

## **Calamity, Conflict and Cash Transfers: How Violence Affects Access to Aid in Pakistan**

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#### *Abstract:*

I examine how prior exposure to conflict affected household-level access to cash transfer programmes in the aftermath of the massive 2010 floods in Pakistan. Using IV-estimation to correct for the endogeneity of conflict exposure and access to aid, I find that conflict reduced household access to two large government-run cash transfer programmes – the Citizens Damage Compensation Programme (CDCP) – I, and the Benazir Income Support Programme (BISP). Distinguishing violence from rebel control, and exploiting the Taliban's avowed opposition to girls' schooling and their ability to reduce female primary enrolment, I attempt to identify areas likely to be under Taliban influence, which are otherwise unobserved across data sources. Using residuals derived from the community-level estimation of female primary enrolment rates (after including a wide range of supply and demand side determinants of girls' school enrolment), I mark out areas with more/ less likely Taliban presence. I find that the presence of Taliban and affiliate groups drives the negative effect of conflict on access to cash transfers. This suggests that attempts by the state to expand its footprint in rebel-held areas through social protection may be resisted by rebel groups, resulting in lower programme coverage. The lower access to the transfers in conflict-affected areas translates as the complete exclusion of villages from the programmes, as well as lower average rates of intra-village coverage.

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# 1. Introduction

Winning the fight against poverty would require concerted efforts toward its elimination in conflict-affected and fragile countries. This is because these countries are characterised by the highest concentrations of poverty, as well as the slowest rates of poverty reduction (WDR 2011). International development agencies are also therefore increasingly focusing on providing aid in conflict-affected countries. In such settings, aid programmes in general, and social protection programmes in particular are often designed to simultaneously reduce poverty, as well as to quell the grievances that may give rise to violent conflict. Yet, not much is known about how conflict itself affects the delivery and implementation of such programmes, upon which the hopes and plans of global poverty eradication largely rest. This article examines how exposure to conflict affects household access to two large donor-supported and nationwide cash transfer programmes in Pakistan, and explores the role of rebel group control as a mediating factor.

Cash transfer programmes, in recent years, have gained popularity among governments and donor agencies for their ability to provide support to the chronic poor, and those who are vulnerable to shocks (Duflo and Banerjee, 2010; Blattman, 2014). In conflict-affected settings, cash transfers are additionally seen as potentially effective instruments to counter conflict. This is based on an understanding of conflict as partly the outcome of grievances which may compel people to voice dissatisfaction, support rebels or resort to violence. Cash transfers, or broader social protection measures, are then seen as ways of redressing (often historical) grievances, which in turn is seen as a means to make the populace more sympathetic to governments, facilitate a sharing of information and intelligence, and thus increase the state's ability to crack down on rebels (Berman et al., 2009; Khanna and Zimmermann, 2014). The role of cash transfers in reducing future violent conflict can also arise from their ability to address the horizontal inequalities between groups/ communities that cause resentment, animosity and violent contestation. Finally, from a microeconomics perspective, increasing the returns to peaceful activities, through redistribution or otherwise, is seen to increase the opportunity costs of taking up arms (Collier and Hoeffler, 2004; Dube and Vargas, 2007; Miguel et al., 2004).

The existing literature on the relationship between conflict and social protection programmes (including cash transfers) focuses on (i) whether and how social protection programmes can affect the occurrence of or attitudes towards future violence, and, (ii) to a lesser extent on how conflict mediates their impact on economic outcomes. While there is mixed evidence on the implications of expanding social protection on future conflict and violence (Croft and Johnston, 2014; Nunn and Qian, 2014; Nielsen et al., 2011; Justino, 2011; Berman et al., 2009; Beath et al., 2012) as well as a nascent literature on how conflict affects programme impact (Mesnard, 2009; Bozzoli and Wald, 2011), we do not sufficiently understand how conflict affects the implementation of aid programmes. This may be an overlooked but critical step between a government/ development agency's desire to establish writ and quell strife, and its ability to do so on the ground. From the policymaker's perspective ignoring the economic, political and logistical challenges to providing access to aid during conflict can very quickly become the proverbial spoke in the wheel of the

intended virtuous cycle of redistribution, decreasing violence, development, and lasting peace. The enthusiasm and optimism for social protection programmes in conflict-affected areas (to usher in development and peace) is not sufficiently checked by evidence on the extent to which conflict may undermine access to such programmes in the first instance.

The challenges that conflict imposes on development and state-led activities is often invoked in anecdotal accounts such as the targeting of social service/ NGO offices and staff, bombing of social and infrastructure facilities and (in Pakistan in particular) the specific targeting of immunisation camps. Such targeting, far from being incidental, is often a calibrated measure on the part of armed groups to stem the growing presence of governments and aid agencies. Armed groups may resent efforts by the government to win over political support by invoking social protection measures to threaten their base (Gompert et al., 2009). They may respond either by targeting the people who are thus swayed, for example those who serve as informants to governments (Eynde, 2011), or by opposing/ stalling the aid programmes themselves, thereby reducing both the demand and the supply of state aid. In explaining their results on how social protection in fact led to an increase in violence in the Philippines, Crost and Johnston (2014) argue that armed groups have an incentive to stall such projects (through violence) precisely because they threaten the support their movement enjoys. They identify conditions under which expanding social protection can exacerbate strife, and far from conclusively winning hearts and minds, widen the development gap, making future conflict more likely. While Crost and Johnston (2014) show that the programme led to a higher number of insurgent-initiated attacks during its preparation phase, and interpret this as an indication of insurgents' motives to scuttle the programme, they do not specifically examine how and to what extent such motives may affect the actual receipts of aid at the household levels.

In Pakistan in particular, the state seeks to extend cash transfers programmes in conflict affected areas, in order to reclaim legitimacy and establish its writ. This is reflected in the following text from the Planning Commission of Pakistan's Report of Economists outlining the Medium Term Development Framework:

Conflict in NWFP [North-West Frontier Province, now called Khyber Pakhtunkhwa], FATA and Balochistan has severely challenged the ability of the state as well as the legitimacy of the idea of a functioning state in Pakistan. Social protection must be part of the strategy to reclaim the space and legitimacy for the state in Pakistan, through protection to the basic entitlements of people in the conflict-affected areas.

... Expanded social protection programmes, particularly directed at the conflict-affected areas are essential to protect innocent victims of conflict, and to regain legitimacy for the idea of a functioning state through creating, expanding and ensuring the delivery of citizenship-based entitlements.

- GoP (2010), pp. 145

However there is no evidence on whether, to what extent, and how, the government's ability to implement such programmes is itself compromised by conflict. Secondly, the extract above indicates that the targeting and delivery of social protection programmes by the government is not incidental to past conflict exposure, but may well be correlated with it, as

the government may strategically seek to enhance or withhold cash transfers in areas based on their prior exposure to violent conflict. Such (unobserved) strategic calculation on part of the government being correlated with past conflict, but also determining eventual household receipts of social protection transfers, makes the relationship between conflict and access to social protection endogenous. In sum, the evidence base on the effect of conflict on access to social protection is low, and establishing causal linkages is not straightforward.

This article examines how exposure to violent conflict affected households' access to cash transfer programmes in the aftermath of the massive 2010 floods in Pakistan, a time of heightened suffering and vulnerability when the need for social protection was most acute. I use the community-level distance to the Afghanistan-Pakistan border, a strong correlate of exposure to violence in Pakistan following the US-led War on Terror in Afghanistan and its subsequent repercussions on Pakistan, as an instrument for exposure to violence over 2001-10, and control for a wide range of confounding factors that can potentially violate the exclusion restriction. I find that conflict reduced household access to two large government-run aid programmes – the Citizens Damage Compensation Programme (CDCP)<sup>2</sup> – Phase I, and the Benazir Income Support Programme (BISP)<sup>3</sup>. A 10% increase in the number of people killed in conflict at the sub-district level over 2001-10 decreases the likelihood of a household receiving the CDCP – I transfer by 4.9%, and the BISP by 4.2%. These results are robust to the inclusion of a wide range of controls, alternate specifications of the endogenous conflict variable, and the use of an alternate Instrumental Variable. At the community level, the negative effect of conflict on access to the cash transfer programmes manifests as the complete exclusion of villages from the programmes, as well as lower average rates of within-village coverage. I also find that these negative effects are only for state transfers, and do not affect the receipt of transfers/ aid from (religious and other) charities, or from a prominent national NGO.

I make a novel attempt to distinguish between violent activity and rebel control and make a novel attempt to determine the presence of Taliban-affiliate armed groups. I treat Taliban presence and control as an unobserved, omitted variable that lowers the community-level girls' primary school enrolment rates.<sup>4</sup> Using residuals from the community-level estimation of female primary enrolment rates based on a wide array of demand and supply-side determinants of girls' school enrolment, I attempt to identify communities with more/less likely Taliban presence as and find that the likely presence of Taliban (and affiliate) groups drives the negative effect of conflict on access to state transfers. In communities with the more likely presence of the Taliban, conflict reduces the likelihood of receiving the CDCP – I transfer by 7.2% (compared to 0.01% for those with less likely Taliban presence), and the BISP by 6% (viz. 3.8% for communities with less likely Taliban presence). The absence of any significant effect of conflict, and of Taliban presence, on access to non-state transfers further suggests that Taliban presence reduces the reach of state transfers in particular. This reduction is arguably due to the Taliban's resentment of the

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<sup>2</sup> An unconditional flood damage compensation paid in cash to flood-affected households

<sup>3</sup> An unconditional cash transfer paid to women recipients in the poorest households

<sup>4</sup> Owing to the Taliban's avowed and doctrinaire opposition to girls' schooling

government's stated efforts to establish writ and expand presence through the rollout of state-run cash transfer programmes (which, in the Pakistani case, heavily bear the imprint of the government and the state), especially into areas under Taliban control, or where the Taliban have significant influence/ presence. Cash transfer programmes are therefore a likely casualty of the political tussle between the state and the Taliban, which reduces the coverage of cash transfer programmes in conflict-affected areas, and consequently limits their ability to achieve development and political goals.

The remainder of this article is organised as follows: Section 2 describes the empirical setting, detailing the context of the 2010 floods, the two main cash transfer programmes examined in this article, and conflict in Pakistan over 2001-10. Section 3 describes the data sources used and outlines the Identification strategy. Section 4 presents results on the causal link between conflict and household-level access to cash transfers. Section 5 analyses Taliban presence as an explanatory mechanism. Section 6 summarises results from robustness tests, while Section 7 discusses the results and concludes with notes for policy.

