

When does development finance fuel conflict?

Insularity in World Bank Group project portfolios

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Abstract

In a world in which only 17 per cent of the SDG targets are currently on track and in which Fragile and Conflict-Affected Settings will soon account for two thirds of the global population living in extreme poverty, it is critical to understand which development pathways are more effective in reducing conflict and violence, and why. Building from work on horizontal inequalities that demonstrates how conflict is exacerbated by distributions of important benefits that are perceived as biased and unfair by different groups in society, we examine the role of insularity—the favoring of powerful groups rather than a more representative or inclusive set of stakeholders—in development finance. Employing propensity score panel matching in a subnational research design, we first compare International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA) government directed projects with International Finance Corporation (IFC) private sector directed ones, finding that IFC projects are notably more conflict prone. Second, through measurement of insularity in the stakeholder network of intergovernmental organizations at a micro-spatial level, we show how insularity helps to explain the variance in outcomes between and within these portfolios of the World Bank Group. Our findings support the argument that the financiers of development should take engagement across identity groups and the distribution of benefits and costs between them into greater account in the selection and implementation of projects.

DEVELOPMENT FINANCE IN A VIOLENT WORLD

The United Nations Secretary General warns that the 2030 Agenda “could become an epitaph for a world that might have been” (United Nations, 2023, p. 2). Thirty percent of targets are stalled or trending backwards—including on poverty, hunger, and climate—while an additional 50 percent show insufficient progress to realistically anticipate that the goals can be met in the next seven years.

Stalled progress towards the SDGs and conflict are intertwined, with two thirds of the world’s population living in extreme poverty expected to be in Fragile & Conflict-Affected Settings by 2030 (International Rescue Committee, 2023). The Geneva Academy documents 108 armed conflicts around the globe today (Geneva Academy, 2024), including the 59 active state-based armed conflicts counted by the Uppsala Conflict Data Programme, “the highest level ever recorded” (Davies et al., 2024). Meanwhile, non-state conflict—particularly in the form of organized crime—has created the most violent decade on record, with each of the past three years each recording more deaths from violent conflict than any others since the Rwanda genocide of 1994 (ibid). This conflict undermines development, in turn feeding dynamics conducive to conflict escalation.

We note two trends in development finance intended to address the critical and interrelated goals of addressing conflict and achieving development. The first is a focus on Fragile & Conflict-Affected Settings. Since its inception in 1944, the World Bank (the umbrella term for the International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA) within the World Bank Group) has used below market interest loans to national governments to fund development projects intended to improve economic growth and increase prosperity in the world’s poorest countries. More recently, the World Bank Group has sharpened its focus and commitment to supporting not only the poorest countries, but, in particular, the subset of them that suffer from conflict, and “little by little, the World Bank has become an institution focused on war” (Flores & Nooruddin, 2009, p. 2). This shift in focus is aligned with the arguments that economic progress reduces the risk that Fragile & Conflict-Affected Settings will fall back into political violence (World Bank, 2003, 2011), and that achievement of the Sustainable Development Goals turns on the performance of fragile states (World Bank, 2018).

Concurrently, private sector finance has become increasingly central to development finance. Most prominent has been the World Bank Group’s (WBG) push to privilege the mobilization of private capital in its global strategy (Dimakou et al., 2021; Ellmers et al., 2010) amidst a general weakening of support for public financing of development (Waeyenberge, 2016). For example, profits from private sector lending through the International Finance Corporation (IFC), the private sector finance arm of the WBG, previously supported the International Development Association (IDA), which was established to provide highly subsidized WBG credits and loans to the world’s poorest countries. Today, IDA funds are redirected to the IFC for private sector investment (Heldt & Dörfler, 2022). This strategy has achieved broader traction, with the Addis Ababa Action Agenda that emerged from the United

Nations' 2015 Third International Conference on Financing for Development (United Nations, 2015) effectively endorsing the WBG's "Billions to Trillions" strategy to mobilize private investment to advance the Sustainable Development Goals (World Bank, 2015). It is argued that, in places caught in a downward spiral of broken state-society relations, private sector-led market and job creation can generate "disproportionate impact in terms of development and stability" (Collier et al., 2019, p. i). The IFC reported a project pipeline in 2022 of nearly \$9 billion in IDA-Fragile and Conflict-Affected Situations countries (International Finance Corporation, 2022).

