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

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ABSTRACT: This paper examines how conflict affects households' access to aid programmes in the aftermath of the massive 2010 floods in Pakistan. I use the distance to Afghanistan as an instrument for Violence in Pakistan - exploiting the geographical variation in the exposure to Taliban strongholds and ensuing violence resulting from the infiltration of the Taliban from Afghanistan into Pakistan following the War on Terror, and control for a range of potential confounders – to overcome the endogeneity of conflict exposure and access to aid. I find that conflict reduces household access to two large government-run aid programmes – the Citizens Damage Compensation Programme (CDCP) and the Benazir Income Support Programme (BISP). I exploit the Taliban's avowed opposition to girls' schooling and their ability to reduce female primary enrolment in areas of their presence to identify areas likely to be under Taliban influence. I do so by examining residuals 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 rates – in order to isolate the effect of the influence of the Taliban – otherwise an omitted variable. Using such residuals to mark out areas with more/ less likely Taliban presence, I find that the presence of the Taliban and its affiliate groups drives the negative effect of conflict on aid access. The ability of the state to use cash transfers to provide economic support, regain legitimacy and establish writ is therefore subject to the extent to which the cash transfer programmes are not blocked by militant groups, cautioning policymakers on the limitations of aid in conflict-affected settings.

1. Introduction

Cash transfers are often seen as valid, and 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. This in turn is seen 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, Shapiro and Felter, 2009; Khanna and Zimmermann, 2014). The role of cash transfers in reducing future violent conflict can also arise from their ability to address horizontal inequalities between groups/ communities which may 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 Hoffler 2004, Dube and Vargas 2007, Miguel, Satyanath and Sergenti 2004). Redistribution is therefore viewed as an effective means to quell violent upheaval and rebellion.

One stream of the literature examines how cash transfer programmes, and service provision and redistribution more broadly, can affect future political outcomes, including violent conflict. At the country level, Nielsen et al. (2011) find that reductions in aid receipts lead to increases in conflict in recipient countries, and therefore aid can play a stabilising role in war-torn countries. In contrast, Nunn and Qian (2014) find that US food aid led to increases in the incidence and duration of civil conflict in recipient countries but had not effect on inter-state

conflict. Justino (2011), in a study of a panel of Indian states, finds that social spending reduces the occurrence of riots, whereas increases in policing do not have any sustained impact on future violence. Berman, Shapiro and Felter (2009) find that increased spending through the US Commanders' Emergency Response Program (CERP)[1], when combined with increased troop strength, led to reduced violence in Iraq. In contrast, Crost and Johnston (2014) find that the KALAHI–CIDSSS programme[2] in the Philippines in fact increased civil violence. Beath, Christia and Enikolopov (2012) find that the National Solidarity Program[3] in Afghanistan was able to create a favourable attitude among beneficiaries regarding their economic wellbeing, and towards the government, but did not have any discernible impact on violence.

Another strand of literature views conflict as a mediator or source of heterogeneous impacts of cash transfer programmes on household outcomes. Bozzoli and Wald (2011) examine the heterogeneous impacts of the Familias en Accion programme in Colombia across high and low conflict areas, and find that the programme was significantly more successful in increasing enrolment in conflict-affected areas than in others, but children from no conflict areas did more homework and missed fewer days at school. Mesnard (2009) finds that the same cash transfer programme in Colombia was able to prevent migration and encouraged people to stay in their villages. However, as the level of conflict intensified, access to the programme enabled households to migrate outside.

Both these lines of enquiry do not directly address the fundamental question of how conflict affects *access* to social protection in the first instance. In other words, while there is mixed evidence on the implications of expanding social protection on future conflict and violence, as well as a nascent literature on how conflict affects programme impact (given programme rollout), 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 win people's hearts and minds, 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 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) 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 clout/ threat of governments and aid agencies. Armed groups may resent efforts by the government to win over political support by instrumentalising aid 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

[1] A programme rolled out as part of the US counterinsurgency operations for urgent humanitarian relief and rehabilitation

[2] A Community-Driven Development aimed at restoring basic social services and rebuild communities after Typhoon Yolanda (Haiyan)

[3] A community-Driven Development programme that sought to foster community participation for local development and human security projects

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 formalise this in a model which shows that development programmes will be targeted with violence if (a) they can potentially tilt the balance of support in favour of the government, (b) armed groups have the capability to violently attack and thus derail the programme, and (c) the government is not able to "pay off" the armed groups/ rebels to allow safe rollout of the programme. A combination of these three conditions can therefore mean that 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 and community levels.

This paper examines how violent conflict affected households' access to aid programmes in the aftermath of the massive 2010 floods in Pakistan, a time of heightened suffering and vulnerability when the need for social protection and relief was most acute. Using the community-level distance to the Afghanistan-Pakistan border, which is a strong correlate of areas of the Taliban's entry from Afghanistan following War on Terror after 9/11, and their subsequent regrouping, strength and eventual confrontation with the Pakistani state and Army over the 2000s, as an instrument for exposure to violence over 2001-10, and controlling 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)[4] – Phase I, and the Benazir Income Support Programme (BISP)[5]. These results are robust to the inclusion of a wide range of controls, a discrete measure 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 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[6]. I then use the residuals of the community-level estimation of female primary enrolment rates based on a wide array of demand and supply-side determinants of girls' schooling to proxy Taliban presence and find that the presence of such groups drives the effect of conflict on aid access.

Section 2 describes the case study setting, detailing the context of the 2010 floods and the two main cash transfer programmes analysed in this paper. Section 3 describes the data sources used and, along with a historical description of recent political violence in Pakistan, the

[4] An unconditional flood damage compensation paid in cash to flood-affected households
[5] An unconditional cash transfer paid to women recipients in the poorest households
[6] Owing to the Taliban's avowed opposition to girls' schooling

identification strategy employed. Section 4 presents empirical results on the causal link between conflict and household/ village level access to cash transfers, as well as analysing mechanisms. Section 5 discusses the empirical results to better understand how conflict affects aid access and targeting in Pakistan. Section 6 concludes with notes for policy.

2. Empirical Setting and Context

2.1 The 2010 Floods in Pakistan

Pakistan experienced its most severe flooding in recorded history in 2010-11 which started during the monsoon season in July-August 2010. 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. The volume of rainfall in Pakistan as a whole was 87% above normal in the year 2010; this was much higher for the province of Sindh (where it was as high as 270%). The meteorological causes for this exceptionally high rainfall is a subject of some debate, and scientists assessments attribute it to La Nina on the one hand (NASA 2010), and the freezing of jet streams on the other (Marshall, 2010; Houze et al., 2011). The flooding began with exceptionally heavy rainfall in the Khyber-Pakhtunkhwa province and gradually moved south through Punjab, Sindh and Balochistan; the flooding of the Indus river system accelerated the process. The official death toll due to the floods was about 2,000. However, according to Government of Pakistan estimates, about 20 million people were affected by the floods through displacement and damages to land, property and livestock. The intensity of the flooding has had perilous consequences for life, property and the economy in Pakistan. In addition to the displacement of entire populations, there has been large scale destruction of at least 69,000 square KMs of fertile agricultural land, an estimated loss of 200,000 units of livestock, losses to power generators and transmission systems that caused shortages of about 3.153 GW of power, as well as the outbreak of several diseases such as malaria, gastroenteritis, cholera and diarrhoea.

2.2 Cash Transfer Programmes in Pakistan

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 paper 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 democratic rule, following the assassination of former Prime Minister Benazir Bhutto and the victory of

her party in the national elections of 2008 launched the Benazir Income Support Programme (BISP). This is an unconditional cash transfer programme targeted to women recipients in chronic poor households, identified using a Proxy Means Test developed in collaboration with the World Bank. The programme has an elaborate eligibility determination process, based on poverty scores calculated by a centralised database authority from a household-level poverty census conducted in 2008[7] and 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 paper. Further, the CDCP – Phase I and BISP 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 regular income support to the chronic poor) and intended beneficiary profile (flood-affected populations v/s the chronic poor). The differences can potentially affect the ways in which conflict affects cash transfer access and I therefore examine effects on both programmes to potentially allow me to identify if any specific features of these cash transfer payments make them more/ less sensitive to violent conflict.

3. Data and Methodology

For my analysis I use the baseline cross-section of the CDCP Impact Evaluation dataset (National Database and Registration Authority, Government of Pakistan). 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, 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[8]. The survey comprised detailed questionnaires for male and female respondents at the household level, and a detailed community-level module.

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 9 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 2010 floods) were coded to the lowest administrative level possible, and indices of conflict exposure at the tehsil (sub-district) level – measured as the natural log of (1 +) the number of people killed in conflict events[9] – were calculated (as described in Chapter 3).

[7] 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).

[8] 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.

[9] As a robustness check, I also use a binary variable to measure whether or not a sub-district is affected by conflict at all or not, and find the main results are robust to this specification, reported in Annex 3

3.1 Historical background to violence in Pakistan

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 (listed in Chapter 3) 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 between January 2001 and May 2010.