## **2. Empirical Setting: Pakistan in the Aftermath of the 2010 Floods**

### **2.1 The 2010 Floods in Pakistan**

Pakistan experienced its most severe flooding in recorded history in 2010 which started during the monsoon season (June – August). This was caused by exceptionally heavy rainfall, which inundated much of the Indus river basin, and also led to severe flash flooding in many areas not directly linked with major river systems. An estimated one-fifth of the total land area of Pakistan (796,095 square kilometres), spread across its four large provinces: Sindh, Balochistan, Punjab and Khyber-Pakhtunkhwa was flooded. While the death toll due to the floods was about 2,000, according to official estimates, about 20 million people were affected by the floods through displacement and damages to land, property and livestock (NDMA, 2011).

### **2.2 Cash Transfer Programmes**

In order to provide relief and aid rehabilitation for victims of the massive flooding, the Government of Pakistan announced a massive cash transfer-based flood relief programme (CDCP), in two phases. Phase I comprised a payment of PKR 20,000 to each eligible household. Eligibility in Phase I was defined as (a) every household residing in a deemed “flood-affected” village/ urban centre (subject to exceptions for households with a foreign bank account and having undertaken foreign travel) in Punjab, Sindh and Balochistan, (b) households identified as flood-affected based on a house-to-house damage assessment exercise conducted in Khyber-Pakhtunkhwa. Phase II comprised a larger (between PKR 20,000 – 40,000), but more delayed pay-out to a subset of the most badly affected households. In this article I only examine access to the CDCP Phase I transfers (as the survey data used was collected between the rollout of Phases I and II).

Additionally, the Government of Pakistan, upon transitioning from military to civilian rule, following the national elections of 2008, launched the Benazir Income Support Programme (BISP), an unconditional cash transfer programme targeted to women recipients in chronic poor households. The programme uses a Proxy Means Test calculated by a centralised database authority using data from a household-level poverty census conducted in 2008,<sup>5</sup> to determine eligibility. It makes monthly payments of PKR 1,000 – 1,200 to eligible households.

The CDCP and the BISP were the two largest public cash transfer programmes in 2010-11 and are therefore the focus in this article. The transfers differ in terms of frequency (one-off transfer v/s recurrent), monetary value (one-time value of PKR 20,000 v/s monthly payments of PKR 1,000 – 1,200), aim (disaster compensation v/s income support to the chronic poor) and intended beneficiary profile (flood-affected populations v/s the chronic poor). I include both programmes in the subsequent analysis to examine if any particular programme features make them more/ less vulnerable to conflict.

### **2.3 Violent Conflict**

Pakistan has witnessed high levels of conflict at several junctures during its volatile history. Its creation in 1947, resulting from the partition of India, was accompanied by the large-scale migration of communities, and also communal rioting and killing. In subsequent decades Pakistan witnessed several forms of intra-state political violence, driven by multiple motivations including sectarianism (Nasr 2002), ethnic factionalism (Alavi 1988; Cohen, 2004), insurgency in East Pakistan leading to the creation of Bangladesh (Jaffrelot, 2002; Bose, 2011), and in Balochistan (Grare, 2013), and gang warfare in cities, particularly Karachi (Gayer, 2007; Waseem, 2002). The most pronounced focus on violence in Pakistan, however, has been over the past decade that has seen a dramatic rise of Islamist militancy. The US-led War on Terror in Afghanistan, following the September 11, 2001 terror attacks in the US led to the movement of al-Qaeda and Taliban fighters across the porous border into Pakistan's territory (Yusuf, 2014; Gunaratna and Iqbal, 2011; Gul, 2009; Rashid, 2008,2012). The border areas of Pakistan owing to their geographical continuity with Afghanistan allowed the Taliban and al-Qaeda fighters space to hide and regroup to launch counter-attacks on US and later Pakistani forces to resist the Western occupation of Afghanistan and Pakistan's logistical and military support to this campaign (Yusuf, 2014). This resulted in counterterrorism military campaigns by the Pakistani Army and the ensuing clash between terrorists and the Pakistan Army led to the largest numbers of killings in due to conflict over the 2001 – 2010 period. Table 1 below shows the fatalities due to conflict across alternate motivations and by province over January 2001 – May 2010, i.e. just before the onset of the 2010 floods.

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<sup>5</sup> And is a departure from previous targeting mechanisms used for social protection in Pakistan that were based largely on the discretionary assessments by elected representatives (World Bank 2007, Sanchez-Paramo et al. 2010).

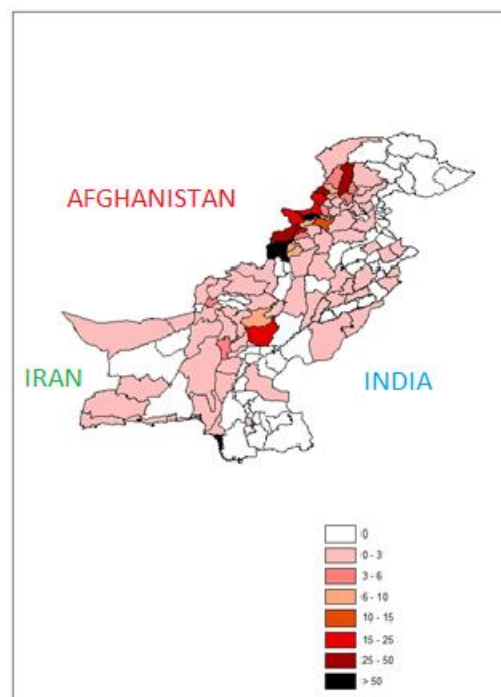
Table 1. Fatalities in Conflict by Motivation of Incident and Province: Jan 2001 – May 2010

Motivation	Balochistan	KPK	FATA	Punjab	Sindh	Total	%
Counter/Terrorist	461	7,767	11,758	783	363	21,132	92.38
Communal	0	0	2	45	0	47	0.21
Sectarian	189	278	425	223	132	1,247	5.45
Insurgent	335	0	0	0	0	335	1.46
Tribal Rivalry	0	48	8	0	0	56	0.24
Ethnic	8	0	0	0	0	8	0.03
Unknown	26	2	18	4	0	50	0.22
Total	1,019	8,095	12,211	1,055	495	22,875	
% of Counter/Terrorist	45.24	95.95	96.29	74.22	73.33	92.38	

Source: Authors' calculations based on South Asia Terrorism Portal conflict timeline for Pakistan

With the exception of Balochistan (where insurgency accounts for a very high share of total deaths), terrorism/counter-terrorism operations account for the highest share of lives lost in conflict across the provinces. This emphasises the centrality of terrorist violence<sup>6</sup> in shaping the conflict environment in Pakistan. Finally, Fig. 1 below depicts the spatial concentration of violent conflict in Pakistan at the district level.

Fig. 1. District-wise Total fatalities per 10,000 of population due to Conflict in Pakistan: Jan 2001 – May 2010: SATP



Source: Author's calculations using SATP data

The map above depicts (a) the vast spread of violence across the territory of Pakistan, and (b) its greater concentration in areas closer to the Afghan border, towards the North-West.

<sup>6</sup> in large part involving the Tehrik-e-Taliban Pakistan (TTP) and its affiliate groups

### 3. Data and Identification Strategy

#### 3.1 Data Sources

I use the baseline cross-section of the CDCP Impact Evaluation dataset (OPM, 2013). This dataset is representative of all flood-affected areas of the four major provinces of Pakistan: Punjab, Sindh, Khyber Pakhtunkhwa and Balochistan. The dataset comprises 7802 households across 499 Primary Sampling Units (PSUs), including 448 rural, and 50 urban communities. The survey for the baseline was conducted during December 2011 – February 2012, after the rollout of the first phase of the CDCP flood relief transfer.<sup>7</sup> The survey comprised detailed questionnaires for male and female respondents at the household level, and a detailed community-level module. The dataset used for analysis is representative of all flood-affected areas – the universe for the CDCP. The BISP however has a wider (nationwide) intended coverage – for which the dataset is *not* representative. The BISP is included in the analysis to indicate the extent to which access to such regular social protection programmes is affected by conflict, in a time of hardship precipitated by floods. The results on the effect of conflict on access to these cash transfers in the present analysis will therefore be representative, for the programmes as a whole, only for the CDCP, and not for the BISP.

Conflict data, covering incidents of terrorism, counter-terrorism, insurgency, sectarian violence, were collected from the South Asia Terrorism Portal, a leading conflict news media monitoring agency that conducts a detailed scan of nine leading Pakistani newspapers and provides a summary record of conflict events. Conflict events over the period January 2001 – June 2010 (just before the onset of the floods) were coded to the lowest administrative level possible, and conflict exposure at the *tehsil* (sub-district) level is measured as the natural log of  $1 + n$ , the number of people killed in conflict events.

#### 3.2 Identification Strategy

Estimating the causal effect of conflict and access to cash transfers is not straightforward. Unobservable factors – chiefly the government's calculated attempts to use cash transfers as a carrot, or a stick, in conflict-affected areas will be correlated with both past conflict exposure and eventual household-level cash transfer receipts. To overcome this endogeneity concern, I use an Instrumental Variables approach to identify the causal impact of conflict on programme access. Based on an examination of the historical evolution and context of political violence in Pakistan (described in 2.3), I find that the Distance to the infiltration routes used by the Taliban from Afghanistan is a strong correlate of violence in Pakistan. This is because areas closer to infiltration routes along the Afghanistan-Pakistan border became militant strongholds, and eventually the battleground of terrorist and counter-terrorist activity. However, since it is not possible to identify the exact points of infiltration used by militants across the long and porous border, I use the nearest distance to the Afghanistan-Pakistan border as the IV for exposure to violent conflict. To compute this, I

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<sup>7</sup> The cross section serves as a baseline for Phase II of the CDCP transfers; it, however, contains retrospective questions on the receipt of CDCP Phase I, BISP and other non-public transfers that I use for my analysis.



identify the community centroid from the household survey and calculate the shortest distance to the Afghanistan-Pakistan border. The guiding assumption is that the government's unobserved political intent in rolling out cash transfers is not correlated with distance to the Afghanistan, except through its association with conflict over 2001- 10 (I return to potential confounders and mitigation strategies in 3.4).

**In estimating the impact of conflict on aid receipt at the household, the causal relationship of interest is given by Equation (1) below:**

$$Y_{ij} = \alpha + \beta_1 X_{ij} + \beta_2 CON_{ij} + \beta_3 P_k + \varepsilon_{ij} \quad \dots (1)$$

Where

$Y_{ij}$  is the likelihood of household  $i$  in Primary Sampling Unit (PSU), or community  $j$  receiving the aid programme.

