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Frontier governmentality

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Abstract: We examine whether frontier rule, which disallows frontier residents from recourse to formal institutions of conflict management and disproportionately empowers tribal elites, provides a more fragile basis for maintaining social order in the face of shocks. Combining a historical border that separates frontier from non-frontier regions in north-western Pakistan with 10km-by-10km grid cell-level data on conflict in a spatial regression discontinuity design framework, we show that areas under frontier rule experienced significantly higher violence against the state after 9/11. We argue that the 9/11 tragedy represented a universal shock to grievances against the state which, in the absence of formal avenues of conflict management, led to a sharp surge in attacks against state targets in the frontier regions. We show that the surge in 'sovereignty-contesting' forms of violence in these regions was partly carried out through the systematic assassination of tribal elites upon whom the whole edifice of social order was built.

Key words: institutions, historical frontiers, conflict

JEL classification: D02, D74, N45, P48

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Note: tables at the end of the paper, before the appendix

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> 'To speak of frontier governmentality in the modern world, then, is to speak of a long history of violence.' (Benjamin Hopkins, *Ruling the Savage Periphery: Frontier Governance and the Making of the Modern State,* 2020: 194)

1 Introduction

The great imperial powers ruled their frontier territories differently to the rest of their colonial domains. This 'rule of difference' was manifested in distinct administrative, legal, and institutional practices to govern inhabitants of frontier regions. Described as 'frontier governmentality', these practices 'constituted a discrete form of rule unique to frontier spaces' (Hopkins 2020: 17).[1] Originally introduced in the late nineteenth and earlier twentieth centuries, frontier governance quickly became a 'seemingly universal phenomenon' and 'an administrative archetype, widely replicated the world over' (Hopkins 2020: 3–4). This exceptional imperial rule was pervasive across colonial territories, ranging from the North-West Frontier of British India (Frontier Crimes Regulation 1887) and Kenya's northern frontier with Somaliland (Special Districts Administrative Ordinance of 1934) to India's North-East (Chin Hill Regulations of 1896). Indeed, in his magnum opus, *Ruling the Savage Periphery: Frontier Governance and the Making of the Modern State*, Hopkins (2020: 6) alludes to the 'near simultaneous construction of a system of frontier administration on a cosmopolitan canvas'.

In regions ruled by frontier governmentality, state authority penetrated imperfectly and local populations had, at best, only a tenuous and indirect link with the state, thereby shaping state–society relationships in profound ways. In these spaces the state shared its sovereignty with local elites and pursued a more 'exceptional' form of governance which rested on two key pillars.

First, local populations in frontier territories were excluded from having normal recourse to judicial and political institutions that were typically available to other colonial subjects. Instead, traditional modes of dispute resolution supervised by local elites such as tribal elders were officially sanctioned and adopted by the imperial administration. Second, frontier rule represented a highly personalized form of rule which empowered the 'man on the spot' (Hopkins 2020: 23). While colonial authorities routinely used local leaders and chiefs as 'mediators' and 'conduits', frontier governmentality constituted a specific 'sub-category' of indirect rule which delegated even greater power to local elites, sharing with them the state's power over coercion and social control (Mamdani 1999; Naseemullah 2022; Naseemullah and Staniland 2016). This entailed, for example, the power to recruit local militias and maintain security in their local jurisdictions. The upshot was that frontier communities were 'encapsulated' in their own local traditions and 'enclosed', in institutional terms, from the rest of the colony (Hopkins 2020). Frontier governmentality persisted long after the end of colonial rule and served as a powerful, yet understudied, institutional legacy.[2] It laid the basis for long-term economic and political marginalization of frontier territories and

[1] Such institutional heterogeneity is rooted in different colonial motivations. In regions where colonizers faced serious external threats, the ability to extract resources was limited and the relative costs of extending state authority were high. They tended to delegate greater authority to local elites and established more exceptional institutional arrangements (Naseemullah 2022).

[2] Modern states have continued to follow the colonial practice of governing their frontier regions through exceptional institutional arrangements (e.g., negotiated security guarantees with local elites, reliance on non-state security actors, legal adjudication through tribal elites rather than courts, dependence on local norms, and informal institutions, etc.).

shaped the conditions for both political order and disorder (Hopkins 2015, 2020; Naseemullah 2022).

In this paper we study the long-run impact of frontier governmentality on conflict. Recent work by historians and political scientists shows that regions under frontier rule are more prone to violence against the state. This is partly rooted in the fact that these regions have historically had a relatively thin presence of the state and the social order was almost entirely predicated on elite intermediation. This made them more vulnerable to external shocks resulting in what Naseemullah (2022) describes as 'sovereignty-contesting' forms of conflict. By contrast, in regions where the state penetrated more deeply and had relative autonomy from local elites, conflict was more likely to be mediated in the long run through political institutions, thereby producing forms of violence characterized as 'sovereignty-neutral'. Weaving this into a larger argument in an important new study entitled *Patchwork States: The Historical Roots of Subnational Conflict*, Naseemullah (2022) argues that the 'spatial framework of governance diversity, with roots in colonial rule and post-colonial politics, represents the key to understanding the politics of conflict' Naseemullah (2022: 17). In particular, the 'highly uneven territorialization of power' (p. xi) through which the frontier was created as a 'spatial, political, and administrative category' (p.384) left a profound historical legacy for explaining conflict against the state.

To probe the impact of frontier governmentality, we utilize the sharp differences in imperial governance between frontier territories and settled regions in north-western parts of British India that currently lie in Pakistan. Such frontier rule was legally manifested in the Frontier Crimes Regulation (henceforth, FCR) and a set of associated administrative practices that together represent an archetypical case of frontier governmentality. An additional advantage of focusing on FCR is that it had a 'lasting post-colonial afterlife' as it remained in force till 2018 in Pakistan's tribal agencies in Federally Administered Tribal Areas (FATA) (Hopkins 2015: 385). An extensive literature in history and anthropology has studied how the British imperial rule used the FCR to devise a space of judicial and administrative 'exception' in Pakistan's North-West (Allen 2012; Beattie 2013; Hopkins 2015, 2020; Pant 2018). The inhabitants of FCR regions were subjected to a different system of conflict resolution which depended on the intervention of the council of tribal elders, popularly known as the *jirga*, and operated under the direct oversight of the colonial bureaucracy. Alongside, a tribal militia (known as *khasadars*), consisting of local recruits and funded by the colonial government through tribal elites, was raised to secure the frontier. This contrasted sharply with non-FCR regions where the colonial subjects had recourse to the full array of administrative institutions, including courts, police, and civil bureaucracy.

This 'markedly different' colonial rule in frontier regions, executed through the FCR, had a 'defining effect on the social and economic fortunes of the Frontier's inhabitants' (Hopkins 2015: 380). As Siddiqui (2018) notes, 'the FCR lacked basic civil protections, allowed collective punishment of individual crimes, and placed extraordinary discretionary powers in the hands of the officers of the Raj'. In short, frontier residents existed on the 'margins of the state, excluded from the national body politics and defined by an era of colonial governance with limited rights and access to judicial systems' (Siddiqui 2018).[3] We hypothesize that FCR rule is also more prone to violence in the face of external shocks. An intrinsic feature of frontier governmentality is its 'fluid and unstable character', which is 'subject to constant processes of bargaining between different parties'. Consequently, while the rule of exception in frontier areas can ensure social order for extended periods, it is more vulnerable to shocks, partly because the 'statehood' is more

[3] From the perspective of frontier populations, FCR rule resulted in both exclusion and dependence. It not only excluded local populations from having recourse to formal institutions under colonial rule (e.g. bureaucracy and courts) but also subjected them to a tight 'economic squeeze', which made them dependent on the colonial economy.

'negotiable' and typically 'mediated' through local elites (Cuvelier et al. 2014: 346). With social order almost exclusively relying on elite intermediation and with formal institutions of conflict management mostly absent, frontier governmentality can easily unravel when elites face a threat of elimination in the face of external shocks.[4]

To investigate the long-run impact of frontier governmentality through FCR on conflict against the state, we exploit a highly fine-grained database on conflict incidents for the period from 1970 to 2018, at the 10km-by-10km grid cell level. We then use both historic and contemporary, sources to construct the frontier border that consistently separated FCR from non-FCR areas for the longest period (i.e. 1956–2018). Combining these two elements in a spatial regression discontinuity (SRD) design, we compare observations on both sides of the border to test whether historical exposure to the FCR rule shapes contemporary conflict. Our results show that, on average, between 1970 and 2018 areas that fell just inside the FCR border witnessed a significantly higher incidence of conflict against the state than areas just outside the FCR border. Concretely, individuals in grid cells just inside the FCR border were 58 per cent more exposed to conflict incidents against the state than similar individuals just outside the FCR border.

We recognize that there may be discontinuity in closely situated spatial units across other dimensions omitted from analysis (e.g., geographic, climate, and historical factors) which can cast doubt on the statistical validity of our SRD estimates. To discount this we show the absence of statistically significant discontinuity in a wide array of geographic and climatic factors, including ruggedness, slope, topography, precipitation, temperature, and wheat suitability. Importantly, we demonstrate that historical factors, such as pre-colonial conflict and population density, also vary smoothly across the FCR border. These checks provide reassuring evidence of the absence of any discontinuity in key environmental and structural characteristics which could be correlated with the emergence of FCR and could have influenced the post-FCR trajectory of conflict.

Our results emanate from a relatively stringent identification strategy which restricts the sample to grid cells within a 50-km buffer zone of the FCR border and controls for border segment fixed effects. This effectively means that we compare observations within a 50-km buffer zone along the FCR border within the same 20-km border segment. Our results are robust to: changing the size of the buffer zone within which we restrict our sample (40 km and 60 km instead of 50 km); altering the size of the border segments (18 km and 15 km instead of 20 km); using an alternative database on conflict; and excluding grid cells that are located at a distance of 0.5 km (or less) from the FCR border on either side. Furthermore, we show in the Online Appendix that our results remain robust to choosing other manually chosen bandwidths, a different kernel weighting strategy for observations close to the FCR border, and quadratic running variables.

Probing the temporal dimension, we show that the effect of FCR on conflict was only activated after the 2001 invasion of Afghanistan. Indeed we show that prior to 2001 there was no systematic difference in conflict against the state between FCR and non-FCR regions. However, regions under FCR rule witnessed a sharper spike in conflict shortly after 2001 relative to geographically proximate non-FCR regions. We argue that the year 2001 represented a universal shock to the Pakistani population's grievance against the state for its decision to lend support to the United States' attack on Afghanistan after the tragedy of 9/11. The Pakistani state's decision to join the US-led war on terror was universally unpopular in the country. However, this pervasive rise in anti-state sentiment only led to a discontinuous rise in violence against the state in FCR regions

[4] We are partly motivated here by Rodrik (1999) who demonstrated the importance of formal 'institutions of conflict management' in stabilizing economic growth in the face of external shocks.

where conflict management was highly personalized and thereby more vulnerable to sudden changes in mass perceptions.

To understand why 9/11 evoked a discontinuous response in the FCR areas, we provide several pieces of evidence that are consistent with our mechanism. First, we show that FCR areas had fewer avenues for conflict management and systematically lower trust in formal institutions of the state. Estimating linear probability models using data from a representative household-level survey, we demonstrate that individuals residing in FCR areas were less likely to consider members of the national legislature as the main recourse for dispute resolution. Instead, residents in these areas were significantly more reliant on the assembly of tribal leaders (*jirga*) for adjudicating their disputes. Furthermore, individuals from households in FCR regions had significantly lower trust in formal state institutions such as the parliament and the courts. Finally, we document the systematic targeting of tribal leaders in FCR regions. Moving across the border from non-FCR to FCR areas, we find a discontinuous rise in attacks against tribal elders. In a context where the local social order primarily hinged on elite intermediation, elimination of these elites represented an important strategy adopted by non-state actors to create an institutional vacuum and expose the FCR areas to greater violence against the state.

Our findings on the greater vulnerability of FCR-governed areas to conflict in the wake of external shocks are consistent with prior qualitative research (Naseemullah 2014, 2022). Specifically, our results shed empirical light on the claim in Naseemullah (2014: 519) that 'the destruction of the regular means through which social elites were able toc negotiate with the agents of the state was a significant enabling factor for insurgent conflict in the tribal northwest'. We also engage with other competing explanations and rule out the potential influx of Afghan refugees after 9/11, internal population displacement induced by military operations, drone attacks, and public infrastructure (roads, railroads, waterways, and health centres).

Our paper contributes to a well-traversed academic terrain on the long-run determinants of conflict, especially the role of institutions[5] (Bang and Mitra 2017; Bellows and Miguel 2006; Chauvin 2016; Ciccone 2008; Collier and Hoeffler 1998, 2004, 2007; Fearon 2007; Fearon and Laitin 2003; Heldring 2021; Herbst 2000; La Ferrara and Bates 2001; Miguel et al. 2004; Sambanis 2005; Skaperdas 2008; Voors and Bulte 2014) (see Blattman and Miguel (2010) for a detailed review). Our work differs from existing literature in several respects.

First, while prior scholarship has begun to characterize the effect of broad institutional characteristics, we have limited knowledge of the role of 'specific political and legal institutions' in driving conflict (Blattman and Miguel 2010). In fact, as Blattman and Miguel (2010: 28) argue, 'several of the institutional characteristics have yet to be carefully defined and measured', and there is a need to 'disaggregate' and unpack the institutional effect. A related challenge emanating from the overwhelmingly cross-country focus of prior work is that institutional heterogeneity within countries remains understudied. To this end our contribution is to focus on a specific form of indirect rule which created distinct institutional arrangements for governing frontier regions and whose effects remain largely unexplored. By doing so our study addresses an important research question highlighted by Sambanis (2005): Does the extent to which a state exercises control over its peripheral territories impact conflict? While there is a vibrant literature analysing frontier governance arrangements in political science, international relations, anthropology, and area

[5] Conflict is typically described as the result of bargaining failure and commitment problems. To enforce commitments over time it is important to have strong government institutions and checks and balances on executive power. Weak state capacity has also emerged as an important correlate of violence (Bates 2008; Besley and Persson 2008, 2010; Herbst 2000).

studies (Colona and Jaffe 2016; Meagher 2012; Meagher et al. 2014; Roitman 2005), their role in driving conflict is largely ignored in the mainstream economics literature. As Cuvelier et al. (2014: 346–47) note, the 'evidence base' for past studies is limited, and, while the literature offers 'new analytical tools', there are few notable attempts to 'systematically gather empirical evidence'.

Second, as Blattman and Miguel (2010: 30) argue, 'an important limitation' of prior work is that it mainly focuses on domestic drivers of conflict. The role of international factors has only recently come under closer intellectual scrutiny with studies probing the impact of global institutional transformations (Wimmer and Min 2006), terms of trade shocks (Frankema et al. 2018), conflict spill-overs from neighbouring countries (Hegre and Sambanis 2006), presence of transboundary ethnic groups (Gleditsch 2007), refugee flows (Salehyan and Gleditsch 2006), foreign aid (Nielsen et al. 2011; Savun and Tirone 2011), and foreign interventions (Aydin 2012). However, barring these exceptions, the salience of international issues has not been adequately explored. We contribute to this literature by adding an important nuance which revolves around the role of geo-political shocks (i.e. the post-9/11 war on terror) in shaping the relationship between institutions and conflict. In this regard our work provides confirmatory evidence on two important insights in Blattman and Miguel (2010: 18), namely that: (a) the impact of institutions on conflict can be conditional on other factors and (b) 'non-economic explanations' such as citizen's 'emotional and ideological outrage' can shape grievances that underpin violent action.

Third, a key empirical challenge for conflict studies is to isolate the impact of institutions from other powerful drivers of conflict, such as geography, climate, and income shocks. While prior work is mostly cross-country in nature, Blattman and Miguel (2010: 26) recommend that 'future empirical work should achieve more credible causal inference by focusing on a single, or a small number of, exogenous conflict determinants'. In this spirit our paper is situated within a growing genre of studies that exploit sub-national (or sub-regional) variations in conflict while focusing on a core conflict driver and using a robust empirical strategy. For example, Moscona et al. (2020) exploit ethnic boundaries in sub-Saharan Africa to empirically demonstrate a connection between segmentary lineage organization and conflict across ethnic groups. Similarly, Michalopolous and Pappaioannou (2016) investigate the impact of the colonial-era border-making which partitioned ethnicities in Africa on contemporary conflict.[6]

Finally, our work is situated within the expanding literature on the long-run impact of history on development—see Nunn (2009, 2021) for exhaustive reviews—especially the persistent impact of colonial-era institutions (Acemoglu et al. 2001; Acemoglu and Robinson 2012; Engerman and Sokoloff 1994). Our paper contributes to this literature by highlighting that colonialism was not a 'singular treatment', as colonizers tended to build diverse institutional arrangements even within the same territory. Furthermore, as well as showing that historical institutions matter for development, we also demonstrate 'why' and 'when' they matter. Our work thus feeds into a select literature in historical political economy that emphasizes the role of 'time-varying persistence', which suggests that the impact of history can remain latent over an extended period until it is activated through interaction with other factors or shocks (Belmonte and Rochlitz 2019; Cantoni et al. 2019; Fouka and Voth 2013; Ochsner and Roesel 2017).

[6] Using a carefully crafted identification strategy, they find that ethnicities whose traditional homelands were partitioned as a consequence of drawing up colonial borders during the 'Scramble for Africa' experienced significantly higher levels of civil conflict in the long run. They attribute the persistently higher levels of civil conflict associated with partitioned ethnic groups to the greater likelihood of these groups engaging in armed conflict to counter the state's repression.

Within the broad genre of historical work, we contribute more directly to two key sub-strands. The first is the work by Acemoglu et al. (2014), which probes the impact of the power and authority of African chiefs on development. While tribal elites are a central part of our story, we situate their role within the larger architecture of frontier governance and show how the oversized role of local elites can render the underlying institutional order more vulnerable to violence in the face of shocks. Second, we complement prior scholarship on the impact of historical borders (Becker et al. 2016; Dell 2010). In particular, our paper directly connects with two studies which probe the impact of historical frontiers on long-run inequality (Oto-Peralías and Romero-Ávila 2017) and economic geography (Chronopoulos et al. 2021). Our work differs from prior scholarship on historical frontiers in that we treat frontiers not just as a purely geographic or spatial dimension but as a profound institutional category. We thus complement prior work by focusing on a distinct institutional heterogeneity within the larger frontier zone of Pakistan's North-Western Frontier Province (now known as Khyber Pakhtunkhwa or KPK). With its focus on explaining spatial variation in conflict, this paper offers the first (to our knowledge) empirical attempt at linking historic institutions in frontier regions with contemporary conflict.[7]

The remainder of this paper is structured as follows. Section 2 sets out the historical background of this study. Section 3 describes the data and methods. Section 4 presents the main findings of our empirical analysis and Section 5 identifies plausible mechanisms. Section 6 concludes.

