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World Development Vol. 98, pp. 506–522, 2017

http://dx.doi.org/10.1016/j.worlddev.2017.05.013

Development Review

What Do We (Not) Know About Development Aid and Violence? A Systematic Review

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Summary. — The paper presents findings from the first-ever systematic review of the causal impact of development aid on violence in countries affected by civil war. The review identifies 19 studies: Fourteen within-country studies from Afghanistan, Iraq, Colombia, Philippines, and India, and five cross-national studies. These studies investigate the impact of six aid types: Community-driven development, conditional cash transfers, public employment scheme, humanitarian aid, infrastructure, and aid provided by military commanders in Iraq and Afghanistan. The evidence for a violence-dampening effect of aid in conflict zones is not strong. Aid in conflict zones is more likely to exacerbate violence than to dampen violence. A violence-dampening effect of aid appears to be conditional on a relatively secure environment for aid projects to be implemented. A violence-increasing effect occurs when aid is misappropriated by violent actors, or when violent actors sabotage aid projects in order to disrupt the cooperation between the local population and the government.

Key words — development aid, violence, insurgency, COIN, systematic review

1. INTRODUCTION

The past fifteen years witnessed an unprecedented securitization of foreign aid. In the wake of the 9/11 terror attacks, war-torn and fragile states came to be seen as a global security threat (Patrick, 2007; World Development Report, 2011). Foreign aid, alongside with diplomacy and defense, was turned into a major strategic tool for addressing this threat. The lengthy asymmetrical wars in Iraq and Afghanistan only reinforced the expectation that development assistance could be used as an effective means to stabilize war-torn countries. Multi-lateral and bi-lateral donors increasingly saw aid as an important instrument for addressing development and security issues simultaneously (Brown & Jörn Grävingholt. (Eds.)., 2014) and the military lavishly spent aid as "monetary ammunition" in counterinsurgencies in order to win mind and hearts.

But can development aid really reduce violence? The debate about the effects of aid on conflict is not a new one. Development economists have argued, on mainly theoretical grounds, that aid should help to lower the risks of war. The literature on civil war has long claimed that low levels of economic development and low growth rates tend to increase the risk for war. Growth spurred by aid should therefore reduce the risk for war (Collier and Hoeffler, 2002). Unfortunately, whether aid actually leads to economic growth remains hotly debated (cf. Doucouliagos & Paldam, 2009). Another strand of the literature linked aid to reduced risk of war by suggesting that aid might be fungible, allowing recipient governments to boost their military spending. This in turn should deter potential rebels (Collier & Hoeffler, 2007; de Ree & Nillesen, 2009). Other scholars were more skeptical and believed that aid might actually increase the propensity for war. A prominent argument was that foreign aid could increase the spoils to be won from rebellion (Grossman, 1991). As a result, seizing the state may become an attractive option for rebels, which would make civil war more likely (Arcand and Chauvet, 2001; Grossman, 1992). This argument tied in with the sizeable qualitative "do-no-harm" literature which warned that aid could be misappropriated by local violent actors and used for sustaining violence (for example, Anderson, 1999; Uvin, 1998). Scholars have argued that aid can be misused by rebels for financing their war (Bradbury & Kleinmann, 2010; Goodhand, 2002; De Waal, 1997; Easterly, 2001), that it can alleviate the pressure of local actors to provide basic services to their constituencies, freeing up resources that can be invested in violence (Polman, 2010; Duffield, 1994; Luttwak, 1999), that it can fuel conflict by increasing corruption (Goodhand, 2005; Goodhand, 2006), or provide perverse incentives to private security firms to fuel conflict (Aikins, 2010; Wilder A., 2009).

This scholarly debate has been renewed and intensified over the last decade. As billions of aid dollars are being spent in the hope that foreign aid can buy stability, a new wave of scholarship emerged, committed to rigorous tests and evidence-based policies. Newly available disaggregated sectoral and subnational aid data and subnational security event data opened up new avenues for causal inference and led to theoretical innovation. This paper takes stock of the available evidence on the impacts of aid on violence. It is based on a systematic review covering the years 2001–16 (cut-off date: November 1, 2016). A systematic review differs from a traditional literature review in important ways. It is primarily a stock-taking exer-

* I thank Darren Gresch and Nick Pope for excellent research assistance. Patrick Labelle, Social Sciences Research Liaison Librarian at the University of Ottawa, developed the search strategy. The Faculty of Social Science of the University of Ottawa supported this research with a grant from the research development fund. Final revision accepted: May 12, 2017.
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cise, designed to identify all available evidence on a given topic.[1] Systematic reviews depend largely on what studies are available, how they were carried out (the quality of the tests) and the outcomes that were measured. The most important criterion for including a study in a systematic review is that the study has a clearly defined identification strategy which allows inferring causal mechanisms. This is a high threshold which will often reduce the number of included studies, but relaxing that threshold would lead to the inclusion of studies which do not provide robust causal evidence. Furthermore, a systematic review requires a transparent search strategy based on a search protocol and transparent criteria for inclusion and exclusion, which are a priori defined in order to minimize any selection bias. Systematic reviews are thus different from traditional reviews, where authors are at liberty to include and exclude studies based on, for example, theoretical preferences or anticipated findings.

Whether or not a study meets the inclusion criteria is determined by reliable and replicable coding procedure. For this review, three researchers independently assessed the studies. Only studies that met the inclusion criteria according to all three researchers were included in the final sample. See Figure 1.

Four inclusion and exclusion criteria were used:

1) The independent variable is development aid, or a closely related concept, such as foreign aid, foreign assistance, humanitarian aid, etc. Military aid was excluded.
2) The dependent variable is violence, or a closely related concept such as armed conflict, civil war, insurgency, etc. Also included were the opposite of these concepts, such as security, stability, counterinsurgency, etc.
3) Only published studies were included. Working papers and gray literature were not included.
4) Finally and most importantly, only studies with a clear and transparent identification strategy allowing for causal inference were included. The minimum threshold for this criterion is that the methodological set-up of the studies allows assessing the counterfactual: what would have happened without the intervention. Such a criterion does not a priori exclude qualitative studies. Careful process-tracing or structured comparison allow for discussing the counterfactual. Nevertheless, all included studies turned out to be quantitative studies with an experimental or quasi-experimental design.

The following steps were carried out to identify studies to be included. The researchers had previously identified ten seminal papers that needed to be included in the review. Search terms based on concepts found in these studies were selected and tested in preliminary searches conducted in EconLit. This helped determine appropriate keywords that would yield relevant results.

After further validation by all researchers, a final search strategy was devised that included the two core concepts of this review: development aid and violence. For each of these concepts, keywords were identified along with relevant subject terms found in the database's unique thesaurus, when appropriate. Searches were executed by a research librarian in the following electronic databases: PAIS International (ProQuest), EconLit (ProQuest), International Political Science Abstracts (EBSCO), Worldwide Political Science Abstracts (ProQuest), and Web of Science (Social Sciences Citation Index). Searches were limited to articles published in English during 2001–16. Results were then exported to a bibliographic management tool and duplicates were removed.

Upon completion of the database searches, three researchers screened the identified articles to exclude those which did not