$X$  is the matrix of household / community-level control variables.

$P$  represents the matrix of  $k$  Province dummies

$CON$  is the measure of conflict exposure at the sub-district level, and is assumed to be the same for all households/ communities in the sub-district

Owing to the endogeneity of  $CON$  with  $Y_{ij}$ , the coefficient  $\beta_2$  in Equation (1) is biased. I therefore estimate an IV probit model, represented by the following two-stage equations (2 and 3).

**First stage Equation:**

$$CON_{ij} = \alpha + \gamma_1 X_{ij} + \gamma_2 DISTANCE_j + \gamma_3 P_k + u_{ij} \quad \dots (2)$$

Where  $DISTANCE$  represents the distance between community  $j$  and the international border with Afghanistan.

The second stage equation is given by (3) below, where  $\beta'_2$  now reflects the causal effect of  $CON$  on  $Y_{ij}$ .

$$Y_{ij} = \alpha + \beta'_1 X_{ij} + \beta'_2 \widehat{CON}_{ij} + \beta'_3 P_k + \varepsilon'_{ij} \quad \dots (3)$$

I now discuss the potential threats to the exclusion restriction for my IV (Nearest distance to the Afghanistan-Pakistan border) as well as the measures I take to mitigate any threats to causal identification.

### 3.3 IV Estimation: Justification

Over the 2001 - 2010 period in Pakistan (over which I measure conflict), as Table 1 showed, more than 92% of deaths due to conflict were in terrorism and counterterrorism operations involving militants - from and sympathetic to the regrouping Taliban from Afghanistan. The regrouping Taliban were stronger in areas closer to the border, and proximity to the border would come to imply a greater extent of Taliban operation and therefore greater retaliation

from the Pakistan Army over the 2000s. As such, proximity to the Afghanistan-Pakistan border is a strong correlate of violent conflict involving Islamist militant groups associated with the TTP between 2000 and 2010.<sup>8</sup> As this form of violence accounts for the overwhelming share of deaths in conflict during this period in Pakistan, the distance to Afghanistan is therefore also a strong statistical correlate of violent conflict in Pakistan as a whole. Further, the locally-driven forms of conflict in Pakistan over this period, including the Baloch insurgency, and sectarian attacks by groups such as the Sipah-e-Sahaba/Lashkar-e-Jhangvi, together account for less than 10% of deaths in conflict, and bear no (opposite) spatial association with the Afghanistan-Pakistan border.

### **3.4 Potential Threats to the Exclusion Restriction and Mitigation**

The community-level distance to the Afghan border can, in addition to predicting the onset and intensity of violence, also be correlated with several variables that directly determine programme access and coverage. Unaddressed, this can pose threats to the validity of the instrument and bias the estimate of the causal effect of violence on programme access. I identify a multitude of possible factors correlated with distance to the border with Afghanistan that also determine programme eligibility access, and control for potentially confounding factors that affect the supply, and demand for cash transfers. The assumption is that after controlling for the factors enlisted below, the distance to Afghanistan does not predict cash transfer receipts, except through its association with violent conflict.

#### **3.4.1 Potential Supply-side confounders**

##### **3.4.1a Potential Accessibility Confounders**

**Remoteness:** Pakistan's border with Afghanistan forms the North-Western boundary of the country. Greater proximity to an international border also reflects a greater and considerable distance from the hinterland,<sup>9</sup> and in the case of a country as large as Pakistan this magnitude can be considerable. Areas close to the Afghan border are generally remote, and therefore harder for bureaucrats and aid workers to reach. The disbursement of aid is made from the central government to the provinces (province capitals), then from province capitals to district headquarters, and finally from district headquarters to villages/cities. In order to ensure that the distance to Afghanistan does not simply reflect communities' remoteness from centres of aid disbursement, I include, as controls, (a) province dummies to capture a wide range of unobservable and province-wide characteristics, including remoteness from the national capital and location vis-à-vis Afghanistan; (b) the shortest distance to the provincial capital, and finally (c) the shortest distance to the district headquarters.

**Geography:** In addition to remoteness, the terrain and topography, arguably associated with distance to Afghanistan, also affects the ease with which aid administrators can reach communities. I include community level controls for topography. While about 85% of all

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<sup>8</sup> So too with the community-level share of the Pashtun population, a correlate of likely Taliban presence, operation and confrontation in Pakistan over 2001-10, and hence also used as an additional IV for robustness.

<sup>9</sup> Speaking directly to Ahmed's exposition on the tensions between the core and the periphery in modern Islamic countries, including Pakistan (Ahmed, 2013)

communities in the sample are inland plains alone, I control for each the following types of topography through dummy variables: inland plains, coastal plains, plateaus, hills, valleys, mountainous areas, deserts and “other” topography.

**Army Proximity:** In Pakistan, the role of the armed forces can be critical for many governance activities, including aid disbursement. This may be because of two reasons. First, having been directly under military rule for a large part of its history, the Pakistani armed forces are deeply entrenched in several spheres of public life, and areas closer to their bases may be better served by public goods and services (Siddiq, 2007). Secondly, and pertaining more to the case of the CDCP transfers, in the aftermath of massive flooding there were several logistical challenges in reaching flood-hit communities which were overcome only with the Army’s technological and human resources. However, this potentially enabling role that the armed forces can play in ensuring access to aid can be less effective in areas further away from the bases of the armed forces, particularly the Army. In order to ensure that the IV is not confounded with the ease of access by the Pakistan Army, I calculate and control for the distance between the community and the nearest armed forces’ cantonment.

### 3.4.1b Potential Institutional Confounders

**Infrastructure:** Areas closer to the Afghan border such as the FATA have low levels of public infrastructure at the community level. Although poor community-level infrastructure is found across several parts of Pakistan, beyond the North-West, including Balochistan, inner Sindh and parts of southern Punjab, it is imperative that the measure of proximity to Afghanistan does not proxy a lack of infrastructure. Infrastructure, such as road connectivity, transport access, the presence and functioning of markets, and connection to telephone and electricity lines is directly required for the rollout of the two cash transfer programmes under consideration. I therefore control for community-level infrastructure by developing a count variable-based additive index of various types of physical infrastructure facilities, as suggested by Case et al. (2004). These include dummy variables for whether or not the community has a bus/wagon stop, railway station, shop, wholesale market, bank, flour mill, tractor rental centre, fertiliser depot, motor-able approach road, and electricity, gas and drainage connectivity.

**State Presence:** Areas with lower state presence, in terms of state-run institutions and public services are less able to rollout state aid programmes. This may be because of the lack/weaknesses of existing administrative economies of scale that create a need to establish new systems, rather than piggy-back on existing ones. In such areas there is additional need for local bureaucrats and administrators to familiarise populations with bureaucratic procedures, provide necessary documents / paperwork, develop effective ways to relay messages and roll out aid, and gain community trust. In areas that have a low interface with state-run bodies, these challenges can be onerous and can reduce the reach of state aid programmes, as well as reduce local citizens’ demand for state services. I therefore measure and control for state presence using an additive index of government bodies at the community level. Specifically, this includes government schools, health facilities, state-run

immunisation camps, presence of community health workers, post offices and Union Council, Tehsil and District-level administrative headquarters.

**Ethno-linguistic Fractionalisation:** Greater linguistic fractionalisation within communities, reflecting deeper cleavages between groups can make access to aid more difficult (Alesina et al., 1999). This may be because deeper social cleavages involve higher transactions costs for communication between groups, and entail a reduced ability to impose penalties for a failure to cooperate (Fearon and Laitin, 1996; Miguel and Gugerty, 2005). This may also prevent effective local coordination for pressuring/ lobbying government agencies to deliver aid. In a situation of conflict (which may itself be more likely to arise in more deeply divided communities), such between-group differences may result in lower local coordination and a lower demand for/ pressure to ensure access to aid. Based on data on the language in which the survey interview was conducted, and given that the survey fieldwork teams were proficient in the use of Pakistan's major languages (including Urdu, Sindhi, Punjabi, Balochi, Pushto, Brahvi, Saraiki, Hindko and a few other languages<sup>10</sup>) to conduct interviews, the language of interview can be a good proxy of the respondent household's linguistic identity. I use this information to calculate an index of Linguistic Fractionalisation at the community (Primary Sampling Unit – PSU) level, according to the formula<sup>11</sup> developed by Alesina et al. (2003) to ensure that, if associated with the distance to Afghanistan, linguistic fractionalisation does not drive the IV results<sup>12</sup>.

### 3.4.2 Cash Transfer Demand Confounders

In order to ensure that the instrumental variable does not pick up the effect of factors (which may be associated with the distance to the Afghanistan-Pakistan border) that increase households' eligibility for and access to cash transfers I also control for key factors that determine either eligibility for the programmes (flood exposure index for CDCP and correlates of chronic poverty for the BISP – including land ownership, wealth, sex of household head), as well as factors that enable households to demand and access cash transfers in Pakistan (number of adult males in the household, adult education, household size).

## 4. Results

### 4.1 Descriptive Statistics

Table 2 below shows the coverage of both cash transfer programmes for the full sample as well as for no-conflict areas and all conflict-affected areas. While 61.34% of the sample

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<sup>10</sup> Which ensures that the language of the interview was not constrained/ affected by the survey teams' knowledge of languages

<sup>11</sup> This is defined as "One minus the Herfindahl Index of Ethnolinguistic group shares", and indicates the "probability that two randomly selected individuals from a population belonged to different groups" (Alesina et al., 2003)

<sup>12</sup> Ethnicity, though often correlated with linguistic identity in Pakistan is not explicitly available for the respondent households

received the CDCP – Phase I transfer, 15.44% received the BISP. The coverage of both programmes is lower in conflict-affected areas as a whole, compared to peaceful areas.

Table 2. Coverage of CDCP – I and BISP: Full sample and sub-groups based on Conflict Exposure

	CDCP – Phase I			BISP	
	Total No. of HHs	No. of HHs Receiving CDCP – I transfers	Share of HHs Receiving CDCP – I transfers (%)	No. of HHs Receiving BISP transfers	Share of HHs Receiving BISP transfers (%)
No conflict	4736	2963	62.56	869	18.35
All conflict-affected areas	3,066	1,823	59.46	336	10.96
Total	7,802	4786	61.34	1,205	15.44

The difference in coverage rates (share of households receiving the transfer) of the CDCP – I between no-conflict and conflict-affected areas is of 2.75 percentage points, while that for the BISP is 8.87 percentage points. Simple t-tests shows that these differences are significant at  $p < 0.001$ , indicating that the coverage of both programmes is significantly lower in conflict-affected, viz. peaceful areas.

