of wartime informing on counterinsurgent operational outcomes, with district × year fixed effects

	(1) Roadside Bombs Found/Cleared	(2) Weapon Caches Found/Cleared	(3) Insurgents Captured and Detained	(4) Tactical Safe House Raids
IED Tips, pc (1 Week Lag)	0.0347**	0.0143*		
	(0.0149)	(0.00808)		
All Tips, pc (1 Week Lag)			0.00761***	0.00177
			(0.00204)	(0.00110)
Summary Statistics				
Outcome Mean	0.00371	0.00121	0.00123	0.000108
Outcome SD	0.0179	0.00857	0.00622	0.00183
Parameters				
District FE	Yes	Yes	Yes	Yes
Time FE	Yes	Yes	Yes	Yes
Violence Trends	Yes	Yes	Yes	Yes
Civ Cas Trends	Yes	Yes	Yes	Yes
Model Statistics				
Number of Observations	171936	171936	171936	171936
Number of Clusters	398	398	398	398

Notes: Outcome of interest is specific counterinsurgent outcomes, as noted in column headings. All models are weighted by district population and include district and week fixed effects, as well as district × year fixed effects. Standard errors clustered at the district level and are presented in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.