Provision of Infrastructure and Local Conflict:

Project-level Evidence from China's Belt and Road Initiative[§]

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Abstract

How do provisions of infrastructure projects affect local conflicts in developing countries? Existing studies have exclusively focused on the impacts of foreign investments in civil conflict. Yet we still know very little about whether and how foreign investment in infrastructure constructions by emerging donors such as China affects violent conflicts. We argue that the arrival of foreign infrastructure projects is prone to have either an *constraining effect* for state-based violence or an *emboldening effect* for non-state-based violence. To test this argument, we introduce a novel, fine-grained, georeferenced data set on the Chinese Belt and Road Initiative (BRI) projects and examine whether and how the Chinese projects affect local violence for first administration units on the African continent from 2000 to 2018. Using a matched difference-in-differences approach, we find that, while BRI projects are no more likely to increase the risks of state-based conflicts, there is strong evidence for the emboldening effect that Chinese BRI projects significantly increase non-state conflict at localities. These findings highlight the importance of infrastructure construction by emerging powers and the contrasting impacts on different types of local conflicts.

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Introduction

How do provisions of infrastructure projects affect local conflicts in developing countries? Existing studies have exclusively focused on the impacts of foreign investments in civil conflict (Brazys, de Soysa and Vadlamannati 2025; Findley et al. 2011; Sexton and Zürcher 2023; Unruh et al. 2019) and demonstrated that development projects are associated with local conflicts. However, these studies almost exclusively rely on evidence from investment projects initiated by developed countries. Consequently, we still know very little about whether and how foreign investment in infrastructure construction by emerging powers, such as China, affects violent conflicts.

Focusing on Chinese overseas infrastructure projects, this research examines whether and how Chinese Chinese Belt and Road Initiative (BRI) projects affect local conflict. Recent years have seen a burgeoning literature on the political and economic causes and consequences of Chinese BRI projects, emphasizing the strategic implications of BRI projects (Hall and Krolikowski 2022). In particular, studies show that the BRI can be an iterative project, which influences and is shaped by local conflicts in host countries (Adhikari 2023; Kishi and Raleigh 2022; Morris 2020). These studies, however, usually focus on conflict-affected states and thus prevent us from gaining a more generalized understanding of the linkage between BRI and local conflict due to the sample selection bias and qualitative approaches.

Drawing on insights from the distributive politics literature (Kramon and Posner 2013), we argue that the arrival of Chinese infrastructure projects is prone to have either an *constraining effect* for state-based violence or an *emboldening effect* for non-state-based violence. More specifically, we posit that Chinese infrastructure projects are more likely to be distributed to areas and locations that favor the state governments.

Existing studies show that in Africa governments and political leaders are more likely to favor their core constituents (e.g., coethnics, political coalitions) when allocating goods, services, or resources. Because BRI is predominantly a state-to-state cooperation, the governments of recipient countries thus become the dominant

As a result, state governments are more likely to refrain from using violence lest violent conflict may jeopardize the opportunity for economic growth brought by the construction of Chinese projects and the bilateral cooperation with China (Busse and Gröning 2009). In contrast, the unequal distribution of Chinese projects may prompt non-state armed actors to target these projects as a means to express grievances and protest against the government's favoritism (Isaksson 2020; Kim-Leffingwell et al. 2024).

To test this argument, we collect a novel, fine-grained dataset on the geographic locations of Chinese Belt and Road Initiative (BRI) projects from 2000 to 2020.[1] We use African continent as empirical case and quantify the impacts of Chinese BRI projects on local conflict at the first administration units. Using a matched difference-in-differences approach (Imai, Kim and Wang 2023), we find that, while BRI projects are no more likely to increase the risks of state-based conflicts, there is strong evidence for the emboldening effect that Chinese BRI projects significantly increase non-state conflict at localities. These findings highlight the importance of infrastructure construction by emerging donors and the contrasting impacts on different types of local conflicts.

Our study makes three important contributions to the existing scholarship on the relationship between infrastructure projects and conflict in general, and the BRI and local violence in particular. First, we introduce a georeferenced data on Chinese BRI projects. We collected data on over 3,000 BRI projects globally and hand-coded their geographic locations, allowing us to capture the local effects of BRI projects at a fine-grained level. To our best knowledge, this is the first comprehensive data on BRI projects. Second, we show that BRI's effects also depend on the types of actors in violent conflict. Our theory and empirical analysis unpack the differentiated motives behind state and non-state actors when facing unequal distributions of foreign investments, which demonstrates a more nuanced dynamics of foreign infrastructures. Finally, we present the first causal estimates of the BRI projects

1. While the Belt and Road Initiative was officially launched by President Xi Jinping in 2013, many infrastructure projects were invested earlier than 2013. We therefore use a more broader definition of BRI projects. For the background of BRI, see (Hall and Krolikowski 2022).

on political violence. Our research design and causal inferences allow us to address concerns over the sample selection bias and endogeneity problem.

We proceed as follows. The next section briefly reviews existing studies on the relationship between infrastructure provisions and conflict. We then present our theoretical argument about how Chinese BRI projects affect state-based and non-state-based violence differently, highlighting the *constraining effect* and the *emboldening effect*. Next, we introduce our research design, including our novel data on BRI projects and empirical strategies. We present the results of our analysis and conclude with a discussion of the future implications of our study.

Overview of the Infrastructure-Conflict Nexus

Infrastructure serves as an essential tool for governments to promote social governance and economic development, yet it is also intricately intertwined with local conflict dynamics. Numerous studies have explored the characteristics and mechanisms through which infrastructure projects can trigger political and legal conflicts, focusing on aspects such as project management, public-private relationships, and domestic politics (Min et al. 2018; Park et al. 2017; Unruh et al. 2019; Wijaya 2022). The complex infrastructure-conflict nexus has long been a crucial topic in political science research, yielding a rich tapestry of insights and debates.