#### 4.2 IV First Stage Results

Table 3 below show the IV first-stage results for the instrumentation of conflict (log [1+n] deaths due to conflict over 2001-2010) with the distance to the Afghan border.

Table 3. Conflict and the Nearest Distance to the Afghan Border: IV First-Stage Results

	(1) <sup>^</sup>	(2) <sup>^</sup>	(3) <sup>^</sup>
Distance to Afghanistan-Pakistan Border	-0.877*** (-63.01)	-0.341*** (-14.56)	-0.269*** (-12.11)
N	7802	7802	7767
Province dummies	No	Yes	Yes
Controls	No	No	Yes
Partial F-statistic	160.93	29.71	14.58
Prob. > F	0.0000	0.0000	0.0002
Adjusted R-squared	0.3373	0.4731	0.5673

t statistics in parentheses

<sup>^</sup>Standard errors are clustered at the PSU (community) level

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Community-level controls: urban/ rural dummy, community-level flood exposure index, distance to province/ district capitals and army cantonments, indices of community-level infrastructure, state presence and linguistic fractionalisation, topography dummies.

Household level controls: household size, number of males, number of members aged 14 and above, female-headed household dummy, no of males and females with primary and secondary schooling, value of livestock owned (pre-flood), acres of farm land owned, dummies for land ownership categories and owning non-agricultural enterprises.

As we see in Table 3 above, as expected, conflict has a significant and strong negative association with the distance to the Afghan border. Further the values of the F-statistic are

sufficiently high to indicate the absence of a weak instrument as per Stock and Yogo (2005). This is robust to the inclusion of controls and province dummies.

### 5.3 Causal effects of Conflict on Access to Aid Programmes

Tables 3 and 4 below show the estimates of the marginal effects of the level of violence at the sub-district level (measured as the log of (1+n) killings due to political violence in the sub-district over the 2001-2010 period) on the likelihood of receiving CDCP Phase I and BISP transfers, respectively. I first present simple probit estimates, followed by the IV probit (second stage) estimates to address endogeneity concerns.

Table 4. Access to CDCP - I: Probit and IV Probit Estimates – Marginal Effects

	Probit			IV Probit		
	(1)	(2)	(3)	(4)	(5)	(6)
Log (n+1) killings at tehsil level	-0.019*** (-3.14)	-0.000 (-0.01)	0.007 (0.83)	-0.237*** (-7.75)	-0.455*** (-4.30)	-0.512*** (-3.60)
Province Dummies	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	No	Yes
N	7802	7802	7767	7802	7802	7767

Table 5. Access to BISP: Probit and IV Probit Estimates – Marginal Effects

	Probit			IV Probit		
	(1)	(2)	(3)	(4)	(5)	(6)
Log (n+1) killings at tehsil level	-0.011*** (-2.98)	0.003 (0.67)	0.001 (0.29)	-0.205*** (-7.36)	-0.261*** (-2.67)	-0.444*** (-3.54)
Province Dummies	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	No	Yes
N	7802	7802	7767	7802	7802	7767

Marginal effects; *t* statistics in parentheses

Standard errors are clustered at the PSU (community) level

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Community-level controls: urban/ rural dummy, community-level flood exposure index, distance to province/ district capitals and army cantonments, indices of community-level infrastructure, state presence and linguistic fractionalisation, topography dummies.

Household level controls: household size, number of males, number of members aged 14 and above, female-headed household dummy, no of males and females with primary and secondary schooling, value of livestock owned (pre-flood), acres of farm land owned, dummies for land ownership categories and owning non-agricultural enterprises.

The IV probit estimates in Tables 4 and 5 above clearly indicate a negative effect of conflict on the likelihood of receiving both, CDCP Phase I and BISP transfers<sup>13</sup>. The mean value of per tehsil deaths due to conflict in the sample is 30.96. The coefficient -0.512 in table 3 means, a 10% increase in the number of killings in the tehsil (from 30 to 33, for instance), would cause a  $[\ln(1.1) \times 0.512]$  4.9% reduction in the likelihood of receiving CDCP – Phase I transfers. Similarly, the IV coefficient of  $\log(1+n)$  killings in Table 4 of -0.444 means that an

<sup>13</sup> The simple probit estimates do not indicate any clear effect on the whole, due to potential endogeneity.

increase in the number of killings at the tehsil level by 10% would decrease the likelihood of receiving BISP transfers by  $[\ln(1.1)*0.444]$  4.2%.<sup>14</sup>

## 5. Mechanism: Taliban Presence

The presence, influence and control of armed groups is a potential channel through which conflict may limit the access to cash transfer programmes. This may be because state-run and state-branded<sup>15</sup> programmes may be a potent signal of the expanding reach of the government to arguably hitherto neglected areas that are likely to have welcomed the growing influence of armed non-state actors. Non-state armed actors who compete with the state for legitimacy of control over the local populations are resentful of, and therefore likely to block the coverage of state aid in areas of their control/influence.

This plausible channel is mentioned in several accounts by commentators, journalists and aid agencies that operate in conflict-affected areas (Gul, 2010; Jones and Fair, 2011; Gunaratna and Iqbal, 2010). Specifically, the abduction of and assaults on aid workers and local bureaucrats, as well as targeted attacks on aid missions and offices<sup>16</sup> reflect the real threats of implementing aid programmes in conflict-affected areas of Pakistan.

Measuring the influence of the control or relative strength and influence of armed groups is not very straightforward. This is because areas affected by violence, are often, but not always areas of rebel control (Kalyvas, 2006; Justino and Ibanez, 2014). Violence erupts where there is a live contestation; when either armed groups demonstrates a degree of temerity in attacking civilian areas, or when state forces intrude areas occupied by non-state armed groups to regain control. In several other areas where the non-state armed groups are in greater/complete control, state forces may be unwilling and unable to enter and therefore no instances of violence may be reported in these areas. While violence can be observed and reported in government and media open source outlets, there is no such available source for data on areas under effective control of armed groups.

### 5.1 Estimating Taliban Presence through its Effect on Girls' Schooling

As the direct observation of the areas of armed group control is almost impossible, I attempt to find a proxy measure for the degree of armed group influence in Pakistan. Several observers and aid agencies, as well as direct sources of the Tehrik-e-Taliban Pakistan have referred to the direct targeting of girls' schooling in areas of the TTP's presence (Constable 2011; Rashid 2008, 2009; Gul 2009). These groups reject the concept of modern (seen as

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<sup>14</sup> These findings do not seek to be a commentary on the effects of conflict on BISP as a whole because the sample is limited to flood-affected areas, whereas the BISP has wider and national intended reach. The results are included to indicate the extent to which access to regular social protection programmes such as BISP is affected by conflict, in a time of hardship precipitated by floods.

<sup>15</sup> Both programmes under consideration bear a strong image of the Pakistani state and political leadership in their name; the CDCP was locally known as *Watan*, meaning Nation; whereas the BISP is explicitly named after, and to honour Benazir Bhutto, the former Prime Minister and assassinated leader of the then-incumbent Pakistan People's Party

<sup>16</sup> Such as a targeted attack on the Turbat, Balochistan office of the BISP in August 2010. Dawn, 09 August 2010.

Western and un-Islamic) education, particularly girls' schooling and have specifically attacked girls school buildings to enforce their agenda. This manifests in the direct targeting of school buildings, particularly for girls' schools, as well as other forms of threat, pressure and moral policing they are able to impose which deters girls' school attendance and enrolment. The ICG (2013) reports that before the Swat military operation in 2009 when the valley was under the effective control of the Taliban, nearly 400 of the total 1600 schools had been attacked and that about 70 percent of the schools attacked were girls' schools. According to the Global Coalition to Protect Education from Attack (2014), militants carried out anywhere between 838 and 919 attacks on schools across Pakistan, between 2009 and 2012 alone.

I exploit this stylistic fact to identify the degree of control of non-state armed groups, mainly the TTP affiliates, by treating such control/influence as a latent (omitted) variable in the production function of girls' primary school enrolment. The guiding assumption for the following analysis is that after controlling for all plausible demand and supply-side factors that determine the rate of girls' enrolment in primary schooling at the community level,<sup>17</sup> the presence of Taliban-affiliate groups would decrease the enrolment rate.

Using data on girls' primary school enrolment and a range of household and community-level characteristics that reflect demand and supply-side determinants of girls' schooling, I estimate a model to determine girls' primary school attendance at the community level. After including a vast number of control variables, I argue that the residuals from such an extensive estimation consist essentially of (a) the influence of TTP and affiliate groups, which is an important omitted variable that determines girls' schooling, and (b) the (usual) stochastic error term. This is laid out formally below:

$$F\_ENROL_c = \alpha + \gamma_1 XD_c + \gamma_2 XS_c + \gamma_3 ANSA_c + e_c \quad \dots (4)$$

Where

F\_ENROL is the rate of female primary enrolment in community C

XD is the matrix of demand side factors that determine female primary enrolment at the community level including adult male and female education, average household income/wealth indicators, community infrastructure, community ethnicity characteristics, community-level linguistic fractionalisation, displacement status of community (due to flood)

XS is the matrix of supply-side determinants of female enrolment including the presence of primary girls' schools in the community, access to electricity, community-level state presence

ANSA is the extent of the control of Armed Non-State Actors (more specifically the TTP groups). This is not observed in the data.

e is the random error term

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<sup>17</sup> Including adult female educational attainment that controls for attitudinal drivers of the gender bias in primary schooling



As ANSA is not observed, an econometric estimation of F\_ENROL will essentially determine:

$$F\_ENROL_c = \alpha + \gamma_1 XD_c + \gamma_2 XS_c + u_c \quad \dots (5)$$

Where  $u$  is the error term that contains the omitted ANSA variable

$$u_c = \gamma_3 ANSA_c + e_c \quad \dots (6)$$

If XD and XS sufficiently control for the main determinants of female primary enrolment, the residual  $u_c$  in Equation (5) above therefore will follow the same distribution as/will reflect the (omitted) ANSA variable (as the true error,  $e_c$  is randomly distributed).