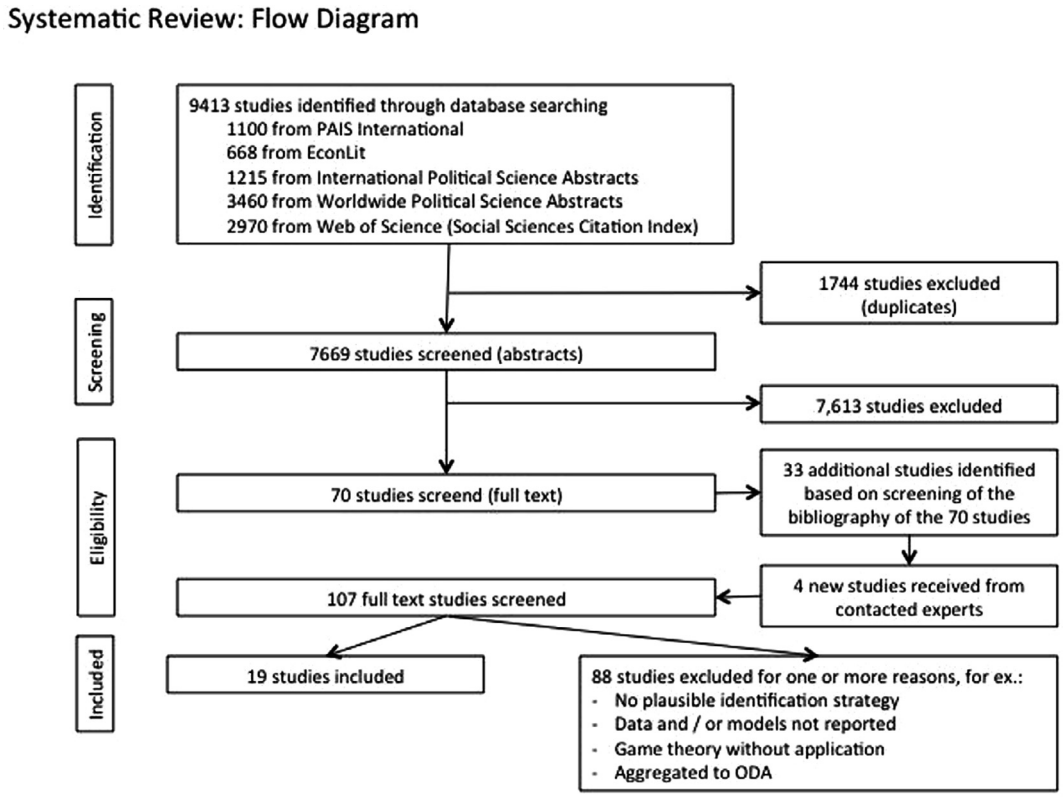

Figure 1. *Details the screening process.*

meet the criteria for inclusion. Eventually, 107 full text studies were read by all three researchers. 88 were excluded because they did not meet all inclusion criteria. By far the most frequent reason for exclusion was that the study was descriptive in nature without a clear causal identification strategy. We also excluded studies that make a formal argument but do not provide an empirical application (for example Child & Scoones, 2015 and Scoones, 2013), and studies that used the "wrong" independent variable (for example, transnational terrorism, in Young & Findley, 2011; Azam & Delacroix, 2006; Azam & Thelen, 2008). We also excluded four studies which used ODA as their independent variable (Collier & Hoeffler, 2007; Nielsen, 2011; de Ree & Nillesen, 2009; Tahir, 2015), because this high level of aggregation masks important differences between aid sectors and made it impossible to infer causal processes (cf. Findley, Josh, Daniel, & Jeff, 2011; Young & Findley 2011). Unpublished studies and working papers were also excluded (for example Arcand and Labonne, 2010, van Weezel, Stijn, 2015; Iyengar, Radha, Monten, and Hanson, 2011; Böhnke, Jan Koehler, and Zürcher, 2015), but their content was assessed in order to ensure that there was no publication bias in the included studies.

The final sample consisted of 19 studies, which can be considered a normal sample size for systematic reviews in the field of development. [2]

Out of 19 included studies, 18 are published in peer-reviewed journals, and one is a report published by the World Bank. 14 studies focus on the sub-national level: Six on Afghanistan, three on India, two on Iraq, two on the Philippines, and one on Colombia. Five studies are cross-national. Two of these are global in reach and focus on all civil wars after 1945, respectively after 1989. One focuses on all wars (civil and international) in non-OECD countries after 1971; two focus on 22 sub-Saharan African states during 1989–2008. With the exception of one study (Nunn & Qian, 2014) which also includes international wars, all studies investigate the impact of aid in civil wars. This should give us confidence that differences in outcomes are not driven by conceptually different forms of violence.

The studies investigate the effects of six different aid types: community-driven development programs (7 instances), commander emergency response program (6), humanitarian aid (5), employment programs (3), conditional cash transfer programs (2), and large-scale infrastructure programs (1). Note that one study can cover more than one aid type.

This paper makes several important contributions.

It is the first systematic review on the topic and therefore the first paper to map and summarize the available evidence base for assessing the impact of aid in conflict zones. With 19 studies, the evidence base is surprisingly small, given the massive sums which donors spend on aid in conflict zones. Even more surprising is the fact that development organizations have so far made no serious efforts to rigorously evaluate their efforts. Out of 19 studies, only one was conducted by a development actor, while four were financed by the military, underlining once more the securitization of aid.

Secondly, the study shows that the evidence for a violence-dampening effect of aid in conflict zones is not strong. On the aggregate, aid in conflict zones is more likely to exacerbate violence than to dampen violence. This is especially true for "font-line aid" which is spent in highly insecure regions, with strong presence of anti-government forces. Most worrisome is that humanitarian aid is consistently associated with more, not less violence. But also aid given by the military and community-driven development projects implemented in insecure region rarely dampen violence.

Thirdly, the review offers a stock-taking of the possible causal paths that lead to more or less violence. The reviewed studies identify three causal paths that reduce violence and two that increase violence. The causal mechanisms which are most often thought to account for a violence-increasing effect of aid are "predation" and "sabotage". Predation refers to aid being misappropriated and reinvested in financing violence. Sabotage refers to a strategic response of insurgents to the possibility that aid can mobilize support for the government. In order to counter that threat, insurgents sabotage aid projects and deter collaboration between the local population and the government. Importantly, the evidence shows that all six aid types which the studies review can trigger predation or sabotage. This means that there is no aid type which is immune to doing harm.

Fourthly, there is strong evidence that a violence-reducing or violence-increasing effect of aid is not primarily caused by how much aid is given, or by what type of aid is given, but rather by the conflict environment in which aid is implemented. Aid injected in insecure regions appears to increase violence. By pointing out the importance of the local conflict environment, this review moves the discussion away from *whether aid works* toward under *what conditions aid may work*. An important implication for scholars is that future research must engage in a much more systematic way with the scope conditions for aid effectiveness, especially with the sub-national security environment. As long as our understanding of scope conditions and causal processes is limited, it would be wise to not allocate aid projects in highly insecure regions, since the available evidence strongly suggests that this will do more harm than good.

The remainder of this paper is organized in four sections. The first section describes the six types of aid which the reviewed studies investigate. The second section summarizes the evidence of the impact of aid on violence. The third section discusses the causal mechanisms which the reviewed studies propose. The last sections discuss the results and offers conclusions, including suggestions for future research.

2. TYPES OF AID REVIEWED IN THE INCLUDED STUDIES

The 19 studies included in this review investigate the impact of six different types of aid: community-driven development programs, commander emergency response program, humanitarian aid, employment programs, conditional cash transfer programs, and large-scale infrastructure programs. The next section briefly describes the main characteristic of these aid types. [3]

(a) *Community-driven development (CDD)*

CDD programs are classical development tools primarily aimed at poverty-reduction. The defining feature of CDD is that it requires the participation and continuous involvement of the local communities. Typically, communities first assess their needs and prioritize them in a participatory way and then apply for a grant. CDD interventions are typically small infrastructure such as irrigation, flood protection, rehabilitation of transport infrastructure, and the like, or capacity-building measures. CDD programs have long been viewed as particularly relevant development interventions in conflict zones (cf. World Bank, 2013; World Development Report, 2011) because the programs are flexible, small scale, and demand driven, thereby promising local ownership and quick

results. Because of the involvement of the communities, development actors may get access to remote and insecure regions which would otherwise be off-limit. Often, CDD interventions are also used as a means to reestablish a direct link between communities and the subnational government, which in many cases is lacking after conflict.

(b) *Commander Emergency Reconstruction Program (CERP)*

CERP is a program of the US military that was specifically designed as a tool for counterinsurgency. It is "monetary ammunition" intended to improve security through nonlethal means (Bodnar & Gwinn, 2010). The program was considered critical to supporting military commanders in the field (SIGIR, 2013). CERP funds are handed out by US commanders to fund projects for local communities with the aim of garnering the population's support and cooperation where the military is active. During 2003–08, CERP spending amounted to $3 billion in Iraq (Berman, Shapiro, & Felter, 2011) and $2.2 billion in Afghanistan (Child, 2014).

CERP funded a wide range of projects, for example road construction, cash-for-work, agricultural assistance, water projects, militia payoffs, healthcare, or rehabilitation of schools. Since its main objective was to win over the local population, commanders funded projects which they thought the communities wanted or needed most. CERP projects were rather small on average (around $100k) and rather short (around 80 days, cf. Berman et al. 2011). However, there were also large projects well over $100 k, mainly for roads and bridges. In Afghanistan 60% of the spending went onto road and bridges (Johnson, Ramachandran, & Walz, 2012).

(c) *Conditional Cash Transfer (CCT)*

CCT programs are another staple of traditional development programing. CCT programs intend to reduce poverty by providing grants to poor households, based on some number of conditions. For example, households may have to ensure that their children attend school and receive a variety of medical treatments in order to receive funding. The monetary value of transfers is typically small, but can make a significant contribution to the income of the poorest households. CCT programs primarily intend to protect the most vulnerable segments of society. Recently CCT programs have been increasingly used in contexts of conflict and fragility, for example, in Afghanistan, Colombia, the Philippines, Sudan, Somalia, Haiti, Liberia, and Mozambique (for an overview see Holmes, 2009). While they are not primarily intended as a tool for conflict transformation and stabilization, development actors hope that CCT can also increase social capital and trust, strengthen the sense of sense of citizenship, and improve the social contract between communities and the government, all of which is particularly important in post-conflict settings.

(d) *Employment programs*

Employment creation programs include a range of interventions, ranging from enabling macro-level policy measures to stimulate employment growth to interventions aimed at promoting self-employment and to direct employment creating (Holmes, McCord, Hagen-Zanker, Gina & Franzisca, 2013), the latter often in the form of cash-for-work, food-for-work, or temporal guaranteed employment. Employment programs are primarily meant as a means to fight poverty and inequality. However, in contexts of fragility and conflict, employment schemes are also seen as contributing to stability (World Development Report, 2011). The United Nations Policy for Post-Conflict Employment Creation (UN PCEIR, 2009) states that employment has a crucial role to play for growth, reintegration, and sustainable peace. Accordingly, donors have supported numerous direct employment creation initiatives as part of post-conflict reconstruction in countries such as Iraq, Afghanistan, Nepal and Liberia and elsewhere (cf. McCord & Chopra, 2010; McCord & Slater, 2009).