However, a growing evidence base suggests that development finance directed at public and private beneficiaries in Fragile & Conflict-Affected Settings may actually *contribute* to conflict. One contemporary drama continues to unfold in Mozambique. From 2017-2021, the World Bank disbursed over \$2.25b to the government to support the development of a series of energy projects in the Cabo-Delgado region (World Bank, 2020). This was meant to enable \$60b of private capital inflow—the largest in Africa—into the sixth poorest nation in the world. The World Bank stated that its investments "focusing on Cabo Delgado and the underlying causes of fragility and conflict in Mozambique is not only an economic imperative, but a moral one" (World Bank, 2020). Yet the project from its inception was associated more with conflict than development. Local residents "complain[ed] they have seen little of this wealth or investment passing down into their community" (Gardner, 2021, p. n.p.) and others claim that the "vast mineral wealth in the region had been exploited by an elite few with the majority of residents not reaping any profits" (Al Jazeera, 2021). Starting in the same year as the World Bank financing of the projects, a violent militant insurgency involving rebels and the local community against the national army has resulted in 798 incidents of conflict with nearly 4,000 fatalities and over 600,000 refugees (World Bank, 2021). Armed attacks have led Total, the project owner, to halt work, and called into question the viability of the rest of the projects in the region planned by ExxonMobil, Chevron, BP, Mitsui and Petronas (Hill & Burkhardt, 2021).

Taking note of such case evidence, we explore whether development finance-related conflict is related to the perceived distribution of project benefits and costs across identity groups. A growing body of research finds that horizontal inequalities (i.e., the distribution of economic, political, and social resources between groups¹ (Stewart, 2000)) are critical determinants of conflict. When identity groups, defined by ethnicity, religion, culture, race, political ideology, class, gender, age, geography, and organizational affiliation (Stewart, 2008) perceive the distribution of economic, political and social resources to be unfair, group cohesion and identity are reinforced (Brown & Langer, 2010; Gurr, 1993) as is collective action to address injustice (De Juan & Wegner, 2019), social control (Gubler & Selway, 2012; Humphreys & Weinstein, 2008), and barriers to inter-group socialization (David, Guilbert, Leibbrandt, Potgieter, & Hino, 2018; Hino, Leibbrandt, Machema, Shifa, & Soudien, 2018).

¹ Horizontal inequalities differ from the more typical study of inequality within populations or collectives in focusing on intergroup differences and encompassing not only income and economic assets but also access to socio-political infrastructure, status, identity and voice.

These impacts of horizontal inequalities on conflict risk are accentuated in the presence of an influx of economic resources (Asal, Findley, Piazza, & Walsh, 2016; Hunziker & Cederman, 2017; Joseph et al., 2020; Mähler & Pierskalla, 2015) which themselves become the focus of (heightened) intergroup conflict.

To do so, we examine the role of insularity—the favoring of powerful groups rather than a more representative or inclusive set of stakeholders—in development finance. Employing propensity score panel matching in a subnational research design, we first compare International Bank for Reconstruction and Development (IBRD) and International Development Association (IDA) government directed projects with their International Finance Corporation (IFC) private sector directed ones, finding that IFC projects are notably more conflict prone. Second, through measurement of insularity in the stakeholder network of intergovernmental organizations at a micro-spatial level, we show how insularity helps to explain the variance in outcomes between and within these portfolios of the World Bank Group. Our findings support the argument that the financiers of development should take engagement across identity groups and the distribution of benefits and costs between them into greater account in the selection and implementation of projects.

THEORY & HYPOTHESES

Despite the significant investments of donor countries and multilateral institutions such as the World Bank Group, there is a long-standing debate on the impact of development projects on economic progress (Doucouliagos & Paldam, 2009; Tierney et al., 2011), and more specifically, the impact of development projects on conflict and peace (E. Berman et al., 2011; Findley, 2018). In research and in practice, development projects are argued as a critical way to improve economic, social, and other outcomes in fragile and conflict-prone states, and to promote sustainable peace (Ball & Halevy, 1996; Fearon et al., 2009; Kreimer, 1998). This involvement of the World Bank Group and others in conflict alleviation is predicated on the theory that the inflow of capital, in the form of development aid or foreign direct investment, reduces stakeholder conflict, as the opportunity cost of fighting increases with a rise in income brought about by increased capital (Burke & McGuirk, 2017; Grossman, 1992). Extensive research provides at least some support to this theory (e.g., Duponchel et al., 2010; Fearon et al., 2009; Gehring et al., 2018).