On one aspect, it is observed that infrastructure projects frequently become strategic targets during warfare, with their destruction being utilized as a combat technology. Historical instances, such as the sustained attacks on civilian infrastructure throughout Europe and Asia during World War II, underscore this point. In regions like the West Bank and Gaza, over half a century of intermittent conflicts has continuously jeopardized civilian infrastructure, inflicting lasting damage on water, energy, and agricultural facilities (Weinthal and Sowers 2019). This pattern has persisted in more recent conflict zones, such as Libya, Syria, and Yemen, which witnessed an increasing trend of warfare tactics targeting environmental infrastructure (Sowers, Weinthal and Zawahri 2017). Moreover, dam projects along rivers,

such as the Euphrates, Tigris, and Nile, have fueled internal community discord and sparked inter-state conflicts (Weinthal and Sowers 2020).

Conversely, infrastructure projects can also assume a role in the construction of peace. In fragile and conflict-affected regions like South Sudan and Afghanistan, infrastructure is seen as a primary tool for rebuilding nations and stabilizing societies (Bachmann and Schouten 2018). The UN peacekeeping missions in countries such as Mali, have invested heavily in small-scale infrastructure development in sectors such as energy, transportation, and communication to support post-conflict reconstruction, development, and peacebuilding (Danielak 2022). These initiatives underscore the potential for infrastructure projects to serve as catalysts for sustainable peace and development.

When it comes to the relationship between provisions of infrastructure projects and local conflicts, the existing literature, however, has exclusively focused on infrastructure provisions by developed countries, and much of the analytical framework falls within the foreign aid perspective (Kim-Leffingwell et al. 2024; Kishi and Raleigh 2022). Moreover, existing studies are debated about the specific mechanisms through which infrastructure projects influence local conflicts.

Mechanisms Linking Infrastructure to Conflict

Scholars of civil studies have posited that opportunity, greed, and grievances are key drivers of internal conflict (Collier and Hoeffler 2004; Fearon and Laitin 2003). In recent years, with the escalation of overseas aid and the intensifying competition among major powers for influence through such ways, a growing number of scholars have begun to examine the impact of foreign infrastructure projects on local governance.

Opportunity and Infrastructure-Conflict Nexus. The opportunity mechanism, depicted as the feasibility of rebellion based on factors such as the availability of financial resources, weak state capacity, and favorable geographic conditions, has long been considered a key driver of conflict (Collier and Hoeffler 2004; Fearon and Laitin 2003). Within the discussion of infrastructure projects, emerging studies have explored how these investments

alter the opportunity structure for rebellion. For example, Zürcher (2020) argue that large-scale infrastructure projects, especially those funded by external actors, can create new sources of income for rebel groups, such as through extortion or control of key transportation nodes. This can lower the barriers to entry for rebellion and increase the feasibility of sustained conflict. Similarly, the development of communication infrastructure, such as mobile networks and internet access, while largely promoting the free flow of information and economic growth, has also provided conflict actors with tools to coordinate actions, recruit members, and disseminate propaganda to a wider audience (Pierskalla and Hollenbach 2013).

However, other scholars contend that infrastructure projects can also exert a pacifying effect by fostering economic development and raising the opportunity costs of engaging in violence. For instance, Dasgupta, Gawande and Kapur (2017) find that the introduction of India's National Rural Employment Guarantee Scheme positively impacted local economic growth and reduced individuals' incentives to participate in rebellion, contributing to lower conflict risks. Similarly, Hoelscher, Miklian and Vadlamannati (2012) demonstrate that the Indian government, by implementing a series of public works programs, undermined local populations' loyalty to insurgent organizations and curbed local conflicts. This may be because increased economic opportunities decreased the relative gains from armed struggle.

Greed and Infrastructure-Conflict Nexus. The greed mechanism emphasizes that the pursuit of economic benefits by individuals or groups, especially the desire to control natural resources such as diamonds, gold, or oil, can lead to the onset of new conflicts or the continuation of existing ones. Regarding infrastructure projects, Berman et al. (2017) find that infrastructure projects directly related to natural resources, such as oil pipelines or mineral development zones, often become focal points of conflict. These projects offer significant economic benefits, attracting contestation from various forces, including rebel organizations, government forces, and private security companies.

Moreover, Cotet and Tsui (2013) highlight the political factors under the resource curse. They point out that infrastructure projects, especially those involving large-scale investments

and high return expectations, often require active government involvement and support. In weak governance environments, this involvement sometimes translates into collusion between political elites and foreign investors, exacerbating resource exploitation and associated conflicts. Similarly, Tower (2020) find that BRI projects have triggered community conflicts around land acquisition and resource extraction in some host countries, with weak institutional environments exacerbating rent-seeking behavior and violence risk.

However, the role of greed in infrastructure-conflict dynamics is not always linear. In certain cases, infrastructure projects that promote economic diversification and strengthen state capacity have been found to reduce the incentives for rent-seeking. For example, using Iraq as a case study, Berman, Shapiro and Felter (2011) find that government-provided infrastructure projects can improve public attitudes towards the government, reduce support for insurgents, and ultimately suppress conflicts. In other contexts, as Sexton and Zürcher (2023) point out, small-scale foreign development aid projects improved people's economic conditions, but these projects may have weakened public attitudes towards the government due to a lack of local consultation and incomplete implementation, inadvertently improving perceptions of insurgents.