Girls' schooling in Pakistan faces several hurdles and much resistance, in no small part from conservative social attitudes against girls' schooling and mobility. Such unobservable factors could well be important determinants of girls schooling. In order to control for this, I specifically include community-level measures of adult female educational attainment to capture the effect of attitudes/biases against girls' schooling and to ensure that the residual term is not conflated with attitudinal resistance to girls schooling, and is therefore a closer approximate of the presence of the TTP groups. The attempt in using this method is to estimate equation 5 as a type of decomposition exercise to isolate the residual  $u_c$ . This approach is inspired by macroeconomic analyses of Total Factor Productivity growth through the 'Solow residual' (Solow: 1956, 1957).

I use the residuals from Equation 5 above ( $u_c$ ) to proxy the presence of the TTP<sup>18</sup> (results of the full estimation are presented in Appendix 3.4). As per the assumptions of the effect of armed non state actors' control on girls' primary enrolment,  $\gamma_3$  should be negative, exerting, therefore an overall negative effect on  $u_c$ . In order to test for any effect of the presence of armed groups, I divide the sample into two sub-samples marked by:

$u_c > 0$ , areas with less likely presence of Taliban-affiliate groups

$u_c < 0$ , areas where armed non state groups are more likely to be present.

I test if the effects of conflict are driven by/are stronger in sub-sample (ii) viz. sub-sample (i). In case the armed non state groups are not in fact an omitted variable in the estimation of female primary enrolment rates, the residual  $u_c$  should be a pure, unbiased error term. In such a case the value of the coefficient of IV estimate of conflict on access to aid should not be substantially different between the two sub-samples (as the division of the sample along the 0 value of a random error term is essentially, random). However, in case there is an omitted variable (i.e armed groups control is an omitted determinant of female primary enrolment), and the presence of armed groups does indeed explain at least part of the effect of conflict on access to aid, the coefficient values between the two sub-samples should vary substantially.

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<sup>18</sup> Henceforth TTP presence is used to refer to presence of the TTP as well as its affiliates

Table 6. CDCP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV estimates) based on Primary Female Enrolment Residuals

	Full Sample	Residuals of Female Primary Enrolment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.512*** (-3.60)	-0.064 (-0.27)	-0.760*** (-6.03)
N	7767	3313	3552

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Community and Household level controls same as in tables 4 and 5

Table 6 above clearly shows that the negative effect of conflict on the receipt of CDCP is driven by the sub-sample that is more likely to contain communities where Taliban-affiliate groups are present. In this sub-sample, the coefficient of conflict is statistically significant and larger in magnitude than for the full sample. While the IV estimate of conflict is still negative in the sub-sample with lower likelihood of the presence of the TTP, it is of smaller magnitude and is not statistically significant. Such a sharp divergence in coefficient values and significance between the two sub-samples provides some support for the hypothesis that TTP presence limits access to aid. While overall a 10% increase in the number of killings at the sub-district level reduced the likelihood of a household receiving CDCP – I transfers by 4.9%. According to table 6, this effect is as strong as 7.2% in areas with the more likely presence of the Taliban, and only 0.01% in areas with less likely Taliban presence. I now examine similar effects for the BISP.

Table 7. BISP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV Estimates) based on Primary Female Enrolment Residuals

	Full Sample	Residuals of Female Primary Enrolment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.444*** (-3.54)	-0.398*** (-2.72)	-0.628*** (-3.07)
N	7767	3313	3552

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Community and Household level controls same as in tables 4 and 5

In Table 7 above the magnitude of the effect of conflict is stronger in the sub-sample with the more likely presence of the TTP. In the division of sub-samples based on the residuals of the female primary enrolment estimation, in the areas with less likely TTP control, conflict also has a negative and significant effect of the likelihood of receiving BISP. Yet, this magnitude is smaller than in the sub-sample with more likely TTP control. For the full sample, a 10% increase in the number of killings at the sub-district level reduced the likelihood of household BISP receipt by 4.2%. According to Table 7, this effect is 6% in areas with the more likely presence of the Taliban, and 3.8% in areas with less likely Taliban presence,

indicating that the presence of the TTP is at least a partial explanation for how conflict reduces access to BISP.

## 6. Robustness Checks

I test whether the results are robust to alternate specifications of the endogenous independent variable. Specifically I consider (i) a dummy variable for a conflict-affected tehsil, (ii) a weighted measure of killings due to conflict with killings in more recent years receiving a higher weight than those in more distant years, and (iii) varying number of (past) years over which conflict exposure is measured, ranging from 2001-10 to 2009-10. I find that the results are robust to these alternate specifications and report the findings in Appendices 1 – 3 respectively.

I also consider two alternate Instrumental Variables for exposure to conflict: (i) Distance to the nearest official border crossing on the Afghanistan-Pakistan border,<sup>19</sup> and (ii) the community-level share of the Pashto speaking population – a marker of Pashtun identity and a factor that facilitated the entry, regrouping and eventual armed activity of the Taliban from Afghanistan in to Pakistan.<sup>20</sup> I find that the main results are robust to these alternate IVs and report results in Appendices 4 and 5.

Table 1 showed that the overwhelmingly large part of political violence in Pakistan over the 2000s was in fact due to terror and counter-terror operations that in large part involved the TTP. However the presence of other (i.e non-TTP) non-state armed groups, in particular insurgents is significant in Balochistan. Their presence is not captured in the analysis above (Tables 6 and 7) as they do not share the TTP's doctrinaire opposition to girls schooling.<sup>21</sup> The analysis therefore specifically examines the presence/ control of the TTP and affiliates as a mechanism for the effect of conflict. In order to ensure that the results above are not contaminated by areas where violence is primarily motivated by the Baloch insurgency, I present estimates from the analysis done after excluding the Balochistan province in Appendix 6.<sup>22</sup> The results presented are robust to the exclusion of Balochistan from the sample.

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<sup>19</sup> See Appendix 4 for a discussion on why the nearest distance to the Afghanistan-Pakistan border is likely to be a more accurate and stronger correlate of conflict than the distance to the nearest official border crossing (and therefore a better IV)

<sup>20</sup> See Appendix 5 for a discussion on the justification of the share of Pashtun population as an IV

<sup>21</sup> Baloch society in general is marked by the presence and persistence of strong structural and attitudinal barriers to girls' schooling and empowerment; opposing girls' schooling as a tactics of asserting control in the TTP fashion, however, is not on the Baloch insurgents' agenda

<sup>22</sup> I would ideally have liked to exclude only the instances of insurgent violence in Balochistan (and retaining TTP-linked violence, which is present in much of northern Balochistan), but owing to difficulties in identifying the motive in several acts of violence based on the SATP conflict events timeline, I examine the effects of armed group presence by excluding Balochistan altogether.

I also examine whether conflict (with and without Taliban presence) affects only state-funded social protection, or also private charitable and other transfers. I examine the effects of conflict on the likelihood of households receiving (i) any assistance from the Rural Support Project – a national-level NGO, and (ii) any assistance in the form of Zakat, or from private religious or other charities. While the general levels of receipt of these two forms of assistance is lower than that of the state transfers, I find that conflict has no effect on their coverage at the household-level (Appendix 7). This further strengthens the insight that the negative effect of conflict on state-aid programmes may have much to do with the political tussle between the government and Taliban-affiliate groups, and with cash transfers being a political tool, more than a development intervention alone.

In repeat the analysis presented in tables 6 and 7 using residuals from the community-level estimation of the gender gap in primary school enrolment (as Taliban presence has a pronounced effect on girls' schooling in particular), and find that the results are similar to those based on deriving residuals from the community-level estimation of girls' primary enrolment rates (Appendix 9).

Finally, I examine the effects of conflict on the receipt of cash transfers at the community level. I find that conflict increases the likelihood of the complete absence of the programme in the community, as well as lower average within-community coverage rates, for both cash transfer programmes, therefore reducing cash transfer coverage at both extensive and intensive margins. Results are presented in Appendix 10.

## 7. Conclusions

This article has shown that conflict reduces household access to the CDCP – I and BISP programmes in Pakistan. This is visible at the level of household access, as well as the more aggregate community level. The results are strongly significant and are robust to the choice of the measure of conflict (discrete v/s continuous), and to the use of alternate IVs.

While the Pakistani state seeks to concentrate social protection efforts in conflict-affected areas, the actual access to aid is shown to be reduced by exposure to conflict. This suggests, therefore, that while the intention of the state may be to reach out to people in conflict-affected areas, the ability of state programmes to reach populations, or for local populations to demand and access state aid, may fall short. I provide evidence for the effective control of TTP-linked armed groups being a plausible mechanism that explains why conflict reduces access to the two cash-transfer programmes.

The results indicate the salience of aid programmes in the contest for popular support between the state and armed groups, the effective capabilities of armed groups to prevent the distribution of aid, the greater (perceived) threat of households accessing state aid in the presence of non-state armed groups, and the absence of a means that allows the state to buy-off rebels to permit aid disbursement. For these reasons, such programmes are resented and resisted by armed groups, and become a bone of contention between the state and armed

groups. As a result of this tussle, households in conflict-affected areas have, after controlling for other factors, lower access to aid programmes because of violent conflict. In some cases, this manifests as the complete absence of programmes from villages/ cities, indicating a sort of isolation of such communities from the redistributive role of the state. In other instances, it results in lower rates of coverage within communities.

The present analysis has not been able to engage with whether conflict reduces access to aid through demand or supply channels. While security concerns may be operating on recipient households and on aid workers/ bureaucrats, it is not clear which side is more directly/ heavily constrained by conflict. Further exploration could potentially help identify ways in which delivery mechanisms can be altered to reduce the security threat in providing/ receiving aid; for instance through the use of Information Technology. This is an important topic for future research, in Pakistan and beyond.

This article also calls for a closer and more critical examination of the potential of aid programmes in conflict. Any calculations that aid can achieve peace and prosperity in conflict-affected settings must be informed by an assessment of rebel actors' incentives and abilities to scuttle programme rollout. More broadly, any political, or human development aims of aid programmes, ranging from marginal income support to nation-building, therefore continue to necessitate structural solutions. In an excellent review of Pakistan's counterterrorism efforts, Yusuf (2014) identifies the key challenges of overcoming terrorist conflict in Pakistan to include the persistence of outdated laws, policies and jurisdictions, the absence of a coordinating counterterrorism body that can effectively integrate disparate actions, insufficient improvements in the capacity of the local police and the state to track and freeze militant funding, the continuing civil-military imbalance in Pakistan's politics, and the insufficient public support and pressure for counterterrorism. Combating conflict, or seeking to promote human development in areas affected by conflict cannot skirt these pertinent aspects of governance.