2 Background

2.1 The Frontier Crimes Regulation

The primary instrument of 'exceptional' rule in Pakistan's frontier regions was the Frontier Crimes Regulation (FCR), which was first introduced in 1872. In this section we describe the potential determinants of FCR rule, its salient features, and possible impact on conflict. In extending 'exceptional' legal, administrative, and political arrangements in frontier territories, colonial rulers were influenced by three factors: fear, greed, and frugality (Naseemullah 2022). In their frontier domains colonizers typically faced an external threat, had limited prospects for resource extraction, and had relatively high costs of extending state authority.

Pakistan's North-West Frontier region has historically acted as a strategic frontier nestled between Afghanistan, Central Asia, China, and present-day Pakistan (formerly British India). For administrative purposes the British Empire bifurcated the erstwhile North-West Frontier Province (now known as KPK) into settled plains and non-settled areas with tribal populations.[8] The latter represented a buffer zone for the British imperial administration against possible external threats from Tsarist Russia in the context of the geo-political competition between great powers, often referred to as the 'Great Game' (Becker 2012; Davis 1926; Hopkirk 2001).[9] From the colonizer's

[7] Our paper complements Callen et al. (2020) who use the FCR as a case study to explain why states leave their territories ungoverned. Our research also feeds into an expanding literature in political science and development studies on hybrid governance in fragile states (Arnaut et al. 2008; Boege et al. 2008; Cleaver 2002; Garrett et al. 2009; Hagmann and Péclard 2010; Lund 2006; Menkhaus 2006; Raeymaekers et al. 2008). While this literature offers useful typologies, thick descriptions, and contextual analysis, our work provides a more rigorous empirical focus.

[8] The FCR region also initially included the territories of Baluchistan and Gilgit Baltistan. After the independence of Pakistan the FCR status was gradually revoked. The frontier regions were used by the British Empire as a buffer zone.

[9] The 'Great Game' signifies the geo-political competition during the nineteenth and early twentieth centuries between the Russian and British Empires for the control of Afghanistan, Central Asia, and neighbouring South Asian territories.

perspective, frontier regions also had limited tax potential as, compared to the settled plains, these regions had a slightly different climate and topography, potentially resulting in a more limited agricultural surplus. Consequently, for a more frugal colonial dispensation, it was relatively costly to extend state authority by establishing formal institutional structures in these regions (Callen et al. 2020). It is also possible that other historical factors, such as differential experience of conflict and development in the pre-colonial period, may have shaped the adoption of exceptional frontier rule. Our empirical strategy will explicitly account for such systematic differences.

FCR as the 'rule of difference'

Through the FCR the colonial state shared its power for coercion and social control with local elites (Naseemullah 2014). The FCR's most important legacy was the creation of an alternative judicial system for frontier tribes which relied on local elite intermediation (and adjudication) rather than on formal colonial institutions such as courts and judiciary. The local tribal elites, such as *Maliks* and *Khans*, were empowered to adjudicate disputes through customary practices and informal institutions such as the *jirga* (a traditional congregation of tribal elders where decisions were made by consensus).[10] The tribal judiciary, described as the 'Council of Elders' in the 1887 regulation, was typically composed of a handful of tribal leaders appointed by the deputy commissioner.

Three other legal and administrative elements defined this sharply distinctive governance arrangement. First, the FCR codified pre-existing practices of collective punishments whereby an entire tribe or family could be held accountable for the crimes of individuals. Tribes could also face collective fines, economic blockades, and seizure of property.[11] Second, the frontier territories had distinct security and policing arrangements. The Frontier Constabulary (FC) was responsible for maintaining law and order, especially in cross-border relations between settled districts and tribal frontiers, and for keeping a general watch on foreign threats. However, the FC only had the power to monitor, sanction, and keep a general watch. It had neither traditional policing powers nor a full coercive monopoly (Hopkins and Marsden 2012; Naseemullah 2014). Third, to represent its interests in tribal areas, the colonial state appointed political agents who maintained relations with tribes on behalf of the state, gathered intelligence, and provided financial subsidies to tribal elites.[12] Financial inducements to tribal elites typically consisted of annual allowances paid by the colonial administration to tribal chiefs (*Maliks*) and stipends to recruit armed militias (*khassadars* and levies) for maintaining security within tribal jurisdictions (Hopkins 2015; Naseemullah 2014).

There is an overwhelming consensus among historians and legal scholars that FCR represents both a profound and persistent colonial inheritance of British rule in India (Embree 1977; Hopkins 2020; Nichols 2001; Stewart 2007; Tanguay-Renaud 2002). Inhabitants in these geographic peripheries, which were effectively a frontier within a frontier, were excluded from the paraphernalia of colonial institutions otherwise available to colonial subjects in settled areas. Thus, while the inhabitants of British India in non-frontier regions had at least some modicum of judicial protection through courts and the universal application of the Indian Penal Code, frontier dwellers

[10] While *jirgas* were informal consultative bodies that historically varied in form and purpose, the FCR standardized the modes of tribal governance and made *jirgas* the principal avenue for dispute resolution.

[11] They were also required to cooperate with the state in surrendering suspects harboured by their communities. While this system of collective responsibility was ostensibly geared towards ensuring law and order, it gave colonial officers considerable discretionary power to exclude or banish individuals disrupting social order. Under the 1901 version of FCR, such persons were described as 'dangerous fanatics' (36a).

[12] Naseemullah (2014: 511) describes the role of political agents as 'part military commander, part diplomat, and part spy'.

were 'legally disenfranchised' (Hopkins 2020).[13] The FCR regime has consistently been described as 'draconian' and discriminatory, as it gave the accused in frontier areas neither a right to appeal nor equality before the law (Mahsud et al. 2021). Similarly, even the very nominal and limited electoral representation that legislative councils, assemblies, and district boards offered to non-FCR areas under British rule were absent in frontier regions. Notwithstanding such legal and political exclusions, frontier inhabitants remained dependent on the colonial economy.[14]

Continuity post indepedence

The fundamental architecture of frontier governance survived long after the end of British rule. In its original formulation in 1872—and subsequent colonial-era adjustments in 1872 and 1901—the FCR applied to both the tribal areas and settled regions of KPK. However, after independence, Pakistan's 1956 constitution removed the settled regions from the FCR but retained the tribal agencies, which were the original site of FCR rule. Our study will focus on this tribal belt within the North-West Frontier of Pakistan where the FCR was consistently applied till 2018. This comprises the FATA and the adjoining Malakand Division. Although repealed in 2018, the FCR's withdrawal has thus far only existed on paper as little has substantially changed on the ground (Mahsud et al. 2021).[15]

Impact on conflict

Given the thin state presence and greater reliance on elite intermediation, the state–society relationship is configured differently in FCR areas. While the state and society are more deeply inter-penetrated in non-FCR regions, the corresponding relationship is more distant in FCR-governed areas (Hopkins 2020; Naseemullah 2022). These pre-configured and historically embedded differences in state capacities and state–society relationships are important predictors of contemporary conflict, especially insurgency-based violence at the local level (Naseemullah 2022). Indeed, 'sovereignty-contesting' forms of violence are more likely to

> …arise and persist when there are fewer institutionalized resources that might draw different groups into competition over them, and the relative absence of interpenetration between society and the state that would institutionalize this competition. Instead, groups violently reject the legitimacy of the state and its ability to organize relations. (Naseemullah 2022: 20–21)

This is precisely why areas under FCR rule are more prone to conflict in the face of shocks. The FCR worked by delegating power to customary elites and empowering the 'man on the spot' (Hopkins 2020), which can maintain social order for extended periods of time but remains vulnerable to possible disruptive episodes. The lower resilience of an elite-negotiated governance

[13] For this reason, Hopkins (2015) describes inhabitants of frontier regions as 'imperial objects' rather than 'subjects'. The former were 'objects' of colonial state action whereas the latter had recourse to state institutions.

[14] The application of FCR in the pre-independence period involved economic blockades which prevented frontier residents from accessing colonial markets and, in some cases, their own agricultural lands situated in non-FCR districts. Another facet of economic dependence was the involvement of frontier dwellers in an exploitative labour regime, an important part of which was military conscription (Hopkins 2015, 2020).

[15] While various official commissions were set up to review the FCR after independence, they only resulted in minor amendments. Similarly, senior members of the judiciary repeatedly passed critical judgements against the FCR in several high-profile cases. Prominent efforts in this regard include: the Quetta and Kalat Laws Commission, the Law Reform Commissions of 1958 and 1967–70, and the FATA Reforms Commission of 2005. None of these resulted in a substantive change.

arrangement in the face of disruptive shocks stems from there being fewer avenues for conflict management and lower trust in the state.

2.2 The 9/11 shock to a grievance against the state

The year 2001 represents a major turning point in international relations which had grave implications for localized conflict in Pakistan's FCR areas. The tragic events of 9/11 prompted the USA to initiate a major policy response in the guise of the war on terrorism, triggering the US attack against Afghanistan. As a pivotal neighbouring state, the US sought Pakistan's intelligence and logistical support to facilitate the Afghan war operations. This entailed a major policy shift for the country. Two decades earlier Pakistan's support was similarly critical in the Afghan Mujahideen's armed resistance against the Soviet Union, which was tacitly backed by the US and allied Western powers (Coll 2004; Dorril 2002; Khan 2013; Pentz 1987; Riedel 2014; Weinbaum 1991). The main objective at the time was to free Afghanistan from Soviet occupation, on which there was convergence between the Pakistani state and frontier tribesmen. Militant groups were mobilized and used as proxies against the Soviets, with the state and non-state actors broadly aligned in their opposition to Russian invasion. In 2001 the USA demanded renewed cooperation from Pakistan, which essentially entailed a major reversal of policy that the Pakistani establishment had pursued for the previous 20 years. Specifically, Pakistan was made to relinquish ties with the Taliban, many of whom had previously fought against the Soviets, and to support US war efforts against the group in Afghanistan. This was a 180-degree shift in Pakistan's Afghan policy, which had a deep institutional and ideological support base in the country.

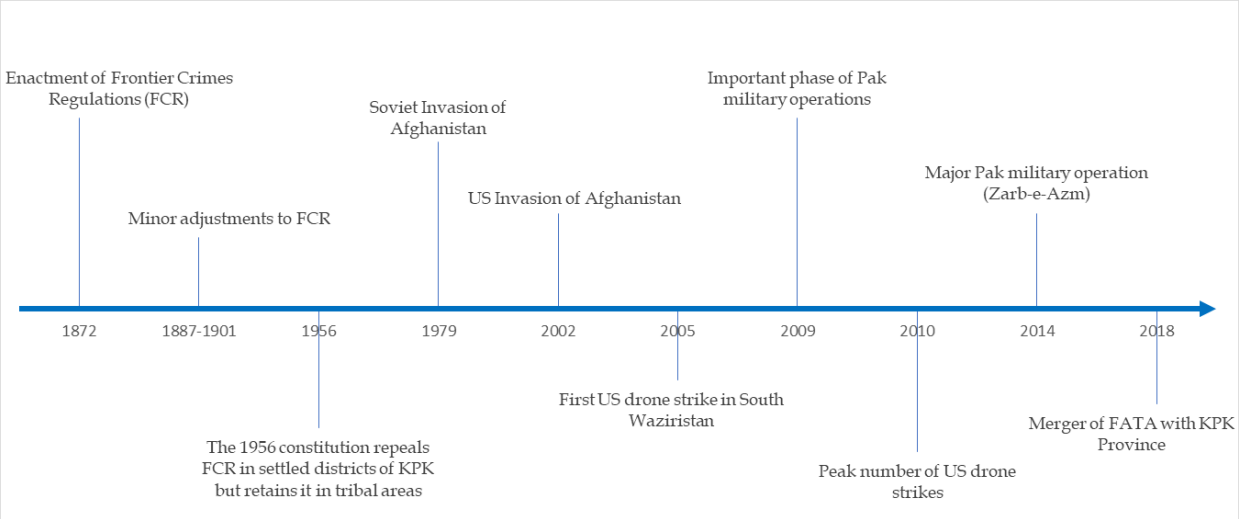
In this context, the US attack on Afghanistan and the almost-overnight foreign policy shift by Pakistan's military ruler Parvez Musharraf were deeply unpopular.[16] The resentment against General Musharraf's decision to join the US-led war was both universal, affecting all regions in Pakistan, and persistent. This is manifested in a series of surveys and opinion polls. For example, a Gallup poll conducted on 18 June 2002 showed that 62 per cent of Pakistanis were opposed to the government's decision to lend support to the US-led war on Afghanistan. Eleven years later results from a similar poll indicated that 71 per cent of respondents disapproved of cooperation with the USA in its war on terror. Such disapproval was particularly strong in Pakistan's north-western region, which included the FCR areas. Within the *north-west*, the 9/11-induced grievance against the Pakistani state was noticeably higher among residents of FCR areas (especially FATA). A survey report on FATA showed that some 85 per cent of respondents opposed the presence of the US military in the region (Shinwari 2012: 86). In 2011 around 58 per cent of survey respondents viewed the USA in 'very unfavourable terms' (Shinwari 2012: 129).

Thus, the year 2001 represented a universal shock to grievance against the state, which affected both FCR and non-FCR regions. This external shock, triggered by the tragic events of 9/11, was relatively exogenous to local conflict intensity along Pakistan's North-West Frontier. While recognizing that these regions had hosted many fighters involved in the armed struggle against the Soviets in the 1980s and that militants in Afghanistan continued to have links across the border in Pakistan after the Soviet withdrawal in 1989, the 9/11 attacks were part of a broader global phenomenon of Islamic Jihad that cannot be conceivably linked with the potential for conflict in FCR areas. Specifically, both the timing and location of the 9/11 shock are orthogonal to the propensity of local conflict in FCR regions.

[16] The US attack on Afghanistan was perceived as an aggression by the world's dominant superpower against one of the poorest states. General Musharraf's regime tried to justify this policy shift on grounds of necessity and a survival option in the face of the shifting tide of global opinion and intense US pressure. For further details, see Reuters (2006).

Pakistan witnessed a substantial surge in violence in the post-9/11 period. This was manifested in waves of violent attacks against both state institutions and civilians across Pakistan. Terrorists carried out around 1,600 attacks in the pre-9/11 era. However, a significant surge in the number of attacks was observed (around 12,000) in the aftermath of the 9/11 period (GTD 2021).[17] The intensity of such violence was considerably higher in FCR regions. While some of the militant outfits involved in this violence emerged after 9/11, they may have benefited from the organizational infrastructure put together during the 1980s Afghan Jihad against the Soviets. Nevertheless the acceleration of violence triggered a domestic and global policy response. In the post-9/11 period the FCR areas witnessed military offensives, both by Pakistani and US forces, against alleged sanctuaries of terrorist outfits. Since 2004 the USA has carried out more than 420 drone attacks against alleged Al-Qaeda-linked affiliates in Pakistan's North-West (Ahmed et al. 2019; Mahmood and Jetter 2019). These attacks increased after 2008 and peaked around 2010 during the Obama administration. The attacks were mostly targeted at sanctuaries for foreign fighters. Recent studies offer mixed evidence on the possible impact of drone attacks on violence, with some establishing a decrease in militant violence in the wake of drone strikes (Johnston and Sarbahi 2016) and others documenting a positive impact of such strikes on terrorism (Mahmood and Jetter 2019). Drone attacks further intensified the anti-US sentiment and have remained deeply unpopular across Pakistan. In a study on FATA, 63 per cent of respondents considered drone attacks as 'never justified' (Shinwari 2012: xvi and 88). Besides the US drone attacks, the Pakistani military also launched selected offensives against terrorist groups, including a major military operation in 2014 (the *Zarb-e-Azb*) which resulted in a noticeable dip in violence. Figure 1 includes the timeline of these key events.

Figure 1: Timeline of FCR and major domestic and global events



Source: authors' construction.

[17] Similarly, the share of state and non-state targets of the terrorists was 29 and 71 per cent, respectively, in the pre-9/11 period. In the post-9/11 period, it changed to 55 and 45 per cent, respectively.

3 Description of variables and data sources

3.1 Conflict data

The conflict data on attacks against the state is extracted from the Global Terrorism Database (GTD 2021). The GTD provides details on more than 200,000 conflict incidents across the world since 1970. For each incident, information is provided on the time (day, month, and year), location (latitude and longitude), fatalities (wounded and killed), type (assignation, explosion, suicide, hijacking, etc.), target (civilians, businesses, government officials, religious institutions, non-governmental organizations, etc.), the source (militant outfit that carried out the attack), and the motivation for the attack (political, religious, etc.).

The GTD reports more than 15,000 conflict incidents in Pakistan from 1 January 1970 to 31 December 2018. The main outcome of interest for our study is conflict against the state. This encompasses attacks against state targets such as airports/aircraft, educational and health institutions, courts, government officials (civil servants, military, police, etc.), politicians, electricity grids, telecommunication installations, and gas infrastructure.[18] We use information on these state targets contained in the GTD to construct three measures of conflict against the state. The first aggregates the number of incidents, the second the number of deaths, and the third the number of injuries that fall under state targets in a 10km-by-10km grid cell for the period from 1970 to 2018.

3.2 FCR border

As discussed in Section 1 the border we use for our study consistently separates areas that remained under FCR rule from their non-FCR counterparts for the longest period (1956–2018). We followed a two-step procedure to construct this border. In the first step we used both historic and contemporary sources to identify areas under FCR rule that were consistently separated from their non-FCR counterparts from 1956 to 2018.[19] Specifically, these areas consisted of the political agencies of the FATA and the adjoining districts of the Malakand Division, as they existed in 2018.[20] In the next step we used a 2018 map of administrative units in Pakistan to extract the border separating FATA and the adjoining Malakand Division from the rest of the North-Western Frontier region.

3.3 Controls

The validity of our SRD estimation method requires that other relevant dimensions apart from the treatment vary smoothly across the FCR border. While we are not able to rule out discontinuities in every conceivable dimension, we do present evidence that a whole range of factors that could plausibly be linked to conflict vary smoothly across the FCR border. In this regard we compile data on the following geographic, climatic, and historic factors.

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[18] Further details on the classification of state and non-state attacks are provided in Appendix A.

[19] Important sources used to identify the historical border include Constitution of Pakistan (1973), Imperial Gazetteer of India (2005), Nichols (2001), Turk (2021), and White (2008).

[20] The Malakand Division includes the districts of Buner, Upper and Lower Chitral, Upper and Lower Dir, Malakand, Shangla, and Swat. Although nominally removed from FCR after the promulgation of the 1973 Constitution, the Malakand Division has de facto remained under FCR rule (Mahsud et al. 2021; Naseemullah 2014).

3.3.1 Geographic characteristics

Elevation

Data on elevation is provided by the Shuttle Radar Topography Mission (2018). The elevation information is recorded in metres at the resolution of 30 arc seconds, which is approximately equivalent to a 1km^2 level near the equator. From this underlying data, we calculate the terrain ruggedness index, average slope index, and topographic position index at the 10km-by-10km grid cell level.[21]

Ruggedness

We use the terrain ruggedness index (TRI) which was originally devised by Riley et al. (1999) and further developed by Nunn and Puga (2012). This TRI is calculated as the square root of the sum of the squared differences in elevation between a central point and the eight adjacent points on a grid of 30 arc seconds. For this study we construct the average terrain ruggedness for each 10km-by-10km grid cell, with higher values indicating higher terrain ruggedness.