Grievance and Infrastructure-Conflict Nexus. The grievance mechanism, in exploring the impact of infrastructure on local conflicts, reflects the role of social inequality and perceived injustice in driving conflict dynamics. According to Gurr (2015)'s relative deprivation theory, when people perceive a gap between their economic conditions or social status and their expectations, they may develop grievances, leading to social instability and conflict. Infrastructure projects, despite aiming to promote economic development and improve quality of life, may exacerbate social divisions and grievances if the distribution of benefits is uneven or fails to adequately consider the needs and expectations of local communities.

According to Wijaya (2022), when the design and implementation of infrastructure projects overlook a particular group or concentrate resource allocation in specific areas or social strata, it can generate feelings of abandonment and injustice among marginalized

groups, sowing the seeds of conflict. Similarly, infrastructure development in Latin America and the Caribbean has also led to social conflicts and structural violence in the affected regions due to its impact on the environment, resettlement, economic production methods, and cultural identity of local communities (Ramos Suárez and Pérez 2018). However, the impact of infrastructure projects on grievances is not always negative. Ongo Nkoa et al. (2022), through a quantitative study of the African region, find that the electricity supply from energy infrastructure projects can significantly reduce the risk of internal conflicts in Africa by improving access to public services and economic opportunities, thereby reducing social and economic inequalities.

Taken together, the aforementioned studies have engaged in fruitful discussions on the relationship between infrastructure projects and local conflicts. The effect shows heterogeneous and different directions. The lack of consensus on the mechanisms linking infrastructure projects to conflict underscores the complexity of these dynamics and the need for more fine-grained, context-specific research. We still know very little about how infrastructure provisions by emerging powers such as China can affect local conflict. We, therefore, attempt to bridge the gaps in the existing research in the following aspects.

First, although the literature has explored the infrastructure-conflict relationship from the mechanisms of opportunity, greed, and grievance, it is still unclear about how they affect the effects of the provisions of Chinese infrastructure projects on local conflict. As of October 2023, more than 150 countries have signed the BRI cooperation agreements with China. However, preliminary discussions on Chinese projects and local conflicts are mostly based on qualitative cases, focusing only on a few countries and regions, and are susceptible to selection bias. Second, the vast majority of existing studies focus on Chinese aid or financing at the country level (Kim-Leffingwell et al. 2024; Kishi and Raleigh 2022), which prevents us from understanding the local distributive effects of Chinese projects on conflict. For instance, the aggregated, country-level analysis does not allow us to test how the unequal allocation of Chinese projects may result in different responses from state and

non-state actors in the conflict context.

The Argument and Hypotheses

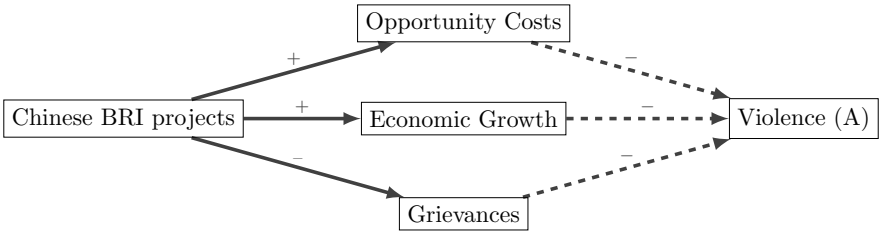
Built upon the existing studies, we bring the types of conflict actors back to the study of infrastructure-conflict nexus. We argue that due to the unequal geographic allocation of Chinese projects, the provision of Chinese infrastructure projects is prone to have either an *constraining effect* for state-based violence or an *emboldening effect* for non-state-based violence. Figure 1 summarizes our argument and the causal mechanisms through which Chinese projects affect local violence by governments and non-state armed groups.

Existing studies show that Chinese infrastructure projects are more likely to be allocated to areas and locations that favor the state governments. Because it is often the governments that dominate international cooperation with China, Chinese BRI projects are inevitably susceptible to government preferences when considering their locations. In fact, this is not unique to Chinese projects. Existing studies show that foreign aid usually cannot reach the most needed due to governments' strategic allocations (Briggs 2017; Isaksson 2020). As a result, state governments have incentives to use Chinese projects to advance their political and economic goals that can enhance their control over their population. This incentive also implies that state governments will be more likely to avoid using violence in areas proximate to the Chinese infrastructure projects lest occurrences of violent conflict may jeopardize the opportunity for economic growth brought by the construction of Chinese projects and scare away Chinese firms that look for peaceful and stable investment localities.

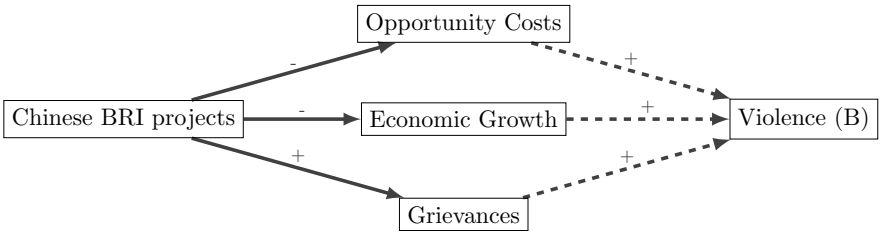
Furthermore, local violent events may also raise concerns by the Chinese governments over the deteriorated security environments, which may undermine the state-to-state bilateral cooperation (Busse and Gröning 2009). As a result, state governments are more likely to refrain from using violence in areas where Chinese projects are located. We thus propose our first hypothesis regarding the constraining effect on state-based violence:

Constraining effect hypothesis*: Increased Chinese infrastructure projects in a locality*

Figure 1. Linking Causal Mechanism between BRI Projects and Local Conflict



(a) State-based violence (Side A)



(b) Non-state Based violence (Side B)

Notes: Figure 1 summarizes the causal mechanism through which Chinese BRI projects affect local conflict by state governments and non-state armed groups. The arrow denotes the direction of the causal path, and the symbols + and − denote the direction of the effect.

lead to a decrease in state-based violence.