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

Motivation	**Balochistan**	**KPK**	**FATA**	**Punjab**	**Sindh**	**Total**	**%age**
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	
% of Sectarian	18.55	3.43	3.48	21.14	26.67	5.45	

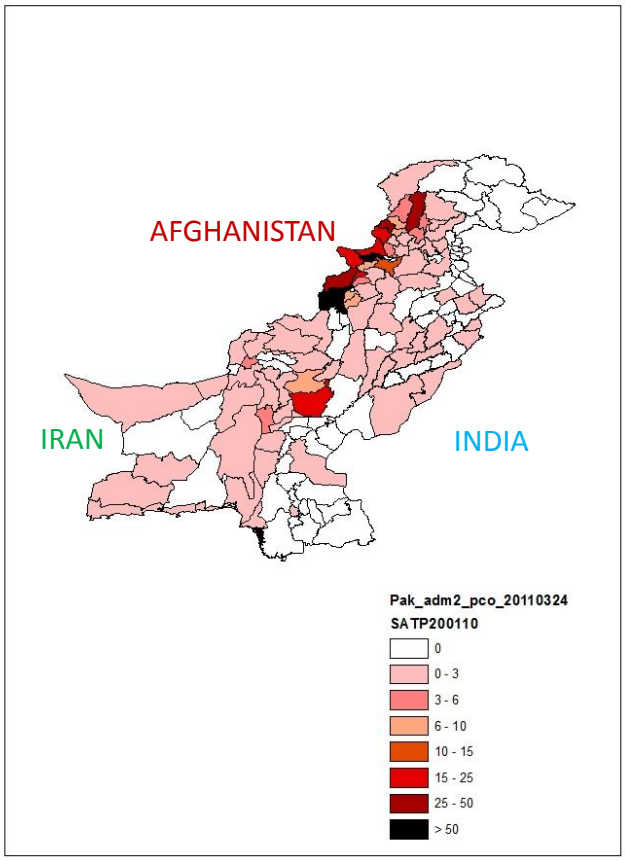
Source: Authors' calculations based on South Asia Terrorism Portal conflict timeline for Pakistan

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[10] in shaping

[10] in the most part involving the TTP and its affiliate groups

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.

3.2 Identification

I attempt to study the causal link between conflict exposure and access to cash transfers using a cross-sectional dataset. Any OLS estimates for such analysis would be biased because of the endogeneity of conflict and programme access, as unobservable factors that cause chronic poverty and enhance vulnerability to shocks (and therefore increase programme eligibility) may also be responsible for conflict. Also, factors associated with the ability of communities to demand and secure government programmes, such as social cohesion, can potentially also enable them to resist the control of armed groups, and the spread of violence. To overcome these endogeneity concerns, 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 detail in Chapter 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 identify the community centroid from the household survey and calculate the shortest distance to the Afghanistan-Pakistan border.

I use the distance to official border crossings on the Af-Pak border (in fact relatively seldom used by Taliban fighters to infiltrate into Pakistan compared to the numerous unofficial border crossings), and the community-level share of Pashto speakers (proxied by the language of the household interview) as the measure of Pashtun population, a factor that facilitated the entry and regrouping of the Taliban from Afghanistan into Pakistan, as IVs for conflict exposure as robustness tests. I find that my main results are robust to these two IVs (Annexes 1 and 2, respectively).

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: Potential Threats 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 access, and control for potentially confounding (accessibility and institutional) factors.

3.3.1 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[11], 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 disbursal 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 disbursal, I include, as controls, (a) province dummies to capture a wide range of unobservable and province-wide characteristics, including remoteness from the national

[11] Speaking directly to Ahmed's exposition on the tensions between the core and the periphery in modern Islamic countries, including Pakistan (Ahmed, 2013)

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 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 (Siddiqa, 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.

3.3.2 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, Paxon, and Ableidinger (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. 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 be exacerbated, resulting 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[12]) 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 (PSU) level, according to the formula[13] developed by Alesina et al. (2003 to ensure that, if associated with the distance to Afghanistan, linguistic fractionalisation does not drive the IV results[14].

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

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

Where
Y_{ij} is the likelihood of household *i* in PSU *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 β_2 is biased. I therefore estimate an IV probit model, represented by the following two-stage equations (2 and 3).

First stage Equation:

[12] Which ensures that the language of the interview was not constrained/ affected by the survey teams' knowledge of languages

[13] 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)

[14] Ethnicity, though often correlated with linguistic identity is not explicitly available for the respondent households

$$CON_{ij} = \alpha + \gamma_1 X_{ij} + \gamma_2 DISTANCE_j + \beta_3 P_k + u_{ij} \quad \ldots (2)$$

Where DISTANCE represents the distance between community j and the international border with Afghanistan. The second stage equation is given by (3) below, where β_2' now reflects the causal effect of CON on Y_{ij}.

$$Y_{ij} = \alpha + \beta_1' X_{ij} + \beta_2' \widehat{CON}_{ij} + \beta_3' P_k + \varepsilon'_{ij} \quad \ldots (3)$$

Table 2 below show the IV first-stage results for the instrumentation of conflict (log [1+n] deaths due to conflict between 2001-2010) with the distance to the Afghan border, at both the community and household levels.

Table 2. Conflict and the Nearest Distance to the Afghan Border: IV First-Stage Results

	(1)^	(2)^	(3)^
Distance to Afghan Border	-0.877***	-0.494***	-0.266***
	(-63.01)	(-31.56)	(-12.13)
Controls	No	Yes	Yes
Province dummies	No	No	Yes
N	7802	7786	7786
Partial F-statistic	160.93	101.82	14.99
Prob. > F	0.0000	0.0000	0.0001
Adjusted R-squared	0.3373	0.5393	0.5664

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.

As we see in Table 2 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 a strong instrument as per Stock and Yogo (2005). This is robust to the inclusion of controls and province dummies.

4. Results

4.1 Effect of Conflict on Access to Cash Transfers: IV estimates

Tables 3a and 3b below show the estimates of the marginal effects of the level of violence at the sub-district level (measured as the natural log of (1+n) killings due to political violence in the sub-district over the 2001-2010 period[15]) on the likelihood of receiving CDCP Phase I and BISP transfers, respectively. I first present simple probit estimates, followed by the IV (probit) estimates to address endogeneity concerns.

Table 3a. 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***	-0.000	0.007	-0.237***	-0.455***	-0.541***
	(-3.14)	(-0.01)	(0.82)	(-7.75)	(-4.30)	(-4.08)
Province Dummies	No	Yes	Yes	No	Yes	Yes
Community and HH Controls	No	No	Yes	No	No	Yes
N	7802	7802	7786	7802	7802	7786

Table 3b. 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***	0.003	0.001	-0.205***	-0.261***	-0.463***
	(-2.98)	(0.67)	(0.32)	(-7.36)	(-2.67)	(-3.81)
Province Dummies	No	Yes	Yes	No	Yes	Yes
Community and HH Controls	No	No	Yes	No	No	Yes
N	7802	7802	7786	7802	7802	7786

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 3a and 3b above clearly indicate a negative effect of conflict on the likelihood of receiving both, CDCP Phase I and BISP transfers[16]. The mean value of per tehsil in the sample is 30.96. The coefficient -0.541 in table 3a means, a 10% increase in the number of killings in the tehsil (from 30 to 33, for instance), would cause a [ln(1.1)*0.541] 5.2% reduction in the likelihood of receiving CDCP – Phase I transfers. Similarly, the IV coefficient of log(1+n) killings in Table 3b of -0.463 means that an increase in the number of killings at the

[15] I also repeat this and subsequent analysis of the causal effect of conflict on access to aid using a discrete measure of conflict; i.e. a dummy to identify sub-districts with any deaths due to violence over the 2001-2010 period as per the SATP conflict events timeline. These results are presented in Annex 3.
[16] The simple probit estimates do not indicate any clear effect on the whole, due to potential endogeneity.

tehsil level by 10% would decrease the likelihood of receiving BISP transfers by [ln(1.1)*0.463] 4.4%.

Selection on Unobservables

In the results above, I show that the addition of a wide range of household and community controls, and province dummies does not change the direction or the significance of the results, even as it increases the magnitude of the IV coefficient. Following Altonji et al. (2005), Miguel and Bellows (2009), and Kosec (2014), I calculate the ratio of selection on unobservables to the selection on observables to estimate the extent of omitted variable bias. Essentially, I estimate the magnitude of omitted variable bias that needs to be present to explain away the entire effect of log (1+n) killings at the sub-district level, by examining the extent to which the IV coefficient changes after adding controls. This ratio is denoted by $\frac{\hat{\delta}_{IV,C}}{\hat{\delta}_{IV,NC} - \hat{\delta}_{IV,C}}$ where C signifies Controls, and NC, No Controls. Note that while Miguel and Bellows (2009) and Kosec (2014) compute this ratio using OLS coefficients with and without controls, I do so using the IV coefficients as my causal identification is based on IV estimation due to the endogeneity of violent conflict and cash transfers.

Using the values of IV coefficients in specifications 4 and 6 of Tables 3a and 3b to calculate the ratio described above, I find that the selection on unobservables needs to be at least 178% and 180% higher than the selection on observables to offset the effect of violent conflict on the likelihood of receiving the CDCP – Phase I and BISP transfers, respectively. This is a rather high magnitude for any omitted variables to wipe away the effect of conflict as seen in the IV estimation above, given that I control for a very wide range of possible confounders and control variables. The addition of any other controls is therefore unlikely to offset the negative effect of violent conflict on cash transfer receipts and therefore gives greater confidence in the strength of the effects of conflict on cash transfer receipts seen in tables 3a and 3b.