Slope

Our measure of slope is a measure of change in elevation across space. The slope index we construct for each 10km-by-10km grid cell in our study is the weighted average of differences between adjacent 30 arc-second elevation points, with the weights being the inverse of distances between the points. The topographic position index (TPI) is another measure of an area's elevation relative to its surroundings. It is calculated by subtracting the mean elevation of eight surrounding 30 arc-second elevation points from a central elevation point. Using this procedure we construct the average TPI for each 10km-by-10km grid cell in our dataset, with higher values indicating more extreme topography.

Wheat suitability

The data on wheat suitability comes from the Food and Agriculture Organization's Global Agro-Ecological Zones (FAO-GAEZ) dataset, which is available from GAEZ Data Portal (2012) We compute grid cell-level measures by averaging over raster points within each 10km-by-10km grid cell. Note that the wheat suitability data we download from the FAO-GAEZ dataset is based on the 'low-input' and 'rain-fed' parameters which closely proxy the historical conditions under which wheat was grown.

3.3.2 Climate

Precipitation

Data on precipitation is provided by the Global Climate Database created by Hijmans et al. (2005), which is available from WorldClim (2020). Along with monthly average rainfall the data also provides the long-run average for the years 1970–2000 in millimetres. We match the average rainfall between 1970 and 2000 to each 10km-by-10km grid cell to construct a measure of long-term average difference in precipitation levels on either side of the FCR border.

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[21] Grid cell-level aggregates are extracted using the QGIS *Zonal Statistics* command which calculates various statistics like average, median, standard deviation, etc., for raster datasets in defined zones.

Temperature

For temperature data we again use the Global Climate Database by Hijmans et al. (2005), which also contains information on average temperature in °C, both on a monthly basis and as the long-term average for the period 1970–2000. We merge each 10km-by-10km grid cell with the average temperature between 1970 and 2000 to capture the long-run effects of temperature on both sides of the FCR border.

3.3.3 History

Pre-FCR population density

Data on pre-FCR (i.e. before 1901) population density is extracted from the HYDE (2006) database. The HYDE database provides internally consistent 10km-by-10km grid cell-level estimates of population density at 100-year intervals for the last 12,000 years.

Pre-FCR conflict

Conflict data from prior to the institution of FCR rule comes from the book by Jaques (2007), the goal of which is to document as many historical conflicts as possible (Jaques 2007: xi, xiii). This book is organized alphabetically by individual conflict names. For each individual conflict he provides a paragraph-length description which contains information on the type (e.g., land, sea, etc.), date, approximate duration (e.g. single day), approximate location, and the major participants.

3.4 Attacks on tribal elders (*Maliks*)

The GTD (2021) also reports geocoded information on attacks against tribal elders—known as *Maliks*. Using such information we construct a variable that aggregates the number of attacks against tribal chiefs at the 10km-by-10km grid cell level.[22] This is our main measure of violence against local tribal elites and is used in probing the mechanism through which FCR rule affects conflict against the state in the post-9/11 period. Similarly to what we did for violence against the state, we construct two further measures of violence against tribal chiefs. The first aggregates the number of deaths in attacks against tribal elders and the second aggregates the number of injuries in attacks against tribal elders, both calculated at the 10km-by-10km grid cell level.

3.5 Descriptive evidence

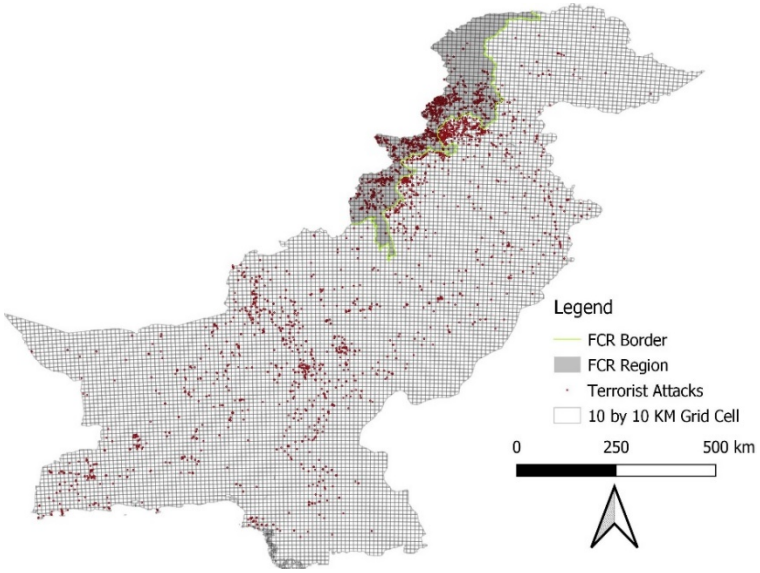
Table 1 reports average differences in each of the three measures of conflict against the state either side of the FCR border. The means for FCR and non-FCR areas are followed by the estimated difference between the two values for each of the measures. Columns 1–3 are based on the whole sample, whereas columns 4–6 restrict the sample to a 50-km buffer zone either side of the FCR border. The latter of these is the main sample we use for our empirical analysis. Across all measures, and regardless of whether the whole or the restricted sample is used, the intensity of conflict against the state is statistically significantly higher in FCR areas relative to non-FCR areas. In particular, the FCR areas have between 36 per cent and 57 per cent more conflict intensity than the non-FCR areas based on the specific measure that is used.

[22] The first ever attack against a tribal elder in the GTD occurred in 2006. This means that the data on violent incidents against tribal elders comes entirely from the post-9/11 period.

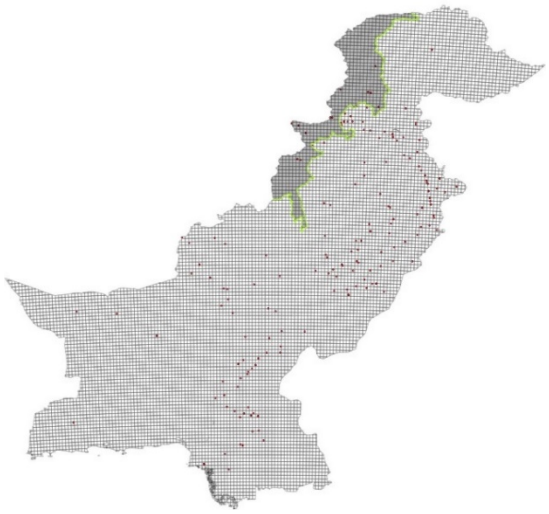
A visual analog of the differences in the means analysis of Table 1 is presented in Figure 2. Panel A plots each conflict event between 1970 and 2018 on a 10km-by-10km grid cell map of Pakistan using its latitude and longitude coordinates. Panels B and C plot the events for the pre-9/11 and post-9/11 periods, respectively. Two clear conclusions can be reached from the mapping of conflict events in the figure. First, the density of attacks against the state is much higher inside the FCR boundary for the whole period of the dataset (see the shaded area in panel A). Second, most of the difference in the density of the attacks comes from the post-9/11 period as opposed to the pre-9/11 period, where the number of violent incidents are few and far between. The formal empirical analysis in the following sections will further reinforce these findings, which are strongly suggestive of the main mechanism we argue for in this paper: that the 9/11-induced shock to grievance against the state unlocked civil conflict in FCR areas.

Figure 2: Spread of terrorist attacks across space and time

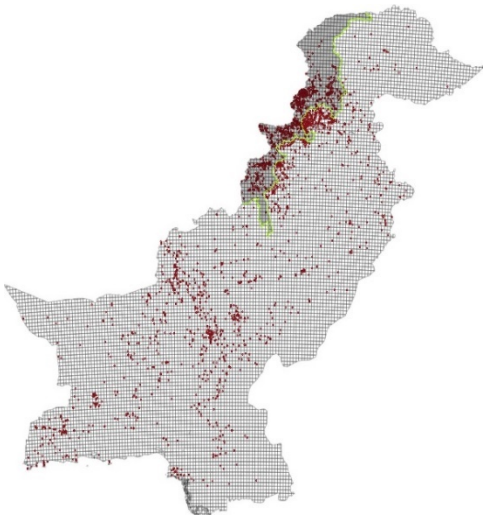
Panel A: Terrorist attacks (1970–2018)



Panel B: Pre-9/11 terrorist attacks



Panel C: Post-9/11 terrorist attacks



Note: the maps show the spread of conflict incidents in a 10km-by-10km grid cell from 1970 to 2018. The FCR border (green) divided Pakistan into FCR (dark shade) and non-FCR rule.

Source: authors' compilation. This map is created from GTD (2021) data through QGIS software.

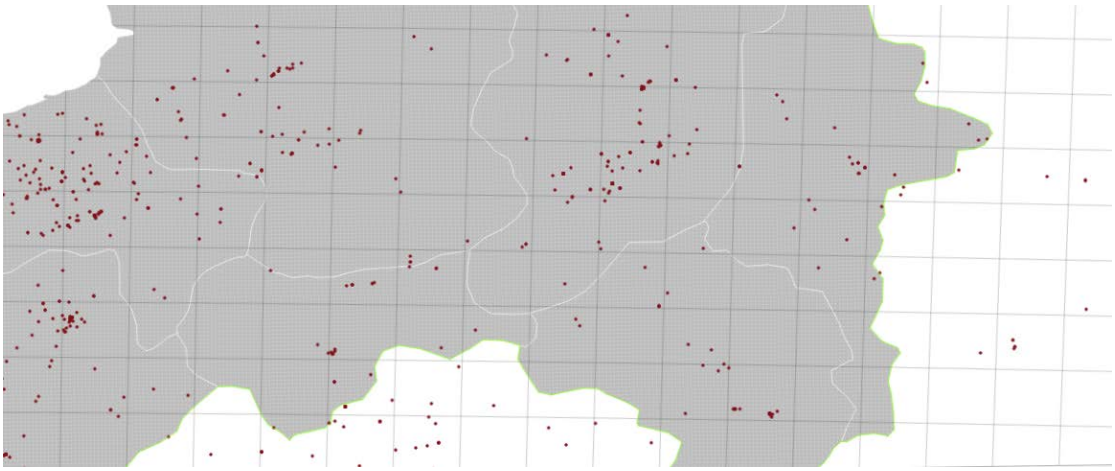
4 Spatial regression discontinuity estimates

4.1 Identification strategy

Despite the descriptive evidence in Section 3.7 showing a significant increase in the incidence of conflict under FCR rule, a key concern is that unobservable characteristics could bias this relationship. For example, if tribal groups residing in FCR areas had some innate unobservable traits that increased their propensity to engage in violence and caused FCR rule to be imposed during the colonial era, then this could bias our results. Such unobservable characteristics can originate from different sources grounded in the history, geography, and climate of the FCR areas.

Given this concern we use the SRD estimation method, which accounts for all unobservable factors that vary smoothly across space. The SRD estimation method compares conflict incidence in areas that are geographically sufficiently close to each other, but where one area is subject to FCR rule and the other is not. In our empirical analysis we use a 10km-by-10km grid cell as the unit of observation and restrict our sample to grid cells that are within a 50-km buffer zone around the administrative boundary separating FCR from non-FCR areas. Figure 3 illustrates our SRD set-up, showing contiguous 10km-by-10km grid cells on either side of a specific segment of the FCR border (green line), with some falling under FCR rule (grey cells) and others outside it (white cells). It also shows the precise location of conflict incidents against the state (red dots) along the specific segment. Figure 4 shows the 50-km buffer zone (shaded in grey) within which our analysis is restricted.

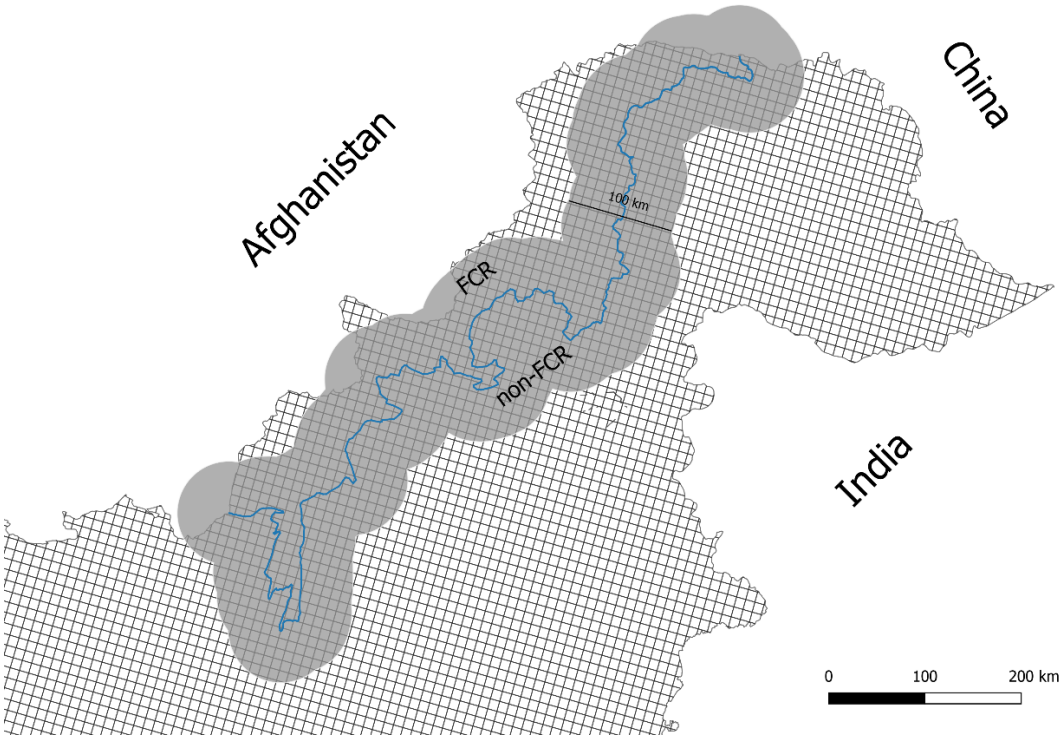
Figure 3: Illustration of the SRD set-up



Note: this figure illustrates the SRD set-up. Every square is a 10km-by-10km grid cell. The green line is the FCR boundary. The grey shade represents the area inside the FCR border, whereas the white shade represents the area outside the FCR border. The red dots represent the geocoded locations of conflict incidents against the state.

Source: authors' construction. The map is created from GTD (2021) data through QGIS software.

Figure 4: Area of study



Note: this figure shows the area of study within which our sample is restricted. It encompasses all those grid cells that lie within a 50-km buffer zone around the FCR boundary.

Source: authors' construction. The map is created through QGIS software.

By restricting the sample to grid cells that are sufficiently close to the FCR boundary and estimating the difference in conflict incidence at the FCR border, the SRD estimates establish the causal impact of FCR rule on conflict. This is because, as long as the determinants of unobservable traits like geography, climate, and history (including the possible effects of pre-colonial conflict and development) vary smoothly across the FCR border, it is possible to attribute the estimated difference in conflict solely to FCR rule.

Our SRD estimating equation is as follows:

$$y_{i,s} = \beta_0 + \beta_1 1\{FCR\_DIST_{i,s} > 0\} + \beta_2 FCR\_DIST_{i,s} +$$

$$\beta_3 FCR\_DIST_{i,s} * 1\{FCR\_DIST_{i,s} < 0\} + \beta_4 X_{i,s} + \nu_s + \epsilon_{i,s} \quad (1)$$

where $y_{i,s}$ is a measure of conflict against the state in a 10km-by-10km grid cell *i* along the border segment *s*. $FCR\_DIST_{i,s}$ is the distance between the grid cell *i* along border segment *s* and the FCR boundary, defining it positively inside the FCR area. $1\{FCR\_DIST_{i,s} > 0\}, 1\{FCR\_DIST_{i,s} < 0\}$ are indicators for grid cell *i* along border segment *s* being inside or outside the FCR area. $X_{i,s}$ is a vector of covariates which includes the following set of grid cell-level geographic, climatic, and historic controls: terrain ruggedness, slope, topography, wheat suitability, temperature, precipitation, pre-FCR conflict incidence, and pre-FCR population density.

We also divide the FCR boundary into fixed 20-km segments to which grid cells are then matched. ν_s are the associated border segment fixed effects which ensure that grid cells are compared across

similar geographic regions.[23] In other words our sample is restricted to grid cells that are within a 50-km buffer zone on either side of the same 20-km border segment. We use a grid cell's Euclidean distance from the FCR border, $FCR\_DIST_{i,s}$, as the running variable and, following Gelman and Imbens (2019), use a local linear specification which is estimated separately on both sides of the border. Finally, we cluster the standard errors at the FCR border segment level to account for spatial correlation.

While we recognize that our SRD estimates could be biased by conflict spill-overs from non-FCR to FCR areas, this is unlikely to be the case as the vast majority of conflict incidents in our dataset emanate from localized groups for which we expect all fighting to occur within the territory of the participants. Nevertheless, we explicitly address this concern in Section 5.4 on competing explanations.

4.2 Validity of the SRD design

A key assumption of the SRD approach is that unobservable factors vary smoothly across the FCR border. While it is impossible to directly test for this assumption, we can nevertheless provide strong evidence in favour of its validity by showing the absence of discontinuity at the FCR border for a variety of geographic, climatic, and historic correlates of conflict. In doing so we closely follow the prior literature which correlated conflict with such dimensions as ruggedness (Fearon and Laitin 2003; Nunn and Puga 2012), climate and topography (Burke et al. 2015; Chambru 2019; Iyigun et al. 2017), historic population density (Herbst 2000; Reid 2012), and historic exposure to conflict (Fearon and Laitin 2014). These dimensions are either directly correlated with conflict or serve as proxies for conflict determinants that are difficult to observe. For example, income per capita consistently comes up as a key driver of conflict. While historical (especially pre-colonial) data on income is unavailable, climatic factors (e.g. rainfall) and historical population density act as useful proxies. Similarly, as geography constrains the reach of the state, it can proxy for state authority and capacity, dimensions that are otherwise hard to measure.

To rule out such conflict determinants, we estimate equation 1 with each of the relevant dimensions as the dependent variable and show that the resulting SRD estimates are statistically insignificant and do not highlight a discontinuity across the FCR border. We show this for the following dimensions: terrain ruggedness, slope, topography, wheat suitability, temperature, precipitation, pre-FCR conflict incidence, and pre-FCR population density. Table 2 reports the estimates from the variant of equation 1 which only includes the border segment fixed effects. For each of the eight factors, the coefficient estimate on the FCR indicator variable is invariably small in magnitude and never statistically different from 0. Additionally, Appendix B, Figure B1 presents visual evidence for the lack of discontinuity in the factors. It shows binscatterplots (with 15 bins) of the unconditional relationship between each of the *six main factors* and the distance from the FCR border. Even in this raw data no discontinuity is apparent in any of the six main factors where there is a substantial overlap in the 95 per cent confidence intervals either side of the distance to the border cut-off.