Despite the constraining effect on state-based violence, we argue that the unequal allocation of Chinese projects may prompt non-state armed actors to use increased violence against their governments. On the one hand, the perceived inequality and grievances due to the government's favoritism may be amplified in areas that are not effectively controlled by the government or outside of the government's core constituencies due to the lack of economic opportunity brought about by Chinese infrastructure projects. Opposition groups, therefore, are more likely to blame the governments for depriving their opportunity, which may reinforce the preexisting grievances. On the other hand, the lack of infrastructure projects may further decrease the opportunity costs of using violence in those areas because there are no fears of losing economic investment from China or international cooperation. Therefore, the unequal allocation of Chinese projects may embolden opposition groups to use violence as a strategy to achieve their political and economic goals. In the event that governments are too strong to use violence, non-state armed groups may also consider non-violent options such as protests and demonstrations to pursue policy changes (Isaksson 2020; Kim-Leffingwell et al. 2024). Based on this reasoning, we propose our second hypothesis:

Emboldening effect hypothesis*: Increased Chinese infrastructure projects in a locality lead to an increase in non-state-based violence.*

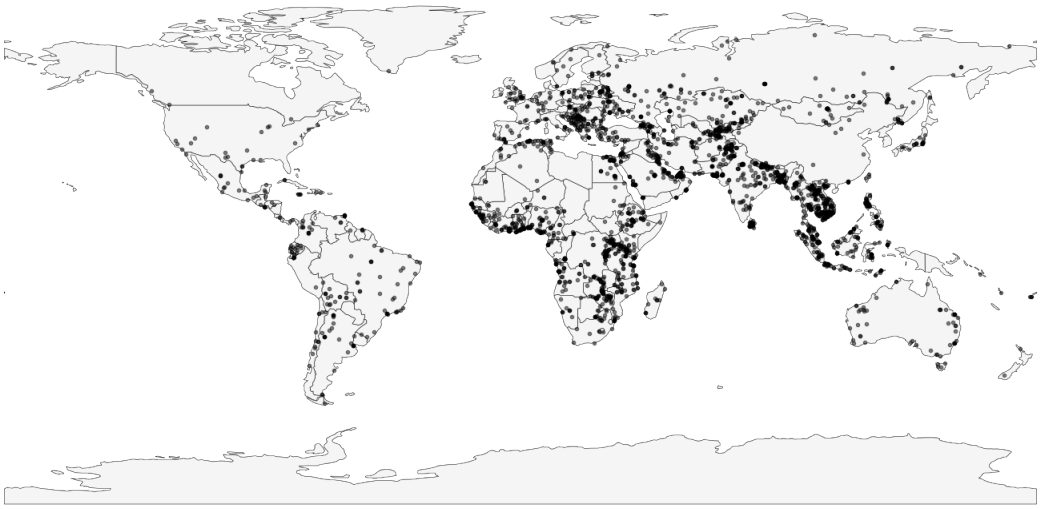
Research Design

The Data

To test our argument, we collected an original, georeferenced dataset on all Chinese BRI Infrastructure projects from 2000-2020 (See Figure 2). Based on the project names from the Refinitiv BRI database [2], we hand-coded the geographic coordinates of all Chinese

2. https://www.insurancejournal.com/app/uploads/2021/06/refinitiv-belt-and-road-initiative-report-2019.pdf

Figure 2. Spatial Distribution of Chinese BRI Projects (2000-2020)