So how does exposure to violence reduce access to cash transfers? I discuss the role of the presence and control of non-state armed groups linked to the TTP as a factor that explains *how* conflict reduces access to state aid.

4.2 Mechanism : Presence of Armed Non-state Groups

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[17] 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

[17] 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

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 alluded to in several anecdotal 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[18] reflect the very 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 where armed groups are in control (Kalyvas, 2006; Justino and Ibanez, 2014). Violence erupts where there is a live contestation; when either armed groups demonstrate a degree of temerity in attacking civilian areas to demonstrate their might, 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.

4.2.1 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 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. Gul (2009) reports that due to the fear of such attacks, "schools even in safer areas had been closed down" (ibid. pp.113).

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

[18] Such as a targeted attack on the Turbat, Balochistan office of the BISP in August 2010. Dawn, 09 August 2010.

that determine the rate of girls' enrolment in primary schooling at the community level[19], 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 both, demand and supply-side determinants of girls' schooling, I estimate a model to determine girls' 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 (ususal) stochastic error term. This is laid out formally below:

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

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

As ANSA is not observed, an econometric estimation of F_ENROL will essentially determine:

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

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

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

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 attitudes against girls' schooling and mobility. Such unobservable factors could well be

[19] Including adult female educational attainment that controls for attitudinal drivers of the gender bias in primary schooling

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. It is important to note that Equation 5 above is not a causal estimation of female primary enrolment rates; I recognise that the control variables may indeed be endogenous. The attempt however, is to estimate equation 5 as a type of decomposition exercise to isolate the residual u_c.

I use the residuals from Equation 5 above (u_c) to proxy the presence of the TTP (results of the full estimation are presented in Annex 1). As per the assumptions of the effect of armed non state actors' control on girls' primary enrolment, γ_3 is 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:

(i) where $u_c > 0$, i.e. areas with less likely presence of Taliban-affiliate groups, and
(ii) (ii) where $u_c < 0$, areas where armed non state groups are more likely to be present.

I then 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 indeed 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.

4.2.2 Disaggregated Results: Effect of Conflict on Programme Access by Likely Presence of TTP

I now present results of the IV estimation of the effect of conflict on access to the two cash transfer programmes, at the household level, across the two sub-samples, that are respectively less and more likely to be characterised by the control/ presence of TTP-affiliate groups, based on the residuals analysis of the community-level estimates of girls' primary school enrolment rates described above. Results of the community-level regressions for the rate of girls' primary school enrolment, in order to derive residuals to identify areas with the more/less likely presence of the TTP are presented in Annex 4.

Table 5. 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 Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.541***	-0.104	-0.764***
	(-4.08)	(-0.44)	(-6.54)
N	7786	3321	3562

Marginal effects; *t* statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Community and Household level controls same as in tables 3a and 3b

Table 5 above clearly shows that the negative effect of conflict on the receipt of CDCP is driven by the sub-sample argued to be more likely to contain communities which have the presence of Taliban-affiliate groups. 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 suggestion/ hypothesis that TTP presence limits access to aid. I now examine similar effects for the BISP. The results hold for both measures of conflict, as well as for both attempted measures of the presence of armed groups.

Table 6. 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 Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.463***	-0.407***	-0.649***
	(-3.81)	(-2.78)	(-3.52)
N	7786	3321	3562

Marginal effects; *t* statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$
Community and Household level controls same as in tables 3a and 3b

In Table 6 above we see that 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 much smaller than in the sub-sample with more likely TTP control. This indicates that the presence of the TTP is at least a partial, if not complete, explanation for why how conflict reduces access to BISP.

The above analysis links the presence of non-state armed groups with access to aid by essentially making use of one feature of the Taliban worldview: their avowed opposition to girls' schooling. 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 5 and 6) as they do not share the TTP's doctrinaire opposition to girls schooling.[20] 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. 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.

Table 7. CDCP - I Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV estimates) based on Primary Female Enrolment Residuals: Excluding Balochistan

	Full Sample	Residuals of Female Primary Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	0.061	0.295*	-0.384*
	(0.47)	(1.77)	(-1.93)
N	6259	2746	2879

Marginal effects; t statistics in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01
Community and Household level controls same as in tables 3a and 3b

Table 8. BISP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV estimates) based on Primary Female Enrolment Residuals: Excluding Balochistan

	Full Sample	Residuals of Female Primary Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.210**	-0.213*	-0.360*
	(-2.13)	(-1.67)	(-1.87)
N	6259	2746	2879

Marginal effects; t statistics in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01
Community and Household level controls same as in tables 3a and 3b

The main results in tables 5 and 6 are also visible after excluding Balochistan (even though the statistical significance is reduced, possibly partly because of the reduced sample size). Based on the residuals from the community-level estimation of girls' primary schooling rates, we see

[20] 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

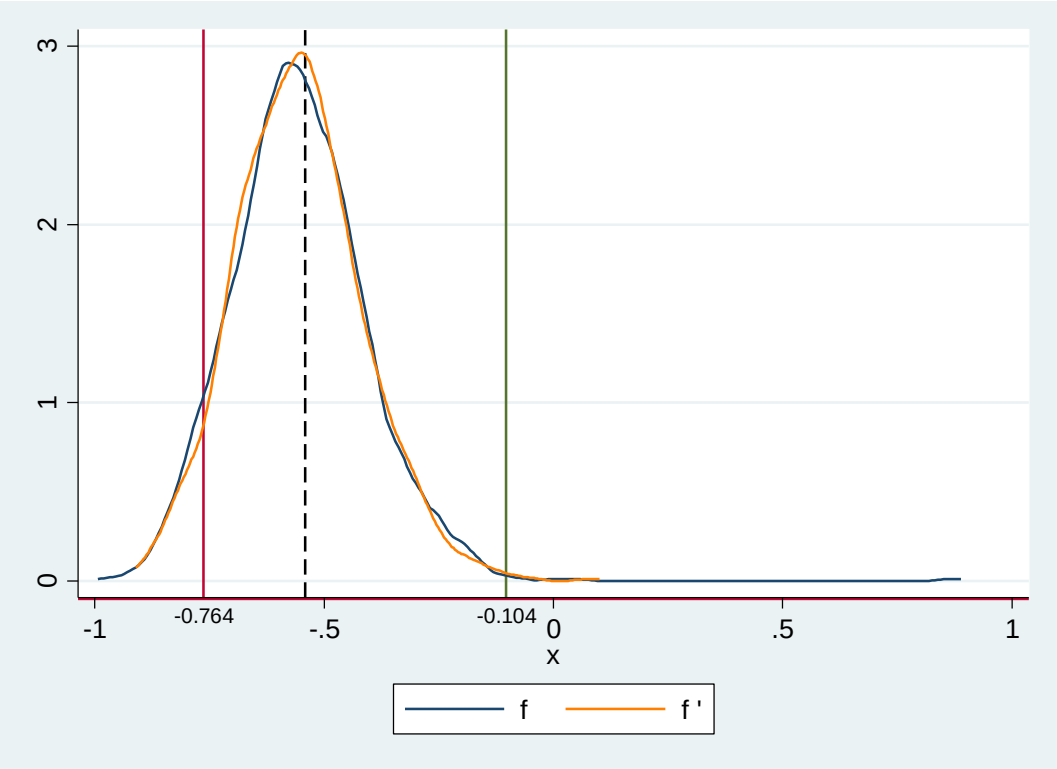
that in areas with the less likely presence of the TTP outside Balochistan, conflict in fact increases the likelihood of receiving transfers, while it has the opposite effect in areas with the higher likelihood of TTP presence. This is significant as it suggests a more aggressive rollout and/or uptake of flood relief transfers in conflict-affected areas where the security threat from TTP presence is lower, possibly alluding to the government's aim to use transfers to win support in conflict-affected areas, combined with the effective ability to do so when not faced with threats from the TTP. In contrast, in areas with the higher likelihood of TTP presence conflict has a more pronounced negative effect on flood relief receipts. In the case of the BISP as in Table 6, it appears that the negative effect of conflict on BISP is stronger in areas with the more likely presence of the TTP.

As an additional check, I also similarly 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. Results of the community-level regressions for the gender gap in primary enrolment, in order to derive residuals to identify areas with the more/less likely presence of the TTP are presented in Annex 5. Results along the two sub-samples based on residuals from the estimation of the gender gap in primary schooling are presented in Annex 5, and follow the same direction as from sub-samples based on residuals from the estimation of female primary enrolment rates.

4.2.3 Varying coefficients in sub-samples: Chance division or likely link with Taliban-presence?

Finally, I critically examine the likelihood of obtaining sub-samples that yield coefficients of such varying magnitudes as are visible in Tables 5 – 8. In order to establish that the strong differences in the IV probit coefficients in the sub-samples with more and less likely presence of the Taliban are not driven by a 'chance' division of the sample, I compare the IV probit coefficients from my sub-samples with the distribution of IV probit coefficients from a random division of communities. I draw 1000 random combinations of communities into two groups and run the IV probit estimation over both, and then plot the coefficients from the two sub-samples, *f* and *f'* in a graph (Fig. 2 below). I also mark the IV probit coefficients from my initial estimation for the entire sample (-0.541), and the sub-samples with less (-0.267) and more (-0.757) likely presence of the TTP.