At a high level, the business for peace literature, which posits that businesses can generate economic prosperity in conflict-affected areas and thus support peace-building (Brown, 1966; Katsos & Forrer, 2014), adds further support to the argument that development projects may reduce conflict. The involvement of firms has long been a central part of development policy (Kolk et al., 2008), and development projects are comprised of multiple foreign and local firms that come together to execute on the project's mandate. As such, the resources provided and strategies taken by firms comprising these projects may also address grievances to alleviate conflict and build cohesion amongst disparate stakeholder groups because they “bring people together for work” (Fort & Schipani, 2004, p. 3). It is argued that

firms working on development projects generate income, jobs, and increase economic prosperity for local stakeholders, increasing the opportunity cost of fighting.

Yet, benefits such as profits, educational opportunities, or jobs brought about by a development project may not be allocated by the project owner fairly across all stakeholders (Joseph, Katsos, & Daher, 2020; Miklian & Schouten, 2019). Furthermore, these benefits are perceived to be more easily captured by existing power brokers with strong government relations (Ensminger, 2007; Gugerty & Kremer, 2008; Morelli & Rohner, 2015). Thus, peripheral stakeholders may perceive that elites have disproportionately benefited from the project (and any costs have been imposed on more peripheral stakeholders). This sense of relative economic deprivation may trigger mobilization and (violent) conflict directed at the project (Gurr, 1970; W. Henisz & Jamison, 2024; Schouten & Miklian, 2018); and stakeholders may find fighting more attractive in order to wrest control of the gains offered by the development project (Collier & Hoeffler, 2004). This view is known as the contest (or rapacity) theory. It posits that the greater resources brought about by development aid provide a greater incentive to fight for these resources (Grossman, 1992), and thus, that development projects will incite, as opposed to mitigate conflict between stakeholders. Again, extensive research provides at least some support to this theory. It has shown that development programs, food aid, education projects, humanitarian aid and infrastructure investments can incentivize and fuel violent conflict (Berman et al., 2017; Boutton & Pascoe, 2018; Child, 2019; Crost et al., 2016; De Juan, 2020; Meskell, 2016; Nunn & Qian, 2014; Wood & Molfino, 2016).

Furthermore, scholarship in the management field lends additional support to the link between development projects and conflict. Recent research examines how the project organization's strategies for navigating external stakeholder relationships impact the level of conflict directed towards the project organization (Dorobantu, Kaul, et al., 2017; Nartey et al., 2018), and how these strategies may instigate new or exacerbate existing conflict between stakeholders in its external context (Ganson et al., 2022; Ganson & Wennmann, 2018). Development projects may increase the economic gains in a community, yet the distribution of those gains is what matters for conflict (Berman & Couttenier, 2015; Gehring et al., 2018).

Public versus private development finance

Our research explores whether the tensions between these bodies of research—finding both peace and conflict impacts of development finance—can be explained at least in part by whether the recipient of the project funds is a government or a company. It has long been argued that aid and FDI are not substitutes, and perhaps not even complements. The strong case is set out by Kosack and Tobin:

Once a country reaches a relatively low level of development, aid contributes powerfully to both economic growth and to building the kind of human capital essential for sustainable development. By contrast, in most countries FDI contributes little or nothing to growth or to human development, and it may actually inhibit development in the world's less-developed countries (2006, p. 206).

With respect to conflict more specifically, Gehring, Kaplan, and Wong note that aid inflows may “induce growth and raise incomes” in ways that raise “the opportunity cost of conflict” (Bannon & Collier, 2003; Dal Bó & Dal Bó, 2011; Dube & Vargas, 2013), finding that, for World Bank aid projects, a “one standard deviation change in aid is associated with about a 1.5–2.0 percentage points lower conflict likelihood” (2022, p. 2). In contrast, numerous causal pathways establish the propensity of FDI to increase conflict, whether through rent seeking (Asiedu & Lien, 2011); resource competition (Le Billon, 2001; Ross, 2004); the stifling of economic opportunity (Collier & Hoeffler, 2004); the distortions to relative economic prices known as “Dutch disease” (Moss et al., 2006); the exacerbation of intergroup tensions (Abidoeye & Cali, 2021; Ganson et al., 2022); or other mechanisms.² As shown by McGuirk & Burke (2020), who use survey data from food producing areas of Africa, what is positive for one group can quickly become negative for another: while higher prices increase the opportunity cost of soldiering for producers, in areas without crop agriculture, higher prices increase the propensity for conflict.