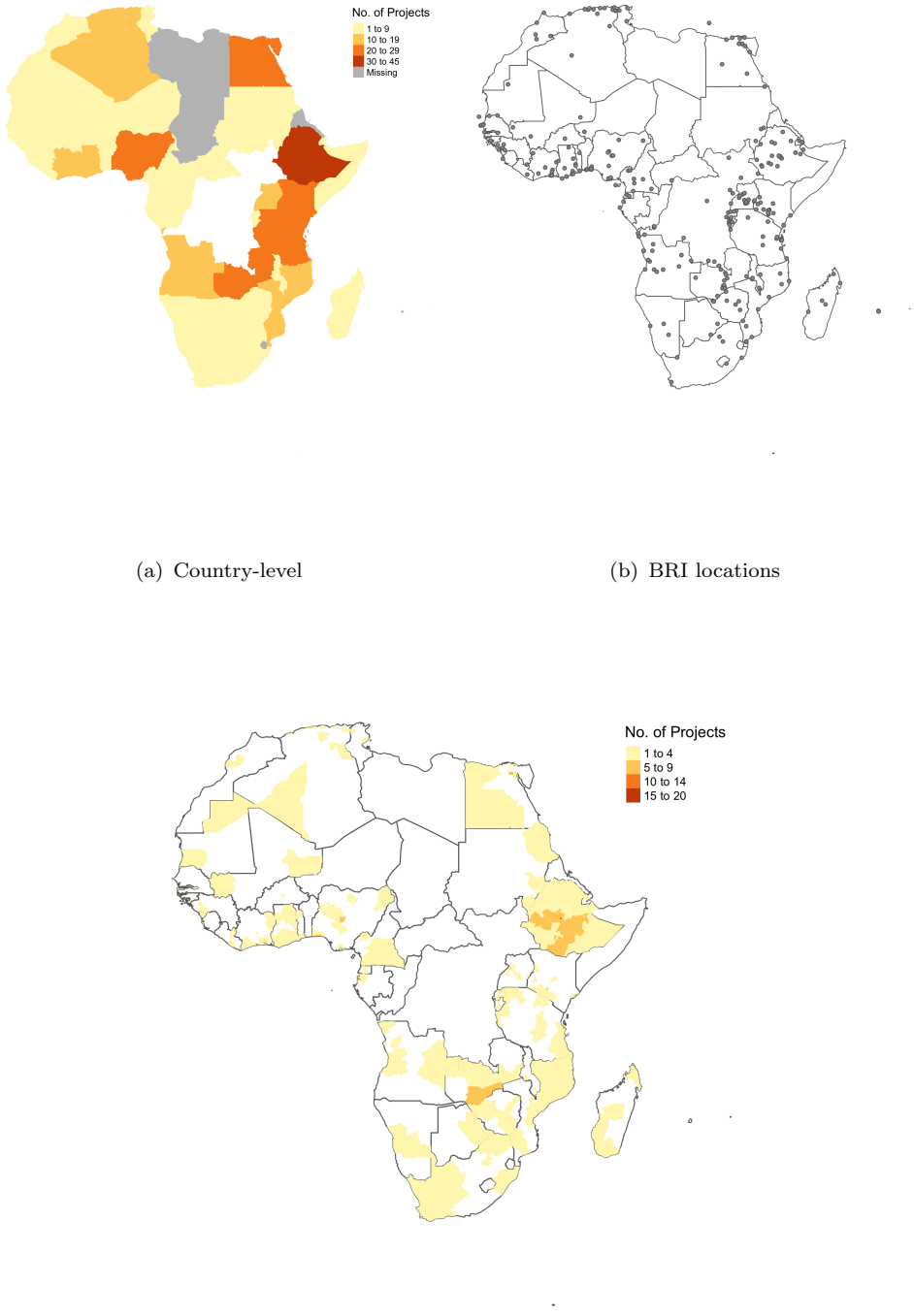


Notes: Figure 2 displays the global distribution of Chinese projects.

Infrastructure projects. While our BRI dataset has global coverage, we focus our empirical analysis on African countries. The unit of analysis is the *first administrative unit-year* for 44 African countries.[3] Data on African first administrative units are taken from Zhukov, Davenport and Kostyuk (2019). We then spatially overlay the georeferenced locations of BRI projects onto the first administrative units. In doing so, we identify a set of time-varying administrative units that host Chinese projects (our treated units) compared to those that do not host Chinese projects (the control units). Figure 3 shows the geographic distribution of all the Chinese BRI Infrastructure projects from 2000-2018.[4] More specifically, panel a shows the spatial variations at the country level, whereas panel b shows the specific locations of the projects. Finally, panel c of Figure 3 displays the variation in Chinese projects at first administrative units from 2000-2018.

3. We excluded Eritrea, Libya, Mauritius, and Eswatini from our data because none of these four countries received any Chinese Chinese Infrastructure projects, which does not allow us to examine the subnational variations for them.
4. Our temporal coverage spans from 2000-2018 in this paper due to missing data on some of the key variables.

Figure 3. Spatial Distribution of Chinese BRI Projects in Africa



(a) Country-level

(b) BRI locations

(c) First administrative unit-level

Notes: Figure 3 displays the geographic distribution of Chinese projects at the country, first administrative unit-level.

Variables and Empirical Strategy

We use a set of dependent variables to assess the causal impacts of Chinese projects on local conflict. Leveraging the data from Zhukov, Davenport and Kostyuk (2019), we consider three types of violence as our dependent variables: indirect violence (e.g., indirect fire, shelling, air strikes, chemical weapons), direct violence (e.g., direct fire, arrest, assassination), and protest (Balcells 2011). We, therefore, count the total events of these types of violence for each first administrative unit every year. In addition, we use any *use of violence* as our aggregate measure of the three types of violent and non-violent conflict. In the subsequent analysis, we further distinguish violence committed by governments (Side A) from those by rebel groups (Side B).[5] In light of our theory, we expect that Chinese projects should produce differentiated effects on these types of violence.

To quantify the causal impacts of Chinese Infrastructure projects on local conflict, we use a matching method via a difference-in-differences estimator to estimate the short-term and long-term average treatment effects (Imai, Kim and Wang 2023). To produce a matched set with an identical treatment history up to the previously determined number of lagged periods, the method first pairs every treated observation with control observations from different units within the same period. The matched set is further refined using propensity score matching so that the treated and matched control observations have similar covariate values. After the refinement, we finally estimate both short-term and long-term average treatment effects (ATT) using the difference-in-differences estimator to account for a time trend.

In our analysis, we include both subnational and country-level covariates from the `xSub` project that help refine the matched set. At the subnational-level, we include the following covariates: the average elevation, the proportion of land covered by open terrain, the

5. Side A actors include incumbent government, pro-govt militia, and third party acting on incumbent's behalf. In contrast, Side B actors include rebels, anti-government militia, third-party acting on rebels' behalf, and other armed groups directly challenging the government. See Zhukov, Davenport and Kostyuk (2019).

proportion of land covered by croplands, the number of local ethnic groups, the number of petroleum fields, the distance to the nearest provincial capital (km), and road density (km/km2). Data on the subnational covariates are taken from the `xSub` project (Zhukov, Davenport and Kostyuk 2019).