Fig. 2 IV probit estimates of the effect of conflict on likelihood of receiving CDCP-I transfers from 1000 random divisions of communities



As is to be expected, the distributions of coefficients from the two randomly-assigned sub-samples (*f* and *f'*) are normally distributed around very close to the full-sample coefficient (-0.541). As the coefficients are from randomly drawn sub-samples *f* and *f'* also overlap quite closely. It is significant that the coefficients from the specific cut of the sample that I argue demarcates more/less likely Taliban presence lie towards the far left and right ends of the distributions *f* and *f'*. In fact, I find that only 6.2% of the sub-samples pertaining to *f* and 6.1% of the sub-samples pertaining to *f'* have coefficient values equal to or lower than my estimate of the sub-sample with more likely presence of the Taliban. Similarly, in only 0.2% of the sub-samples pertaining to *f* and 0.3% of those pertaining to *f'* have coefficients that are higher than my estimate from the sub-sample with more likely Taliban presence.

Finally, I find that in only 0.3% of all the 1000 random divisions of the sample is the estimate from *f* lower than or equal to -0.764 and that from *f'* is greater than or equal to -0.104 (and 0.1% vice versa, i.e. from *f'* and *f* respectively). This suggests that it is rather unlikely to randomly draw combinations of sub-samples that yield such divergent estimates of the effect of conflict on the receipt of CDCP-I transfers as arise from the sub-samples in Table 5 with higher/ lower predicted likelihood of community-level Taliban presence.

Similarly, I find that for the BISP in only 10.2% of 1000 draws is the estimate from *f* lower than or equal to -0.645 and that from *f'* is greater than or equal to -0.333 (and 7.5% vice versa, i.e. from *f'* and *f* respectively). This further suggests the low likelihood of obtaining such a sub-sample I replicate this exercise for the sample after excluding Balochistan (as with Tables 7 and 8) and similarly find that the likelihood of obtaining such divergent coefficients between the sub-samples is rather low compared to sub-samples from repeated random draws (0.2% and 0% for CDCP in both combinations of *f* and *f'*, and in none of the combinations – of *f* and

f' and f' and f – for BISP[21]). Full details of these workings and the distribution of coefficients from repeated random draws are presented in Annex 6.

4.3 Unpacking under-coverage due to conflict: The extensive and intensive margins of programme (in)accessibility

I now examine in greater detail, 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/ rollout 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 an 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 now 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 the IV estimates presented in tables 2 – 5. Further, 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 Annex 5.

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 9 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, reflecting flood exposure (and therefore 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). These refer to districts with lagging

[21] Based on IV regression estimates only for the BISP in the sample excluding Balochistan. This is due to the lack of convergence in the IV probit estimation in many of the 2000 sub-samples. Details in Annex 6.

development indicators (Ibid. pp. 211), and are described as "breeding grounds of alienation and conflict[22]." 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 Nation-Building Regions of Pakistan, which must receive priority support in social protection programmes and policies[23]". 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.

Table 9. 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**	0.613***
	(2.16)	(3.88)
N	497	497

Marginal effects; *t* statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

We see in Table 9 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. Urban communities are significantly less likely to be completely isolated from both programmes.

Does conflict also reduce community-level access to cash transfers at the intensive margin, i.e. the rate of community-level cash transfer coverage? 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 10. IV Tobit estimates of the community-level rates of coverage: CDCP – I and BISP

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

Marginal effects; *t* statistics in parentheses
Dependent variable censored between 0 and 1
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

As we see in table 10 above, conflict also reduces the average coverage rates of CDCP – I and BISP at the community level, even after accounting for the left-censoring of its distribution at 0. This is significant as it shows that conflict reduces programme access at both, the intensive

[22] Ibid. pp. 145
[23] Ibid. pp. 145

and the extensive margins of community coverage. As mentioned earlier, these effects may operate through both demand and supply side factors affecting programme coverage.

5. Discussion

This paper 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.

The state may indeed like 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 [old acronym of the Khyber Pakhtunkhwa province], 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

The above quotation indicates the intent and commitment, on part of the state, to concentrate social protection efforts in conflict-affected areas. The actual access to aid, though, 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 at the household level. The effective control of militant groups is hard to observe from published sources of data, or household surveys. This paper makes an attempt to proxy such presence based on the TTP's relentless opposition of girls' schooling, and their effective ability to enforce their writ in areas of their control. I find that the effect of conflict on access to aid is driven largely by areas with a greater likelihood of the presence of the TTP-affiliate groups.

The (perceived or real) threat to state officials' security, or to potential beneficiary households could well be the reason that causes conflict to reduce access to aid, and this paper provides suggestive evidence for this thesis. This is also expressed in several news reports covering the targeting of aid programmes, both Pakistani and foreign-funded, state and private (Gul, 2010; Constable, 2011). This fact is also acknowledged by the Planning Commission, Government of Pakistan:

> **The challenge in NWFP and FATA comes from groups that seek to impose their own vision of society on the majority. They violate democratic norms, actively and violently oppose social policy and development initiatives such as girls' schooling, immunization campaigns, and even income transfers to women. The armed activities of militants and the state's armed response has led to large-scale loss of life, displacement, and destruction of infrastructure, particularly social infrastructure. There has been massive disruption to livelihoods and economic activity.**
>
> - (GoP 2010), pp. 145

These targeting of aid workers and bureaucrats, also confirmed in interviews with Pakistani bureaucrats and NGO workers about the challenges in administering programmes in conflict-affected areas, is a non-trivial factor.

6. Conclusion

This paper explores the responsiveness of aid programmes to violent conflict in Pakistan and finds significant results. Aid programmes are viewed as instruments for the state to reach out to people living in conflict-affected areas, in order to both redress historical neglect which may have created conditions for conflict in the first instance, as well as to win over people's loyalties and thus attack the support base of armed groups. In the setup postulated by Crost and Johnson (2014), it appears that in Pakistan, exposure to violence indeed reduces access to state aid programmes, indicating 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, reflecting a curtailed connect between citizens and the state. The reduced access to aid because of conflict is channelled not through the absence of state institutions or physical infrastructure, but more through institutional factors. Specifically, I find that the likely presence of armed groups, symptomatic of a distinct institutional set-up, plausibly reduces access to aid. Physical threats to aid workers and local-level bureaucrats, as also to local populations, associated with the unobservable presence and control of armed non-state groups may also be an important mechanism linking conflict with low aid. I find evidence for this through an econometric estimation technique, as well as in some qualitative literature.

The present analysis has not engaged with whether conflict reduces access to aid through demand or supply channels. While security concerns may be operating on both, 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 IT. This is an important topic for future research, in Pakistan and beyond.

This paper also calls for a closer and more critical examination of the potential of aid programmes in conflict. The somewhat simplistic assumption that aid can achieve peace and prosperity in conflict-affected settings papers over the many difficulties that, as this paper has shown, impede the rollout of aid in areas ridden with strife. The risk of using aid as a political instrument is that it can then become a political target itself. Governments and donors must therefore be very measured in prescribing aid as a remedy to conflict.

Another message from this paper pertains to the branding of aid. The two programmes examined here bear the strong mark of the Pakistani state and political establishment. This is understandable, particularly given that these were rolled out soon after Pakistan's most recent democratic transition under a new government determined to make its presence felt, including perhaps, by sending a political signal of the welfare state in a fraught environment. While there is no counterfactual available to examine if less nationalistic naming/ packaging of such programmes would make them less susceptible to targeting by armed groups, it can be argued that a conspicuous stamp of the state is more likely to matter in violently contested political space, compared to in more peaceful areas. Policymakers must perhaps consider more carefully whether some kinds of symbolic messaging makes programmes more vulnerable, and therefore less accessible in conflict-affected areas.

Aid is not a silver bullet for buying peace and promoting prosperity. As this paper has shown, its ability to reach intended beneficiaries is compromised by conflict, particularly in the presence of non-state armed groups. Any political, or human development aims of aid programmes, ranging from marginal income support to nation-building, therefore continue to necessitate the more old-fashioned and 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 the currently 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. All these point to the salience of deep structural factors that either give rise to conflict or allow it to fester. Combating conflict, or seeking to promote human development in areas affected by conflict cannot skirt these pertinent aspects of governance. Aid may be too feeble an instrument to achieve such ends without substantial governance reform and strengthening. Governance reforms can also be addressed to reducing historical weaknesses of institutions that I have shown exacerbate the effects of violent conflict on access to aid.

Finally, conflict, over a longer period of time, can begin to alter societies in ways that enhance the vulnerabilities of particular groups. At the micro level, the presence of armed groups and the outbreak of violence can alter local power dynamics. The relatively lower access to BISP transfers of the (already typically economically weak) female-headed households in conflict-affected, compared to peaceful areas, highlights the need for policy makers to consider whose/ which vulnerabilities are likely to be aggravated in a particular conflict milieu. Such analysis

can potentially help design better tailored programmes or delivery mechanisms that redress the growing vulnerability of groups that are most likely to be disempowered by conflict.

On the whole, it is clear that conflict has a profound impact on the social protection and disaster relief landscape in Pakistan, with serious implications for access and targeting. These factors reemphasise the need for conflict-sensitive analyses to inform the rollout and assessment of aid programmes. They also underscore the insufficiency of development programme design and administration "as usual", in the distinct political and institutional settings created, and marked, by violent conflict.