While authors have remarked that there is no robust evidence so far to support these claims (Brück & et al., 2015; Holmes, McCord, Hagen-Zanker, & with Gina Bergh, 2013), the theoretical arguments for a stabilizing effect of employment are plausible. Employment may increase the state's legitimacy, reduce poverty, inequality, and grievance, all of which are seen as drives of conflict, or raise the cost of violence by drawing the population away from insurgent activity (GIZ, 2015).

(e) *Humanitarian aid*

Humanitarian aid is defined as assistance designed to save lives, alleviate suffering, and maintain and protect human dignity during and in the aftermath of emergencies. Humanitarian aid includes relief and assistance, protection, support services, and material assistance like food and medical supplies. Running refugee camps, which can include services such as education, training, and labor programs, also falls into the humanitarian aid category. The majority of humanitarian aid is allocated in conflict zones. Much of it is distributed by NGO, because government actors may not have access to conflict regions.

These six types of aid fall by and large in distinct categories, but there are some overlaps. This is especially true for CDD programs and CERP, which both deliver a wide range of similar project outputs. CERP and many CDD programs aid at improving local basic infrastructure and service delivery and predominantly provide small infrastructure. There may also be some overlap between CERP and humanitarian aid, as some CERP funding was spent on urgent humanitarian needs (cf. Sexton, 2016). However, there are important differences in the mode of delivery. CDD require the structured and prolonged engagement with local communities. CERP projects were commissioned by commanders and rarely based on structured engagement with the communities. Furthermore, CDD projects and humanitarian aid is delivered by civilian organizations, in collaboration with the local communities, whereas CERP projects were usually delivered by the military. Also, CERP projects were implemented in the most insecure regions, because they were primarily meant to improve the environment for the military in contested regions. CDD projects, while also used in conflict-affected states, are usually only implemented in regions where NGOs have secure access.

In theory, there could also be some overlaps between CDD, CERP, and employment schemes. Many CDD projects use local labor to build infrastructure, and a small fraction of CERP projects involved cash-for-work. In both cases, the employment effects would be small, short term, and a side effect of the infrastructure project. By contrast, the employment scheme in our sample is a massive public employment scheme which guarantees 100 days of work per year for all members of eligible communities.

The next section summarizes the impact of aid on violence. I group aid interventions in the aforementioned six categories, but remain aware of the fact that there are some overlaps in outputs.

Table 1. *Aid types and outcomes*

Type	Aid programs and source	Country	Outcomes
Community-driven development (CDD)	USAID Community Stabilization Program (CSP) Berman et al. (2013)	Iraq	Violence-reducing
	National Solidarity Program Beath et al. (2012)	Afghanistan	Violence-reducing/only in secure regions
	USAID Community Action Program Berman et al. (2013)	Iraq	No effect
	National Solidarity Program Chou (2012)	Afghanistan	No effect
	USAID Governance Local Community Development in Afghanistan Chou (2012)	Afghanistan	No effect
	Asian Development Bank KALAHI CIDSS – National Community-Driven Development Project in the Philippines KALAHI-CIDSS Crost et al. (2016)	Philippines	Violence increasing
	Multi-sectoral, community-level aid Böhnke and Zürcher (2013)	Afghanistan	Increases perceived insecurity of communities
Conditional cash transfer (CCT)	Pantawid Pamilyang Pilipino Program/Bridging Program for the Filipino Family, Phillipines Crost et al. (2014)	Philippines	Violence decreasing
	World Bank/Interamerican Development Bank, Familias en acion, Colombia Weintraub (2016)	Columbia	Violence increasing
Employment program	National Rural Employment Guarantee Act (NREGA) Dasgupta et al. (2016)	India	Violence decreasing
	National Rural Employment Guarantee Act (NREGA) Khanna and Zimmermann (2014)	India	Violence increasing in the short run
	National Rural Employment Guarantee Act (NREGA) Hoelscher et al. (2012)	India	Violence decreasing
Large-scale infrastructure	Program of US Army Corps Berman v (2013)	Iraq	No effect
Aid given by the military in counterinsurgencies	Commanders Emergency Response Program (CERP) Berman et al. (2011)	Iraq	Violence decreasing
	Commanders Emergency Response Program (CERP) Berman et al. (2013)	Iraq	Violence decreasing, but only in interaction with troop strength
	Commanders Emergency Response Program (CERP) Sexton (2016)	Afghanistan	Violence reducing in regions under control; Violence increasing in contested regions
	Commanders Emergency Response Program (CERP) Chou (2012)	Afghanistan	No effect
	Commanders Emergency Response Program (CERP) Child (2014)	Afghanistan	No effect
	Commanders Emergency Response Program (CERP) Adams (2015)	Afghanistan	Violence increasing for projects $>$ \$50.000 Violence decreasing for projects $<$ \$50.000
Humanitarian Aid	Food aid Nunn and Qian (2014)	Non-OECD countries	Violence increasing
	Humanitarian aid (all) Wood and Molfino (2016)	Sub-Saharan African countries	Violence increasing
	Humanitarian aid (all) Wood and Sullivan (2015)	Sub-Saharan African countries	Violence increasing
	Humanitarian aid (all) Narang (2015)	All civil war countries 1969–2008	Violence increasing
	Humanitarian aid (all) Narang (2014)	Post civil war countries 1989–99	Violence increasing

3. THE IMPACT OF AID: THE EVIDENCE

On the aggregate, out of the 24 interventions which the sample covers, only seven had a violence-reducing effect. Three had a heterogeneous treatment effect, six had no effect at all, and nine had a violence-increasing effect. When looking at the different aid types separately, the following picture emerges: Humanitarian aid never had a violence-dampening effect. In all five cases humanitarian aid actually increased violence. Of seven community-driven development programs, only one had an unqualified violence-dampening effect. Another one had a violence-dampening effect only in relatively secure regions, but not in insecure regions. Three had no effect, and two increased violence. Likewise, for aid which is given by the military, only one out of six studies finds an unqualified violence-dampening effect (Berman et al., 2011). A subsequent study by the same authors qualifies that result in important ways. Berman et al. (2013) find that the violence dampening effect actually occurs only in interaction with increased troop presence. Two studies find no effect, and three more found that CERP projects could also increase violence, when they were large, or implemented in insecure regions. Out of two conditional cash transfer programs, one dampened violence, but the other one increased violence. Finally, two out of three studies on employment programs find a violence-reducing effect. However, this finding must be treated with caution because all three studies investigate the same program, hence external validity may be limited.

In sum, the evidence for a violence-dampening effect of aid in conflict zones is not strong. No effects, heterogeneous effects, and violence-increasing effects appear to occur much more often. Table 1 summarizes the results. The next section offers a more detailed discussion of the findings.

4. AID AS A TOOL FOR COUNTERINSURGENCY: THE IMPACTS OF THE COMMANDERS EMERGENCY RESPONSE PROGRAM (CERP)

CERP is the only aid type which is primarily intended to reduce violence. Development outcomes are a secondary objective. By far the most influential studies on CERP are Berman et al. (2011), Berman et al. (2013). It is appropriate to say that these studies relaunched the discussion about the impacts of aid on violence, not least by triggering three replication studies. Berman et al. (2011) measure violence as the number of attacks against US and Iraqi government per district half-year. Data come from a declassified version of "significant activity" (SIGACT) reports collected by the US army. The studies employ a first-difference design where changes in violence are regressed on changes in aid spending, controlling for previous levels of violence and troop strength. Berman et al. (2011) find that smaller CERP projects (under $50 k) reduce insurgent violence. Berman et al. (2013) improve over their preceding study by adding a control for troop presence, recognizing that their previous finding might have captured the effect of troop presence rather than the effect of CERP. The measurement for troop presence is based on newspaper reporting. The revised study finds again that smaller CERP projects (under $50k) reduce insurgent violence, but only in interaction with larger numbers of troops (e.g., it is the interaction term which reaches significance).

The authors explain the violence-reducing effect by an information-centric model of counterinsurgency. The model assumes that local communities possess critical information on the activities of insurgents. The prospect of rewards in the form of development aid acts as an incentive for local communities to share this information with the government and its international allies. As a result, the government's counterinsurgency efforts become more effective and security eventually increases.

The Berman *et al.* studies have been replicated three times in Afghanistan, where CERP was also widely used by the U.S. military. Two studies (Chou, 2012; Child 2014) could not find an effect of CERP spending on insurgent violence.

Adams (2015) also replicates the Berman *et al.* study in Afghanistan. He uses declassified military data from SIGACT for measuring the depended variable which includes around 107,350 insurgent-initiated events and covers 32 months during 2011–13. The data are parsed to the district level, and adjusted to a per capita basis. Effects are estimated with OLS, using lags ranging from one to three months. The study finds that small CERP projects (<USD50,000) are associated with a statistically significant reduction in violence but larger CERP projects actually led to an increase in violence. Both effects hold for the three-month lags only. It is possible that Adams (2015) found an effect whereas Chou (2012) and Child (2014) did not because of slightly different data sources and model specifications. Chou (2012) and Child (2014) use one-month lags, and Child (2014) also used a different source for measuring violence (the Worldwide Incidents Tracking System).

Adams (2015) also reports the results from a qualitative survey with nine Civil Affairs Officers who were familiar with CERP in Afghanistan. The results suggest that the respondents did not think that CERP was an effective tool for reducing violence, nor did they think that CERP funds were given conditional, and in exchange for information, which is, as mentioned before, an important element on the causal theory proposed by Berman et al. (2011).