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Appendix 1. IV Estimates of effect of Conflict on Access to Aid: Nearest distance to Afghanistan-Pakistan border as IV for conflict [dummy for conflict-affected tehsil]

Table A1.1 Conflict-affected sub-district dummy instrumented by nearest distance to Afghanistan-Pakistan border: IV First-Stage Results

	(1)	(2)	(3)
Nearest distance to Afghanistan-Pakistan border	-0.219** (-54.27)	-0.101** (-14.41)	-0.053*** (-7.53)
Province dummies	no	yes	yes
Controls	no	no	yes
N	7802	7802	7767
Partial F-statistic	315.38	20.12	4.87
Prob. > F	0.0000	0.0000	0.0278
Adjusted R-squared	0.2740	0.3112	0.4355

^Standard errors clustered at community level

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table A1.2 Access to Cash Transfers: IV Probit Estimates – Marginal Effects

	CDCP - I	BISP
Conflict-affected tehsil (dummy)	-1.952*** (-3.72)	-1.916*** (-3.53)
Controls	Y	Y
Province Dummies	Y	Y
N	7767	7767

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table A1.3 CDCP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV Estimates)

	Full Sample	Residuals of Female Primary Enrollment Estimation		Residuals of Primary Enrollment Gender Gap Estimation	
		Taliban likely not present	Taliban likely present	Taliban likely not present	Taliban likely present
Conflict-affected tehsil (dummy)	-1.952*** (-3.72)	-0.215 (-0.25)	-2.371*** (-5.56)	-0.953 (-1.18)	-0.828 (-0.49)
N	7767	3313	3552	3576	3289

Marginal effects; t statistics in parentheses

(d) for discrete change of dummy variable from 0 to 1

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table A1.4 BISP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV Estimates)

	Full Sample	Residuals of Female Primary Enrollment Estimation		Residuals of Primary Enrollment Gender Gap Estimation	
		Taliban likely not present	Taliban likely present	Taliban likely not present	Taliban likely present
Conflict-affected tehsil (dummy)	-1.916** (-3.53)	-1.383** (-2.60)	-2.172** (-2.99)	-1.224** (-2.12)	-2.443** (-3.76)
<i>N</i>	7767	3313	3552	3576	3289

Marginal effects; *t* statistics in parentheses

(d) for discrete change of dummy variable from 0 to 1

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A3.3.5 IV probit estimates of the total absence of CDCP – I and BISP in the community

	CDCP - I	BISP
Conflict-affected Tehsil (dummy)	0.944 (1.54)	2.457*** (7.38)
<i>N</i>	497	497

Marginal effects; *t* statistics in parentheses

(d) for discrete change of dummy variable from 0 to 1

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A3.3.6 IV Tobit estimates of the community-level rates of coverage: CDCP – I and BISP

	CDCP - I	BISP
Conflict-affected Tehsil (dummy)	-1.272 (-1.55)	-0.847* (-1.75)
<i>N</i>	497	497

Marginal effects; *t* statistics in parentheses

Dependent variable censored between 0 and 1

(d) for discrete change of dummy variable from 0 to 1

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## Appendix 2. IV Estimates of effect of Conflict on Access to Cash Transfers: Conflict Measured as sum of (recency-) Weighted number of people killed, 2001 – 2010

Table A2.1 Weights accorded as shown below

Year	Weight
2010	1
2009	0.9
2008	0.8
2007	0.7
2006	0.6
2005	0.5
2004	0.4
2003	0.3
2002	0.2
2001	0.1

Table A2.2 IV First-Stage Results

	(1)	(2)	(3)
Nearest distance to Afghanistan-Pakistan border	-0.778*** (-56.60)	-0.285*** (-12.85)	-0.214*** (-9.41)
Province dummies	no	yes	yes
Controls	no	no	yes
N	7802	7802	7767
Partial F-statistic	124.95	22.19	9.13
Prob. > F	0.0000	0.0000	0.0026
Adjusted R-squared	0.2910	0.4139	0.5005

^Standard errors clustered at community level

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

w = year weight as defined in Table A2.1

Table A2.3 Access to Cash Transfers: IV Probit Estimates – Marginal Effects

	CDCP - I	BISP
Log (1 + w*n) killings in tehsil	-0.581*** (-3.96)	-0.514*** (-3.69)
Controls	Y	Y
Province Dummies	Y	Y
N	7767	7767

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

w = year weight as defined in Table A2.1

Table A2.4 CDCP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV Estimates)

	Full Sample	Residuals of Female Primary Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1 + w*n) killings in tehsil	-0.581*** (-3.96)	-0.081 (-0.27)	-0.819*** (-8.30)
N	7767	3313	3552

Marginal effects; *t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

w = year weight as defined in Table A2.1

Table A2.5 BISP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV Estimates)

	Full Sample	Residuals of Female Primary Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1 + w*n) killings in tehsil	-0.514*** (-3.69)	-0.471*** (-2.75)	-0.755*** (-3.89)
N	7767	3313	3552

Marginal effects; *t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

w = year weight as defined in Table A2.1

Table A2.6 IV probit estimates of the total absence of CDCP – I and BISP in the community

	CDCP - I	BISP
Log (1 + w*n) killings in tehsil	0.238* (1.87)	0.673*** (4.81)
N	497	497

Marginal effects; *t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

w = year weight as defined in Table A2.1

Table A2.7 IV Tobit estimates of the community-level rates of coverage: CDCP – I and BISP

	CDCP - I	BISP
Log (1 + w*n) killings in tehsil	-0.321* (-1.96)	-0.201** (-2.08)
N	497	497

Marginal effects; *t* statistics in parentheses

Dependent variable censored between 0 and 1

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

w = year weight as defined in Table A2.1

### Appendix 3. IV Estimates of effect of Conflict on Receipt of Cash Transfers: Killings due to Conflict Measured over Varying Number of Years before 2010

Table A3.1 Access to CDCP - I: IV Probit Estimates – Marginal Effects: By Varying durations of Conflict Exposure

	Duration of Conflict Exposure Measured (at the tehsil level)								
	2009 - 2010	2008 - 2010	2007 - 2010	2006 - 2010	2005 - 2010	2004 - 2010	2003 - 2010	2002 - 2010	2001 - 2010
Log (n+1) killings at tehsil level	0.069	-0.614***	-0.525***	-0.540***	-0.540***	-0.540***	-0.540***	-0.512***	-0.512***
	(0.37)	(-4.90)	(-3.73)	(-3.85)	(-3.85)	(-3.85)	(-3.85)	(-3.60)	(-3.60)
Province Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	7767	7767	7767	7767	7767	7767	7767	7767	7767

Marginal effects; *t* statistics in parentheses

Standard errors are clustered at the PSU (community) level

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Community-level controls: urban/rural dummy, community-level flood exposure index, distance to province/district capitals and army cantonments, indices of community-level infrastructure, state presence and linguistic fractionalisation, topography dummies.

Household level controls: household size, number of males, number of members aged 14 and above, female-headed household dummy, no of males and females with primary and secondary schooling, value of livestock owned (pre-flood), acres of farm land owned, dummies for land ownership categories and owning non-agricultural enterprises.

Table A3.2 Access to BISP: IV Probit Estimates – Marginal Effects: By Varying durations of Conflict Exposure

	Duration of Conflict Exposure Measured (at the tehsil level)								
	2009 - 2010	2008 - 2010	2007 - 2010	2006 - 2010	2005 - 2010	2004 - 2010	2003 - 2010	2002 - 2010	2001 - 2010
Log (n+1) killings at tehsil level	0.101	-0.549**	-0.455**	-0.478**	-0.478**	-0.478**	-0.478**	-0.444**	-0.444**
	(0.61)	(-4.11)	(-3.58)	(-3.63)	(-3.63)	(-3.63)	(-3.63)	(-3.54)	(-3.54)
Province Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	7767	7767	7767	7767	7767	7767	7767	7767	7767

Marginal effects; *t* statistics in parentheses

Standard errors are clustered at the PSU (community) level

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Community-level controls: urban/rural dummy, community-level flood exposure index, distance to province/district capitals and army cantonments, indices of community-level infrastructure, state presence and linguistic fractionalisation, topography dummies.

Household level controls: household size, number of males, number of members aged 14 and above, female-headed household dummy, no of males and females with primary and secondary schooling, value of livestock owned (pre-flood), acres of farm land owned, dummies for land ownership categories and owning non-agricultural enterprises.

#### Appendix 4. IV Estimates of effect of Conflict on Access to Cash Transfers: Distance from nearest official border crossing as IV for conflict [log (1+n) killings at sub-district level]

**Caveat:** The effective ability of the Pakistani state and Army to patrol and control the Durand Line has been very limited. This is largely because the Pakistan Army, traditionally focused on training to fight India on the Eastern front has been ill-equipped to fight in the mountainous terrain along the Afghan border – as they realised very soon after the Frontier Corps’ first military campaign against the Pakistani Taliban in South Waziristan in 2004 which resulted in huge losses for the army (Rashid, 2012). The greater relative political insulation of the FATA region from the Pakistani state, marked by the existence of the Frontier Crimes Regulation which gives greater political autonomy to customary leadership structures in these tribal areas rather than modern representative democratic institutions further limits the ability of the state to police and regulate the entry of militants from across the frontier. This is also echoed in the repeated failed attempts by Pakistan, often under American pressure, to fence and mine the border. In 2005 President (General) Musharraf announced a plan to fence and mine the 2400 KM-long border; after repeated attempts to pursue this project, only 35 KM were temporarily fenced and as late as 2011 even this project was abandoned. According to Major General Athar Abbas, the then spokesperson of the Pakistan Army:

“We did fence around 35km of the border area as it faced continuous militant incursions. It was a joint project of ISAF and Afghanistan. But then they backed out. It was a very costly project.”<sup>23</sup>

This suggests that militants’ movements were not restricted to official border crossings but took place at potentially several (unofficial) crossings across the length of the Afghanistan-Pakistan border.

Table A4.1 Conflict instrumented by Distance to the nearest official border crossing on Afghan-Pakistan Border: IV First-Stage Results

	Households as unit <sup>^</sup>		
	(4)	(5)	(6)
Distance to nearest official border crossing on Af-Pak border	-0.671***	-0.272***	-0.191***
	(-63.85)	(-14.28)	(-9.97)
Province dummies	no	yes	yes
Controls	no	no	yes
N	7802	7802	7767
Partial F-statistic	184.27	25.59	9.56
Prob. > F	0.0000	0.0000	0.0021
Adjusted R-squared	0.3432	0.4708	0.5647

<sup>^</sup>Standard errors clustered at community level

<sup>23</sup> “Plan to fence, mine Afghan border”. *The Nation*. June 23, 2011. Archived from [the original](http://www.webcitation.org/6RKtZQLwm) on July 25, 2014. Retrieved from <http://www.webcitation.org/6RKtZQLwm> on February 17, 2015.