References

Ahmed, A. S. (2013) *The Thistle and the Drone: How America's War on Terror became a Global War on Tribal Islam.* Washington DC: The Brookings Institution

Alavi, H. (1988) "Pakistan and Islam:Ethnicity and Ideology." In Halliday, F. and H. Alavi (Eds.) *State and Ideology in the Middle East and Pakistan*, 64-111. New York: Monthly Review Press.

Alesina, A., R. Baqir and W. Easterly (1999) Public Goods And Ethnic Divisions. *The Quarterly Journal of Economics*, MIT Press, vol. 114(4), pages 1243-1284, November.

Alesina, A., A. Devleeschauwer, W. Easterly, S. Kurlat and R. Wacziarg (2003) Fractionalization. *Journal of Economic Growth*. Springer, vol. 8(2), pages 155-94, June.

Banerjee, A., L. Iyer and R. Somanathan (2005) History, Social Divisions, and Public Goods in Rural India. *Journal of the European Economic Association*, Vol. 3, No. 2/3, pp. 639-647

Beath, A., F. Christia and R. Enikolopov (2012) "Winning hearts and minds through development? Evidence from a field experiment in Afghanistan," *Policy Research Working Paper Series* 6129, The World Bank.

Behuria, AK (2007) "Fighting the Taliban: Pakistan at War with Itself." *Australian Journal of International Affairs* 61, no. 4 (December): 531-532.

Berman, E., J. N. Shapiro, and J. H. Felter (2008): "Can Hearts and Minds Be Bought? The Economics of Counterinsurgency in Iraq," Journal of Political Economy, Vol. 119, No. 4 (August 2011), pp. 766-819.

Boone, C. (1994). States and ruling classes in postcolonial Africa: the enduring contradictions of power. In J. Migdal, A. Kohli, & V. Shue (Eds.), State power and social forces: domination and transformation in the Third World (pp. 108–139). New York: Cambridge University Press.

Bose, S. (2011) *Dead Reckoning: Memories of the 1971 Bangladesh War.* New York: Columbia University Press.

Case, A., C. Paxson, and J. Ableidinger (2004) Orphans in Africa: Parental Death, Poverty, and School Enrollment. *Demography* 41(3): 483-508.

Cohen, S. (2004) *The Idea of Pakistan*. Washington, DC: Brookings Institution.

Collier, Paul, and Anke Hoeffler. 2004. "Greed and Grievance in Civil War." *Oxford Econ. Papers* 56:563–95.

Constable, P. (2011) *Playing with Fire: Pakistan at War with Itself.* New York: Random House.

Crost, B., J. Felter and P. Johnston. 2014. Aid Under Fire: Development Projects and Civil Conflict. American Economic Review 104(6): 1833-56

Dawn (2010) BISP Office, Minister's House Attacked in Turbat. Dawn News Online. Published on 09 August 2010 at: http://www.dawn.com/news/951679/bisp-office-minister-s-house-attacked-with-grenades Retrieved on 14 October 2014.

Dube, O., and J. F. Vargas (2007): "Commodity Price Shocks and Civil Conflict: Evidence from Colombia," CERAC Working Paper No. 2.

Eynde, Oliver Vanden. 2011. "Targets of Violence: Evidence from India's Naxalite Conflict." http://personal.lse.ac.uk/vandeney/Targets_of_Violence.pdf

Fearon, J. and D. Laitin (1996) "Explaining Interethnic Cooperation." *American Political Science Review* 90 (4): 715 – 735.

Gayer, L. (2007) "Guns, Slums, and 'Yellow Devils': A Genealogy of Urban Conflicts in Karachi, Pakistan." *Modern Asian Studies* 41, no.3: 515-44.

Ghorpade, Y. (2014) *Sub-National Patterns and Trends in Violent Conflict in Pakistan: Insights from South Asia Terrorism Portal Data for 2001 – 2010*. Draft Paper: Institute of Development Studies, University of Sussex: UK.

Gompert, D. C., T. K. Kelly, B. S. Lawson, M. Parker, and K. Colloton (2009): Reconstruction Under Fire: Unifying Civil and Military Counterinsurgency. RAND Corporation

Government of Pakistan (2010) *Final Report of the Panel of Economists: Medium-Term Development Imperatives and Strategy for Pakistan.* Planning Commission, Government of Pakistan, Islamabad.

Grare, F. (2013) *Balochistan: The State versus the Nation.* Washington, DC: Carnegie Endowment for International Peace.

Gul, I. (2009) *The Most Dangerous Place: Pakistan's Lawless Frontier.* New Delhi: Penguin Books.

Gunaratna, R. and K. Iqbal (2011) *Pakistan: Terrorism Ground Zero*. London: Reaktion Books.

Houze Jr., R. A., K. L. Rasmussen, S. Medina, S. R. Brodzik, and U. Romatschke (2011) Anomalous Atmospheric Events Leading to the Summer 2010 Floods in Pakistan. *Bullutin of the American Meteorological Society*, Vol. 92, pp. 291–298.

Iyer, L. (2010) Direct versus Indirect Colonial Rule in India: Long-term Consequences. Review of Economics and Statistics, 92 (4), 693-713.

Jaffrelot, C. (2002) *Pakistan: Nationalism without A Nation.* London: Zed Books Ltd.

Jones, OB (2009) *Pakistan: Eye of the Storm.* New Haven, CT: Yale University Pres..

Jones, S. G. and C. C. Fair (2010) *Counterinsurgency in Pakistan.* Arlington: National Security

Justino, P. (2011) Carrot or Stick? Redistributive Transfers versus Policing in Contexts of Civil Unrest. *IDS Working Papers.* Volume 2011, Issue 382, Article first published online: 30 January 2012.

Khanna, G. and L. Zimmermann (2014) Guns and Butter? Fighting Violence with the Promise of Development. April 1, 2014. Available at SSRN: http://ssrn.com/abstract=2426832 or http://dx.doi.org/10.2139/ssrn.2426832

Lange, M. (2003a) Embedding the colonial state: a comparative-historical analysis of state building and broad-based development in Mauritius. *Social Science History*, *27(3),* 397–423.

Lange, M. (2003b) British Colonial Legacies and Political Development. *World Development* Vol. 32, No. 6, pp. 905 – 992.

Long, J.S. (1997) *Regression Models for Categorical and Limited Dependent Variables*. Sage Publishing

Mamdani, M. (1996). *Citizen and subject.* Princeton, NJ: Princeton University Press.

Marshall, M. (2010), Frozen jet stream links Pakistan floods, Russian fires, *New Scientist*, Vol. 2773, 6.

Mesnard, A. (2009) Migration, Violence and Welfare Programmes in Rural Colombia. IFS Working Paper W09/19. London: Institute of Fiscal Studies.

Miguel, E. and M. K. Gugerty (2005) Ethnic Diversity, Social Sanctions, and Public Goods in Kenya. *Journal of Public Economics* 89 (11-12): 2325-2368.

Miguel, E., S. Satyanath, and E. Sergenti (2004): "Economic Shocks and Civil Conflict: An Instrumental Variables Approach," The Journal of Political Economy, 112(4), 725–753.

Mohmand, S. (2011) *Patrons, Brothers and Landlords: Competing for the Vote in Rural Pakistan.* DPhil Thesis. Institute of Development Studies, University of Sussex: UK.

NASA (2010) *Unusually Intense Monsoon Rains*. Available at: http://earthobservatory.nasa.gov/NaturalHazards/view.php?id=45177. 03 August 2010. Archived from the original on 14 August 2010: https://web.archive.org/web/20100814195434/http:/earthobservatory.nasa.gov/NaturalHazards/view.php?id=45177 Retrieved 09 October 2014.

Nasr, S.V.R. (2002) "Islam, the State and Rise of Sectarian Militancy in Pakistan". In Jaffrelot, C. (Ed.) *Pakistan: Nationalism without A Nation.* London: Zed Books Ltd.

Nielsen, R.A., M. G. Findley, Z. S. Davis, T. Candland, and D. L. Nielson (2011) "Foreign Aid Shocks as a Cause of Violent Armed Conflict." *American Journal of Political Science* 55 (2): 219–32.

Nunn, N., and N. Qian (2014) "US Food Aid and Civil Conflict." *American Economic Review*, 104(6): 1630-66.

Rashid, A. (2008) *Descent into Chaos: Pakistan, Afghanistan and the Threat to Global Security*. London: Penguin Books.

Rashid, A. (2012) *Pakistan on the Brink: The Future of Pakistan, Afghanistan and the West*. London: Penguin Books.

Sanchez-Paramo, C., P. V. Dutta, Y. Ghorpade (2010) *South Asia - Regional Study on Targeting Systems and Practices: Draft Policy Note*. Washington, DC: World Bank. Available at: http://documents.worldbank.org/curated/en/2010/06/16441140/south-asia-regional-study-targeting-systems-practices-draft-policy-note Accessed on 09 October 2014

Shapiro, J. and S. Gulzar (2012) *Political Violence in Pakistan: Myth vs. Realities*. Policy Brief. London: International Growth Centre.

Siddiqa, A. (2007). *Military Inc: Inside Pakistan's Military Economy*. Pakistan: Pluto Press.

Stock, J. H. and M. Yogo (2005), "Testing for Weak Instruments in Linear IV Regression." Ch. 5 in J.H. Stock and D.W.K. Andrews (eds), *Identification and Inference for Econometric Models: Essays in Honor of Thomas J. Rothenberg*, Cambridge University Press.