Sexton (2016) provides another study on the effects of CERP in Afghanistan. He uses variation in week-per-week CERP spending per district week in all Afghan districts (instead of levels of CERP spending, as the pervious studies did). This measure is chosen because it is assumed that this variation is quasi random (caused by the unpredictable bureaucracy), whereas CERP spending per se is endogenous to violence. The study finds that CERP has a violence-reducing effect in regions which are under the control of the government and its allies, but a violence-increasing effect in regions which are contested or under insurgent control. Control is proxied be the presence of absence of a FOB (a battalion-level forward operating base). The author argues that the violence-increasing effect is caused by the attempts of insurgents to sabotage aid programs which might win over the population to the government. These attempts at sabotage can only be carried out in districts which are not yet secured by the government. This is why more aid creates more violence in non-secured districts, but can dampen violence in secured districts. Sexton (2016) also rejects the information-centric model. He argues that if increased CERP spending would buy actionable information, then increased spending should be associated with increased COIN activity. However, he finds no evidence for this.

With six studies dedicated to CERP, it is among the best-researched aid type in our sample. The overall evidence for a violence-reducing effect is not strong. One study finds a violence decreasing effect (Berman et al., 2011). Two studies find no effect (Chou, 2012; Child, 2014). Three studies find qualified effects: Berman et al. (2013) find that CERP dampens violence but only in conjunction with increased troop levels. Adams (2015) finds that CERP increases violence when pro-

jects are >$50.000 and dampens violence when projects are < $50.000 and Sexton (2016) finds that CERP increases violence in territories which are not under the control of the counterinsurgents, but dampens violence where counterinsurgents have control.

One observation stands out: If CERP has a violence-dampening effect, it is most likely only in regions which are relatively secure. In insecure regions beyond the control of the government or the military, CERP is likely to increase violence.

(a) *The impacts of community-driven development (CDD)*

Unlike CERP, CDD programs are not designed as a counterinsurgency tool. CDD programs are classical development tools primarily aimed at poverty-reduction. Two studies in our sample are devoted to testing the effects of specific CDD programs (Beath, Fotini, & Ruben, 2012; Cost *et al.*). One study (Böhnke & Zürcher, 2013) investigates the impact of multi-sectoral, community-level development aid in rural areas of North East Afghanistan. Two studies, while primarily focusing on the impact of CERP, also each include two CDD programs in their investigation (Berman et al., 2013; Chou, 2012).

Of these seven community-driven development programs, only one had an unqualified violence-dampening effect. Another one had a violence-dampening effect only in relatively secure regions, but not in insecure regions. Three had no effect, and two increased violence.

Beath and Fotini Christia (2012) investigate the impact of the National Solidarity Program (NSP) in Afghanistan. NSP is a nation-wide, community-driven development program in Afghanistan which gave block grants to Afghan communities in order to implement projects selected by the communities themselves. The average size of the block grants was around US $30,000. The study's identification strategy employs the fact that the World Bank, as the main donor, administered a randomized experiment in order to measure the impacts of NSP. In each of the 10 districts, 50 villages were selected to be included in the study, 25 of which were then selected as treatment villages using a matched-pair randomization procedure.

Results suggest that NSP improved villagers' perceptions of security and reduced the number of security incidents recorded by ISAF in the long run (15–30 months after projects were selected). However, these positive effects were only observed in eight of ten districts. In two eastern districts, where initial levels of violence were higher, no effect was found. The study also estimated the effect of NSP on a number of other outcomes and finds that NSP is associated with perceived welfare gains, improved attitudes toward government officials, NGOs and ISAF soldiers. Again, these positive effects were not found for the two eastern districts.

According to the authors, one explanation for this is that the government's attempts to improve material wellbeing are likely to have a strong effect on attitudes toward the government in regions where the population is primarily concerned with economic conditions rather than security. When public goods are provided in these regions, community members are less likely to join the insurgency. In regions with high levels of violence, however, security is likely to be the primary concern, so that marginal improvements in economic outcomes will be insufficient to change people's attitudes toward the government. The authors argue that their results suggest that development programs are more effective in preventing the spread of violence, rather than in reducing the level of violence in already insecure regions.

Crost, Joseph, and Patrick (2016) investigate the effects of KALAHI-CIDSS, a CDD program implemented by the Philippine government and funded through World Bank. During 2003–08, more than 4,000 villages in 184 municipalities received aid through KALAHI-CIDSS. Typical of CDD programs, the objectives of KALAHI-CIDSS were to mobilize communities by giving grants which could be used for small, local infrastructure or capacity-building projects. Participating communities received approximately US $6,000 per grant. Their dependent variable is causalities of civil war, measured at the municipal level per month. The data come from original reports of the Armed Forces of the Philippines (AFP) during 2002–06. These data are similar to the US military's "Significant Activities" (SIGACTS) database. The data allow distinguishing between government- and insurgent-initiated incidents, as well as between causalities suffered by government forces, insurgents, and civilians. Since eligibility of the program was restricted to the poor household in the forth quartile only, the study exploits this "cut-off" using a regression discontinuity design that compares municipalities just below the cut-off (treatment) with municipalities just above the treatment. The results indicate that the program led to increased causalities over the entire three-year period. The effect is, however, small in actual casualties and translates to less than 3 killed within a municipality of an average population size of around 30.000. The study does not intend to test one specific causal mechanism. However, the authors suggest that the most likely causal mechanism linking the CDD program to increased violence is sabotage. Since rebels benefit from anti-government sentiments, they may have an incentive to sabotage programs, which may repair negative attitudes of local communities toward the government. Hence they may seek to derail the possible positive effects of CDD programs. Böhnke and Zürcher (2013) investigate the impact of multi-sectoral, community-level development aid in rural areas of North East Afghanistan on perceived fear of violent actors. Data come from two surveys among 2000 respondents in North East Afghanistan, conducted in 2007 and 2009. Their measurement for aid is based on respondents' perceptions of how much aid their communities received in various sectors. This is a strictly perception-based measure, but the authors demonstrate that it is correlated with an objective measurement of aid (defined as the number of projects in a given community). The results suggest that more (perceived) community aid is associated with higher perceived fear of violent actors. The authors suggest that communities which received relatively large amounts of aid felt threatened because they fear that cooperation with international actors has made them a target for Taliban reprisal attacks.

Berman et al. (2013) find some evidence for a violence-reducing effect of a CDD program, the USAID-funded Community Stabilization Program (CSP).[4] It should be noted, however, that their study is predominately interested in CERP, and testing for the effect of CDD programs is done en passant. Chou (2012) also included two CDD programs (NSP, and USAID Local Community Development in Afghanistan) in her evaluation of CERP in Afghanistan, but found no effect.

In sum, we find little evidence for a violence-dampening effect of CDD programs in conflict zones. As with CERP project, CDD projects appear to have a violence-reducing effect only when the environment is reasonably secure. Under more adverse conditions, however, CDD can increase violence. This effect may be driven by attempts of insurgents to sabotage the cooperative relations between local communities and the government, or because rebels violently loot aid.

(b) *The impacts of conditional cash transfer (CCT) programs*

CCT programs are another staple of traditional development programing. CCT programs intend to reduce poverty by providing grants to poor households, based on some number of conditions. Two studies estimate the effect of CCT programs on violence and reach opposite conclusions. Crost and Joseph H. Felter (2016) estimate the effect of a nationwide CCT program which financed transfers to approximately one million households in all regions of the Philippines. The study estimates the effects of the program on the annual number of conflict incidents per village and on the level of insurgent influence in the village. Both measures are based on data from the Philippine military. The study exploits the fact that the program was designed by the World Bank as an experiment where 130 villages were randomly divided into a treatment group and a control group. Observations were aggregated to a one-year pretreatment period and a one-year post treatment period. Results suggest that the CCTs reduced the number of incidents in treatment villages within one year after treatment. Also, treated villages experienced a decrease in insurgent influence compared to control villages.

The authors propose two possible explanations for the observed violence suppressing effect: The first is the opportunity cost model, which implies that the program reduced conflict by making it more costly for insurgents to recruit combatants in treated villages. The second is the information-centric model, which implies that the program increased popular support for the government which led to more cooperation and information sharing between the government and the villages.

Weintraub (2016) tells a different story. This study investigates the effects of the nation-wide CCT program, Familias en Acción in Colombia, rolled out in 2002, using a sample of 57 treated and 65 untreated municipalities. Data are drawn from the Human Rights Observatory Database compiled by the Presidency of Colombia. This dataset has municipal-level data on violent events, including the type of armed action perpetrated by various violent, non-state actors. The effect of the program is estimated with a difference-in-differences strategy. The study exploits the fact that an earlier evaluation study of the program constructed a data set where treated municipalities were matched with untreated (Attanasio, Meghir, & Vera-Hernandez, 2004). The results suggest that the program led to more killings and indiscriminate violent incidents by the FARC. The effect appeared to be especially accentuated in the poorest municipalities and in municipalities where coca was cultivated.

The observed effect is attributed to the insurgent's attempts to sabotage the increased cooperation between the beneficiaries of the program and the government. Insurgents, facing the threat of losing control, will penalize "collaborators" with violence. Further specifying the mechanism, the study argues that poor communities who depend most on aid are more likely to become collaborators, and therefore more likely to become a target of insurgent violence.