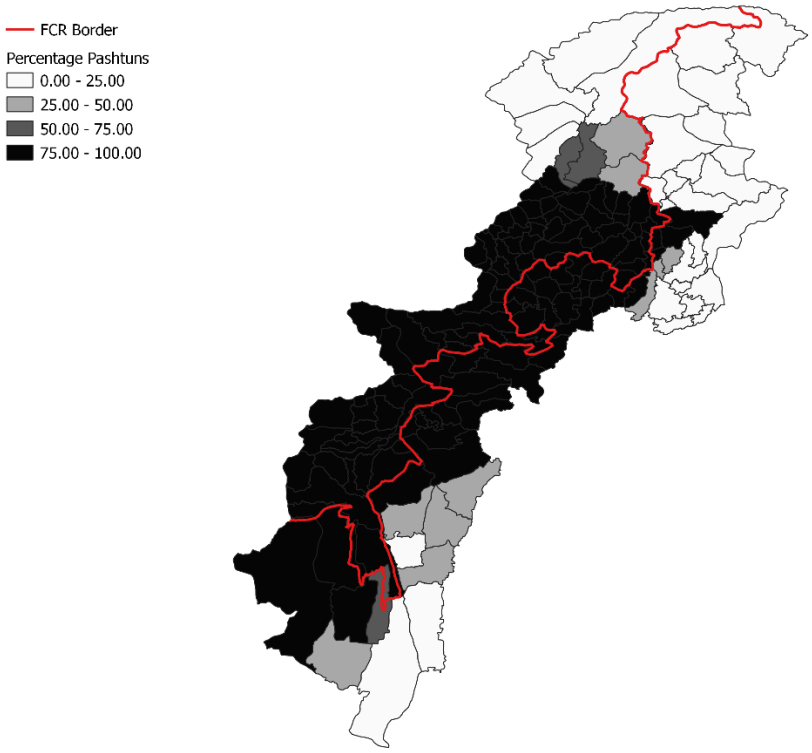
As well as ruling out discontinuities in geographic, climatic, and historic factors, it is also important to address a potential concern that other ethnic or religious characteristics may vary discontinuously at the FCR border. For instance, in their study on conflict in Africa, Moscona et al. (2020) find that ethnic groups organized around segmentary lineages are much more likely to

[23] In particular, the inclusion of the border segment fixed effects allows us to compare grid cells across the same fixed segment of the FCR border. Other studies that incorporate segment fixed effects in an SRD specification are those by Dell (2010), Dell et al. (2018), and Asher et al. (2022).

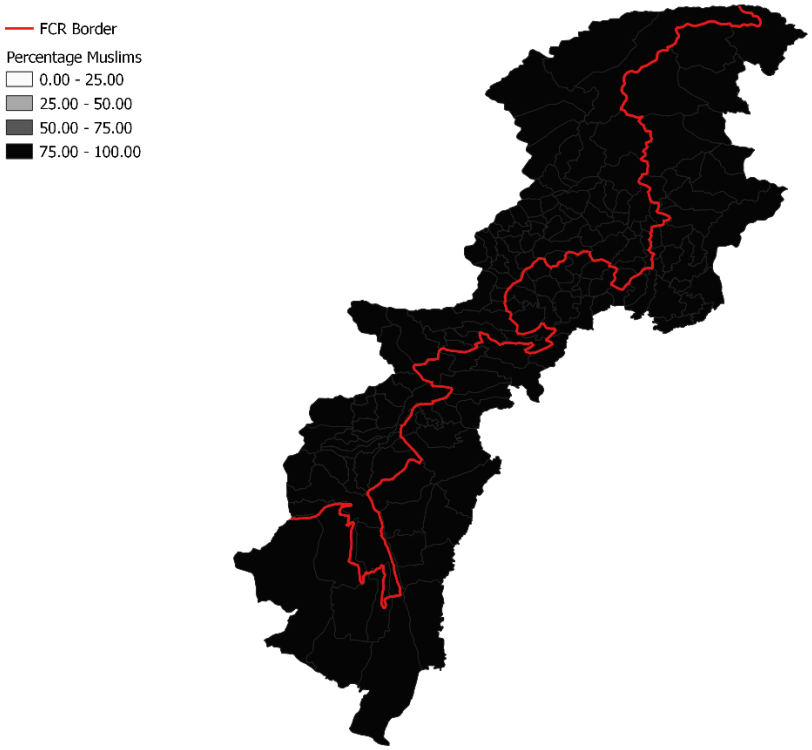
engage in violent conflict which is both larger in scale and more prolonged in duration. To rule out this concern we compare sub-district (i.e. *tehsil*) level data on ethnicity and religion on either side of the FCR border in Figure 5. Panel A of the figure shows the percentage of the population that belongs to the major ethnicity in our area of study (Pashtuns). As is clear, for most of the sub-districts either side of the FCR border, between 75 and 100 per cent of the population belong to the major ethnic group. The remaining sub-districts are also quite evenly balanced in terms of their ethnic make-up, with the difference in the percentage of Pashtuns either side of the border exceeding 25 percentage points in only a handful of cases. In panel B we show the almost perfect balance in the religious make-up of the population either side of the FCR border. Remarkably, for each of the sub-districts on either side of the FCR border, the percentage of the population that belongs to the majority religion (Islam) is always between 75 and 100 per cent.

Figure 5: Balance along ethnicity and religion

Panel A: Percentage of Pashtuns at sub-district level



Panel B: Percentage of Muslims at sub-district level



Note: this figure shows the distribution of the majority ethnic and religious groups either side of the FCR border at the sub-district level. Panel A shows the balance between the majority ethnic group (Pashtuns) across the border, whereas panel B shows the balance for the majority religious group (Islam).

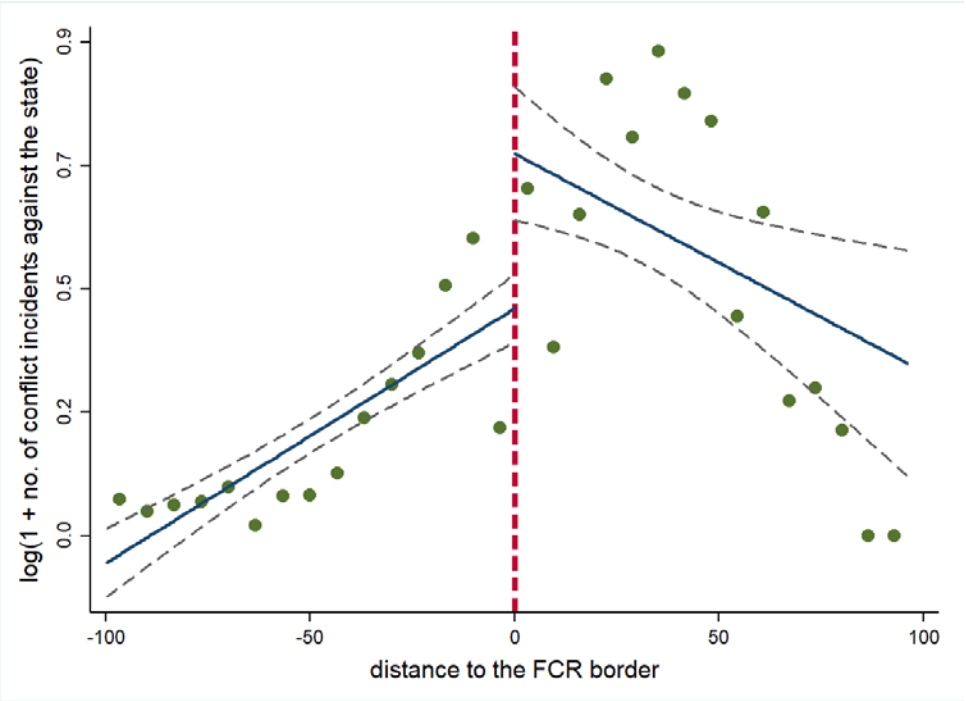
Source: authors' compilation.

4.3 Baseline estimates

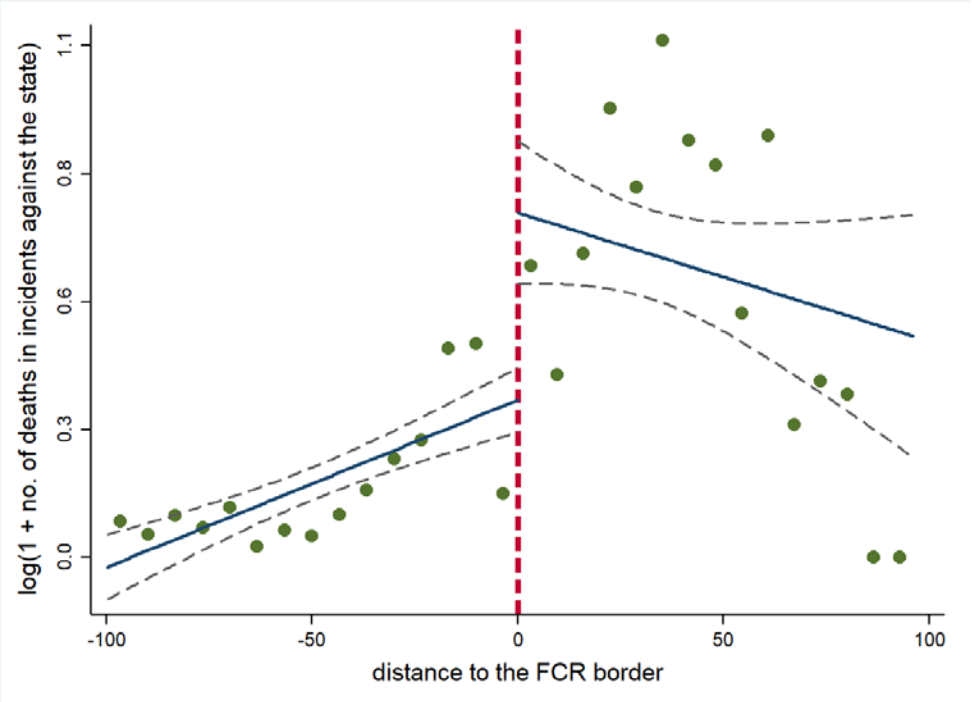
We now turn to the SRD estimates of the relationship between frontier rule and the incidence of conflict against the state. However, before proceeding to discuss the estimates, we first examine the raw relationship between FCR rule and conflict against the state in our SRD sample. Accordingly, in Figure 6 we show the binscatter plots (with 15 bins) of the unconditional relationship between each of the three measures of conflict against the state in our dataset and distance from the FCR border. As is clear from the figure, even in the raw data, a strong discontinuity in conflict against the state is clearly visible at the FCR border. Moving from just outside to just inside the FCR border, we observe a clear discontinuous increase in conflict against the state in each of the three measures.

Figure 6: Conflict against the state and distance to FCR border (the raw relationship)

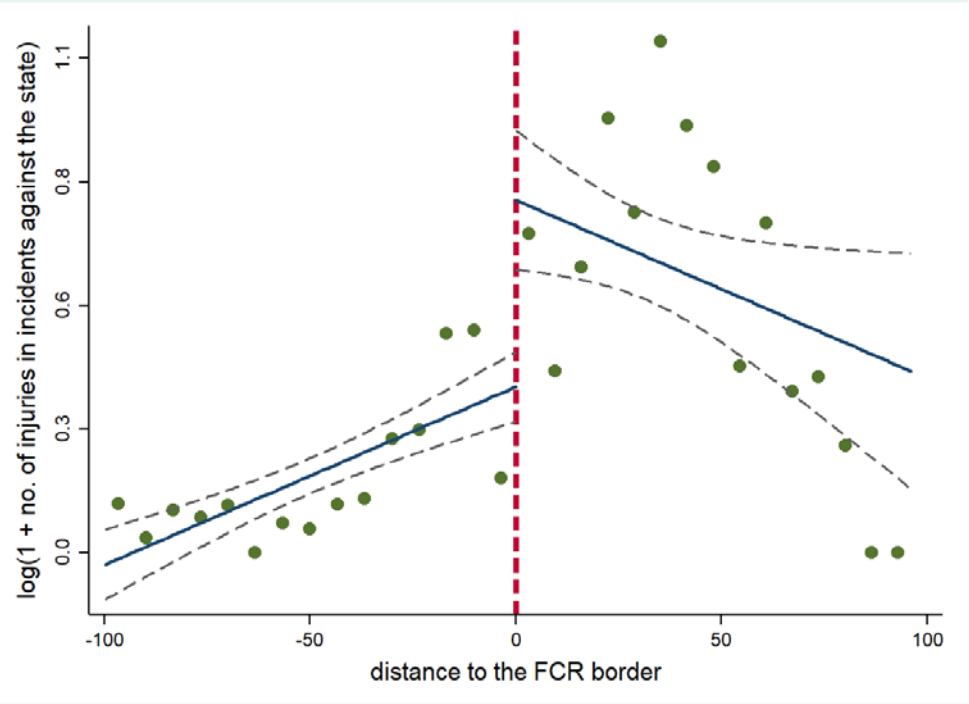
(a) Number of incidents



(b) Number of deaths in incidents



(c) Number of injuries in incidents



Note: binned scatterplots (with 15 bins) of the unconditional relationship between conflict against the state and distance to the FCR border. The y-axis reports the natural log of 1 plus the incidence of conflict against the state for each of our three measures. The x-axis reports the distance (in km) from the FCR border for areas under FCR and non-FCR rule. The border itself is at km 0 with positive values indicating km inside the FCR territory.

Source: authors' construction.

We now turn to Table 3, which reports the SRD estimates for each of the three measures of conflict against the state (number of incidents, number of deaths, and number of injuries). For each measure we report estimates from two different variants of equation 1. The first variant only includes border segment fixed effects, whereas the second adds the full set of geographic, climatic, and historic controls. All estimates use a restricted sample of grid cells, which are within a 50-km buffer zone to the left and right of the FCR border, as depicted in Figure 4. For both variants, and irrespective of the measure of conflict used, we find that the estimated effect of FCR rule on conflict against the state is positive and statistically significant. We also find that, for each of the three measures, the magnitude of the FCR effect remains fairly similar whether we estimate the variant with (columns 2, 4, and 6) or without (columns 1, 3, and 5) the controls. In particular, the SRD estimates show that FCR rule leads to an increase in conflict incidents against the state of 0.64 standard deviations.[24] What is particulary reassuring is that, when comparing SRD estimates from specifications with controls to those without controls, the difference in magnitude never exceeds 5.3 percentage points.

4.4 Robustness checks

We now test for the sensitivity of our baseline results in Section 4.3 to a whole series of robustness checks, which include using different buffer zones within which the SRD sample is restricted, including alternative border segment fixed effects, using an alternative source for conflict data,

[24] The value of 0.64 is calculated by dividing the coefficient on the 'Inside FCR border' indicator variable in column 2 of Table 3 by the standard deviation of ln(1+incidents against state) in the 50-km buffer zone sample, i.e. 0.575/0.899.

dropping observations very close to the border cut-off, using an alternative specification for the running variable, choosing 'manual' as opposed to 'data-driven' bandwidths for the SRD estimates, and using an alternative kernel weighting strategy for observations close to the border cut-off. We begin by showing in Table 4 the robustness of our baseline estimates to restricting the sample to grid cells that lie within two alternative buffer zones around the FCR border—one broader at 60 km from the border and the other narrower at 40 km from the border.

Panel A of Table 4 reports estimates from the sample with the 60-km buffer zone and panel B reports those from the sample with the 40-km buffer zone. As is clear from the table, regardless of the restrictions imposed on the sample, the effect on conflict of moving from just outside to just inside the FCR border is both positive and statistically significant. Furthermore, the magnitude of the estimated effect changes very little when one moves from models without the controls (columns 1, 3, and 5) to the ones with the controls (columns 2, 4, and 6). Next, in Table 5 we test for the sensitivity of our baseline estimates to the inclusion of fixed effects for shorter border segments of 15 km and 18 km. As border segment fixed effects account for treatment effect heterogeneity along the FCR frontier, this sensitivity analysis is important to the robustness of our findings. Whether we restrict the length of the border segments to 18 km (panel A) or 15 km (panel B), we find a positive and statistically significant effect of FCR rule on conflict against the state.

Our baseline estimates are based on conflict events recorded in the GTD of 2021. Information on conflict events contained in the GTD is based on reports from a variety of open media sources that have been verified as being credible. There is, however, the possibility of some measurement error in the recording of conflict events, especially early on in the time period covered by the GTD when there were both fewer media outlets and more curbs on media freedoms in Pakistan. We, therefore, use the Uppsala Conflict Dataset (UCD) (Uppsala Universitet 2023) as an alternative source of geocoded information on conflict events in Pakistan for cross-checking our findings from the GTD database. The main advantage of the UCD is that it is the 'oldest ongoing data collection project for civil war, with a history of almost 40 years' (Uppsala Universitet 2023). Unlike the GTD, however, the UCD does not disaggregate conflict events by target types, which means that we cannot create like-for-like measures of conflict against the state between the two data sources. Consequently, in Table 6 we present SRD estimates of FCR rule on the two measures of overall conflict for which information is available in the UCD. For both measures, and regardless of the model with (columns 2 and 4) or without (columns 1 and 3) controls, our baseline results are reinforced by the UCD.

Our SRD estimates of the effect of FCR rule at the border could be subject to some ambiguity in treatment status. This could happen if, for instance, grid cells very close to the border have some of their area outside the FCR (and thus are not treated) and some inside the FCR (and thus are treated). Including such grid cells in our sample would bias our SRD estimates towards zero. Following standard practice in the literature, we address this concern by conducting donut hole analysis whereby grid cells within 0.5 km of the FCR border in either direction are excluded. As Table 7 shows, our findings are robust to this stringent test.

Our baseline specification used a 'linear' polynomial in the running variable (distance to the FCR border) to estimate the SRD effect of FCR rule. In their methodological work on regression discontinuity estimation methods, Cattaneo et al. (2019) recommend increasing the order of the polynomial in the running variable so as to reduce the approximation error in estimating the RD effect. Following their advice we use a 'quadratic' polynomial as the functional form for the running variable in Appendix B, Table B1 and show that our estimates remain consistent both in terms of sign and statistical significance. For our next robustness test we opt for a manual approach towards bandwidth selection as opposed to the data-driven approach we employed in our baseline

estimation. Appendix B, Table B2 shows the results of this test. As is clear from the table, whether we impose a bandwidth of 15, 12, or 10 km either side of the FCR border, our SRD estimates remain consistent both in terms of sign and statistical significance. In our final robustness check we use a different kernel weighting strategy for observations close to the FCR border. Rather than using a triangular kernel, which assigns a linear decaying weight to observations as one gets further and further away from the border cut-off, we use an Epanechnikov kernel, which instead gives a quadratic decaying weight.[25] The results, reported in Appendix B, Table B3, are strongly consistent with our baseline estimates.