Table A4.1 Access to Cash Transfer Programmes: IV Probit Estimates – Marginal Effects

	CDCP - I	BISP
Log (1+n) killings	-0.530*** (-3.12)	-0.562*** (-4.28)
Controls	Y	Y
Province Dummies	Y	Y
N	7767	7767

Marginal effects; t statistics in parentheses

\* p &lt; 0.10, \*\* p &lt; 0.05, \*\*\* p &lt; 0.01

Table A4.2 CDCP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV Estimates) – Marginal Effects

	Full Sample	Residuals of Female Primary Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.530*** (-3.12)	-0.064 (-0.30)	-0.175 (-0.06)
N	7767	3313	3552

Marginal effects; t statistics in parentheses

\* p &lt; 0.10, \*\* p &lt; 0.05, \*\*\* p &lt; 0.01

Table A4.3 BISP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV Estimates) – Marginal Effects

	Full Sample	Residuals of Female Primary Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.562*** (-4.28)	-0.421*** (-3.02)	-0.790*** (-4.79)
N	7767	3313	3552

Marginal effects; t statistics in parentheses

\* p &lt; 0.10, \*\* p &lt; 0.05, \*\*\* p &lt; 0.01

Table A4.4 IV probit estimates of the total absence of CDCP – I and BISP in the community– Marginal Effects

	CDCP - I	BISP
Log (1+n) killings	0.210* (1.92)	0.702*** (5.93)
N	497	497

Marginal effects; t statistics in parentheses

\* p &lt; 0.10, \*\* p &lt; 0.05, \*\*\* p &lt; 0.01

Table A4.5 IV Tobit estimates of the community-level rates of coverage: CDCP – I and BISP – Marginal Effects

	CDCP - I	BISP
Log (1+n) killings	-0.287** (-2.04)	-0.213** (-2.30)
<i>N</i>	497	497

Marginal effects; *t* statistics in parentheses

Dependent variable censored between 0 and 1

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## Appendix 5. IV Estimates of effect of Conflict on Access to Aid: Proportion of Pushto speakers at community level as IV for conflict [log (1+n) killings at sub-district level]

**Justification of Alternate IV and Discussion:** I assess the share of the Pashtun (ethno-linguistic) group at the community level as a factor that facilitated the entry of Taliban fighters, and subsequently their ability to regroup and engage in violent conflict (launching offensives as well as being at the receiving end of army operations).

The long standing ties between the Pashtun populations on either side of the Durand Line allowed the movement of militants across the border. The shared ethnicity, religious outlook, culture and language made infiltration less conspicuous, and fostered social ties and customs. Notable among these is the *Pashtunwali* customary code that emphasises hospitality to guests (the incoming Afghan Pashtuns after 2001, as well as the Taliban and al-Qaeda militants), community honour and collective revenge (Jones, 2002; Gunaratna and Iqbal, 2011). The links between the Pashtuns on either side were not only cultural, but were also fostered by more recent historical events; the *mujahideen* (fighters in Holy war) fighting against the Soviet occupation of Afghanistan (supported initially by the US) in the 1980s were recruited from the Pashtun areas across both Pakistan and Afghanistan, and had received arms, ammunition, funding and training to fight the soviet occupation jointly. This familiarity and commonality of purpose (opposing the US attacks on and occupation of Afghanistan, to begin with) cemented bonds across the Durand Line and eased access. Rashid (2008) describes the infiltration of militants into Pakistan after 2001 as a “return home”:

“The Taliban did not just slip back across the border in the winter of 2001/2002; they arrived in droves, by bus, taxi, and tractor, on camels and horses, and on foot. As many as ten thousand fighters holed up in Kandahar with their weapons. *For many, it was not an escape but a return home—back to the refugee camps in Balochistan where they had been brought up and where their families still lived; back to the madrassas where they had once studied; back to the hospitality of the mosques where they had once prayed* [emphasis added]. For those with no families to receive them, militants from Pakistani extremist groups and the [Jamiat Ulema-e-Islam (JUI)] in Pakistan—like benevolent charity workers—welcomed them at the border with blankets, fresh clothes, and envelopes full of money. [Pakistan’s Directorate for Inter-Services Intelligence, ISI] officials, standing with the Frontier Constabulary guards and customs officials [at the border] waved them in. [President Pervez] Musharraf was not about to discourage or arrest these Taliban fighters who had been nurtured for two decades by the military. For Pakistan they still represented the future of Afghanistan, and they had to be hidden away until their time came.”

Rashid (2008) p. 240.

This selective cultivation of Pashtun fighters on both sides of the Afghanistan-Pakistan border during the 1980s, and the shared experiences of recruitment and training for fighting made Pashtun communities in Pakistan more likely to host Taliban fighters after 2001. Subsequently, the regrouping of Taliban forces, as well as fresh recruitments among the

Pakistani Pashtun youth would increase the strength of TTP-affiliate groups, and as Pakistan's involvement in the US-led War on terror intensified, this brought the Taliban fighters and the (predominantly Pashtun) communities they were living in and controlling, in direct armed confrontation with the Pakistani Army and state. This provides a strong theoretical basis for considering the community-level presence of Pashtuns as a good statistical correlate of violence in Pakistan over the 2001-2010 period.

Table A5.1 Conflict instrumented by proportion of Pushto speakers: IV First-Stage Results

	(1)	(2)	(3)
Proportion of Pushto speakers	3.26*** (89.27)	2.29*** (38.56)	1.74*** (24.08)
Province dummies	no	yes	yes
Controls	no	no	yes
N	7802	7802	7767
Partial F-statistic	264.97	39.30	20.16
Prob. > F	0.0000	0.0000	0.0000
Adjusted R-squared	0.5053	0.5439	0.5899

^Standard errors clustered at community level

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table A5.2 Access to Aid: IV Probit Estimates – Marginal Effects

	CDCP - I	BISP
Log (1+n) killings	-0.222** (-2.26)	-0.170** (-2.10)
Controls	Y	Y
Province Dummies	Y	Y
N	7767	7767

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table A5.3 CDCP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV Estimates) – Marginal Effects

	Full Sample	Residuals of Female Primary Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.222** (-2.26)	-0.037 (-0.30)	-0.256* (-1.92)
N	7767	3313	3552

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table A5.4 BISP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV Estimates) – Marginal Effects

	Full Sample	Residuals of Female Primary Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.170** (-2.10)	-0.181* (-1.85)	-0.127 (-1.13)
N	7767	3313	3552

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table A5.5 IV probit estimates of the total absence of CDCP – I and BISP in the community – Marginal Effects

	CDCP - I	BISP
Log (1+n) killings	0.110*** (2.95)	0.250 (1.18)
N	497	497

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table A5.6 IV Tobit estimates of the community-level rates of coverage: CDCP – I and BISP – Marginal Effects

	CDCP - I	BISP
Log (1+n) killings	-0.091** (-2.25)	-0.054** (-1.98)
N	497	497

Marginal effects; t statistics in parentheses

Dependent variable censored between 0 and 1

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

## Appendix 6. IV Estimates of effect of Conflict on Access to Cash Transfers: Excluding Balochistan Province

Table A6.1 IV First-Stage Results

	(1)	(2)	(3)
Nearest Distance to Afghanistan-Pakistan border	-0.958*** (-64.98)	-0.433*** (-17.14)	-0.429*** (-16.28)
Province dummies	no	yes	yes
Controls	no	no	yes
N	6275	6275	6246
Partial F-statistic	177.85	34.33	25.28
Prob. > F	0.0000	0.0000	0.0000
Adjusted R-squared	0.4022	0.5015	0.5871

^Standard errors clustered at community level

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table A6.2 Access to Aid: IV Probit Estimates – Marginal Effects

	CDCP - I	BISP
Log (1+n) killings	0.110 (0.89)	-0.201** (-2.05)
Controls	Y	Y
Province Dummies	Y	Y
N	6246	6246

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table A6.3 CDCP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV Estimates) – Marginal Effects

	Full Sample	Residuals of Female Primary Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	0.110 (0.89)	0.322** (2.06)	-0.340 (-1.64)
N	6246	2741	2872

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table A6.4 BISP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV Estimates) – Marginal Effects

	Full Sample	Residuals of Female Primary Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.201** (-2.05)	-0.201 (-1.61)	-0.333* (-1.67)
N	6246	2741	2872

Marginal effects; t statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A6.5 IV probit estimates of the total absence of CDCP – I and BISP in the community – Marginal Effects

	CDCP - I	BISP
Log (1+n) killings	-0.015 (-0.054)	0.175 (0.551)
N	398	392

Marginal effects; t statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A6.6 IV Tobit estimates of the community-level rates of coverage: CDCP – I and BISP – Marginal Effects

	CDCP - I	BISP
Log (1+n) killings	0.029 (0.73)	-0.057* (-1.83)
N	398	398

Marginal effects; t statistics in parentheses

Dependent variable censored between 0 and 1

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

## Appendix 7. IV probit Estimates of effect of Conflict on Access to Non-State Transfers

Table A7.1 Access to Non-State Transfers: Probit Estimates – Marginal Effects

	Rural Support Programme (NGO)	Zakat, Religious Charities and Other Assistance	Any non-state Transfers (Columns 1 + 2)
Log (1+n) killings	0.005 (1.12)	-0.001 (-0.30)	0.004 (0.68)
Controls	Y	Y	Y
Province Dummies	Y	Y	Y
<i>N</i>	7767	7767	7767

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table A7.2 Access to Non-State Transfers: IV Probit Estimates – Marginal Effects

	Rural Support Programme (NGO)	Zakat, Religious Charities and Other Assistance	Any non-state Transfers (Columns 1 + 2)
Log (1+n) killings	-0.179 (-0.77)	-0.194 (-0.83)	-0.150 (-0.68)
Controls	Y	Y	Y
Province Dummies	Y	Y	Y
<i>N</i>	7767	7767	7767

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01



## Appendix 8. Estimation of Community-level Female Primary School Enrolment and Primary Schooling Gender Gap (M – F) rates