At the country level, following existing studies, we control for the effects of regime type, GDP per capita, and political affinities with China. More specifically, we use the electoral participation index from the Variety of Democracy (V-Dem)(Coppedge et al. 2021) to proxy the level of political competition in African countries (Kim-Leffingwell et al. 2024). Data on GDP per capita are from the World Development Indicator (WDI)(World Bank 2022). Finally, we use the distance in ideal point (Bailey, Strezhnev and Voeten 2017) to measure the political relationship between African countries and China.

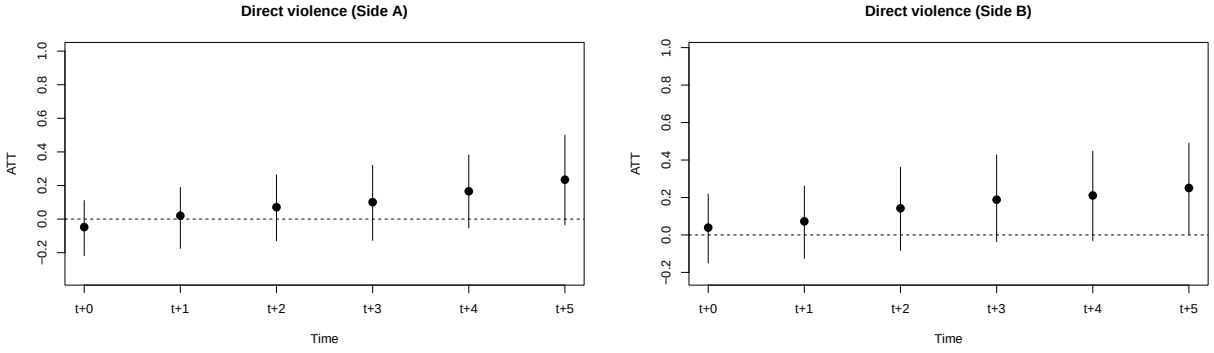
Results and Discussions

Quantifying the Causal Effects

One particular concern in testing our hypoheses is that Chinese infrastructure projects may not be deployed randomly; instead, the locations of these projects may result from strategic considerations, as our theory explains. Consequently, we cannot quantify these statistical associations from observational data into causal effects. To address this concern, we estimate a set of matched difference-in-differences models using a matched and refined set in which the treated and control units have similar covariate values and treatment trajectories(Imai, Kim and Wang 2023).

Figure 4 shows the estimated ATTs of Chinese projects on the logged number of direct violence in Africa for five years after the provisions of Chinese projects at the first administrative units. We find that, while the ATTs for the period of five years after the administration of the treatment are largely statistically insignificant for direct violence by governments (Side A), the ATTs for direct violence by non-state actors (Side B) during the fifth year become positive and statistically significant. Moreover, in both panels of Figure 4, the point esti-

Figure 4. The Effects of BRI Projects on Direct Violence in Africa

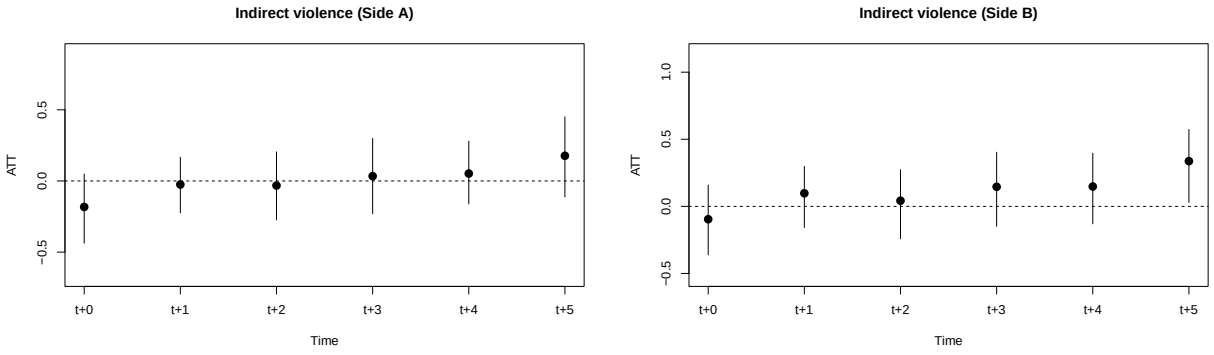


(a) State-based violence (Side A)

(b) Non-state Based violence (Side B)

Notes: Figure 4 displays the estimated the average treatment effect on the treated(ATT) for direct violence.

Figure 5. The Effects of BRI Projects on Indirect Violence in Africa

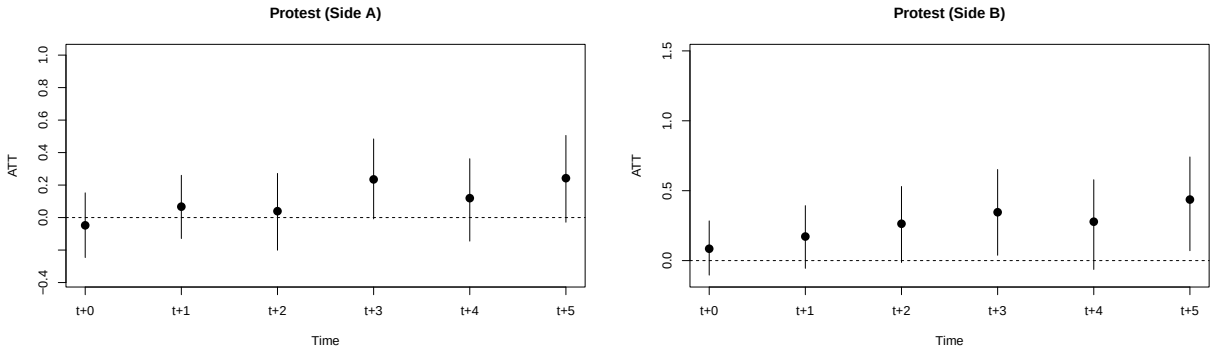


(a) State-based violence (Side A)

(b) Non-state Based violence (Side B)

Notes: Figure 5 displays the estimated the average treatment effect on the treated(ATT) for indirect violence.