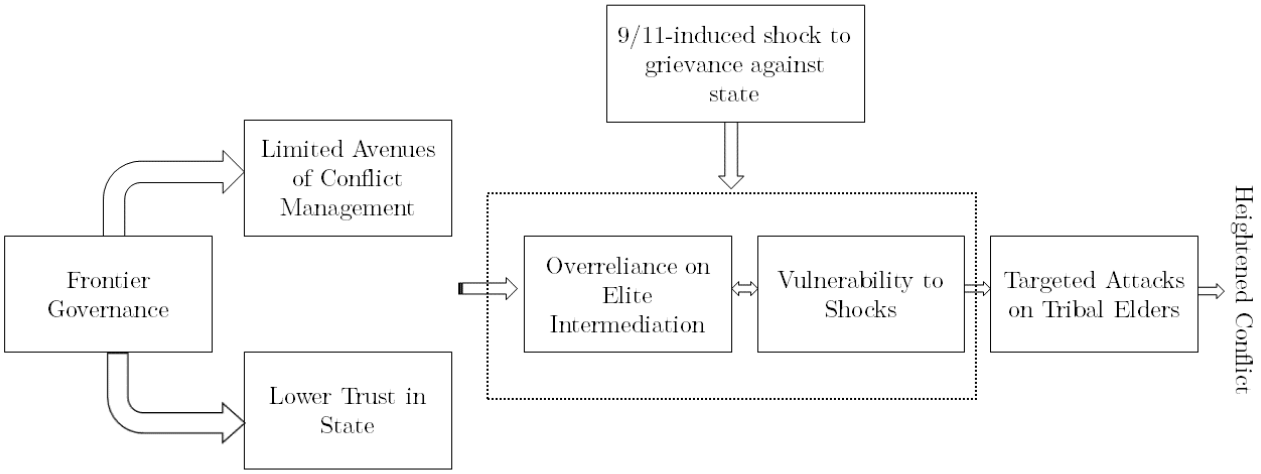
5 Mechanism

Our empirical results show that FCR areas are systematically more likely to be exposed to sovereignty-contesting forms of violence in the long run. In this section we propose a possible mechanism underpinning these results and provide several complementary pieces of evidence to support it. To recall, our main argument is that historically embedded FCR rule in frontier regions promoted social order through an elite-negotiated system of governance. As Naseemullah (2014: 513) argues, this 'seemed to have worked because of the built-up mutual understanding between government officers, the political agents, and government-recognized *Maliks* who held the authority to negotiate with the state on behalf of the tribes'. However, due to its over-reliance on elite intermediation and its fluid and negotiable character, the FCR rule is less resilient to shocks. This vulnerability to shocks also stems from the fact that residents in FCR areas have a generally lower level of trust in the state and have limited if any, recourse to formal institutions of conflict management that can act as a safety valve or shock absorber.

To shed light on this causal explanation, we first demonstrate the importance of our results of the 9/11-induced shock to grievance against the state. Disaggregating the empirical patterns over time, we show that the greater violence against the state in FCR areas is mainly an artefact of the post-9/11 period. Prior to 2001 there are no systematic differences in conflict against the state between the FCR and non-FCR areas. Next, we provide empirical evidence on the relatively greater reliance of FCR residents on tribal leaders (*jirga*) for dispute resolution and their lower level of trust in formal state institutions. Finally, we show that the 9/11-induced disruption to FCR rule seems to have taken place through a strategic elimination of tribal leaders who were the main pillars of frontier governance. Their removal, especially in the absence of any alternative formal avenues of conflict resolution, intensified local conflict. Figure 7 provides a brief sketch of these mechanisms at work.

[25] Both kernels assign zero weight to observations that are strictly outside the bandwidth over which the SRD estimates are computed.

Figure 7: The transmission mechanism from frontier governmentality to conflict

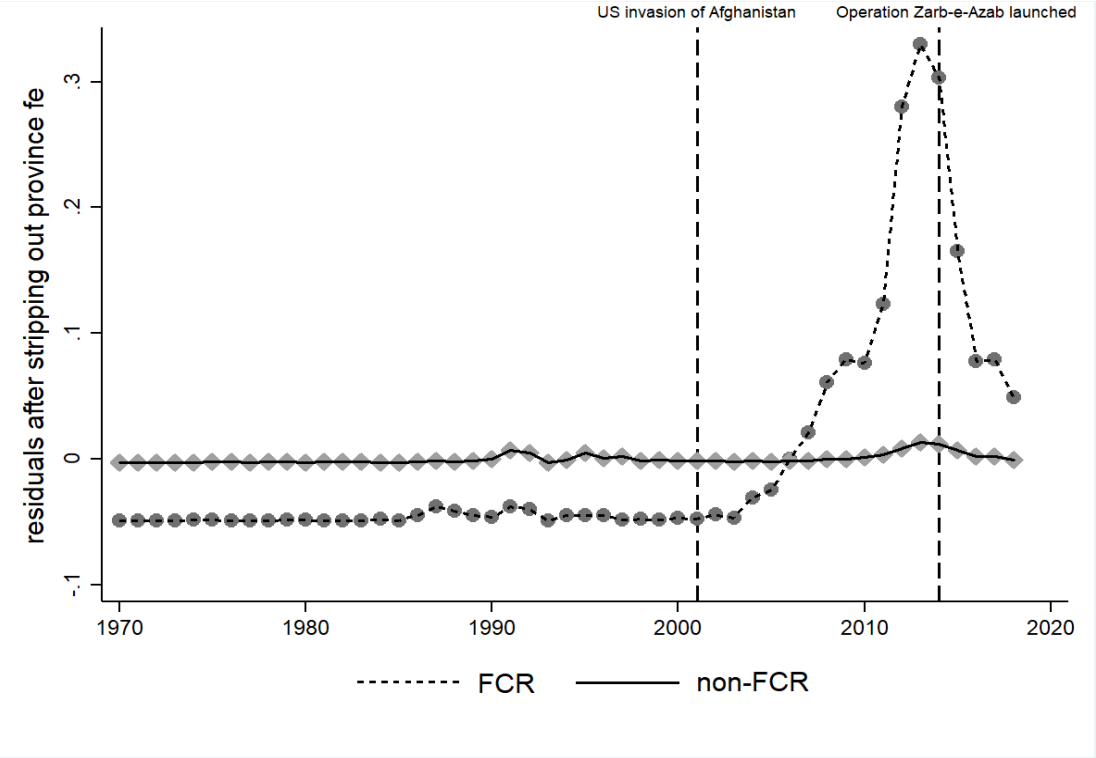


Source: authors' construction.

5.1 The 9/11 shock and conflict in FCR areas

To highlight the salience of the 9/11 shock for our causal narrative, we first chart the differential evolution of our main conflict measure for FCR and non-FCR areas over time. We do so by plotting in Figure 8 the trajectory of attacks against the state in an unrestricted sample covering all *tehsils* (sub-districts) of Pakistan during the period from 1970 to 2018. We plot the residuals after stripping away the province-level fixed effects. As Figure 8 reveals, there is no noticeable difference in the evolution of conflict against the state between FCR and non-FCR areas in the period preceding 2001. However, the two conflict trajectories begin to diverge after the 9/11-induced US invasion of Afghanistan. After 9/11 a discernible difference emerges in attacks against the state between FCR and non-FCR areas. Specifically, there is a steep rise in violent attacks against the state in FCR areas, which peaked in 2013. While these attacks began to subside after the military operation in 2014, closing the difference between FCR and non-FCR regions, the overall conflict incidence still remained higher in FCR areas than in non-FCR regions at the end of our sample period in 2018.

Figure 8: The shock of 9/11 and conflict incidents in Pakistan



Note: this figure charts the evolution of conflict incidents between the FCR and non-FCR regions from 1970 to 2018. The unit of observation over which the figure is created is *tehsil*-year. The variable on the y-axis has been stripped of the province fixed effects. To do so we first regressed conflict incidence on province dummies. We then predicted the residual values for conflict incidence and plotted these residuals by year, distinguishing between the FCR and non-FCR tehsils.

Source: authors' construction using GTD (2021).

Reassured by these national-level empirical patterns, we investigate the relevance of the 9/11 shock for our spatial RD results using fine-grained data from Pakistan's North-Western Frontier. In Table 8 we present the SRD estimates disaggregated by pre-9/11 (columns 1–6) and post-9/11 (columns 7–12) periods. As before, the unit of observation is a 10km-by-10km grid cell and the sample is restricted to a buffer zone of 50 km around the FCR border. The results reveal a clear pattern. There is no significant discontinuity in the pre-9/11 period in violent conflict against the state, whether measured by number of conflict incidents against the state (columns 1–2), number of deaths in state-targeted attacks (columns 3–4), or number of injuries in state targets (columns 5–6). The discontinuity emerges only after 9/11 when areas just inside the FCR border witnessed a significantly higher level of conflict against the state than areas just outside it. This is evident from the SRD estimates in columns 7–12, which are consistently positive and statistically significant at the 1 per cent level. The results also hold when we consider state attacks within a wider 60-km buffer zone around the FCR border (see Appendix B, Table B4).

5.2 Dispute resolution and trust in the state

We next present evidence on the greater reliance of residents in FCR areas on the tribal assembly of elders (*jirga*) rather than more formal institutions of conflict management, such as electoral politics. Frontier residents remained practically disenfranchised till 1997, when legislators from the region were directly elected to the National Assembly of Pakistan. Nevertheless adult enfranchisement remained limited as elections were held on a non-party basis and political parties

were not allowed to function in these regions. Consequently, tribal *Maliks* maintained their de facto control (Anwar and Cheema 2017; Ullah and Hayat 2017).

We utilize data from a nationally representative survey of individuals carried out by the Free and Fair Election Network in 2016 and estimate linear probability models to probe whether residents in FCR areas had greater recourse to tribal *jirga* and less reliance on elected members of parliament. We construct three binary dependent variables: (a) whether an individual had recourse to a member of the national assembly (MNA) for dispute resolution; (b) whether the individual had no contact with an MNA in the last two months; and (c) whether the individual had recourse to a tribal assembly (*jirga*). Our main explanatory variable is a dummy variable that is equal to one when the surveyed individual resides in an FCR area. The control variables, when included, are age (in natural log), locality-level fixed effects, and dummy variables for gender, educational status, source of income, and household income range.

The results are reported in Table 9. The evidence is consistent with our prior evidence. Surveyed individuals in FCR areas had limited recourse to their elected representatives (i.e. MNAs) for dispute resolution (columns 1–2). They were also systematically less likely to have made contact with the MNA during the previous two months at the time of the survey (columns 3–4). Importantly, FCR residents were significantly more likely to resort to the tribal *jirga* for dispute resolution (columns 5–6). The FCR status dummy, which picks out individual respondents residing in FCR areas, is statistically significant in all specifications including those with controls (columns 2, 4, and 6).

Overall, this evidence is consistent with findings from other independent surveys which highlight the significance of *jirga* as the principal dispute resolution mechanism in FCR regions. For example, findings from a detailed survey conducted in tribal areas showed that about 74 per cent of respondents were aware of the *jirga*. As Shinwari (2011: 66) argues, this 'high level of awareness is due to the fact that the jirga is the only justice dispensing mechanism in FATA both accessible and trusted by many'. There is a high level of trust in traditional modes of dispute resolution, as evidenced by the fact that the majority of respondents (91 per cent) were satisfied with the delivery of justice through *jirga* (Shinwari 2011: 81). About 43 per cent of survey respondents had approached the *jirga* to resolve their disputes; another 31 per cent initially took their disputes to local leaders (*Khans* or *Maliks*), while only 6 per cent of respondents resorted to courts in adjoining districts of Khyber Pakhtunkhwa (Shinwari 2011: 80).[26] Survey evidence also supports the claim that tribal leaders serve as the main link between local populations and the state. Faith in their leadership increased in the wake of the conflict (Shinwari 2012). When asked in 2011, tribal elders were considered the most trusted institution (20 per cent). By contrast, elected representatives (i.e. MNAs) received the lowest rating on trust (1 per cent) (see Shinwari 2012: 50).

To formally investigate whether FCR residents have systematically lower levels of trust in state institutions, Table 10 reports the results for linear probability models where the dependent variable is a binary indicator that is equal to one when a respondent affirms 'very little or no trust' in state institutions. As before, our main explanatory variable is a dummy variable for whether an individual resides in a household that lies inside the FCR boundary. For each indicator we report estimates with and without controls (described earlier). The results confirm our priors and are consistent with the empirical patterns presented so far. As is evident from Table 10, the coefficients on the FCR status dummy are consistently positive, statistically significant at the 1 per cent level, and robust to the inclusion of controls. Residents in FCR areas are significantly more

[26] As per rules, residents of FCR regions can appeal in the court of the commissioner of the adjoining district against the verdict of FCR *jirga*.

likely to have 'very little or no trust' in the parliament (columns 1–2), the district court (columns 3–4), the high court (columns 5–6), and the supreme court (columns 7–8).

5.3 Assassinations of tribal leaders

We have so far demonstrated that the primary (and preferred) mode for conflict resolution in FCR areas remains the *jirga* system, which is overseen by tribal elders. We have also shown that FCR residents have limited access to formal institutions of conflict management and exhibit less faith in state institutions. We next show the disruption to FCR rule in the wake of the 9/11-induced shock, which we argue took place primarily through systematic and strategic targeting of tribal elders.[27] To demonstrate this we return to our SRD design which uses 10km-by-10km grid cell-level data conflict incidence and restricts the sample within a 50-km buffer zone. As our main focus here is on explaining post-9/11 violence, we also restrict the sample to the period after 2001. However, we now replace our dependent variable with the number of attacks against tribal elders, the number of deaths in attacks against tribal elders, and the number of injuries in attacks against tribal elders, respectively. The overall empirical set-up remains as before. The results are reported in Table 11. They reveal a statistically significant discontinuity whereby regions just inside the FCR border witnessed a systematically higher number of attacks against tribal elders than areas just outside the FCR border (columns 1–2). The same pattern holds for the number of deaths in attacks against tribal elders (columns 3–4) and the number of injuries in attacks against tribal elders (columns 5–6).

Taken together, the strategic elimination of tribal elders removed the main pillar of social order and, in the absence of any formal avenues for conflict management, created an institutional void which served as a fertile breeding ground for conflict against the state. Such targeted attacks against tribal elders disrupted FCR rule and exposed its fragility in the face of shocks. Our evidence chimes well with both factual and qualitative research accounts. It has been noted that attacks on tribal leaders resulted in more than 90 per cent of tribal elders being either killed or wounded in FCR areas (GTD 2021; SATP 2021). Around 150 *Maliks* were killed in 2008 alone (Fair and Jones 2009; Zahab 2013). Zahab (2013: 52) describes this violence as the insurrection of the 'young, poor, and those who belong to minor lineages, or powerless tribes' against tribal elders and political agents in FCR areas. As Naseemullah (2014: 518) argues, 'this struck a serious blow against the structures within tribal society that were successful interlocutors with the state' and helped to maintain political order.

Overall our results empirically substantiate an argument made by prior qualitative research, most notably by Naseemullah (2014: 515) who argued that 'the disruption of the frontier rule that lay at the heart of political order in FATA is responsible for the nature and extent of conflict following the exogenous shock of the war'.

5.4 Competing explanations

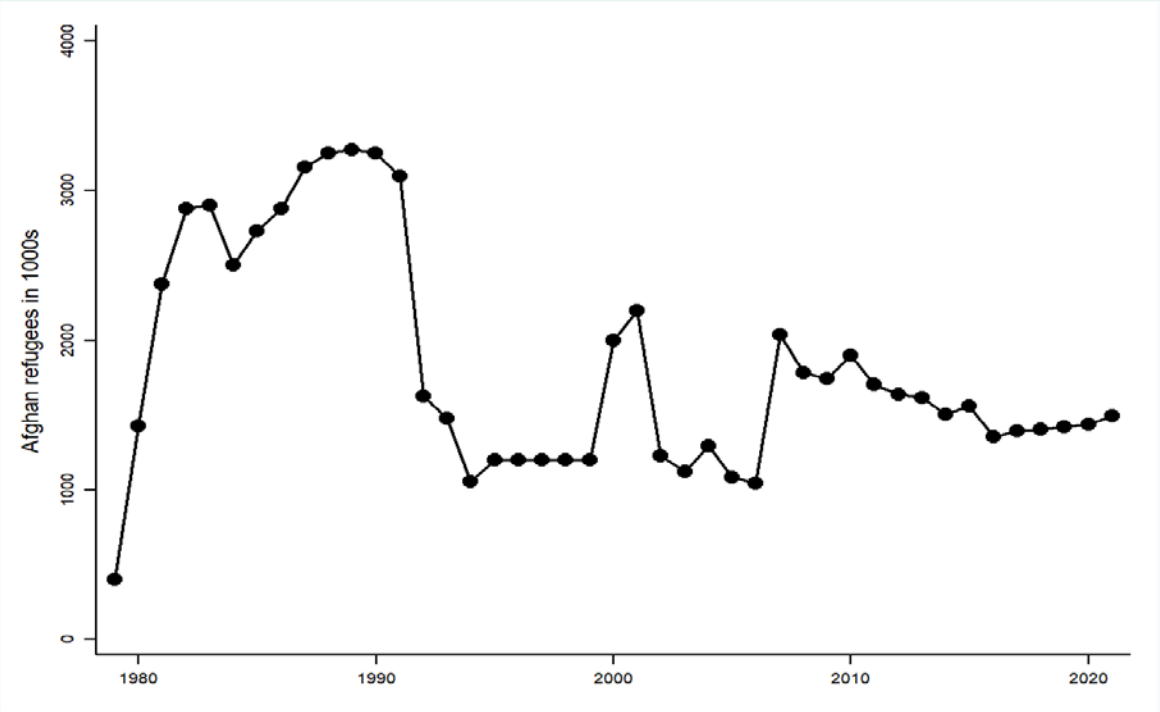
Thus far we have attributed the discontinuous rise of violence against the state in the post-9/11 period to the in-built vulnerability of FCR rule to external shocks. In this section we rule out other plausible explanations for our core empirical finding.

[27] Figure B2 in Appendix B provides a clear spatial discontinuity in the targeted assignations of tribal elders in the post-9/11 period. More attacks against tribal elders are observed in the FCR region relative to the non-FCR region.

Afghan militants and refugees

It is possible that the relative uptick in violence in FCR areas after 9/11 may have been triggered by Afghan militants and refugees. Since the Soviet invasion of Afghanistan, Pakistan has hosted millions of Afghan refugees. As Figure 9 shows, the number of refugees spiked after the Soviet invasion in December 1979 and remained high until the Soviet withdrawal in February 1989, after which refugee inflows declined sharply. During the period of Taliban rule (1994–2001), when fighting between various militant factions subsided, many Afghan refugees returned to Afghanistan. A second noticeable spike in refugees is noticeable after 2001, triggered by the US invasion of Afghanistan.[28] While refugees were predominantly civilians fleeing from war and instability, it is difficult to rule out the possibility that some militants may have retreated into north-western Pakistan in the guise of refugees and launched attacks against state installations in Pakistan as retribution for the country's support for the US-led war.