How can we explain that these two studies reach different conclusions? It is plausible that the violence increasing effect of the CTT in Colombia is attributable to the same logic that we observed for CERP and CDD: Development aid triggered a violent backlash by rebels who feared that they would loose poplar backing when communities received aid from the government, and the military forces in Colombia were not capable of preventing that backlash. In the Philippines, by contrast, security forces could shield the communities from rebel reprisals. The difference in outcome would thus be explained by a different security environment and different military capabilities of the rebels.

(c) *The impact of employment programs*

Employment programs, often in the form of cash-for-work, are another widely used development tool. Three studies in our sample investigate the effect of one such program, the National Rural Employment Guarantee Act (NREGA) in India. NREGA is an employment development program introduced by the Indian government in 2006 that guarantees at least 100 days of wage–employment to every rural household. It is a vast public employment scheme reaching up to 47.9 million rural households annually, generating 210 million person-days of employment for the rural poor to date. While the key objective of NREGA is poverty reduction, the Indian government hopes that it will also contribute to reducing violence in the regions most affected by Maoist insurgencies (Hoelscher, Miklian, & Vadlamannati, 2012).

Dasgupta, Gawande, and Kapur (2016) investigate whether districts which adopted NREGA experienced lower levels of violence compared to districts which did not adopt NREGA. Results indicate that NREGA caused a roughly 50% reduction in violent incidents and deaths. The study also shows that the effect is largest in districts which experienced little rainfall, suggesting the NREGA serves as a substitute for foregone agricultural wages. The authors take this as support for the opportunity cost model: The wage labor which the program provided to the rural poor made recruitment for Maoist insurgents more costly. One innovative contribution of this study is to highlight the role played by state capacity in shaping these effects. The performance of the program is highly contingent upon local administrative capabilities. The results suggest that NREGA's violence-reducing effects concentrated in states and districts which implemented the program effectively and therefore provided greater levels of employment provision under the program.

Hoelscher et al. (2012) also find a violence-reducing effect of NREGA. Using a cross-sectional model for the entire period from 2004 to 2010, the study finds that the percentage of households per district participating in NREGA is associated with less battle deaths, less violent incidents, and fewer districts which record violent incidents. The authors attribute the observed effect to the fact that the employment program for the rural poor increased the opportunity costs for the rebellion.

By contrast, Khanna and Zimmermann (2014), using a difference-in-differences design, find that the program led to an increase in Maoist-related violence in the short run. This increase in violence appears to be driven by police-initiated attacks rather than by Maoist-initiated attacks. The authors argue that such empirical patterns are consistent with the information-centric model which predicts that civilians are more willing to share information with the police when they are a recipient of a development program, thereby allowing government troops to crack down more efficiently on the insurgents.

At first glance, the results of Khanna and Zimmermann (2014) appear to contradict Hoelscher et al. (2012) and Dasgupta et al. (2016).[5] However, the spike of violence that Khanna and Zimmermann (2014) observe is short-time only. Eight months after the implementation of the program violence decreases. This is consistent with the logic of the information-sharing model: If the program indeed led to better cooperation between communities and security forces, then we would expect a short time increase of counterinsurgency

measures, followed by a reduction in overall violence. According to the authors, the overall findings of the study quite plausibly indicate "the possibility that the police was more successful in catching Maoists right after NREGA implementation, and that this may lead to a fall in overall Maoist-related activities in the longer run (Khanna & Zimmermann, 2014: 33).

In sum, there appears to be evidence that employment programs may indeed dampen violence, either by increasing opportunity costs for rebels, or by increasing cooperation between communities and security forces, which makes COIN more effective. Some caution is in order, however, since the evidence stems from only one program, which raises doubts about external validity. With this in mind, it is interesting to speculate about why employment programs appear to be more effective in dampening violence than CERP, CDD, CTT, or humanitarian aid. I offer two possible answers. Firstly, it is possible that the Maoist insurgency in India is primarily driven by economic deprivation, which would explain why creating economic opportunities can reduce insurgent activities. By contrast, insurgencies in Iraq and Afghanistan are to a very large extent driven by ideology and religion, which make economic opportunities much less effective.

Secondly, it is possible that NREGA was implemented in regions where the government was relatively strong to begin with. NREAG requires that government officials collect community-level data and are present in order to administer the work program. This is only possible in regions which are largely under government control. The level of control is therefor much higher than in regions where CERP programs or humanitarian emergency programs are implemented. It is possible that the benign effect of NREGA is conditioned on pre-existing government control.

(d) *The impact of humanitarian aid*

The evidence on humanitarian aid is unequivocal: All five studies in our sample find that humanitarian aid increases violence.

Nunn and Qian (2014) study the effect of US food aid on conflict in recipient countries. Their sample consists of a panel of 125 non-OECD countries during 1971–2006. Study variables are onset and duration of conflict. In order to counter endogeneity problems, the authors use an instrument for food aid based on exogenous time variation in US wheat production, which is primarily driven by changes in US weather conditions. Surplus wheat is bought by the government at fixed prices and then shipped to developing countries as food aid. Thus, US wheat production is positively correlated with US food aid shipments in the following year. The authors construct the interaction of last year's US wheat production and the frequency that a country receives any US food aid and use this as an instrument for the amount of food aid received by a country in a given year. The study finds US food aid increased the duration of civil conflicts, but had no effect on interstate conflicts or the onset of civil conflicts. The effect is most pronounced in countries with a recent history of civil conflict. The study is not designed to uncover the causal mechanisms, but the authors refer to the large do-no-harm literature which suggests that stolen aid is frequently used to finance the war.

Narang (2014) investigates the effect of humanitarian bilateral and multilateral aid disbursement on the duration of peace, using a panel dataset of civil conflicts during 1989–99. A duration models is employed to estimate the effect of aid on the risk of peace failing in a particular year. He finds that post-conflict states treated with higher levels of humanitarian assistance exhibit shorter spells of peace; however, this effect only occurs after conflicts that ended with a decisive victory. For conflicts which ended in negotiated settlement or stalemates no effect is found. The author argues that humanitarian aid is usually disproportionally given to the losers of the war, and that the aid can help the losing side to reconstitute its war effort. In other words, aid can support or even create a revisionist party with the incentive to change the postwar settlement on the battlefield. It should be mentioned that this is a theoretical argument. The study does not offer supporting evidence for the alleged causal mechanisms. Such a test would have to show that recipients of humanitarian aid diverted aid for their war efforts, by stealing or taxing the aid.

Narang (2015) investigates whether humanitarian aid prolongs civil wars, using a cross-national panel data on humanitarian aid disbursed during 1969–2008. Effects are estimated with Cox proportional hazards models. The study finds that increased levels of humanitarian assistance lengthen civil wars, particularly those involving rebels on the outskirts of a state. The author notes that these findings are compatible with a range of causal mechanisms: Misappropriated aid could finance the insurgency; humanitarian aid could create protected spaces (such as refugee camps) that shield combatants from costly attacks; fungible aid could free up resources for violence; or local power-brokers could prolong the war in order to continue "taxing" the incoming aid. On a more general level, the author suggests that aid may exacerbate information failures: By making war less costly, humanitarian assistance can "inadvertently prolong fighting by slowing down the accrual of information that allows opponents to converge on more congruent estimates of relative strength which would lead to negotiated settlements" (Narang, 2015: 184).

Wood and Sullivan (2015) investigate whether humanitarian aid can encourage rebel violence against civilians. The authors suggest two possible causal mechanisms: First, aid may encourage predation, which may result in abuses against the local population. Second, aid may be perceived by rebels as a challenge to their authority, because aid may increase cooperation between the local population and the government. Rebels may use violence to sabotage that cooperation.

The depended variable is the number of attacks on civilian targets by insurgents. Spatially disaggregated conflict event data come from the Uppsala Conflict Data Program's (UCDP) Georeferenced Event data set, which is based on media reports. The independent variable is project-level bi- and multilateral humanitarian aid commitments, lagged by one year. Data come from the UCDP/AidData georeferenced data set. The unit of analysis is grid/year, whereas the grid is based on the PRIO-Grid system. A cell is roughly 55 # 55 km at the equator. The data represent 22 sub-Saharan African states during 1989–2008. Effects are estimated by cross-sectional regression models. Supporting evidence comes from a matched sample allowing for a difference-in-differences model. Results support the argument that humanitarian aid is associated with increased rebel violence. The study does not test for whether the effect is caused by predation or sabotage.

Finally, Wood and Molfino (2016) explore whether humanitarian aid increased violence between the government and rebels. The alleged causal mechanism is that injecting humanitarian aid into a locality increases the incentives for rebels to challenge the government for control over territory in which aid accumulates, thus leading to an increased risk of violence. The unit of analysis is first order administrative unit (i.e., districts, communes)/year. The independent variable is humanitarian aid commitments per unit, and the dependent

variable are battles between rebels and the government. Data sources are identical with Wood and Sullivan (2015). Effects are estimated with Poisson's regression, and supplemented with propensity score matching, allowing for difference-in-differences estimates. Results provide support for the assumption that humanitarian aid increases the subsequent frequency of conflict between rebel and government forces.