Figure 6. The Effects of BRI Projects on Protest in Africa



(a) State-based violence (Side A)

(b) Non-state Based violence (Side B)

Notes: Figure 6 displays the estimated the average treatment effect on the treated (ATT) for protest.

mates of the ATTs become increasingly positive and substantive as the treatment history increases. Therefore, we find some evidence for our emboldening effect hypothesis that increased number of Chinese BRI projects lead to an increase in non-state-based violence (Side B) at least in the four years after the provisions of Chinese BRI projects. However, we do not find strong evidence that governments are significantly more to use violence in the first five years after the arrival of BRI projects.

Turning to indirect violence, results in Figure 5 show a similar pattern as the impacts on direct violence. Although we do not find strong evidence that Chinese projects increase the indirect violence by the governments following the five years of the project provisions, we find positive and statistically significant effects for indirect violence by non-state armed actors in the fifth year of the treatment. Taken together, we find evidence for our theoretical argument that the uneven distribution of Chinese BRI projects can incentivize non-state actors to use political violence as a means to undermine the state government. In contrast, the Chinese BRI projects may constrain state governments in using political violence, at least not increasing the use of political violence against the opposition.

What about the implications for non-violent conflict in the context of Chinese BRI projects? Figure 6 presents the estimates of ATTs for protests by state governments and

non-state actors. Unlike direct and indirect violent responses, we find that Chinese projects significantly increase the use of protest by non-state actors following the provision of projects during the second year. These findings directly contrast with the protests by the governments, where we do not find positive and significant effects most of the time following the treatment. These findings also align well with Kim-Leffingwell et al. (2024) where Chinese investments are associated with increased anti-Chinese protests.

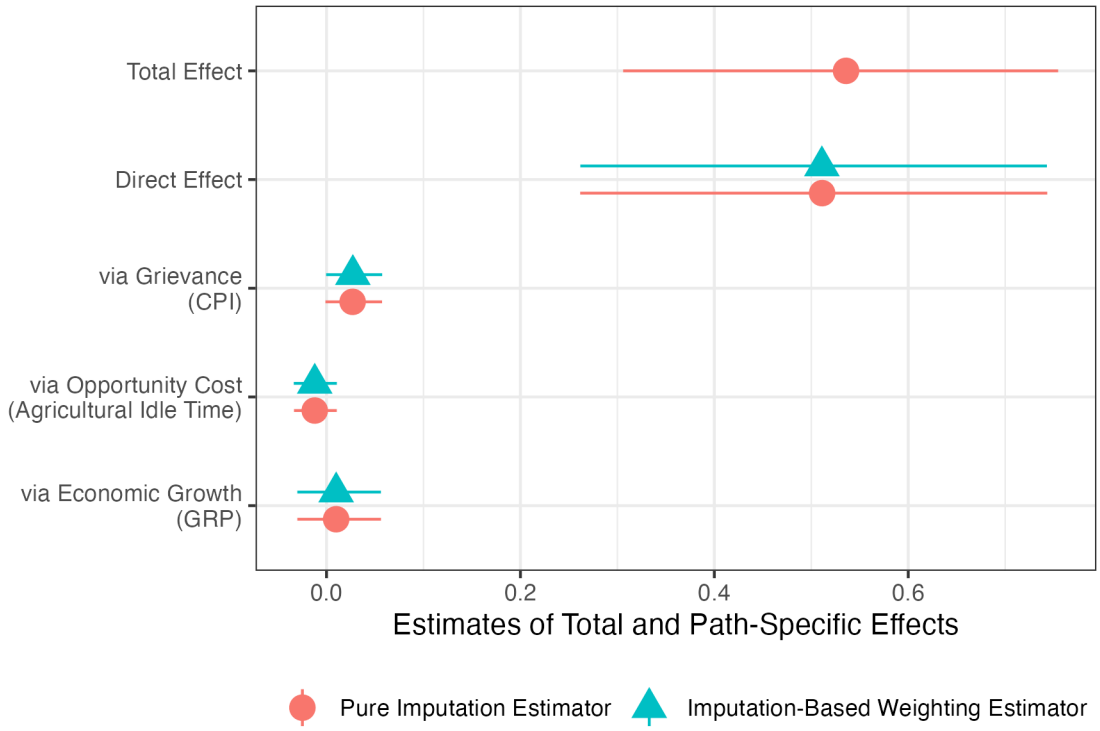
Testing the Causal Mechanisms

The above results provide support for our emboldening effect hypothesis and show that at least state governments are no more likly to use direct and indirect violence. In this section, we explore the causal pathways through which Chinese BRI projects affect the use of violent and non-violent conflict by state governments and non-state actors in Africa. As illustrated in our theory and summarized in Figure 1, we consider three paths in which BRI projects may affect political violence and protests in African countries, that is, the increased grievance as a result of even distribution of projects, the increased opportunity costs as a result of increased job opportunities brought by the constructions of projects, and the economic growth as a result of BRI project stimulus.