Wald, N. and Bozzoli, C. (2011) Bullet Proof? Programme Evaluation in Conflict Areas: Evidence from Rural Colombia, Proceedings of the German Development Economics Conference, Berlin 2011, No. 80.

Waseem, M. (2002) "Causes of Democratic Downslide." *Economic and Political Weekly* 37, no. 44-45: 32-38.

World Bank (2007) Pakistan - Social protection in Pakistan: Managing household risks and vulnerability. Washington, DC: World Bank. Available at: http://documents.worldbank.org/curated/en/2007/10/8900145/pakistan-social-protection-pakistan-managing-household-risks-vulnerability Accessed on 09 October 2014.

Yusuf, M. (2014) *Pakistan's Counterterrorism Challenge*. United States Institute of Peace. Washington, D.C.: Georgetown University Press.

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

Table A1.1 Conflict instrumented by Distance to the nearest official border crossing on Afghan-Pakistan Border: IV First-Stage Results

	Communities as unit			Households as unit^		
	(1)	(2)	(3)	(4)	(5)	(6)
Distance to nearest official border crossing on Afghanistan-Pakistan border	-0.665***	-0.419***	-0.193***	-0.671***	-0.413***	-0.190***
	(-15.95)	(-8.05)	(-2.52)	(-63.85)	(-32.12)	(-9.97)
Controls	no	yes	yes	no	yes	yes
Province dummies	no	no	yes	no	no	yes
N	498	497	497	7802	7786	7786
Partial F-statistic	254.44	64.79	6.33	184.27	111.39	9.77
Prob. > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Adjusted R-squared	0.3377	0.5200	0.5459	0.3432	0.5411	0.5637

^Standard errors clustered at community level

Table A1.2 Access to Aid: Probit and IV Probit Estimates – Marginal Effects

	CDCP – Phase I		BISP	
	probit	IV probit	probit	IV probit
Log (1+n) killings	0.118***	-0.551***	-0.016	-0.575***
	(4.36)	(-3.42)	(-0.24)	(-4.56)
Controls	Y	Y	Y	Y
Province Dummies	Y	Y	Y	Y
N	7802	7786	7802	7786

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

	Full Sample	Residuals of Female Primary Enrollment Estimation		Residuals of Primary Enrollment Gender Gap Estimation	
		Taliban likely not present	Taliban likely present	Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.551***	-0.219	-0.988	-0.074	-0.753***
	(-3.42)	(-0.98)	(-0.80)	(-0.96)	(-5.03)
N	7786	4254	3532	3651	4135

Marginal effects; t statistics in parentheses
* 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) – Marginal Effects

	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
Log (1+n) killings	-0.575***	-0.406***	-0.453	-0.071*	-0.718***
	(-4.56)	(-2.85)	(-0.82)	(-1.81)	(-4.45)
N	7786	4254	3532	3651	4135

Marginal effects; t statistics in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

Table A1.5 IV probit estimates of the total absence of CDCP – I and BISP in the community– Marginal Effects

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

Marginal effects; t statistics in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

Table A1.6 IV Tobit estimates of the community-level rates of coverage: CDCP – I and BISP – Marginal Effects

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

Marginal effects; *t* statistics in parentheses
Dependent variable censored between 0 and 1
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Annex 2. IV Estimates of effect of Conflict on Access to Aid: Proportion of Pashtu speakers at community level as IV for conflict [log (1+n) killings at sub-district level]

Table A2.1 Conflict instrumented by proportion of Pashtu speakers: IV First-Stage Results

	Communities as unit			Households as unit^		
	(1)	(2)	(3)	(4)	(5)	(6)
Proportion of Pashtu speakers	3.21***	2.36***	1.63***	3.26***	2.39***	1.71***
	(22.24)	(8.69)	(5.62)	(89.27)	(36.27)	(23.98)
Controls	no	yes	yes	no	yes	yes
Province dummies	no	no	yes	no	no	yes
N	498	497	497	7802	7786	7786
Partial F-statistic	494.46	75.57	31.60	264.97	55.12	19.62
Prob. > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Adjusted R-squared	0.4982	0.5294	0.5687	0.5053	0.5555	0.5887

^Standard errors clustered at community level

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

Table A2.2 Access to Aid: Probit and IV Probit Estimates – Marginal Effects

	CDCP – Phase I		BISP	
	probit	IV probit	probit	IV probit
Log (1+n) killings	0.118***	-0.255**	-0.016	-0.187**
	(4.36)	(-2.52)	(-0.24)	(-2.29)
Controls	Y	Y	Y	Y
Province Dummies	Y	Y	Y	Y
N	7802	7786	7802	7786

Marginal effects; t statistics in parentheses

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

Table A2.3 CDCP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV Estimates) – Marginal Effects

	Full Sample	Residuals of Female Primary Enrollment Estimation		Residuals of Primary Enrollment Gender Gap Estimation	
		Taliban likely not present	Taliban likely present	Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.255**	-0.244	-0.261**	-0.013	-0.459***
	(-2.52)	(-1.51)	(-2.00)	(-0.35)	(-3.09)
N	7786	4254	3532	3651	4135

Marginal effects; t statistics in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

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

	Full Sample	Residuals of Female Primary Enrollment Estimation		Residuals of Primary Enrollment Gender Gap Estimation	
		Taliban likely not present	Taliban likely present	Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.849**	-1.214	-0.509	-0.148**	-0.799
	(-2.12)	(-1.58)	(-1.09)	(-2.06)	(-1.13)
N	7786	4254	3532	3651	4135

Marginal effects; t statistics in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

Table A2.5 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***	0.250
	(2.95)	(1.18)
N	497	497

Marginal effects; t statistics in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

Table A2.6 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**	-0.054**
	(-2.25)	(-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

Annex 3. IV Estimates of effect of Conflict on Access to Aid: Nearest distance to Afghanistan-Pakistan border as IV for conflict [dummy for conflict-affected sub-district]

Table A3.1 Access to Aid: Probit and IV Probit Estimates – Marginal Effects

	CDCP – Phase I		BISP	
	probit	IV probit	probit	IV probit
Conflict-affected tehsil (dummy)	0.118***	-1.619***	-0.016	-1.100**
	(4.36)	(-3.44)	(-0.24)	(-2.05)
Controls	Y	Y	Y	Y
Province Dummies	Y	Y	Y	Y
N	7802	7802	7802	7802

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 A3.2 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)	-1.959***	-1.126	-2.344***	-0.367	-2.575***
	(-4.13)	(-1.22)	(-5.66)	(-1.12)	(-5.38)
N	7786	4254	3532	3651	4135

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 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)	-1.890***	-1.457**	-2.184***	-0.207	-2.568***
	(-3.75)	(-2.20)	(-3.34)	(-1.43)	(-4.06)
N	7786	4254	3532	3651	4135

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 A3.4 IV probit estimates of the total absence of CDCP – I and BISP in the community

	CDCP - I	BISP
Conflict-affected Tehsil (dummy)	1.275	2.457***
	(1.45)	(7.38)
N	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 A3.5 IV Tobit estimates of the community-level rates of coverage: CDCP – I and BISP

	CDCP - I	BISP
Conflict-affected Tehsil (dummy)	-1.475	-0.847*
	(-1.41)	(-1.75)
N	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
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Annex 4. 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)
Urban	-0.103	0.027
	(-1.20)	(0.30)
Prop: Adult Females with Primary Education	0.422*	-0.026
	(1.90)	(-0.11)
Prop: Adult Males with Primary Education	0.136	0.144
	(0.75)	(0.74)
Prop: Adult Females with Secondary Education	0.074	-0.400
	(0.31)	(-1.54)
Prop: Adult Males with Secondary Education	0.322*	0.261
	(1.93)	(1.46)
Average Monthly Per-Capita Adult-equivalent expenditure	0.000***	-0.000
	(2.68)	(-1.14)
Prop: Households Still Displaced by flood	0.082	0.203
	(0.34)	(0.78)
Prop: Punjabi	0.175	0.155
	(1.15)	(0.95)
Prop: Sindhi	-0.006	0.270*
	(-0.04)	(1.74)
Prop: Pushtu	0.037	0.147
	(0.27)	(0.97)
Prop: Balochi	0.000	0.000
	(.)	(.)
Prop: Urdu	0.152	0.050
	(0.99)	(0.30)
Prop: Brahvi	-0.269	0.355*
	(-1.46)	(1.79)

Prop: Hindko	0.135	0.060
	(0.57)	(0.24)
Prop: Saraiki	0.183	0.040
	(1.27)	(0.26)
Prop: Other Languages	-0.123	0.048
	(-0.33)	(0.12)
Prop. Households receiving remittances	0.081	0.153
	(0.68)	(1.19)
Prop. Households with electricity	0.191***	-0.025
	(3.99)	(-0.49)
Prop: Female-headed Households	0.186	-0.340**
	(1.26)	(-2.13)
Average no. of rooms per household	0.029	-0.030
	(0.92)	(-0.88)
Prop: Households owning non-agricultural enterprise	0.120	0.080
	(1.50)	(0.93)
Prop: landless Households	-0.034	0.004
	(-0.60)	(0.06)
Prop: Landlord households (letting it out)	-0.087	0.120
	(-0.51)	(0.66)
Average share of household members > 15 who have attended school	0.473	-0.457
	(1.58)	(-1.42)
Average adult sex ratio of the household	-0.053	-0.245
	(-0.19)	(-0.80)
Sindh	0.001	-0.200**
	(0.01)	(-2.10)
Balochistan	-0.139*	0.024
	(-1.81)	(0.29)
Khyber- Pakhtunkhwa	-0.071	-0.076
	(-0.81)	(-0.80)