Aid is not immune from such conflict challenges. Svensson (2000) suggests that foreign aid can foster rent-seeking by increasing the pool of resources available for capture, potentially leading to conflict; Collier & Hoeffler (2002) argue that, if aid is perceived as biased or discriminatory, it may increase social fragmentation (Collier & Hoeffler, 2002). Empirical evidence in support of this argument is found in Nunn & Qian (2014) in the context of US food aid as well as by De Juan (2020) in post-conflict Nepal and by Wood & Molfino (2016) and Boutton & Pascoe (2018) for humanitarian aid more broadly. Crost, Felter, & Johnston (2014) show that rebel groups sabotaged a development project because the project had the potential to reduce community support of the rebels. Dube and Vargas (2013) find that in Colombia, capital-intensive projects fueled overall conflict in the community when the gains of the project most likely accrued to a small elite. This is sometimes referred to as a “rentier effect,” where aid acts similarly to rents from natural resources, potentially leading to corruption and governance challenges (Nielsen et al., 2011). And yet, these appear to be in the aggregate manageable with sufficient coordination or oversight, with neither World Bank nor Chinese aid projects found to be conflict positive (Gehring et al., 2022).

However, private sector-oriented development finance is different enough from its public finance brethren—in its structures, relationships, strategies, processes, and incentives—that we cannot *a priori* assume that their conflict risk mitigation pathways and outcomes will be the same. Notably, FDI may be lacking in the kind of civil society partnerships found to improve the outcomes of development projects (Shin et al., 2017). Indeed, the development

² A related set of arguments point to the impact of openness to the global economy, with findings of both decreased (Chisadza & Bittencourt, 2019; Polachek et al., 2007) and increased (Magee & Massoud, 2011; Martin et al., 2008) conflict. These explanations are not central to our argument as they largely pertain to interstate, not local, conflict.

banks appear to celebrate insularity in their private sector portfolios. The President of the African Development Bank at the Africa Investment Forum it sponsors notes that it

“is the place where bankable projects in Africa meet with investors, where investors meet with Heads of State and Government in investment board rooms, where comfort is given to investments, where risks are managed, and where deals are closed” (African Development Bank, 2023, n.p.).

He promises, “Invest in Africa and reap high risk-adjusted returns!” (African Development Bank, 2023, n.p.). These private sector development finance similarities to international commercial banks—focused on bankable deals rather than development priorities, pressured by net present value calculations to push projects through the pipeline, and needing to provide commercial returns to international investors as organizations such as the IFC float bonds on the public capital markets—may well make its projects subject to the same negative conflict dynamics as found more generally for FDI.

Hypothesis 1: Private sector funding is more conflict prone than public sector financing, even within the same international financial institution

Insularity in project implementation

As long explored by economists, sociologists, and management scholars, systemic conflict can result from inequality between groups (Blau, 1964; Humphreys, 2003; Stewart, 2000). As such, project organizations that engage with and involve a more representative set of stakeholders in their operations experience less conflict directed toward their projects (W. Henisz & Jamison, 2024), and as a result experience superior financial returns (W. Henisz et al., 2014) especially in the aftermath of critical events (Dorobantu, Henisz, et al., 2017). Conversely, those projects that are more insular—biasing their stakeholder relations towards a small elite—risk other stakeholder groups’ resentment towards the concentrated project participants and beneficiaries of the project organization (Nartey et al., 2018). Furthermore, recent work argues that firm strategies in their relationships with direct stakeholders may also impact the structure of the relationships between these stakeholders and other political and social groups (Ganson et al., 2022). Specifically, as a result of this set of systemic interdependencies, these project organizations in their distribution of resources can worsen existing inequities between groups, especially in conflict-prone environments, and thus drive overall conflict in the system (Ganson et al., 2022).