	Community-level rate of female primary enrollment		Community-level gender gap in primary enrollment (M – F)	
	Coeff.	<i>t</i>	Coeff.	<i>t</i>
Urban	-0.139	-1.50	0.025	0.26
Prop: Adult Females with Primary Education	0.426*	1.93	-0.028	-0.12
Prop: Adult Males with Primary Education	0.142	0.79	0.143	0.74
Prop: Adult Females with Secondary Education	0.093	0.38	-0.401	-1.54
Prop: Adult Males with Secondary Education	0.319*	1.92	0.262	1.46
Average Monthly Per-Capita Adult-equivalent expenditure	0.000***	2.69	-0.000	-1.14
Prop: Households Still Displaced by flood	0.076	0.31	0.203	0.78
Prop: Punjabi	0.176	1.16	0.155	0.95
Prop: Sindhi	-0.006	-0.04	0.270*	1.74
Prop: Pushtu	0.037	0.27	0.148	0.97
Prop: Balochi	0.000	.	0.000	.
Prop: Urdu	0.158	1.03	0.049	0.30
Prop: Brahvi	-0.272	-1.48	0.355*	1.79
Prop: Hindko	0.132	0.56	0.062	0.24
Prop: Saraiki	0.186	1.29	0.040	0.26
Prop: Other Languages	-0.130	-0.35	0.048	0.12
Prop. Households receiving remittances	0.083	0.70	0.152	1.19
Prop. Households with electricity	0.190***	3.98	-0.025	-0.48
Prop: Female-headed Households	0.184	1.24	-0.340**	-2.13
Average no. of rooms per household	0.032	1.02	-0.030	-0.89
Prop: Households owning non-agricultural enterprise	0.118	1.49	0.079	0.93
Prop: landless Households	-0.030	-0.53	0.004	0.06
Prop: Landlord households (letting it out)	-0.062	-0.36	0.115	0.63
Average share of household members > 15 who have attended school	0.471	1.57	-0.455	-1.42
Average adult sex ratio of the household	-0.057	-0.20	-0.244	-0.79
Punjab	0.000	.	0.000	.
Sindh	0.004	0.04	-0.200**	-2.10
Balochistan	-0.140*	-1.82	0.023	0.28
Khyber- Pakhtunkhwa	-0.067	-0.76	-0.076	-0.80
Distance to province capital	-0.038**	-2.05	0.000	0.02
Distance to district capital	0.038	0.93	-0.088**	-1.99
Index of presence of state institutions	0.018	1.46	0.010	0.69
Index of Community infrastructure	-0.005	-0.58	0.003	0.33
Index of linguistic fractionalisation	-0.039	-0.49	0.057	0.66
Former princely states dummy	0.103	1.54	-0.060	-0.84
Govt. girls primary school present in community	0.008	0.26	0.037	1.10
Govt. co-ed primary school present in community	0.037	1.17	0.006	0.17
Pvt. girls primary school present in	-0.000	-0.03	0.017	1.18

community				
Pvt. co-ed primary school present in community	0.011**	2.17	0.002	0.46
Govt. boys primary school present in community			-0.059	-1.60
Pvt. boys primary school present in community			-0.025	-1.46
Constant	-0.205	-0.81	0.388	1.44
<hr/>				
<i>N</i>	439		439	
<i>R</i> <sup>2</sup>	0.519		0.124	
adj. <i>R</i> <sup>2</sup>	0.475		0.039	
<i>F</i>	11.62		1.45	
Prob. <i>F</i> > 0	0.0000		0.0434	
<hr/>				
* <i>p</i> < 0.10, ** <i>p</i> < 0.05, *** <i>p</i> < 0.01				

## Appendix 9. Sub-samples based on residuals of the community-level gender gap in primary schooling

I now examine residuals from the estimation of the community-level gender gap in primary schooling (simply measured as the difference in the shares of primary school age boys and girls enrolled in school at the community level) to proxy the likelihood of non-state armed group control.

The underlying assumption is that after controlling for all plausible demand and supply-side factors that determine the gender-gap in primary schooling at the community level<sup>24</sup>, the presence of Taliban-affiliate groups would increase the gender gap. As in the case with female primary enrolment above, I divide the sample into two sub-samples: (i) areas less likely to have the control of armed groups, with the residual  $\leq 0$ <sup>25</sup>, and (ii) areas more likely to have armed non-state groups' control, with positive residuals,  $> 0$ .

Table A9.1 CDCP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV estimates) based on Primary Schooling Gender Gap Residuals

	Full Sample	Residuals of Primary Enrollment Gender Gap Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.512*** (-3.60)	-0.262 (-1.21)	-0.775*** (-4.13)
N	7767	3576	3289

Marginal effects; *t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table A9.2 BISP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV Estimates) based on Primary Schooling Gender Gap Residuals

	Full Sample	Residuals of Primary Enrollment Gender Gap Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.444*** (-3.54)	-0.353** (-2.46)	-0.758*** (-3.83)
N	7767	3576	3289

Marginal effects; *t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

<sup>24</sup> Including adult female educational attainment that controls for attitudinal drivers of the gender bias in primary schooling

<sup>25</sup> As Taliban control/ presence would, *ceteris paribus*, increase the gender gap, in this case *positive* residuals indicate the presence of such groups. In the case of female primary enrolment rates, the presence of armed non state groups *reduced* the value of the dependent variable.

Table A9.3 CDCP - I Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV estimates) based on Primary Schooling Gender Gap Residuals: Excluding Balochistan

	Full Sample	Residuals of Primary Enrollment Gender Gap Estimation	
		Taliban likely not present	Taliban likely not present
Log (1+n) killings	0.110 (0.89)	0.169 (0.99)	0.053 (0.17)
<i>N</i>	6246	2974	2639

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Table A9.4 BISP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV estimates) based on Primary Schooling Gender Gap Residuals: Excluding Balochistan

	Full Sample	Residuals of Primary Enrollment Gender Gap Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.201** (-2.05)	-0.063 (-0.52)	-0.481** (-2.29)
<i>N</i>	6246	2974	2639

Marginal effects; t statistics in parentheses

\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

## Appendix 10. Unpacking Under-coverage due to Conflict: The Extensive and Intensive Margins of Programme Access at the Community Level

I now examine the patterns in which conflict reduces households' access to the two state aid programmes. Specifically, conflict may result in two sources of under-coverage of programmes. First, entire communities affected by conflict may be excluded from programme rollout due to security-related, institutional or other factors. In a second possible modus, conflict may reduce the community-level rate of coverage of the programmes; i.e. *ceteris paribus*, a smaller proportion of the population in conflict-affected areas receives aid. This second effect may be because even after being able to enter/access a conflict-affected community, there may be factors related to both, security concerns and institutional quality that may limit aid workers from thoroughly reaching intended beneficiaries. Both of these (community isolation from, and limited reach of state aid) are important from the standpoint of delivering aid in a conflict-affected setting, and may require potentially very different approaches to overcome on the ground. In addition to conflict affecting the supply of aid programmes, it may also affect the demand. Some or all households in a community may, owing to security concerns, be unwilling, or unable to fulfil the necessary bureaucratic procedures or access local bureaucrats/offices. Both demand and supply side factors may therefore result in the complete isolation from, or the limited spread of aid programmes in violence-affected settings.

I examine whether conflict (a) increases the likelihood of the complete exclusion of communities from the coverage of programmes, and/or (b) results in lower average coverage rates, even conditional on the programmes being present in the community at all. Recall here that differences in coverage are not driven by differences in eligibility for programmes, as the variables that determine programme eligibility (flood exposure and chronic poverty) were included as regressors in all the IV estimates presented so far.<sup>26</sup>

I conduct this analysis at the community level, as both dependant variables, a community without any sample household receiving the programme (= 1, else 0), and the average rate of coverage across the community (continuous between 0 and 1) are community-level indicators. Table 11 below shows the IV probit estimates of the determinants of the complete absence of the two programmes from the community. In the case of CDCP – I, two additional regressors, community-level flood exposure index, and the share of households that were displaced by flooding (that affected eligibility) are included. I also include a dummy variable for communities in a district classified as a “Nation Building District” by the Planning Commission, Government of Pakistan (GoP, 2010). This refers to districts with lagging development indicators (Ibid. pp. 211), and are described as “breeding grounds of alienation and conflict.”<sup>27</sup> Further, the report calls upon the Government of Pakistan to prioritise these districts for aid receipts. It states, “[T]hese regions should be designated as

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<sup>26</sup> To ensure that such differences are not driven by differential eligibility between conflict and non-conflict areas, I regress a series of variables that proxy eligibility for CDCP – I and BISP on conflict (using a similar IV approach as above) and suitable control variables and the measure of conflict does not significantly affect any of the indicators of programme eligibility. These results are presented in Appendix 7.

<sup>27</sup> Ibid. pp. 145

Nation-Building Regions of Pakistan, which must receive priority support in social protection programmes and policies.”<sup>28</sup> Province dummies, the distance of the community from the province and district capital, dummies for topography and for areas being part of former princely states, the distance to the nearest armed forces cantonment, and indices of the presence of state institutions, community infrastructure and linguistic fractionalisation are also included as controls.

Table A11.1. IV probit estimates of the total absence of CDCP – I and BISP in the community (Marginal effects)

	CDCP - I	BISP
Log (1+n) killings - tehsil	0.188** (2.16)	0.613*** (3.88)
N	497	497

Marginal effects; *t* statistics in parentheses

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

We see in Table A11.1 above that violence increases the likelihood of complete exclusion of villages from the programme. The effects are stronger in case of the more targeted BISP, compared to the near-universal (excluding in the Khyber Pakhtunkhwa province) CDCP Phase I transfers.

Does conflict also reduce community-level access to cash transfers at the intensive margin, i.e. the rate of community-level cash transfer coverage? In order to examine this, I use an IV Tobit model in which I model the average coverage rate of a programme in a community (simply, the share of households in the community that receives the transfer) as a continuous variable censored between 0 (indicating complete absence of the programme), and 1 (full community-level coverage), as outlined in Long (1997). As the CDCP – I is designed to be near-universal, unlike the BISP, the right-censoring of the coverage rate variable is effectively relevant only for the CDCP.

Table A11.2. IV Tobit estimates of the community-level rates of coverage: CDCP – I and BISP

	CDCP - I	BISP
Log (1+n) killings - tehsil	-0.256** (-2.30)	-0.156** (-2.48)
N	497	497

Marginal effects; *t* statistics in parentheses

Dependent variable censored between 0 and 1

24 left-censored observations and 13 right-censored observations for CDCP – I

129 left-censored observations and 0 right-censored observations for BISP

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

As we see in Table A11.2 above, conflict also reduces the average coverage rates of CDCP – I and BISP at the community level. This is significant as it shows that conflict reduces programme access at both, the intensive and the extensive margins of community coverage. As mentioned earlier, these effects may operate through both demand and supply side factors affecting programme coverage.

<sup>28</sup> Ibid. pp. 145