Figure 9: The evolution of Afghan refugees in Pakistan (1979 to 2018)



Source: authors' construction based on data from United Nations High Commissioner for Refugees (UNHCR).

Nevertheless we provide suggestive evidence that this possibility, although remote, is unlikely to systematically explain our results. Using information from the GTD, we can identify the perpetrators or originators of attacks against state targets. In Table 12 we categorize these attacks by type of militant outfits, distinguishing between local, foreign, and unknown organizations. Information is provided for the whole sample period, 1970–2018 (columns 1–2), the pre-2001 period (columns 3–4), and the post-9/11 era (columns 5–6). Regardless of whether we restrict this exercise to the whole period or to the post-9/11 era, around 85 per cent of the attacks were actually claimed by local outfits rather than Afghan-based militants. This includes Pakistan-based outfits,

[28] Estimates of refugee flows produced by the United Nations High Commissioner for Refugees (UNHCR) put the number of Afghan refugees arriving in Pakistan as a consequence of the US invasion at somewhere between 1 and 2 million (Noor 2006: 66).

such as the *Tehreek-i-Taliban Pakistan* (TTP), *Tehreek-i-Nifaz-e-Shariat-e-Mohammadi*, and *Sipah-e-Sahaba*, among others.

There are essentially two main reasons why Afghan militants may have desisted from launching widespread attacks against the Pakistani state in FCR regions. First, it is generally difficult for cross-border militants to develop and sustain an organized network in another country. In addition to requiring grassroots support from the local populace, they need a clandestine military architecture which keeps fighters supplied with both weapons and rations. While there is plenty of evidence that local insurgent groups like the TTP had such architecture in place in Pakistan's tribal areas along the Afghan border, the same is not true for Afghan groups (Elahi 2019). Instead, the Afghan factions were more likely to have used Pakistan's FCR areas as a sanctuary from where they could launch cross-border attacks against US forces inside Afghanistan.

The second reason is related to the Pakistani state's nuanced strategy for dealing with militant outfits within its borders. In the wake of 9/11 the deep state, primarily comprising Pakistan's military and intelligence services, 'established a differentiated framework for dealing with divergent outfits' (Lynch III 2018: 68). As part of this, any group that 'remained supportive or neutral in its approach to the Pakistani state' would often be overlooked and left to its own devices (Lynch III 2018: 68). By contrast, groups that 'threatened the Pakistan state or viewed international Islamist jihad as the highest order priority' would be dealt with severely (Fair et al. 2010; Hussain 2005; Rana 2004). Faced with this differentiated approach, Afghan groups were less likely to engage in systemic violence against state installations in Pakistan.

Even if we were to admit the possibility of a cross-border spill-over of violence, it is not easy to understand why the Afghan attackers would stop at the FCR border and not engage in higher-profile targets in settled regions. Indeed, after Musharraf's decision to join the US-led war in Afghanistan, major Pakistani cities (e.g., Peshawar, Lahore, Rawalpindi, Karachi) witnessed a spate of violent attacks which became important national incidents and key pressure points for public policy. Taken together, both the quantitative evidence on the origin of attacks and the contextual evidence reassure us that the potential spill-over of conflict from Afghanistan did not systematically drive the post-9/11 trajectory of violence against the state in FCR areas.

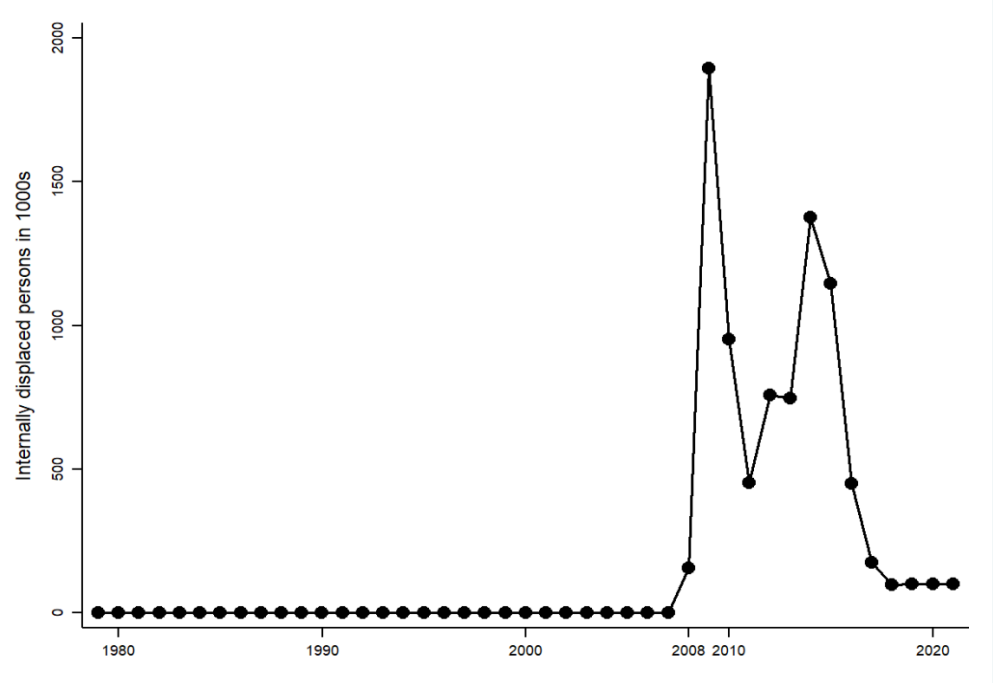
Internally displaced persons (IDPs)

It is possible that the relatively higher level of violence in FCR areas after 9/11 was triggered less by grievances against the Pakistani state's alliance with the USA than by its response to the evolving insurgency in these areas. To dismantle the militant networks after 9/11, Pakistan's military launched about 15 different counter-insurgencies across Pakistan, which led to the internal displacement of a significant segment of the population (Jones and Fair 2010). In FCR areas these internal displacements may have been an additional source of grievance which could potentially conflate with our explanation. We argue that both military operations and the ensuing population displacements were already preceded by rising violence in FCR areas.

Figure 10 charts the evolution of IDPs in Pakistan from 1979 to 2021 using data from the UNHCR. It shows that internal displacements only peaked in 2009, long after the increase in violence that we have documented. Indeed, in FCR areas, violence against the state already started to trend upwards soon after 2001. Nevertheless, to formally rule out the role of internal displacements, we restrict the sample to the period preceding the peak of internal displacements in 2009 (i.e. 1970–2008) and re-estimate our main SRD specification. The results, reported in Table 13, offer reassuring evidence. Even in the pre-2009 period, there is a statistically significant and discontinuous increase in anti-state violence when moving from just outside the FCR border to

just inside it. This empirical pattern holds for all three measures of conflict incidents and in specifications with controls (columns 2, 4, and 6).

Figure 10: The evolution of internally displaced persons in Pakistan (1979–2021)



Note: the figure shows multiple waves of internal displacements throughout the post-9/11 period, with each wave corresponding to a major military offensive launched by the Pakistani army against insurgents in frontier regions.

Source: authors' construction based on data from United Nations High Commissioner for Refugees (UNHCR).

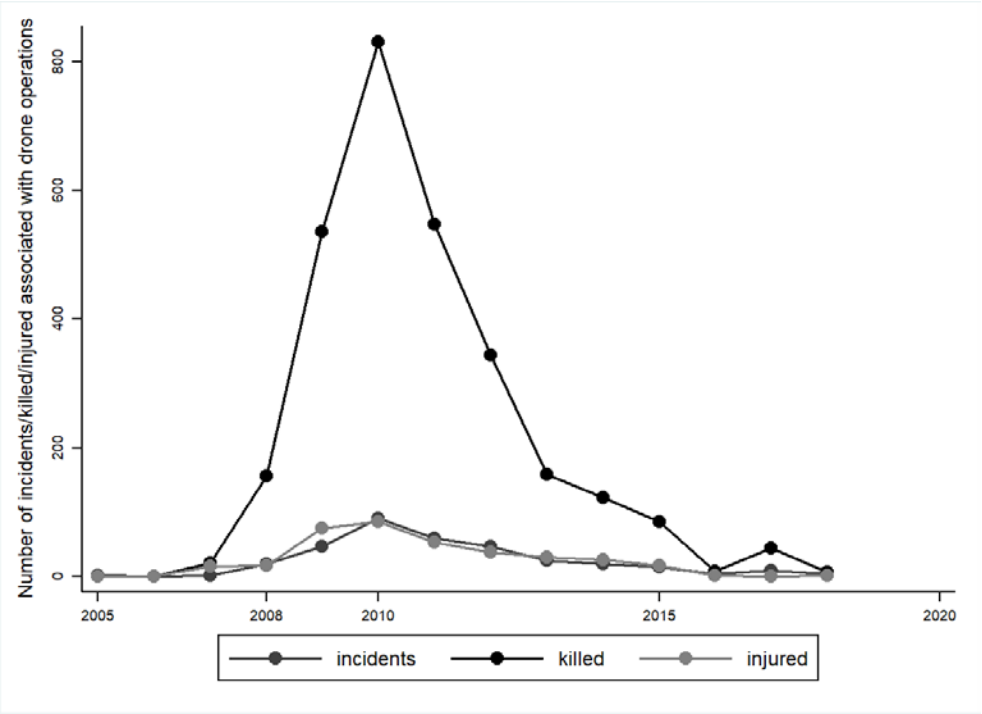
Drone strikes

An important part of the US war on terror was the use of unmanned drones to take out specific insurgent targets in Afghanistan and north-west Pakistan which were predominantly under FCR rule. Mahmood and Jetter (2019) attribute the US drone strikes to increasing terrorist violence in the country in the wake of 9/11. The authors argue that drone strikes increased anti-US sentiment amongst both insiders (members of terrorist organizations) and outsiders (the Pakistani populace), thereby translating into greater violence. This leaves open the possibility that the post-9/11 increase in state-directed violence in FCR areas may have resulted from unpopular drone strikes. To examine this we first inspect the evolution of US drone strikes in Pakistan and then argue that the timing of the discontinuous increase in violence in the FCR areas predates the intensive use of drones as a US counter-terrorism strategy.

Figure 11 plots the evolution of the number of drone attacks, the number of deaths in drone attacks, and the number of injuries in drone attacks for the post-9/11 period from 2005 to 2018. The incidents involving the use of US drones on Pakistani soil began in 2007, reached their peak in 2010, and then declined precipitously thereafter until they were more or less phased out by the Obama administration in 2016. As Figure 11 shows, the highest number of drone-induced deaths and injuries took place in 2010. Our core empirical results continue to hold on a restricted sample which excludes the period in which drone attacks became a major concern (2009 onwards). We refer the reader back to Table 13, which re-estimates the SRD specification using data for the period from 1970 to 2008, and shows that the increase in violence against the state in FCR areas actually predates the intensive use of drones as a weapon of war by the USA. This finding is

consistent with the interpretation that drone attacks were part of the endogenous response to militancy in FCR areas rather than the primary driver for the original uptick in violence post 9/11.

Figure 11: Drone strikes in Pakistan (2005–18)



Source: Authors' construction based on data from New America (2021).

Public goods provision

Another potential mechanism is the differential provision of public goods in the FCR and non-FCR areas, which can be an additional source of grievance and may explain the variation in the incidence of conflict post 9/11. We consider this possibility by examining discontinuity across the FCR border in four different measures of public goods, all measured in a year prior to 9/11 (i.e. 1992) at the grid cell level. The SRD estimates, reported in Table 14, show no statistically significant discontinuity in the provision of the following public goods: roads (column 1), railways (column 2), waterways (column 3), and basic health centres per 10,000 persons (column 4).

6 Conclusion

Our central argument in this paper is that, while frontier governance has historically provided limited social and political order in peripheral regions, it is more fragile in the face of shocks. This makes such regions more prone to conflict. In this paper we empirically probed this argument using granular data on the conflict in Pakistan's North-West Frontier, an archetype of frontier governmentality. Our results, based on a spatial RD design, show that regions just inside the historical boundary of frontier rule experienced a significant jump in attacks against the state after 9/11 when compared with regions just outside the boundary. We argue that 9/11 was a generalized shock to a grievance against the state which affected all regions. But the significantly higher escalation of conflict in regions under frontier rule after 9/11 is explained by the absence of formal avenues for conflict management. As an elite-negotiated system of rule, frontier governance rested

on tribal elites whose systematic targeting and assassination after 9/11 created a huge institutional void which led to a sharp surge in violence.

Our paper has important implications for understanding the role of institutions in conflict. Whereas prior literature highlighted the impact of a broader cluster of institutions, we shed empirical light on how a specific institutional arrangement shaped conflict in the face of a geo-political shock. While the legacy of frontier governance has received some scholarly attention in other disciplines—notably history, anthropology, and international relations—this paper offers the first systematic empirical enquiry of its impact on contemporary conflict. As Hopkins (2020: 2) notes, any study of the deep drivers of violence must contend with the legacies of how imperial powers 'defined' and 'governed' these frontiers in the nineteenth and earlier twentieth centuries.

Beyond enriching the broader economics literature on conflict, our results hold relevance for understanding the rise of 'Islamic militancy' in the wake of 9/11. The rise of Boko Haram in Nigeria, Al-Shabab in Kenya, and Al Qaeda in Pakistan has been spatially concentrated in regions that were once the frontiers of global empires. Our evidence on the strategic targeting of tribal elites, a key mechanism behind the escalation of violence post 9/11, has huge relevance for understanding the spectacular growth of militancy in Africa and the Middle East. An investigative report on militancy in Africa, published by Reuters in 2021, describes such assassinations as a common pattern in the conflict playbook. In the heartland of Islamic militancy in Niger, Mali, and Burkina Faso, hundreds of village elders and community leaders were abducted or assassinated. Similar patterns of assassinations have been observed in Somalia, Nigeria, and Iraq. These local leaders typically 'settled local disputes, collected taxes and registered births and deaths' (McAllister and Marsh 2021). Their killings created a huge power vacuum, breaking the local population's link with the state and bringing life to a grinding halt. Indeed, as a political scientist quoted in Reuters (2021), argues: 'If you want maximum disorder, you kill the chief…If the agenda is to replace the state, killing the village chief is just the beginning of the process'.

The relevance of frontier governance extends beyond the actual physical frontiers of countries. Frontier governmentality is about 'practice' rather than 'place'; it is a conceptual category and a 'social construct' rather than an 'objective reality' (Hopkins 2020: 14–15). The frontier signifies an institutional enclosure where the claims and authority of the state are severely limited or constrained. As the examples of native American reservations, Indian princely states, and African tribal reserves show, such enclosures can exist in the interior as well. Indeed, as Hopkins (2020: 15) notes, 'for many states of the modern world, the most important and extensive frontiers demarcate their interior, rather than their exterior'. To the extent that such spaces of exceptional governance are a pervasive feature of conflict-prone states, our work has a direct bearing for state fragility, which is an emerging policy concern.

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Tables

Table 1: Frontier governance—analysis of mean differences

	Whole sample			Within 50km of FCR border		
	FCR	Non-FCR	Mean difference	FCR	Non-FCR	Mean difference
	Mean values			Mean values		
	(1)	(2)	(3)	(4)	(5)	(6)
Conflict incidents against the state	3.317	0.539	2.778***	4.188	1.703	2.485***
	656	*8567*	(0.511)	*484*	*634*	(0.911)
ln(1+Conflict incidents against the state)	0.564	0.091	0.473***	0.658	0.301	0.357***
	656	*8567*	(0.039)	*484*	*634*	(0.056)
Deaths in incidents against the state	6.224	0.825	5.399***	7.452	2.692	4.760***
	656	*8567*	(0.889)	*484*	*634*	(1.641)
ln(1+Deaths in incidents against the state)	0.646	0.077	0.570***	0.729	0.248	0.481***
	656	*8567*	(0.048)	*484*	*634*	(0.067)
Injuries in incidents against the state	7.223	1.607	5.616***	9.019	4.858	4.161*
	656	*8567*	(1.216)	*484*	*634*	(2.915)
ln(1+Injuries in incidents against the state)	0.651	0.089	0.563***	0.752	0.271	0.481***
	656	*8567*	(0.049)	*484*	*634*	(0.070)

Note: the unit of observation is a 10km-by-10km grid cell. Columns 1-3 are based on the full sample of grid cells that comprise Pakistan, whereas columns 4-6 restrict the sample to a 50 km buffer zone either side of the FCR border. Columns 1-2 report the mean of each conflict measure between the FCR and non-FCR grid cells for the full sample. Columns 4-5 report the mean of each conflict measure between the FCR and non-FCR grid cells for the sample restricted to a 50 km buffer zone around the FCR border. Finally, columns 4 and 6 show the result for a two-sample t-test for difference in means in each of the conflict measure between the FCR and non-FCR grid cells. The number of observations is in italics. The standard errors are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels

Source: based on authors' estimations.