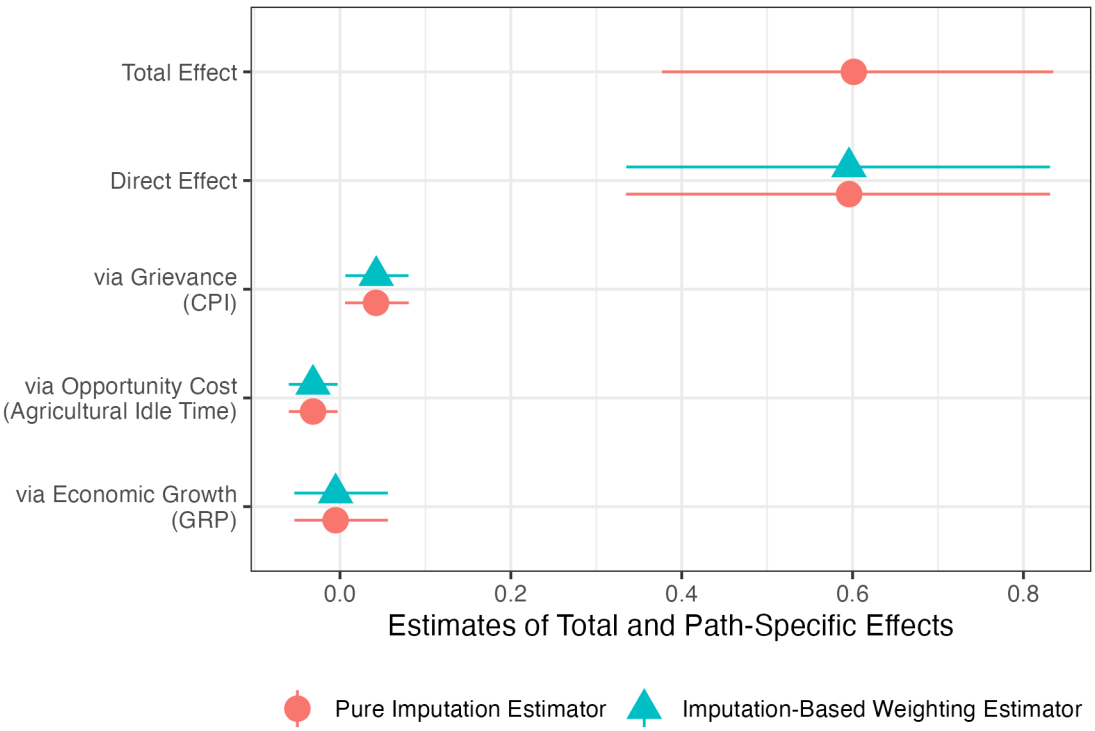
More specifically, we use the subnational level Consumer Price Indices (CPI) (Wenz et al. 2023) to proxy grievance and agricultural idle time (DiGiuseppe, Haer and RezaeeDaryakenari 2024) to measure the opportunity costs of rebellion and gross regional product (GRP) as a measure of economic growth (Wenz et al. 2023). CPI and GRP are taken from the Global data set of reported sub-national economic output (DOSE) (Wenz et al. 2023) and measured yearly at first-order administrative units. Similarly, agricultural idle time is an index from (DiGiuseppe, Haer and RezaeeDaryakenari 2024) and is also measured at the first-order administrative units.

Since these three causal paths are not mutually exclusive, and each can be an independent causal path from BRI provisions to local conflict, we thus estimate the path-specific causal

Figure 7. Causal Mediation Analysis



(a) Direct violence by Side B



(b) Protest by Side B

Notes: Figure 7 displays the estimated causal mediation effects

effects using a recent method developed by Zhou and Yamamoto (2023). Figure 7 displays the estimated causal mediation effects for direct violence and protests by non-state armed groups. Consistent with our expectation, BRI projects not only have a positive, direct impact on direct violence and protest by non-state armed groups but also indirectly affect their use via grievance and opportunity cost mechanisms. In particular, grievance as a causal path is positive and significant for both direct violence and protest; however, opportunity cost is only statistically significant for protest. We do not find mediating effects by the economic growth path for non-state violence.

Taken together, our analyses show that Chinese infrastructure projects in African countries can produce distinct effects on state-based violence and non-state-based violence. One key takeaway is that the BRI effects are not homogeneous across spaces and groups; instead, a closer look at the BRI effects should consider the unequal geographic distribution of these projects and evaluate the different responses among governments and non-state groups.

Conclusion

In this paper, we introduce novel, fine-grained data on the geographic locations of Chinese BRI projects and assess how the provisions of these projects can affect political violence by governments and non-state groups in Africa. Leveraging a matched difference-in-differences design and path-specific causal effects estimation, our results show that Chinese BRI projects may constrain the use of violence by governments but also embolden political violence by non-state groups. These findings highlight the importance of infrastructure construction by emerging powers and the contrasting impacts on different local conflicts.

This study is the first step in quantifying the causal impacts of Chinese BRI projects on local conflicts. Future research may build on and extend this project in several ways. First, future studies can further examine the impacts of the unequal distribution by using direct measures of government leaders' favoritism. In particular, future research can link the geographic constituencies of leaders with the locations of BRI projects. Second, future studies can also link the individual-level data with the BRI projects and assess how BRI

projects can win the "hearts and minds" of the areas that host BRI projects while inciting discontent and grievances in the regions that deprive the opportunity to host BRI projects. For example, future studies can utilize the Afrobarometer project and examine the individual responses to BRI projects (Blair, Marty and Roessler 2022). Furthermore, future studies can further engage domestic distributive politics and examine how the geographic locations of BRI projects were determined in the first place. Our new data will allow future researchers to extend the research agenda on the infrastructure-conflict nexus in general and Chinese overseas investment in particular.

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