Distance to province capital	-0.038**	0.000
	(-2.05)	(0.02)
Distance to district capital	0.040	-0.089**
	(0.97)	(-2.00)
Index of presence of state institutions	0.017	0.010
	(1.37)	(0.71)
Index of Community infrastructure	-0.005	0.003
	(-0.57)	(0.32)
Index of linguistic fractionalisation	-0.042	0.058
	(-0.52)	(0.67)
Former princely states dummy	0.104	-0.060
	(1.56)	(-0.84)
Govt. girls primary school present in community	0.009	0.037
	(0.29)	(1.09)
Govt. co-ed primary school present in community	0.038	0.005
	(1.20)	(0.15)
Pvt. girls primary school present in community	-0.001	0.017
	(-0.07)	(1.17)
Pvt. co-ed primary school present in community	0.011**	0.002
	(2.18)	(0.46)
Govt. boys primary school present in community		-0.059
		(-1.59)
Pvt. boys primary school present in community		-0.025
		(-1.46)
N	439	439
R-squared	0.518	0.124
adj. R-squared	0.474	0.039
F	11.62	1.45
Prob. F > 0	0.0000	0.0434

Marginal effects; *t* statistics in parentheses
(d) for discrete change of dummy variable from 0 to 1
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Annex 5. Sub-samples based on residuals of the community-level gender gap in primary schooling

I also 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[24], 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 $v_c \leq 0$ [25], and (ii) areas more likely to have armed non-state groups' control, with positive residuals, $v_c > 0$.

Table A5.1 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	-0.541***	-0.296	-0.772***
	(-4.08)	(-1.35)	(-4.59)
N	7786	3587	3296

Marginal effects; *t* statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5.2 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	-0.463***	-0.381***	-0.748***
	(-3.81)	(-2.64)	(-4.12)
N	7786	3587	3296

Marginal effects; *t* statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

[24] Including adult female educational attainment that controls for attitudinal drivers of the gender bias in primary schooling

[25] 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 dependant variable.

Table A5.3 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	0.061	0.132	-0.038
	(0.47)	(0.74)	(-0.12)
N	6259	2981	2644

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) 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	-0.210**	-0.071	-0.497**
	(-2.13)	(-0.56)	(-2.53)
N	6259	2981	2644

Marginal effects; t statistics in parentheses
* p < 0.10, ** p < 0.05, *** p < 0.01

Annex 6. IV probit coefficients from alternate sub-samples: Checking if likely/ less likely Taliban presence (based on Annex 5) is a chance division

1. CDCP – Phase 1 (all 4 provinces)

Table A6.1 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 Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.541***	-0.104	-0.764***
	(-4.08)	(-0.44)	(-6.54)
N	7786	3321	3562

Marginal effects; *t* statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Fig. A6.1 Distribution of IV probit coefficients of the effect of conflict on likelihood of receiving CDCP-I transfers from 1000 random combinations of communities into two sub-samples

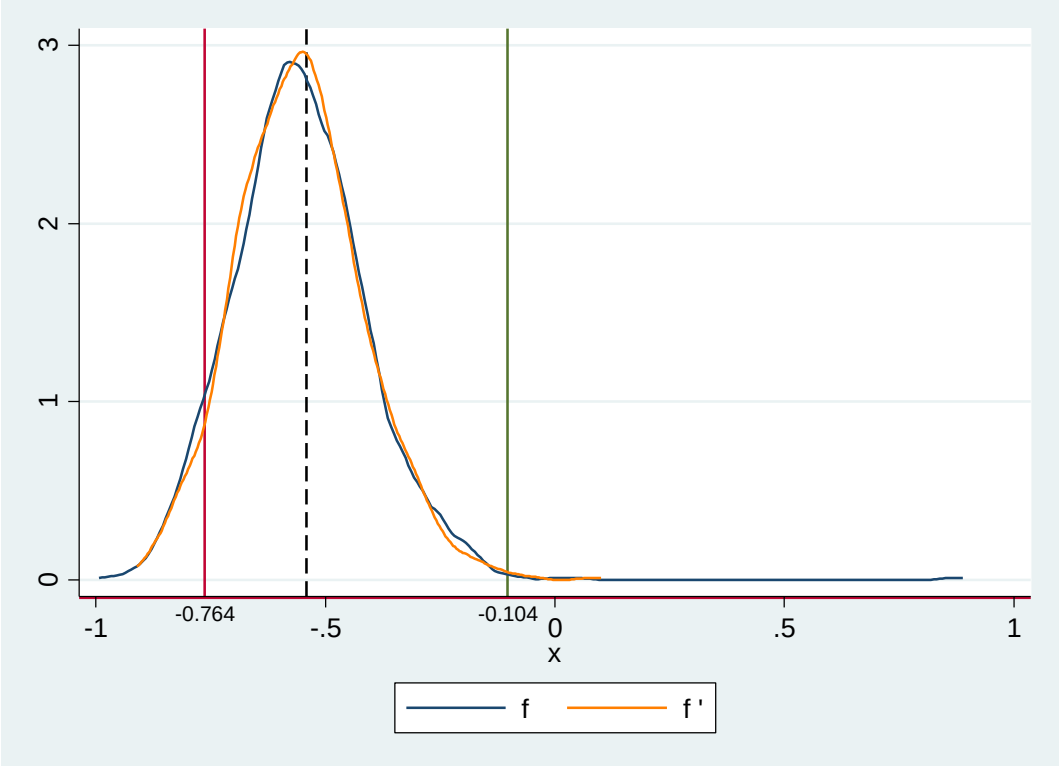


Table A6.2 Results from repeated random selection of communities into sub-samples

	No. of Instances (out of 1000)	Percentage
$f \leq$ -0.764	62	6.2%
$f' \leq$ -0.764	61	6.1%
$f \geq$ -0.104	2	0.2%
$f' \geq$ -0.104	3	0.3%
$f \leq$ -0.764 and $f' \geq$ -0.104	3	0.3%
$f' \leq$ -0.764 and f $\geq$ -0.104	1	0.1%

2. BISP (all 4 provinces)

Table A6.3 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 Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.463***	-0.407***	-0.649***
	(-3.81)	(-2.78)	(-3.52)
N	7786	3321	3562

Marginal effects; *t* statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Fig. A6.2 Distribution of IV probit coefficients of the effect of conflict on likelihood of receiving BISP transfers from 1000 random combinations of communities into 2 sub-samples

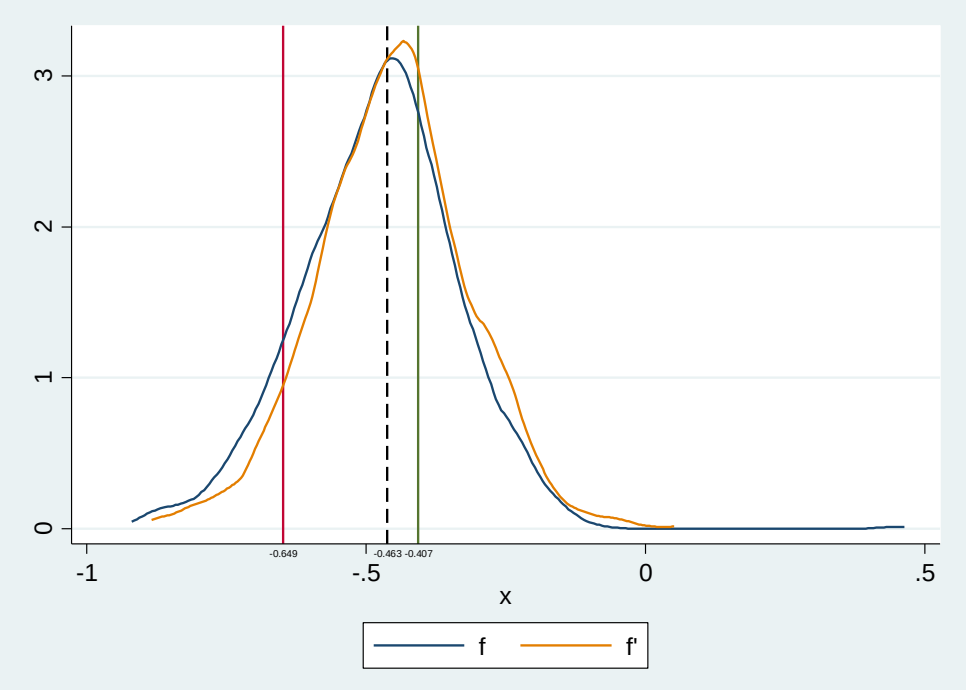


Table A6.4 Results from repeated random selection of communities into sub-samples

	No. of Instances (out of 1000)	Percentage
$f \leq$ -0.649	108	10.8%
$f' \leq$ -0.649	76	7.6%
$f \geq$ -0.407	300	30%
$f' \geq$ -0.407	352	35.2%
$f \leq$ -0.649 and $f' \geq$ -0.407	102	10.2%
$f' \leq$ -0.649 and f $\geq$ -0.407	75	7.5%