Table 2: Balance on geographic, climatic, and historic characteristics

	Sample: Observations within 50 km from FCR border Linear running variable in Euclidean distance to the border							
Dependent variable:	Ruggedness	Slope	Topography	Precipitation	Temperature	Pre-FCR conflict	Pre-FCR pop density	Wheat suitability
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Inside FCR border	-19.150	-0.150	2.375	-7.722	0.059	-0.001	0.023	83.215
	(16.183)	(0.481)	(1.875)	(5.133)	(0.245)	(0.013)	(0.060)	(99.891)
Observations	1,106	1,106	1,106	1,118	1,118	1,118	1,118	1,109
95% C.I.	[-59.184 ; 17.125]	[-1.311 ; .892]	[-1.902 ; 6.765]	[-22.022 ; 1.872]	[-.405 ; .696]	[-.03 ; .023]	[-.125 ; .135]	[-111.365 ; 336.41]
Segment FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BW-type	Cerrd	Cerrd	Cerrd	Cerrd	Cerrd	Cerrd	Cerrd	Cerrd
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. Columns 1-8 report the RD estimates for geographic, climatic, agricultural, and historic variables within a 50 km buffer zone of the FCR border. All regressions include a linear polynomial in distance to the border and 20 km border segment fixed effects. The standard errors are reported in parentheses and are clustered at the 20 km border segment level. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table 3: Frontier governance and conflict against the state

	Sample: Observations within 50 km from FCR border Linear running variable in Euclidean distance to the border					
Dependent variable:	ln(1+incidents against state)		ln(1+deaths in incidents against state)		ln(1+injuries in incidents against state)	
	(1)	(2)	(3)	(4)	(5)	(6)
Inside FCR border	0.567***	0.575***	0.651***	0.598***	0.864***	0.858***
	(0.088)	(0.085)	(0.101)	(0.098)	(0.101)	(0.097)
Observations	1,118	1,105	1,118	1,105	1,118	1,105
95% C.I.	[.427 ; .844]	[.442 ; .853]	[.512 ; .974]	[.457 ; .904]	[.720 ; 1.198]	[.736 ; 1.190]
Controls	No	Yes	No	Yes	No	Yes
Segment FE	Yes	Yes	Yes	Yes	Yes	Yes
BW-type	mserd	mserd	mserd	mserd	mserd	mserd
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. In columns 1-2, the outcome variable is the number of conflict incidents against the state; in columns 3-4, the dependent variable is the number of deaths in conflict incidents against the state; and in columns 5-6, the dependent variable is the number of injuries in conflict incidents against the state, all parameterized as ln(1 + x). All regressions include a linear polynomial in distance to the border and 20 km border segment fixed effects. Columns 2, 4, and 6 also include the following set of controls: ruggedness, topography, slope, precipitation, temperature, wheat suitability, pre-FCR major conflict incidence, and pre-FCR population density. Standard errors, clustered at the border segment ID level, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table 4: Frontier governance and conflict against the state using alternative buffer zones

Dependent variable:	Linear running variable in Euclidean distance to the border					
	ln(1+incidents against state)		ln(1+deaths in incidents against state)		ln(1+injuries in incidents against state)	
	(1)	(2)	(3)	(4)	(5)	(6)
	Panel A: Observations within 60 km from FCR border					
Inside FCR border	0.567***	0.575***	0.651***	0.598***	0.864***	0.858***
	(0.088)	(0.085)	(0.101)	(0.098)	(0.101)	(0.097)
Observations	1,118	1,105	1,118	1,105	1,118	1,105
95% C.I.	[.427 ; .844]	[.442 ; .853]	[.512 ; .974]	[.457 ; .904]	[.720 ; 1.198]	[.736 ; 1.190]
	Panel B: Observations within 40 km from FCR border					
Inside FCR border	0.535***	0.543***	0.565***	0.328***	0.702***	0.584***
	(0.087)	(0.084)	(0.096)	(0.103)	(0.095)	(0.094)
Observations	1,288	1,271	1,288	1,271	1,288	1,271
95% C.I.	[.417 ; .808]	[.427 ; .814]	[.43 ; .857]	[.163 ; .623]	[.583 ; 1.002]	[.453 ; .875]
Controls	No	Yes	No	Yes	No	Yes
Segment FE	Yes	Yes	Yes	Yes	Yes	Yes
BW-type	mserd	mserd	mserd	mserd	mserd	mserd
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. In panel A the regression sample is restricted to within 60 km of the FCR border. Panel B restricts the sample to within 40 km of the FCR border. In columns 1-2, the outcome variable is the number of conflict incidents against the state; in columns 3-4, the dependent variable is the number of deaths in conflict incidents against the state; and in columns 5-6, the dependent variable is the number of injuries in conflict incidents against the state, all parameterized as ln(1 + x). All regressions include a linear polynomial in distance to the border and 20 km border segment fixed effects. Columns 2, 4, and 6 also include the following set of controls: ruggedness, topography, slope, precipitation, temperature, wheat suitability, pre-FCR major conflict incidence, and pre-FCR population density. Standard errors, clustered at the border segment ID level, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table 5: Frontier governance and conflict against the state using alternative border segments

	Sample: Observations within 50 km from FCR border Linear running variable in Euclidean distance to the border					
Dependent variable:	ln(1+incidents against state)		ln(1+deaths in incidents against state)		ln(1+injuries in incidents against state)	
	(1)	(2)	(3)	(4)	(5)	(6)
			Panel A: 18 km border segments			
Inside FCR border	0.187**	0.500***	0.601***	0.944***	0.431***	0.752***
	(0.087)	(0.085)	(0.103)	(0.098)	(0.098)	(0.099)
Observations	1,118	1,105	1,118	1,105	1,118	1,105
95% C.I.	[.052 ; .433]	[.347 ; .769]	[.453 ; .901]	[.829 ; 1.295]	[.279 ; .711]	[.606 ; 1.086]
			Panel B: 15 km border segments			
Inside FCR border	0.269***	0.446***	0.348***	0.510***	0.427***	0.559***
	(0.079)	(0.081)	(0.096)	(0.100)	(0.091)	(0.096)
Observations	1,118	1,105	1,118	1,105	1,118	1,105
95% C.I.	[.127 ; .504]	[.296 ; .696]	[.172 ; .626]	[.335 ; .823]	[.278 ; .714]	[.415 ; .881]
Controls	No	Yes	No	Yes	No	Yes
Segment FE	Yes	Yes	Yes	Yes	Yes	Yes
BW-type	mserd	mserd	mserd	mserd	mserd	mserd
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. In panel A the regressions use 18 km border segment fixed effects. The regressions in panel B use 15 km border segment fixed effects. In columns 1-2, the outcome variable is the number of conflict incidents against the state; in columns 3-4, the dependent variable is the number of deaths in conflict incidents against the state; and in columns 5-6, the dependent variable is the number of injuries in conflict incidents against the state, all parameterized as ln(1 + x). All regressions include a linear polynomial in distance to the border and border segment fixed effects. Columns 2, 4, and 6 also include the following set of controls: ruggedness, topography, slope, precipitation, temperature, wheat suitability, pre-FCR major conflict incidence, and pre-FCR population density. Standard errors, clustered at the border segment ID level, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table 6: Frontier governance and conflict against the state using Uppsala Conflict Data

	Sample: Observations within 50 km from FCR border Linear running variable in Euclidean distance to the border			
Dependent variable:	ln(1+conflict incidents)		ln(1+deaths in conflict incidents)	
	(1)	(2)	(3)	(4)
Inside FCR border	0.219**	0.336***	0.376***	0.505***
	(0.088)	(0.082)	(0.144)	(0.138)
Observations	1,118	1,105	1,118	1,105
95% C.I.	[.038 ; .463]	[.184 ; .587]	[.069 ; .774]	[.227 ; .913]
Controls	No	Yes	No	Yes
Segment FE	Yes	Yes	Yes	Yes
BW-type	mserd	mserd	mserd	mserd
Kernel	Triangular	Triangular	Triangular	Triangular
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. In columns 1-2, the outcome variable is the number of conflict incidents; and in columns 3-4, the dependent variable is the number of deaths in conflict incidents, all parameterized as ln(1 + x). All regressions include a linear polynomial in distance to the border and 20 km border segment fixed effects. Columns 2 and 4 also include the following set of controls: ruggedness, topography, slope, precipitation, temperature, wheat suitability, pre-FCR major conflict incidence, and pre-FCR population density. Standard errors, clustered at the border segment ID level, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table 7: Frontier governance and conflict against the state after excluding grid cells very close to the FCR Boundary

	Sample: Observations within 50 km from FCR border Linear running variable in Euclidean distance to the border					
Dependent variable:	ln(1+incidents against state)		ln(1+deaths in incidents against state)		ln(1+injuries in incidents against state)	
	(1)	(2)	(3)	(4)	(5)	(6)
Inside FCR border	0.299***	0.314***	0.483***	0.545***	0.452***	0.383***
	(0.098)	(0.102)	(0.139)	(0.154)	(0.146)	(0.146)
Observations	1,077	1,064	1,077	1,064	1,077	1,064
95% C.I.	[.183 ; .632]	[.186 ; .687]	[.294 ; .947]	[.341 ; 1.097]	[.239 ; .960]	[.115 ; .910]
Controls	No	Yes	No	Yes	No	Yes
Segment FE	Yes	Yes	Yes	Yes	Yes	Yes
BW-type	mserd	mserd	mserd	mserd	mserd	mserd
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. The regression sample for columns 1-6 drops grid cells that are very close (i.e. <= 5 km) to the FCR border. In columns 1-2, the outcome variable is the number of conflict incidents against the state; in columns 3-4, the dependent variable is the number of deaths in conflict incidents against the state; and in columns 5-6, the dependent variable is the number of injuries in conflict incidents against the state, all parameterized as ln(1 + x). All regressions include a linear polynomial in distance to the border and 20 km border segment fixed effects. Columns 2, 4, and 6 also include the following set of controls: ruggedness, topography, slope, precipitation, temperature, wheat suitability, pre-FCR major conflict incidence, and pre-FCR population density. Standard errors, clustered at the border segment ID level, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table 8: Frontier governance and conflict against the state in the pre- and post-9/11 eras

	Sample: Observations within 50 km from FCR border Linear running variable in Euclidean distance to the border											
	Pre-911						Post-911					
Dependent variable:	ln(1+incidents against state)		ln(1+deaths in incidents against state)		ln(1+injuries in incidents against state)		ln(1+incidents against state)		ln(1+deaths in incidents against state)		ln(1+injuries in incidents against state)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Inside FCR border	-0.005	-0.010	-0.015	-0.013	0.038	0.003	0.561***	0.571***	0.641***	0.574***	0.841***	0.833***
	(0.014)	(0.013)	(0.024)	(0.025)	(0.033)	(0.035)	(0.088)	(0.085)	(0.100)	(0.097)	(0.100)	(0.096)
Observations	1,118	1,105	1,118	1,105	1,118	1,105	1,118	1,105	1,118	1,105	1,118	1,105
95% C.I.	[-.035 ; .029]	[-.041 ; .021]	[-.067 ; .056]	[-.070 ; .046]	[-.033 ; .130]	[-.080 ; .088]	[.421 ; .839]	[.438 ; .848]	[.504 ; .962]	[.431 ; .874]	[.698 ; 1.170]	[.714 ; 1.160]
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Segment FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BW-type	mserd	mserd	mserd	mserd	mserd	mserd	mserd	mserd	mserd	mserd	mserd	mserd
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. Columns 1-6 restrict the sample to the period prior to 9/11 from 1970 to 2000 and columns 7-12 restrict the sample to the period after 9/11 from 2001 to 2018. In columns 1-2 and 7-8, the outcome variable is the number of conflict incidents against the state; in columns 3-4 and 9-10, the dependent variable is the number of deaths in conflict incidents against the state; and in columns 5-6 and 11-12, the dependent variable is the number of injuries in conflict incidents against the state, all parameterized as ln(1 + x). All regressions include a linear polynomial in distance to the border and 20 km border segment fixed effects. Columns 2, 4, and 6 also include the following set of controls: ruggedness, topography, slope, precipitation, temperature, wheat suitability, pre-FCR major conflict incidence, and pre-FCR population density. Standard errors, clustered at the border segment ID level, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table 9: Frontier governance and avenues of conflict management

	(1)	(2)	(3)	(4)	(5)	(6)
VARIABLES	Recourse to MNA		No contact with MNA in last 2 months		Recourse to *jirga*	
FCR status dummy	-0.016***	-0.019***	0.027***	0.011***	0.601***	0.542***
	(0.002)	(0.003)	(0.003)	(0.004)	(0.020)	(0.021)
Observations	6,030	6,030	6,030	6,030	6,030	6,030
95% C.I.	[-.0198; -.0132]	[-.0248; -.0126]	[.0210; .0334]	[.0035; .0191]	[.5612; .6411]	[.5002; .5838]
Controls	No	Yes	No	Yes	No	Yes
Adjusted R-Squared	0.00108	0.00471	0.00175	0.02180	0.14700	0.20100

Note: the unit of observation is an individual. The explanatory variable is a dummy for whether an individual resides in a household that is inside the FCR boundary. Dependent variables are a dummy for MNA being the main recourse for dispute resolution (columns 1-2), a dummy for contact with MNA in last two months (columns 3-4), and a dummy for *jirga* being main recourse for dispute resolution (columns 5-6). The control variables are a dummy for gender, a dummy for educational status, ln(age), a dummy for hh source of income, a dummy for hh monthly income range, and a locality fixed effects. Robust standard errors are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table 10: Frontier governance and trust in state institutions

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	Low trust in parliament		Low trust in district court		Low trust in high court		Low trust in supreme court	
FCR status dummy	0.116***	0.152***	0.123***	0.161***	0.195***	0.207***	0.196***	0.206***
	(0.021)	(0.022)	(0.021)	(0.023)	(0.022)	(0.024)	(0.022)	(0.024)
Observations	6,030	6,030	6,030	6,030	6,030	6,030	6,030	6,030
95% C.I.	[.0754; .1559]	[.1077; .1959]	[.0814; .1648]	[.1158; .2064]	[.1528; .2380]	[.1608; .2536]	[.1511; .2310]	[.1587; .2539]
Controls	No	Yes	No	Yes	No	Yes	No	Yes
Adjusted R-Squared	0.00403	0.0249	0.00439	0.0262	0.0105	0.0312	0.0105	0.0307

Note: the unit of observation is an individual. The explanatory variable is a dummy for whether an individual resides in a household that is inside the FCR boundary. Dependent variables are a dummy for very little to no trust in parliament (columns 1-2), a dummy for very little to no trust in the district court (columns 3-4), a dummy for very little to no trust in the high court (columns 5-6), and a dummy for very little to no trust in the supreme court (columns 7-8). The control variables are a dummy for gender, a dummy for educational status, ln(age), a dummy for hh source of income, a dummy for hh monthly income range, and a locality fixed effects. Robust standard errors are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table 11: Frontier governance and targeting of tribal elders

	Sample: Observations within 50 km from FCR border					
	Linear running variable in Euclidean distance to the border					
Dependent variable:	ln(1+incidents against elders)		ln(1+deaths in incidents against elders)		ln(1+injuries in incidents against elders)	
	(1)	(2)	(3)	(4)	(5)	(6)
Inside FCR border	0.112***	0.098***	0.082**	0.071*	0.078**	0.072*
	(0.033)	(0.032)	(0.038)	(0.037)	(0.039)	(0.039)
Observations	1,118	1,105	1,118	1,105	1,118	1,105
95% C.I.	[.059 ; .211]	[.043 ; .188]	[.018 ; .201]	[-.001 ; .178]	[.001 ; .197]	[-.008 ; .187]
Controls	No	Yes	No	Yes	No	Yes
Segment FE	Yes	Yes	Yes	Yes	Yes	Yes
BW-type	mserd	mserd	mserd	mserd	mserd	mserd
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. In columns 1-2, the outcome variable is the number of conflict incidents targeting tribal elders; in columns 3-4, the dependent variable is the number of deaths in incidents targeting tribal elders; and in columns 5-6, the dependent variable is the number of injuries in incidents against the tribal elders, all parameterized as ln(1 + x). All regressions include a linear polynomial in distance to the border and 20 km border segment fixed effects. Columns 2, 4, and 6 also include the following set of controls: ruggedness, topography, slope, precipitation, temperature, wheat suitability, pre-FCR major conflict incidence, pre-FCR population density, and road density. Standard errors, clustered at the border segment ID level, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table 12: Conflict incidents against the state by specific origin

	1970–2018		1970–2000		2001–2018	
Militant outfit	**Count**	**Per cent**	**Count**	**Per cent**	**Count**	**Per cent**
Local						
Tehrik-i-Taliban Pakistan (TTP)	875	12.04	0	0.00	875	12.87
Balochistan-based militants	610	8.40	49	10.45	561	8.25
Political militants wings	175	2.41	34	7.25	141	2.07
Lashkar-e-Jhangvi	294	4.05	1	0.21	293	4.31
Different local jihadi organization	1378	18.97	171	36.46	1207	17.76
Other militant organizations	2857	39.32	194	41.36	2663	39.18
Foreign						
Haqqani network	2	0.03	0	0.00	2	0.03
Al-Qaida	31	0.43	0	0.00	31	0.46
Unknown						
Unknown	1044	14.37	20	4.26	1024	15.07
Total	**7266**	**100**	**469**	**100**	**6797**	**100**

Note: the **different local jihadi organizations** category includes groups like the Sipah-e-Sahaba, Hizb-I-Islami, Tehrik-e-Nafaz-e-Shariat-e-Mohammadi, Lashkar-e-Islam, Ansarul Islam, Jaish-e-Islam, Jaish al-Umar, Jamaat-ul-Ahrar, Harkatul Jihad-e-Islami, and so forth. Similarily, the **other militant organizations** category consists of groups like Abdullah Azzam Brigades, Qari Kamran Group, Jundallah, Halqa-e-Mehsud, Hafiz Gul Bahadur Group, Khorasan, etc. **Unknown** includes those attacks that were not claimed by any terrorist organization.

Source: based on authors' estimations.

Table 13: Frontier governance and conflict against the state in the pre drone attacks/internal displacements period

	Sample: Observations within 50 km from FCR border Linear running variable in Euclidean distance to the border					
Dependent variable:	ln(1+incidents against state)		ln(1+deaths in incidents against state)		ln(1+injuries in incidents against state)	
	(1)	(2)	(3)	(4)	(5)	(6)
Inside FCR border	0.106***	0.089**	0.200***	0.205***	0.836***	0.838***
	(0.034)	(0.036)	(0.045)	(0.044)	(0.098)	(0.094)
Observations	1,118	1,105	1,118	1,105	1,118	1,105
95% C.I.	[.052 ; .21]	[.029 ; .197]	[.136 ; .335]	[.148 ; .343]	[.693 ; 1.16]	[.719 ; 1.162]
Controls	No	Yes	No	Yes	No	Yes
Segment FE	Yes	Yes	Yes	Yes	Yes	Yes
BW-type	mserd	mserd	mserd	mserd	mserd	mserd
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. Columns 1-6 restrict the sample to the pre-2009 period (1970–2008). The sample, therefore, excludes both the period in which internal displacements became a major concern (2009 onwards) and drone attacks were intensified (2010 onwards). In columns 1-2, the outcome variable is the number of conflict incidents against the state; in columns 3-4, the dependent variable is the number of deaths in conflict incidents against the state; and in columns 5-6, the dependent variable is the number of injuries in conflict incidents against the state, all parameterized as ln(1 + x). All regressions include a linear polynomial in distance to the border and 20 km border segment fixed effects. Columns 2, 4, and 6 also include the following set of controls: ruggedness, topography, slope, precipitation, temperature, wheat suitability, pre-FCR major conflict incidence, pre-FCR population density, and road density. Standard errors, clustered at the border segment ID level, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table 14: Frontier governance and public goods provision

	Sample: Observations within 50 km from FCR border Linear running variable in Euclidean distance to the border			
Dependent variable:	ln(1+road length in km)	ln(1+rail length in km)	ln(1+waterway length in km)	health sites per 10000 persons
	(1)	(2)	(3)	(4)
Inside FCR border	-0.053	0.053	-0.150	0.020
	(0.134)	(0.036)	(0.129)	(0.149)
Observations	1,118	1,118	1,118	1,118
95% C.I.	[-.292 ; .313]	[-.019 ; .150]	[-.400 ; .184]	[-.317 ; .346]
Segment FE	Yes	Yes	Yes	Yes
BW-type	cerrd	cerrd	cerrd	cerrd
Kernel	Triangular	Triangular	Triangular	Triangular
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. In columns 1-3, the outcome variables are the length of roads in km, the length of railroads in km and the length of waterways in km, respectively, all parameterized as ln(1 + x). The outcome variable in column 4 is the number of health sites per 10,000 persons. All regressions include a linear polynomial in distance to the border and 20 km border segment fixed effects. Standard errors, clustered at the border segment ID level, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Appendix A: Conflict variables definition and data sources

Terrorism

The Global Terrorism Database (GTD) (2021) defines 'a terrorist incident if it fulfils the following three criteria: (i) the incident must be intentional; (ii) the incident must entail some level of violence or threat of violence; and (iii) the perpetrators of the incidents must be sub-national actors. In addition, at least two of the following three criteria must be present for an incident to be included in the GTD: (i) the act must be aimed at attaining a political, economic, religious, or social goal; (ii) there must be evidence of an intention to coerce, intimidate or convey some other message to a larger audience (or audiences) than the immediate victims; and (iii) the action must be outside the context of legitimate warfare activities'.