A growing body of qualitative evidence in the business and peace tradition builds on these insights to highlight the possibility that a business insensitive to its context might actually promote societal conflict (Drohan, 2010; Ganson, 2019a)—in many cases unintentionally (Bardouille-Crema et al., 2013; Miklian & Schouten, 2019; Zandvliet & Anderson, 2009)—by increasing grievances or marginalization of some groups (Obenland, 2014) or aggravating a sense of injustice by losers to the winners of economic and political competition (Miklian, 2019). In particular, this research highlights how insularity—that is, the favoring of powerful

groups rather than a more representative or inclusive set of stakeholders in the network of the project organization's relationships—can influence the level of societal conflict (Ganson et al., 2022; W. Henisz & Jamison, 2024). For example, Dube and Vargas (2013) find that in Colombia, capital-intensive projects fueled overall conflict in the community when the gains of the project most likely accrued to a small elite. Morelli & Rohner (2015) show that civil war is more likely with increasing concentration of resources, as well as greater concentration of ethnic groups. Uvin (1998) explores the role of development aid and projects in violence in Rwanda, and the impact of inequality, exclusion, and elite dominance as precursors to the Rwandan genocide.

The evidence is also strong that less insularity or more inclusive and representative stakeholder relations equates with lower levels of conflict. For example, Amengual (2018) explores the choice between inclusive or targeted distribution of benefits from mining operations in order to avoid conflict. Similarly, Kemp, et al. (2011) highlights asymmetries of power as a driver of conflict, and participation as a mechanism to mitigate it. Gross (2007) emphasizes the importance of the perception of fairness and community participation in the acceptance of energy projects. An inclusive and equitable governance structure is linked to positive socio-economic outcomes (Berdegué et al., 2015). Thus, we can expect that the presence or absence of insularity in the project organization's network (that is, the relational network of the World Bank Group and other multilateral funders) will be correlated with conflict in the broader system in which it operates.

Hypothesis 2: Greater insularity in the project organization's relational network increases the overall level of conflict in the project environment.

Already conflictual contexts

Next, we predict that the effects of insularity on conflict are heightened in contexts that are conflict-prone or experiencing existing conflict. Scholars have long argued that development projects are a critical way to improve economic, social and other outcomes in fragile and conflict-prone states, and ultimately, a way to promote sustainable peace (Ball & Halevy, 1996; Fearon et al., 2009; Kreimer, 1998). This theory is predicated on the argument that poverty is a key driver of conflict, and that the economic gains and economic prosperity brought about by development projects break the poverty-conflict cycle: poverty triggers conflict which in turn creates more poverty and the cycle continues (Findley, 2018). Yet, empirical results are mixed or non-conclusive in determining the impact that development projects have on conflict and post-conflict states (e.g., Flores & Nooruddin, 2009). Some scholars argue that the success of development projects in conflict and post-conflict states is dependent on the sector, how the projects are supervised, who is implementing the project, and size of project, the type of aid (i.e., whether it is politically motivated), among other conditions (Berman et al., 2011; Child, 2019; Dreher et al., 2013; Duponchel et al., 2010; Sexton, 2016). Similarly, scholars in the business for peace field acknowledge that business' effect on peace-building and conflict reduction is limited to those areas where conflict is of a low intensity (J. Oetzel, 2009). Forrer

& Katsos (2015) suggest that business can promote peace but only in regions that are no longer suffering from high-intensity violent conflict.

We argue that the effect of insularity in the relational network of the project organization on societal conflict is exacerbated in those areas where conflict is already present for two primary reasons. First, in conflict-affected areas, the project organization may alter the structure between groups already in conflict (Ganson, He & Henisz, 2022). Existing tensions between ethnic groups can be amplified by projects (Gehring, et al 2018), and thus can exacerbate existing conflict between groups (Humphreys et al., 2007). For example, in a state experiencing civil war, rebels and the government may continue to fight for the resources brought about by a development project (Arcand & Chauvet, 2001; Azam, 1995; Grossman, 1992). The second reason why this effect is exacerbated in conflict-prone states is because the economic benefits of the development project may provide additional capacity and financing for the military, rebels, or government groups to wage conflict against conflicting groups (Kishi & Raleigh, 2015) and increase control and power (Fearon & Laitin, 2011). For example, Kishi, Maggio and Raleigh (2017) show that increasing foreign investment allows government regimes in Africa to fund and use violent strategies against opposition and other combatants. This effect is borne out in the backlash to aid projects as well: opposition forces may resist development projects using violent means to prevent government support, capacity, and increased control that may result from these projects (Croft et al., 2014; Sexton, 2016). Thus, we argue that the effect of insularity on conflict is heightened in conflict-prone states.