3. CDCP – Phase 1 (excluding Balochistan)

Table A6.5 CDCP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV probit estimates) based on Primary Female Enrolment Residuals: Excluding Balochistan

	Full Sample	Residuals of Female Primary Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	0.061	0.295*	-0.384*
	(0.47)	(1.77)	(-1.93)
N	6259	2746	2879

Marginal effects; *t* statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Fig. A6.3 Distribution of IV probit coefficients of the effect of conflict on likelihood of receiving CDCP-I transfers from 1000 random combinations of communities into two sub-samples (excluding Balochistan)

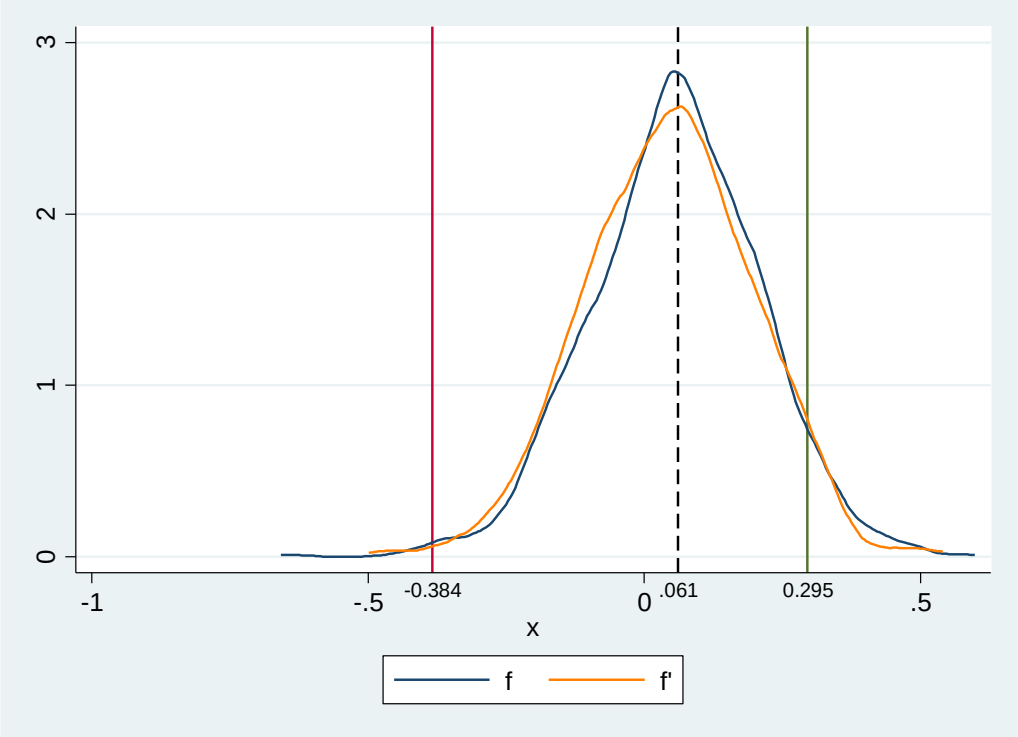


Table A6.6 Results from repeated random selection of communities into sub-samples

	No. of Instances (out of 1000)	Percentage
$f \leq$ -0.384	4	0.4%
$f' \leq$ -0.384	4	0.4%
$f \geq$ 0.295	54	5.4%
$f' \geq$ 0.295	45	4.5%
$f \leq$ -0.384 and $f' \geq$ 0.295	2	0.2%
$f' \leq$ -0.384 and f $\geq$ 0.295	0	0 %

4. BISP (excluding Balochistan)

Here I present results from an IV regression estimation as the IV probit estimation failed to converge in several of the 1000 combinations of the sample based on a random grouping of communities into the two sub-samples. For comparison I provide **IV regression coefficients** for the effect of conflict on BISP receipts for the full sample, excluding Balochistan and the sub-samples with more/ less likely Taliban presence.

Table A6.7 BISP Receipts and Conflict: Linked through the Likely Presence of Armed Groups (IV regression estimates) based on Primary Female Enrolment Residuals: Excluding Balochistan

	Full Sample	Residuals of Female Primary Enrollment Estimation	
		Taliban likely not present	Taliban likely present
Log (1+n) killings	-0.055*	-0.048	-0.360*
	(-1.94)	(-1.49)	(-1.87)
N	6259	2746	2879

Marginal effects; *t* statistics in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Fig. A6.4 Distribution of IV regression coefficients of the effect of conflict on likelihood of receiving BISP transfers from 1000 random combinations of communities into two sub-samples (excluding Balochistan)

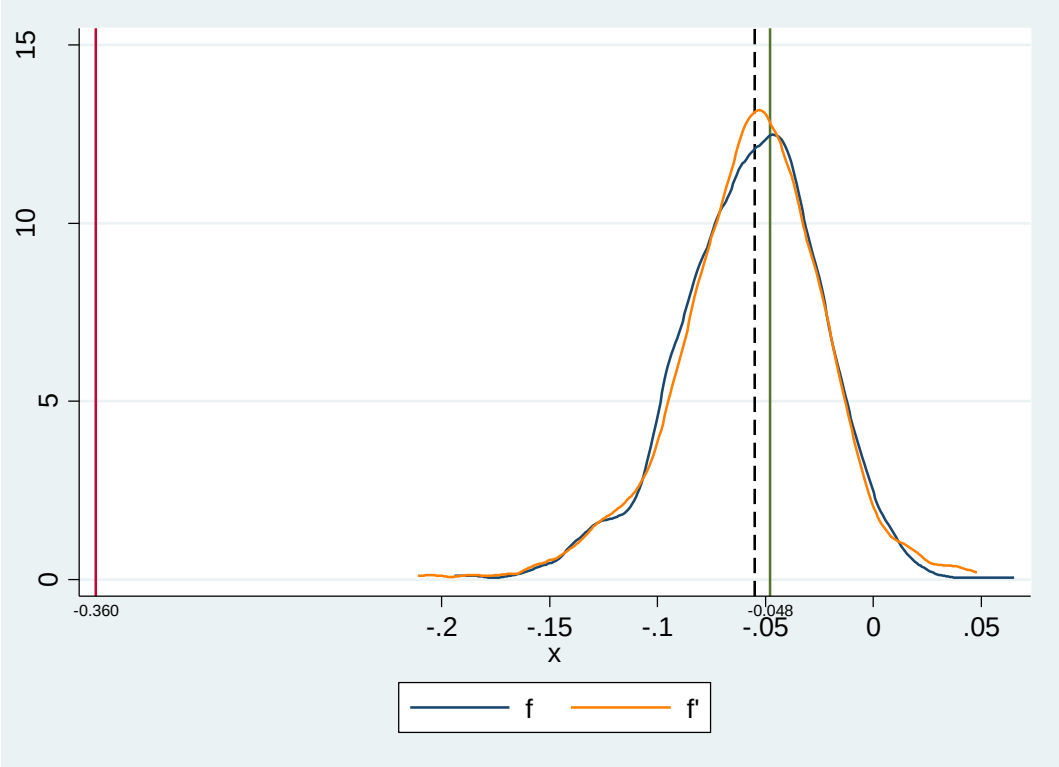


Table A6.8 Results from repeated random selection of communities into sub-samples

	No. of Instances (out of 1000)	Percentage
$f \leq$ -0.360	0	0%
$f' \leq$ -0.360	0	0%
$f \geq$ -0.048	402	40.2%
$f' \geq$ -0.048	395	39.5%
$f \leq$ -0.360 and $f' \geq$ -0.048	0	0%
$f' \leq$ -0.360 and f $\geq$ -0.048	0	0%

Annex 7. Conflict and Eligibility for BISP and CDCP – I

Table A7.1 Effect of Conflict on Alternate Indicators of BISP Eligibility (IV Estimate)

	Female-Headed Household	Female-Headed Household (without remittance)	Landless HH	Landless HH with Female Head	No. of Rooms in the House	Proportion of HH members aged 0 - 12	Value of (pre-flood) Livestock
Conflict-affected Tehsil	0.090	0.080	0.062	0.076	1.355***	-0.031	15033.840
	(1.26)	(1.29)	(0.30)	(1.21)	(2.79)	(-1.03)	(0.18)
Log (1+n) killings	0.023	0.021	0.016	0.020	0.349***	-0.008	3874.849
	(1.24)	(1.32)	(0.30)	(1.22)	(3.29)	(-1.06)	(0.18)
N	7802	7802	7802	7802	7802	7802	7802

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 A7.2 Effect of Conflict on Alternate Indicators of CDCP I Eligibility in KPK, incl. District Dummies (IV Estimate)

	HH Damage Index	HH Flood Exposure	HH Displaced due to flooding	Duration of Displacement due to flooding
Log (1+n) killings	0.060	0.109	0.056*	-2.425
	(1.34)	(1.16)	(1.75)	(-0.37)
N	1764	1764	1764	1764

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 A7.3 Effect of Conflict on village-level eligibility for CDCP - Excluding KPK (IV Estimate)

	(1)	(2)	(3)	(4)
Log (1+n) killings	-6.852	-0.948	-1.683	-559.292
	(-0.25)	(-0.22)	(-0.25)	(-0.24)
N	384	384	384	384

Marginal effects; *t* statistics in parentheses
(d) for discrete change of dummy variable from 0 to 1
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$