State attacks

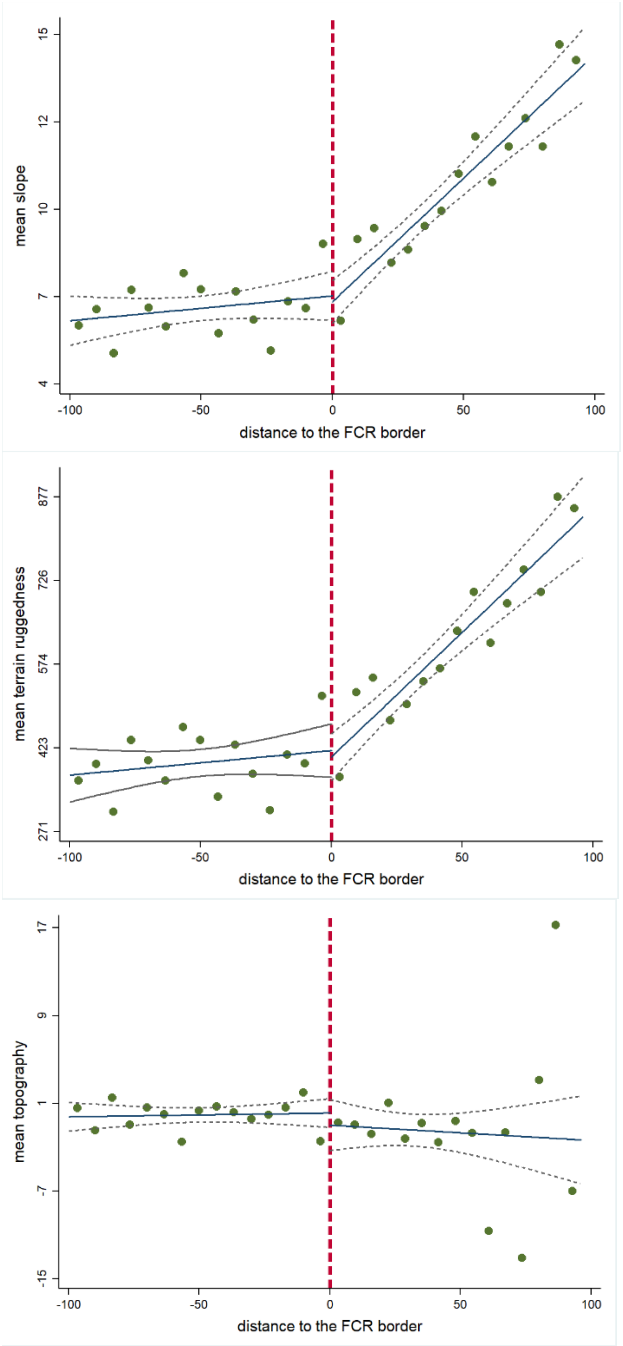
It includes terrorist incidents which target government officials and property including attacks against civil servants, teachers, doctors, judges, police, military, parliamentarians, educational institutions, health facilities, courts, roads, bridges, airports, etc.

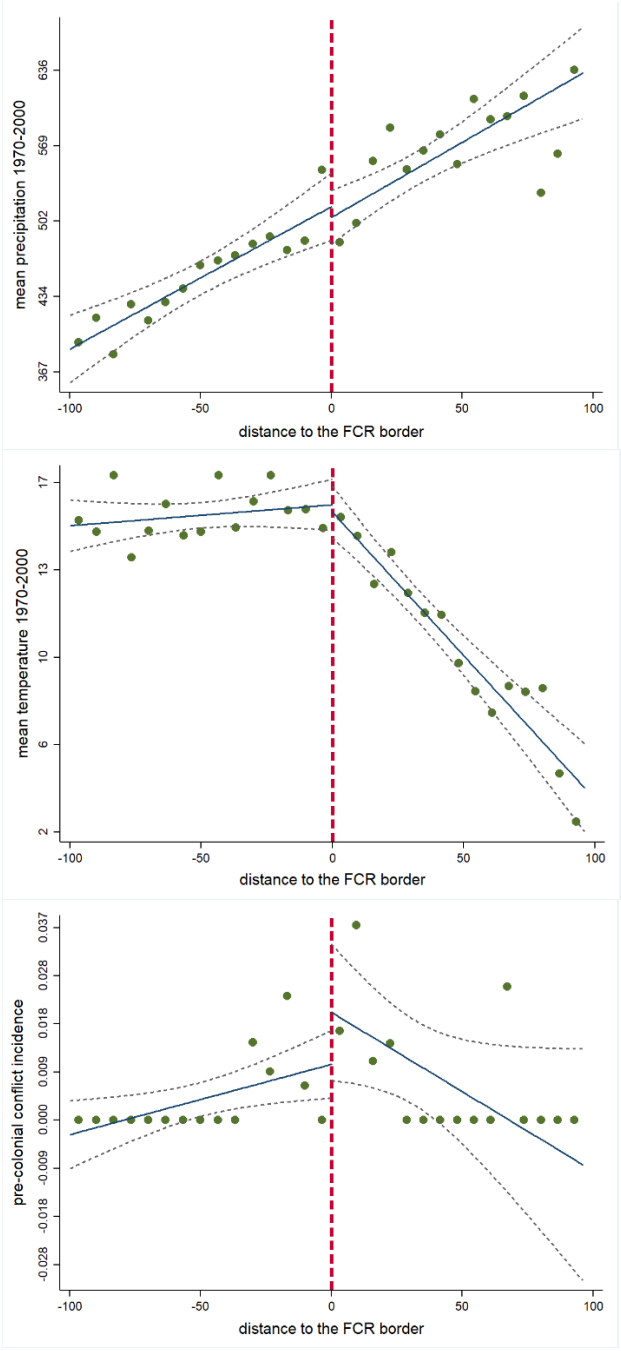
Non-state attacks

It consists of attacks that are carried out against private property and individuals. It includes attacks on private men, women, children, houses, businessmen, and businesses, religious figures and institutions, journalists, tourists, minorities, etc.

Appendix B: Additional figures and tables

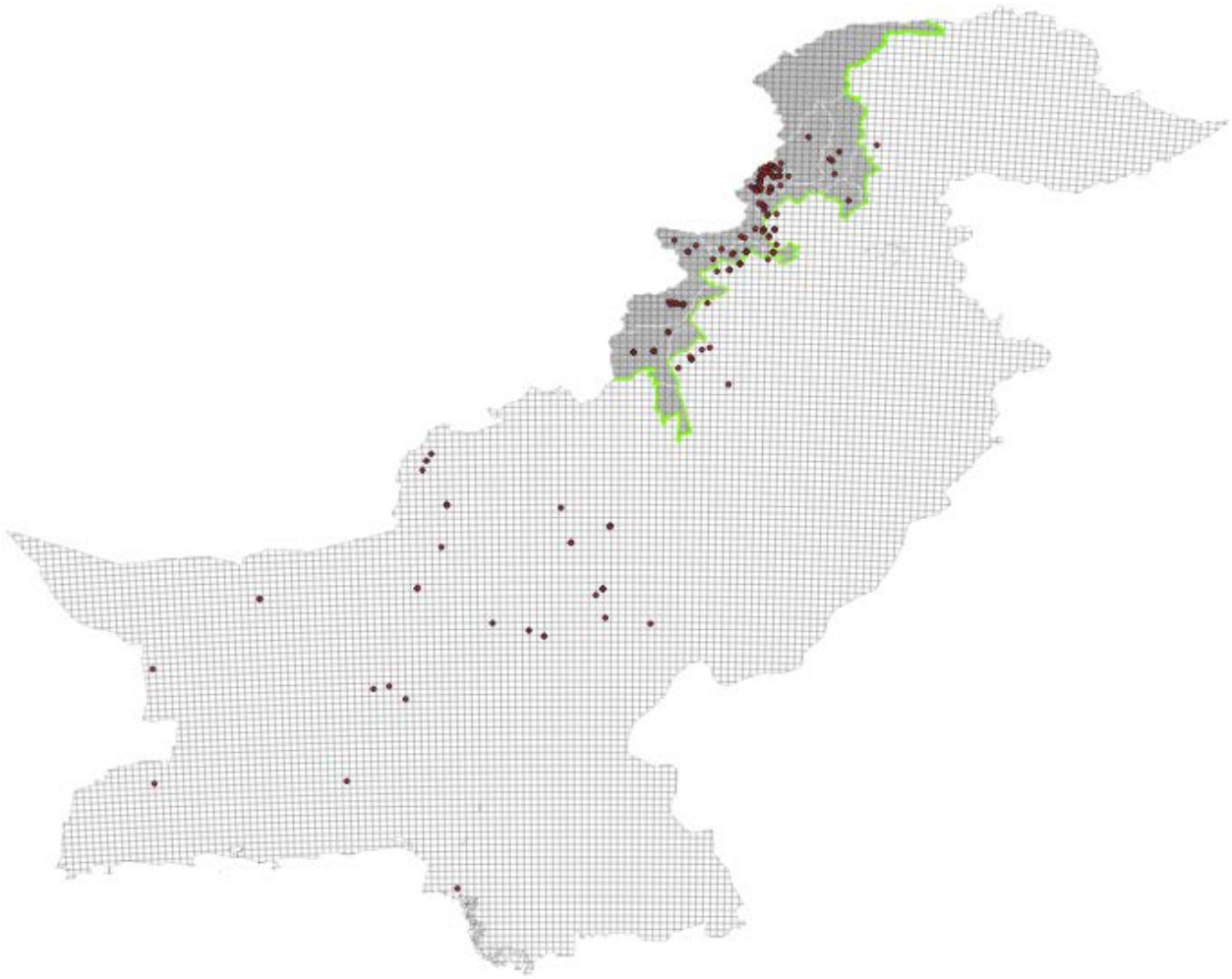
Figure B1: Visual lack of discontinuity in geographic, climatic, and historic factors





Source: authors' construction.

Figure B2: Targeted attacks on tribal elders (Maliks)



Note: map showing the attacks on tribal elders in a 10km-by-10km grid cell for the post-9/11 period (2001–2018). The FCR border (green) divides Pakistan into a FCR (grey) and non-FCR administrative set-up.

Source: authors' construction from GTD (2021) data.

Table B1: Frontier governance and conflict against the state using quadratic running variable

	Sample: Observations within 50 km from FCR border					
	Quadratic running variable in Euclidean distance to the border					
Dependent variable:	ln(1+incidents against state)		ln(1+deaths in incidents against state)		ln(1+injuries in incidents against state)	
	(1)	(2)	(3)	(4)	(5)	(6)
Inside FCR border	0.273**	0.318**	0.431***	0.456***	0.672***	0.743***
	(0.137)	(0.132)	(0.146)	(0.147)	(0.157)	(0.155)
Observations	1,118	1,105	1,118	1,105	1,118	1,105
95% C.I.	[-.056 ; .560]	[.008 ; .607]	[.122 ; .764]	[.161 ; .807]	[.344 ; 1.042]	[.441 ; 1.125]
Controls	No	Yes	No	Yes	No	Yes
Segment FE	Yes	Yes	Yes	Yes	Yes	Yes
BW-type	mserd	mserd	mserd	mserd	mserd	mserd
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. In columns 1-2, the outcome variable is the number of conflict incidents against the state; in columns 3-4, the dependent variable is the number of deaths in conflict incidents against the state; and in columns 5-6, the dependent variable is the number of injuries in conflict incidents against the state, all parameterized as ln(1 + x). All regressions include a quadratic polynomial in distance to the border and 20 km border segment fixed effects. Columns 2, 4, and 6 also include the following set of controls: ruggedness, topography, slope, precipitation, temperature, wheat suitability, pre-FCR major conflict incidence, and pre-FCR population density. Standard errors, clustered at the border segment ID level, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table B2: Frontier governance and conflict against the state using alternative manually chosen bandwidths

	Sample: Observations within 50 km from FCR border Linear running variable in Euclidean distance to the border					
Dependent variable:	ln(1+incidents against state)		ln(1+deaths in incidents against state)		ln(1+injuries in incidents against state)	
	(1)	(2)	(3)	(4)	(5)	(6)
	Panel A: 15 km bandwidth used for RD estimate					
Inside FCR border	0.181**	0.220***	0.251**	0.256**	0.369***	0.386***
	(0.084)	(0.082)	(0.104)	(0.104)	(0.102)	(0.102)
Observations	1,118	1,105	1,118	1,105	1,118	1,105
95% C.I.	[-.014 ; .522]	[.027 ; .552]	[.082 ; .660]	[.091 ; .666]	[.243 ; .834]	[.263 ; .842]
	Panel B: 12 km bandwidth used for RD estimate					
Inside FCR border	0.297***	0.315***	0.349***	0.335***	0.484***	0.471***
	(0.085)	(0.083)	(0.102)	(0.102)	(0.099)	(0.097)
Observations	1,118	1,105	1,118	1,105	1,118	1,105
95% C.I.	[.028 ; .593]	[.071 ; .622]	[.140 ; .742]	[.154 ; .760]	[.311 ; .937]	[.343 ; .958]
	Panel C: 10 km bandwidth used for RD estimate					
Inside FCR border	0.467***	0.501***	0.560***	0.574***	0.674***	0.700***
	(0.085)	(0.083)	(0.096)	(0.098)	(0.094)	(0.093)
Observations	1,118	1,105	1,118	1,105	1,118	1,105
95% C.I.	[.173 ; .744]	[.221 ; .772]	[.290 ; .908]	[.325 ; .945]	[.466 ; 1.110]	[.527 ; 1.152]
Controls	No	Yes	No	Yes	No	Yes
Segment FE	Yes	Yes	Yes	Yes	Yes	Yes
BW-type	manual	manual	manual	manual	manual	manual
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. Panel A manually imposes a bandwidth of 15 km either side of the FCR border for the RD estimate. Panel B uses a bandwidth of 12 km either side of the FCR border for the RD estimate. Finally, panel C imposes a bandwidth of 10 km either side of the FCR border for the RD estimate. In columns 1-2, the outcome variable is the number of conflict incidents against the state; in columns 3-4, the dependent variable is the number of deaths in conflict incidents against the state; and in columns 5-6, the dependent variable is the number of injuries in conflict incidents against the state, all parameterized as ln(1 + x). All regressions include a linear polynomial in distance to the border and border segment fixed effects. Columns 2, 4, and 6 also include the following set of controls: ruggedness, topography, slope, precipitation, temperature, wheat suitability, pre-FCR major conflict incidence, and pre-FCR population density. Standard errors, clustered at the border segment ID level, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table B3: Frontier governance and conflict against the state using alternative kernel weights

	Sample: Observations within 50 km from FCR border					
	Linear running variable in Euclidean distance to the border					
Dependent variable:	ln(1+incidents against state)		ln(1+deaths in incidents against state)		ln(1+injuries in incidents against state)	
	(1)	(2)	(3)	(4)	(5)	(6)
Inside FCR border	0.503***	0.505***	0.593***	0.288***	0.705***	0.637***
	(0.093)	(0.089)	(0.104)	(0.111)	(0.105)	(0.100)
Observations	1,118	1,105	1,118	1,105	1,118	1,105
95% C.I.	[.381 ; .801]	[.383 ; .798]	[.451 ; .913]	[.106 ; .604]	[.573 ; 1.04]	[.496 ; .942]
Controls	No	Yes	No	Yes	No	Yes
Segment FE	Yes	Yes	Yes	Yes	Yes	Yes
BW-type	mserd	mserd	mserd	mserd	mserd	mserd
Kernel	Epanechnikov	Epanechnikov	Epanechnikov	Epanechnikov	Epanechnikov	Epanechnikov
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. In columns 1-2, the outcome variable is the number of conflict incidents against the state; in columns 3-4, the dependent variable is the number of deaths in conflict incidents against the state; and in columns 5-6, the dependent variable is the number of injuries in conflict incidents against the state, all parameterized as ln(1 + x). All regressions include a linear polynomial in distance to the border and 20 km border segment fixed effects. They also use Epanechikov kernel weights (as opposed to triangular kernel weights) for weighting observations closer to the running variable cut-off. Columns 2, 4, and 6 also include the following set of controls: ruggedness, topography, slope, precipitation, temperature, wheat suitability, pre-FCR major conflict incidence, and pre-FCR population density. Standard errors, clustered at the border segment ID level, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.

Table B4: Frontier governance and conflict against the state in the pre- and post-9/11 eras

	Sample: Observations within 60 km from FCR border Linear running variable in Euclidean distance to the border											
	Pre-911						Post-911					
Dependent variable:	ln(1+incidents against state)		ln(1+deaths in incidents against state)		ln(1+injuries in incidents against state)		ln(1+incidents against state)		ln(1+deaths in incidents against state)		ln(1+injuries in incidents against state)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Inside FCR border	-0.016	-0.018	-0.019	-0.023	0.005	-0.013	0.530***	0.521***	0.551***	0.303***	0.683***	0.512***
	(0.012)	(0.013)	(0.025)	(0.024)	(0.035)	(0.034)	(0.087)	(0.085)	(0.095)	(0.103)	(0.094)	(0.097)
Observations	1,288	1,271	1,288	1,271	1,288	1,271	1,288	1,271	1,288	1,271	1,288	1,271
95% C.I.	[-.044 ; .01]	[-.047 ; .009]	[-.072 ; .048]	[-.080 ; .034]	[-.072 ; .103]	[-.093 ; .07]	[.412 ; .804]	[.407 ; .794]	[.415 ; .842]	[.143 ; .599]	[.563 ; .979]	[.379 ; .812]
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Segment FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BW-type	mserd	mserd	mserd	mserd	mserd	mserd	mserd	mserd	mserd	mserd	mserd	mserd
Kernel	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular	Triangular
Clustering	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID	Segment_ID

Note: the unit of observation is a 10km-by-10km grid cell. Columns 1-6 restrict the sample to the period prior to 9/11 from 1970 to 2000 and columns 7-12 restrict the sample to the period after 9/11 from 2001 to 2018. In columns 1-2 and 7-8, the outcome variable is the number of conflict incidents against the state; in columns 3-4 and 9-10, the dependent variable is the number of deaths in conflict incidents against the state; and in columns 5-6 and 11-12, the dependent variable is the number of injuries in conflict incidents against the state, all parameterized as ln(1 + x). All regressions include a linear polynomial in distance to the border and 20 km border segment fixed effects. Columns 2, 4, and 6 also include the following set of controls: ruggedness, topography, slope, precipitation, temperature, wheat suitability, pre-FCR major conflict incidence, and pre-FCR population density. Standard errors, clustered at the border segment ID level, are reported in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% levels.

Source: based on authors' estimations.