5. CAUSAL MECHANISMS

The previous sections took stock of the evidence base for the impact of aid on violence. As we have seen, the results are not encouraging. More often than not, aid is statistically associated with an increase in violence. But statistical correlations can only take one so far. This section now offers on overview of the causal mechanisms at work. Specifying these mechanisms make theories more complete and persuasive and can help to design adequate policy responses, as different mechanisms suggest different policy interventions. In what follows, I identify all causal mechanisms which the reviewed studies propose. I then briefly discuss the observable implications for the causal mechanism and assess to what extent the discussed studies tested for the presence or absence of these observable implications. I find that most studies fail to provide strong evidence for the presence of their alleged mechanism (or rather, the presence of the observable implications) and suggest ways of how future research could conduct much stronger tests for the presence of specific causal mechanisms.

6. MECHANISMS THAT REDUCE VIOLENCE

(a) *The "hearts and minds" mechanisms*

Hearts and minds is perhaps the most famous concept used to describe possible links between aid and violence. Campaigns to win over the hearts and minds of the local population have been used by French and British colonial administrators, by the US army in Vietnam, and most recently in Iraq and Afghanistan by coalition forces. The assumption is that aid can help win civilians' "hearts and minds" by providing public goods. If the goods and services are valuable to them, communities will develop more positive attitudes toward the government and will be less likely to support the insurgency, which eventually will dampen violence. There is some initial evidence for this mechanism in our sample. Beath et al. (2012) show that a large CDD program was associated with more positive attitudes toward the government and less reported security incidents. Similarly, Böhnke and Zürcher (2013) show that aid led to more acceptance and more legitimacy for the subnational government and for development actors. These findings tie in with a large literature that shows that the ability to provide basic public services to the population can increase legitimacy for the egovernment (See McLoughin 2015 for an overview).

However, it should be noted that even if aid leads to more positive attitudes, more legitimacy, and more acceptance, this does not necessarily translate into less violence. Behavioral changes that could reduce violence include that communities no longer support insurgents by providing fighters, shelter, food, or information; that communities increase internal policing, making it more difficult for insurgents to recruit fighters, or that communities increase collaboration with the government by providing information. Such behavioral changes may follow from attitudinal changes, but don't have to. In other words, the "hearts and minds" mechanism explains the initial attitudinal changes, but not the subsequent behavioral changes which are necessary if violence is to be reduced. As such, it is an underspecified causal model which can explain the first element in a causal chain, but not the necessary subsequent ones.

(b) *The Information-centric model*

The *information-centric model* is a more complete causal mechanism. Thus far, Berman et al. (2011), Berman et al. (2013) have provided its most complete specification. The model assumes that local communities possess critical information on the activities of insurgents. The prospect of rewards in the form of development aid acts as an incentive for local communities to share this information with the government and its international allies. As a result, the government's counterinsurgency efforts become more effective and security eventually increases. Berman et al. (2011), Berman et al. (2013) and Crost et al. (2016) attribute violence reduction to this mechanism. Weintraub (2016) and Khanna and Zimmermann (2014) also assume that aid encouraged information sharing, but speculate that this information led to more violence, because security forces increased their counterinsurgency activities (Khanna & Zimmermann, 2014) or because insurgents used violence to punish those who shared information (Weintraub, 2016).

None of these studies provide support for the presence of information sharing beyond the claim that it is compatible with the data. One straightforward way of testing the presence of the mechanism would be to conduct interviews with military commanders, asking them whether the handing out of development projects bought them reliable information on which they could act.

Adams (2015) does this and finds no support for information sharing. Also, Sexton (2016) finds that CERP spending did not result in increased COIN activities, as would have been the case if CERP spending had led to "tips" on which the military could act.

Besides the lack of empirical support for the presence of the mechanism, there is also theoretical concern. The model requires that aid is given conditionally: "The violence-reducing property of service provision requires conditional provision: the community benefits from services only if the government controls the territory. If the community benefited from services regardless of who won, provision would not motivate information sharing" (Berman et al., 2013, p. 523). This assumption is problematic because it is unlikely that such an ex-ante conditionality was widely practiced, since this would mean that commanders would withhold all funds until control is established. This defies both the urge of bureaucracies to spend allocated funds quickly and the intended use of CERP, which is using aid precisely as a means to establish control.[6] Many qualitative accounts of CERP spending suggest that funds were given without much planning or oversight, not to mention conditionality. As a matter of fact, military reconstruction aid in the context of COIN has become for many development experts a prime example of wasteful spending with poor oversight (Wilder & Fishstein, 2012; Williamson, 2011; Special Inspector, 2011; Stein, 2011; Suhrke, 2006; Committee on Foreign Relations, 2011; Wilton Park., 2010). Finally, the "information-sharing model" might also oversimplify the dynamics between foreign counterinsurgents and local communities. According to many testimonials, this dynamic is characterized by an information asymmetry, where local communities use their informational advantage in a much more strategic way than the model presumes. Local actors often release biased or incomplete information in order to influence international actors in a way that favors local interests. It is hard to see how under such circumstance development aid would consis-

tently buy reliable information. In the future, further qualitative work may reveal if and when a violence-reducing effect is indeed caused by increased information sharing or whether additional or alternative causal paths are at work.

(c) *Opportunity cost model*

The violence-suppressing effect of aid is often explained by an *opportunity cost model*. Economic opportunities, it is argued, can provide employment for young men, which makes the recruitment of fighters more expensive (Grossman, 1999; Collier, 2000; Collier & Anke Hoeffler., 2004). The opportunity cost model is most closely associated with employment programs, often in the form of cash-for-work. Crost et al. (2016), Dasgupta et al. (2016) and Hoelscher et al. (2012) both attribute the observed violence-reducing effect of a large employment scheme to increase opportunity costs. Additionally, Dasgupta et al. (2016) demonstrate that the violence-reducing effect of the program tended to be stronger in regions with unusually little monsoon rain than in regions with normal monsoon. This suggests that the employment scheme offered compensatory income for farmers suffering from bad harvests caused by a lack of rain. Without the employment scheme, farmers might have turned to insurgent activities which offer some additional income.

The opportunity cost model does not necessarily work only through employment schemes, however. Every labor-intensive and rent-generating aid program can, theoretically, increase opportunity costs for insurgency. For example, Crost, Joseph, and Johnston (2014) report a violence-reducing effect of a CCT program in the Philippines. These cash transfers, they argue, boosted the local economy and created higher incomes from peaceful activities, which in turn made joining the rebellion less attractive.

The opportunity cost mechanism is a theoretically attractive preposition because of its simplicity. Yet, it is evident that the model depends on one crucial precondition: The violence-dampening effect will only take place if insurgents are first and foremost motivated by private economic gains. We should not expect to see an effect on insurgencies which are predominately motivated by ideology.

7. MECHANISMS THAT INCREASE VIOLENCE

(a) *Sabotage*

The logic of the sabotage mechanism posits that aid will lead to better relations and more cooperation between the population and the government. More popular support for the government could then lead to information-sharing, and it could help the government to establish or deepen control over contested regions. Insurgents, keen to sabotage the cooperative relations between the local population and the government, then use violence against "collaborators" to deter further collaboration. Eight out of nine studies that report a positive correlation between aid and violence attribute this to the sabotage model For example, Crost, Felter, and Johnston (2014) show that a CDD program caused an increase in casualties a result of insurgent-initiated attacks, which is consistent with the assumption that a successful community-driven development can increase support for the government which then leads to sabotage by the insurgency. Weintraub (2016) proposes a two-pronged model that combines the information-centric and sabotage models: Development aid buys information and, in reaction, insurgents target the population to sabotage the information sharing which threatens the insurgents' control of territory. Sexton (2016) shows that CERP funds in districts which are contested between rebels and government increase violence, and argues that this is caused by insurgents attempts to sabotage cooperation between governments and local communities. Wood and Sullivan (2015) demonstrate that injecting humanitarian aid in conflict zones leads to increased insurgent violence against civilians, which is compatible with the sabotage model. While this is compatible with the sabotage mechanism, the authors also note that it is equally compatible with the predation mechanisms, which assumes that aid flows increase violence between warring parties as insurgents try to control territories where aid is distributed. Indeed, sabotage and predation are not mutually exclusive. Both are important objectives for insurgents. There is ample evidence from Afghanistan that the Taliban seek to control and tax all aid in regions which they control, while at the same time deterring the local population from collaborating with the Afghan government and those aid organizations which are deemed hostile. If sabotage would take place without predation, then we would see an uptick in violence against development projects and against civilians, but not necessarily an uptick in violence between the warring parties. Fine-grained event data might allow for such tests.

(b) *Predation*

The theoretical foundations of the *predation model* dates back to the works of Hirshleifer (1991), Grossman (1991) and Skaperda (1992), who all argued that aid exacerbates violence because it is an additional resource which fuels conflict. Predation is also at the core the "do-no–harm" literature which sees aid a lootable resource which can incite or prolong violent conflicts (Anderson, 1999; Uvin, 1998). The logic of the predation model found much support in qualitative single case studies. Scholars showed, for example, that stolen aid fueled rebel violence (Bradbury & Kleinmann, 2010; Goodhand, 2002; De Waal, 1997;) or that fungible aid relived local actors from the burden of delivering basic goods to their constituencies, freeing up resources that were be invested in violence (Polman, 2010). There is considerable qualitative evidence that predation of aid flows may have led to increased violence in Afghanistan (Wilder & Fishstein, 2012; Wilton Park, 2010; Karell, 2015).

Wood and Molfino (2016), Wood and Sullivan (2015), Narang (2014), Narang (2015) and Nunn and Qian (2014) all attribute spikes in violence after aid injections to the predation mechanisms. Furthermore the data of Sexton (2016) and Böhnke and Zürcher (2013) are both compatible with the predation mechanism. As mentioned above, predation may be difficult to distinguish from sabotage, as both can go hand in hand. If only predation, but not sabotage would take place, we would expect to see an uptick of violence between warring parties, but not necessarily against local civilian population or development actors.

8. ALTERNATIVE CAUSAL MECHANISMS

The reviewed studies offer a useful spectrum of five causal mechanisms. But there may be alternative mechanisms which are not covered by the sample. One such mechanism which is conspicuously absent form the sample is that aid might dampen violence by addressing grievances. The literature on civil wars has long ago identified group-level grievances, especially the real or perceived lack of current and future political and

Table 2. *Causal mechanisms*

Violence-reducing mechanisms	Assumed in:
Hearts-and-Minds leads to less violence Aid provides public goods to local communities. Local communities value these goods, which makes it less likely that the local population supports or joins the insurgency	Beath et al. (2012), Böhnke and Zürcher (2013)
Information sharing leads to less violence Local communities often have private information on the insurgency. The promise of aid can incentivize local communities to share this intelligence with the government which will make counterinsurgency more effective and eventually reduce violence	Crost et al. (2016), Berman et al. (2013) Berman et al. (2011), Child (2014), Chou (2012)
Opportunity cost leads to less violence Aid provides public goods (esp. more employment opportunities), which increases the opportunity costs for the insurgency. Violence is reduced as a result	Crost et al. (2016), Dasgupta et al. (2016), Hoelscher et al. (2012)
Buying off strongmen leads to less violence Local strongmen siphon off rents from aid programs and suppress violence as long as rents are deemed adequate	No example in the sample; however, the observations of Berman et al. (2011), Berman et al. (2013), Dasgupta et al. (2016) are compatible with this mechanism.
Addressed grievances leads to less violence Aid successfully addresses economic and political grievances, which were drivers of violence. By addressing these grievances, violence will be reduced	Not in the sample
Violence-increasing mechanisms	
Sabotage leads to more violence Aid leads to more cooperation and more intelligence sharing between the local population and government; insurgents respond by deterring the local population from cooperating by applying selective or indiscriminate violence, and by sabotaging the aid programs	Weintraub (2016), Crost et al. (2014), Sexton (2016), Khanna and Zimmermann (2014), Wood and Molfino (2016), Wood and Sullivan (2015), Böhnke and Zürcher (2013)
Predation leads to more violence Aid is a lootable resource. More resources can enable insurgents to continue fighting, or it can fuel competition between armed groups	Wood and Molfino (2016), Wood and Sullivan (2015), Narang (2014), Narang (2015), Nunn and Qian (2014) Also, compatible with Sexton (2016) and Böhnke and Zürcher (2013)

economic opportunities, as one source of violence (for example, Gurr, 2000). When one particular group, typically an ethnic minority, holds economic and social grievances, well-targeted aid might enable redistributive policies that can lessen inequalities, create solidarity links between population groups and remedy grievances (Azam, 2001; Azam & Mesnard, 2003; Justino, 2007). Arcand, Bah, and Julien (2010) provide some evidence for this mechanism by pointing out that aid provided for the grievance-driven Moro Islamic Liberation Front in the Philippines created concrete improvements in access to government services, a greater sense of inclusion in local decision-making, and a greater sense of empowerment. None of the studies in the sample consider that aid might reduce grievances, and the data on which the studies are based do not suggest that the observed violence dampening effect ay be caused by reduced grievances. Nevertheless, future research might provide evidence for grievance reducing effects of aid linked to violence reduction.

Another unmentioned causal mechanism which might explain how aid can lead to reduction in violence, at least in the short run, is *buying-off strongmen.* There is abundant evidence that aid and particularly local contracting has very often enriched local strong men in Iraq and Afghanistan (for example, SIGAR, 2009; SIGAR Special Inspector General for Afghanistan Reconstruction, 2011). It is worthwhile speculating about the effect of this on violence. Local strongmen control the means of violence. They are also well placed to tap into aid flows, for example by rigging contracts, extorting rents from contractors, or selling protection to contractors, all of which is paid for by the aid program. One of the best-documented examples is the transportation sector in Afghanistan. The US government spends hundreds of millions a year to private contractors on trucking services in Afghanistan. These contractors pay large amounts to local warlords across Afghanistan in exchange for "protection" in the form of supply convoys to support U.S. troops (Warlord, Inc., 2010). This protection racket has become a major source of funding for violent entrepreneurs, and they have a vested interest in keeping the funds coming. Local warlords have the capacity to police their constituency and they can offer their militias for protection. They will offer these services as long as they can extort rents. Too high levels of violence would harm their business, hence violent entrepreneurs have an interest in keeping violence at bay. But prolonged loyalty requires prolonged bribing. If bribes are deemed to be too small, violence will return.

None of the studies in our sample explicitly investigate whether the observed effects of aid could be explained by a *buying-off-the strongmen* model, but, for example, the data of Berman et al. (2011), Berman et al. (2013) and Sexton (2016) are compatible with such a causal model. If the violence-dampening effect is indeed caused by bribing strongmen, then we would see a reoccurrence of violence once the rents from aid projects stop flowing. None of the reviewed studies currently offers a test for how long violence is sustained, partly because temporal data on violence may not be fine-grained enough. Future research should, however, investigate whether is likely that aid has been misappropriated by local strong men, and whether violence returns once rents stop flowing. Both would suggest that the aid-dampening effect is caused by buying-off strongmen. Table 2 summarizes the discussed mechanisms.

9. DISCUSSION AND CONCLUSION

The available evidence does not suggest that aid in conflict zones is an effective instrument to dampen violence. Using a "one case-one-vote-count", we find that of the 24 cases which the sample covers, only seven had a violence-reducing effect.

Three had a heterogeneous treatment effect, six had no effect at all, and nine had a violence-increasing effect.

This picture does not change when we use a "one-intervention-one-vote" count. Recall that some of the 24 cases cover the same intervention. We can thus collapse these 24 cases into 13 observations: CERP in Afghanistan; CERP in Iraq; six different CDD programs, two different CTT programs, one employment scheme; food aid; humanitarian aid. Out of these 13 interventions, only two unconditionally dampened violence; two had no effect, two decreased violence, conditional on the security of the location, two had a heterogeneous effect, and five increased violence. Again, the evidence of a violence-dampening effect is not strong. No effects, heterogeneous effects, and violence-increasing effects are far more frequent.

Importantly, looking only at those interventions which dampened violence, we see that this effect appears to be conditional on other factors. Beath et al. (2012) provide evidence that a CDD program in Afghanistan increased security, but only in regions which were relatively secure to begin with. Berman et al. (2013) show that CERP in Iraq helped to dampen violence, but only in interaction with increased troop strength. Without additional forces, no effect was found. Likewise, Sexton (2016) shows that CERP in Afghanistan could dampen violence but only when implemented in regions already controlled by the military. In contested regions, the same project would increase violence. Adams (2015) finds that only small CERP projects in Afghanistan dampened violence, while expansive ones increased violence. He does not have controls for how secure a region was, but it is possible that the size of the projects actually picks up the security level of the region where the project was implemented. We know that a disproportionate share of CERP funding in Afghanistan went to highly insecure regions, and that the most funded sector in those regions was expensive road construction (Johnson, Ramachandran, & Walz, 2012). Since the more expensive projects where disproportionately implemented in highly insecure regions, the association between project size and increased violence may actually pick up the effect of a highly insecure environment.

In sum, the evidence strongly suggests that aid in conflict zones will only have violence-dampening effect when the aid is injected in regions which are already relatively stable. Aid injected in insecure regions is likely to increase violence. This observation is reinforced when we look at the impacts of various types of aid. Humanitarian aid, which is the most "front-line" type of aid and is allocated disproportionally to regions which are most hit by violence and insecurity, is consistently associated with an increase in violence. Likewise, CERP projects are also "front-line" projects, and we have seen that CERP increased violence in insecure regions. The only aid type in our sample that is mainly associated with a violence-dampening effect is a large public employment scheme in India. Since we have evidence on only one such program, the external validity of the evidence is limited. But it is nevertheless interesting to speculate about the cause for the violence decreasing effect of this program. It is possible that the success of this employment scheme is conditional on a pre-existing relatively stable security situation. The implementation of such a large employment scheme requires the presence of capable state administration—a condition which is rarely met in regions under control by the insurgents. Also, recall that the violence dampening effect of the program is increased by strong state capacity. All of this suggests that the positive effect of this employment scheme is conditional on a relatively stable security situation and the presence of a responsive state administration—conditions which are usually not present in "front-line" regions.

In sum, there is strong evidence that a violence-dampening effect of aid is conditional on a relatively benign security environment. Why would this be the case? The studies offer two different theoretical answers. Berman et al. (2013) argue that aid is more valuable to the community when the aid project is protected from "extortion, capture or destruction (p.513). Hence, when troops are present to protect the aid project, its value to the community is increased to a level when the community begins to trade information for aid. This in turn makes COIN more effective, and violence is eventually reduced. A second answer is offered by Sexton (2016), Wood and Sullivan (2015) and Wood and Molfino (2016). These studies argue that rebel groups resist the implementation of aid projects because aid could potentially undermine their position. This is because aid has the potential to win hearts and minds of the local population for the government and increase cooperation between the government and the local population and thereby helps the government to re-establish or deepen its control over a territory. Rebels will therefore punish the local population for cooperating with the government and with aid organizations, as long as they have the military capacity to do so. Injecting aid in regions which are controlled by rebels will therefore likely lead to more, not less violence. Sexton (2016) finds support for this assumption in a quasi-experimental design.[7]

The finding that the impact of aid is in important ways modified by the local security environment challenges the widespread belief of many aid practitioners that the impact depends first and foremost on the aid type, and that some types of aid are better suited for conflict settings than others. In particular, participatory community-driven development has often been heralded as especially well suited for conflict and fragile contexts (World Bank, 2013; World Development Report, 2011). Such an expectation may be misplaced. No aid type in the sample is consistently associated with a violence-dampening effect. Rather, all reviewed aid types can also lead to more violence, if they are injected in insecure environments. This is because the causal path that links aid to violence runs through either predation or sabotage, and no type of aid is immune to predation or sabotage.

With regard to predation, it is evident that some types of aid such as food, medication, fuel, building materials, and the like are easy to steal. Other types of aid may be more difficult to steal, but they can always be "taxed". There is much evidence that the Taliban tax aid organizations and their local contractors in return for safety guarantees and permission to work. Furthermore, the Taliban routinely extract "taxes" from villages that they control. In sum, a share of all aid resources injected in a war economy will always flow to those who control the war economy, which explains why no aid type is immune to predation.

Just like there is no type of aid which is immune to predation, there is also no type of aid which is immune to sabotage. Every type of aid that is regarded by insurgents as a potentially effective tool for improving relations between the local population and the government may be sabotaged. Sabotage is a strategic response by insurgents. It is triggered by the promise of aid to increase cooperation between the local population and the government. As we have seen, the studies in our sample report that insurgents sabotaged all reviewed aid types, such as food aid (Nunn and Qian, 2014), humanitarian aid (Wood & Sullivan, 2015), CCTs (Weintraub, 2016), CDDs (Crost et al., 2014), and CERP (Sexton, 2016). This suggests that no aid type is immune to sabotage.

A systematic review is also a useful tool for identifying knowledge gaps. Four such gaps stand out and should be addressed by future research. Firstly, the evidence base is surprisingly small. 19 studies may not be an unusual small sample for a systematic review, but given the billions of aid dollars spent on stabilization and the recent push by development organizations for more rigorous evaluations, one might have expected more studies. Especially surprising is that development organizations have not yet made serious efforts at evaluating the impact of their programs on stability. Only one study in our sample was initiated and conducted by a development organization, whereas four studies were financed by the US military. More studies would not only broaden the evidence base, but also address justified concerns about limited external validity of many studies.

Secondly, the list of reviewed aid types is by no means exhaustive. The sample is not surprisingly biased toward "front-line" aid, such as humanitarian aid, CDD, and CERP. Future research should investigate the effects of other aid sectors which are often prioritized in the early years of post-conflict regions, such as interventions in health, energy and electrification, water and sanitation, and transport networks. However, this review strongly suggests that the effects of aid are moderated by the environment in which aid is implemented, hence we have so far little reason to believe that other aid sectors would have a consistently "good" effect. But only more evidence can tell.

Thirdly, we found that our understanding of causality is still limited. While the reviewed studies propose a useful range of possible causal mechanisms, they do not usually provide strong tests that actually prove the presence of the alleged mechanisms. At best, they show that the used data are compatible with the theoreticized mechanism. Evidently, it is possible and desirable to deduce for all causal mechanism a set of observable implications, which then would allow to conduct better tests. In my discussion of the causal mechanisms I have suggested some observable implications for each causal mechanism. For example, support for the information-centric model could be found by asking COIN actors to what extent the delivery of aid has bought them information on which they could successfully act. An observable implication of the opportunity cost mechanisms should be a substantial increase in employment opportunities in a given geographical space, which can be identified with surveys or even qualitative observations. Support for the "buying-off strongmen" model could come from the observation that aid has been taxed by local strong men, and whether violence returns once aid rents stop flowing. An observable impaction from the sabotage model would be that aid triggers insurgent-initiated violence against aid workers and their "collaborators", but not necessarily violence between government forces and insurgents These and other tests will be feasible once we have more fine-grained data on violence, especially on whether violence was initiated by rebels or government, for how long violence was sustained, and who the primary target was. There are many data collection initiatives underway which will substantially improve the available data and will enable such tests in the near future. These new more granular data should be accompanied by a shift to multi-method approaches, where econometric approaches are combined with micro-level qualitative approaches which are well suited to capture the local conflict dynamics.

Fourthly, the most important question that future research needs to tackle in a systematic way is not so much whether aid can buy stability or not, but rather which environment is more or less conducive to a violent-reducing effect of aid. As long as we lack a clear understanding of how various environments shape aid effects, much aid will continue to be misspent or may even cause harm. Only two studies in our sample make an attempt to measure the security environment at the subnational level. Berman et al. (2013) use a measure of troop strength based on news reports, and Sexton (2016) uses the presence of a forward battalion as a proxy for control. While these studies should be commended for trying to measure the security environment at the subnational level, the reliability and validity of these measures may raise some concern. The sheer presence of foreign troops may not necessarily proxy that control has been wrestled away from insurgents. To what extent government or rebels are in control of a territory is presumably best assessed based on local intelligence. The most pressing task for future research on the impact of aid in conflict is to find a valid and reliable measurement for the local security environment and include it as a control or modifier in the identification strategies. This will help to identify the conditions under which aid may actually help.

Finally, the results of this review also have policy implications. As we have seen, aid in conflict zones is more likely to increase violence than to dampen violence. A violence-dampening effect is conditional on a relatively secure local environment, where violence-increasing strategic responses to aid injections such as predation or sabotage are less likely. Allocating the bulk of the aid to the most insecure regions, as it was practiced in Iraq and Afghanistan, is most likely a strategic mistake which exacerbates insecurity. Aid in conflict zones should be allocated to relatively secure, government-controlled districts. While aid is not an instrument for bringing back insecure districts from violence, it may help to protect relatively stable district from slipping into war. Doing so would require a policy change. It would also require that development actors develop clear criteria for when a region is secure enough in order to allocate aid. Only a thorough analysis of the local, district-level political economy provides such information. Aid organizations should invest in this type of local knowledge, and use it for their allocation decisions.

NOTES

1. I follow the standard definition for systematic reviews; for example, see the Campbell Collaboration, "What is a systematic review" (Campbellcollaboration.org). Also, Waddington et al. (2012). Similar definitions are offered by DFID. (2012) and Petticrew and Roberts (2006).

2. For example, the median of included studies in all 26 systematic reviews which the International Initiative for Impact Evaluation (3ie) has conducted during 2009–17 is 20. The average is 27.8, and the range is 5–93. 14 out of 27 studies are based on a sample smaller than 19. Note that for this calculation, I exclude one outlier which is based on 420 studies on educational outcomes in middle-income countries. Without excluding this outlier, the average is 40 and the median is 23. One important reason for what may seem a small number of studies is that rigorous tests require rich, longitudinal data which are not often available from poor, war-torn countries.

3. I exclude large-scale infrastructure from this discussion. Only one study (Berman, Felter, Shapiro, & Troland, 2013) tries to measure the effect of large-scale infrastructure built by the US Army Corps of Engineers in Iraq. But since this study is mainly on CERP, it provides not

enough information on the type and scale of the infrastructure to warrant a discussion here.

4. This finding is in contrast to a report on the same program by the office of the inspector general which states that "we do not have a reasonable basis for asserting that CSP activities in the community infrastructure and essential services component were contributing to the overall improvements in security in Iraq" (Office of Inspector General., 2008: 4). Moreover, the audit also pointed out that "CSP projects are highly vulnerable to fraud and exploitation which may have in fact occurred, with potential adverse consequences to Coalition personnel (Office of Inspector General, 2008: 4).

5. One possible explanation, put forward by Dasgupta et al. (2016), is that these studies use different data sources. While Khanna and Zimmermann (2014) used data based on English news clips which may over-report violence in urban regions, Dasgupta et al. (2016) constructed the data based on local language news clips which may provide better and more balanced coverage of rural areas.

6. Berman et al. (2011, footnote 11) refer to a survey among officers and officials with CERP implementation authority in Afghanistan, conducted in October and November of 2010 in which 61% of the 210 respondents indicated that they would "halt implementation of a CERP project if the local population increased its support for anti-government elements." It is unclear, however, how many respondents actually *did* halt a project. Another study, based on 44 semi-structured interviews with Canadian civilian and military officials involved in aid projects (not necessarily CERP projects) in fragile states, found *not one* instance of an aid project that was actually withdrawn (Bourgoin, Brown, & Zürcher, 2013).

7. More evidence for the modifying effect of the local security environment comes from recent survey data from Afghanistan. When asked whether respondents could "think of an instance, in your community or in a neighboring community, when groups such as the Taliban used violence in order to obstruct a development project?" 6.4% said they could think of such an instance. In districts that were mostly under government control, the number dropped to 4%. In contested districts, the number reached 10% and in a district that was fully under the control of armed groups, the number reached 15%. The survey was conducted as a booster sample of "The Asia Foundation/Survey of the Afghan People 2017," on behalf of the German Federal Ministry of Economic Cooperation and Development. See http://asiafoundation.org/where-we-work/afghanistan/survey/data/.

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