Hypothesis 3: The positive effect of insularity on conflict present in the project environment is stronger in conflict-sensitive environments.

DATA AND ANALYSIS

Unit of Analysis

As set out in Jamison et al. 2024, the observational unit in our research is a cell-year, as defined by the PRIO-GRID framework. The PRIO-GRID consists of 259,200 grid cells, each covering a spatial area of about 50 by 50 kilometers, or 0.5 by 0.5 degrees in latitude and longitude (Tollefsen et al., 2012). Of these, nearly a quarter—64,818 cells—contain landmass, making them suitable for examining human activities. Since its inception in 2012, the PRIO-GRID has been widely adopted in social science research, offering a robust spatial framework that facilitates the integration of diverse datasets at the cell level, improving sub-national analysis. We use the grid-cell as our geographical unit of analysis, instead of focusing on projects or countries, because our dependent variable measures the local-level impact of development projects. Focusing on the conflict impacts of projects in their immediate context also allows us to disentangle their causal effects from broader societal changes.

Sample

Our sample is all publicly disclosed IFC projects and IBRD/IDA projects from 1994-2020. For the IFC project data, as the data are not publicly available as a dataset, we use data from Jamison et al. (2024). We describe this data collection effort in **Appendix A**. For the World Bank project data, we used the World Bank Project Database. The World Bank Project Database has been extensively used in past research examining World Bank projects and their outcomes (Isham et al., 1997; Kilby, 2000, 2015; Winters, 2014).

Variables

Dependent Variable. Our main dependent variable is a transformed measure of conflict-related fatalities. This data is sourced from the Uppsala Conflict Data Program-Georeferenced Event Dataset (UCDP-GED) (Melander, 2013), a leading resource for scholars studying conflict and political violence. UCDP-GED offers detailed, micro-level data on individual conflict events, defined as instances of political violence that result in at least one fatality. It encompasses various conflict types, including state-based conflicts, non-state conflicts, and one-sided violence, and includes coding for actors, timing, location, and, crucially, the number of deaths associated with each event. Each conflict event is georeferenced to the PRIO-GRID spatial framework, enabling researchers to integrate conflict data with social, environmental, and political variables at a fine 0.5 x 0.5-degree grid scale. The credibility of UCDP-GED is reflected in its wide use within academic research, where it has been cited in thousands of scholarly works, and in its rigorous methodology, which includes regular updates and validation processes. Due to its comprehensiveness, methodological rigor, and detailed georeferencing, UCDP-GED is widely regarded as the most reliable dataset for analyzing global conflict trends at the PRIO-GRID level.

Our primary dependent variable is the square root of the best estimate of conflict deaths, aggregated to the cell-year level. The square root transformation is applied to address skewness in the data. Although the square root is less effective than a logarithmic transformation in reducing skewness, it is more appropriate for datasets, like ours, that contain numerous zeros.

Independent variables. Our first three independent variables are indicator variables for whether a project was introduced into a given cell in a given year. We have one indicator variable for IBRD/IDA projects, one for IFC projects, and one that designates whether either an IBRD/IDA project or IFC project was introduced to a given grid cell in a given year.

Our next independent variable measures the relative insularity of media-reported networks involving businesses, compared to the baseline or overall socio-political network. This variable was originally created in Hennisz & Jamison (2024). To build these networks, we utilize the GDELT corpus (Leetaru & Schrod, 2013), which captures media-reported verbal statements and material actions occurring in each grid cell. Given the large size of the GDELT dataset, we developed customized Python code to extract relevant subsets of events that meet specified criteria. We then conducted an analysis of these events to generate summary statistics for each cell-year network type, which we stored for further analysis.

Specifically, the software enabled us to extract all events within a given PRIO-GRID cell-year. It allowed us to record details about the source actors (e.g., name, primary and secondary sectors, role) and the nature of their statements or actions (e.g., verbal vs. material, cooperative vs. conflictual, or more specific coding as discussed later). Once these events were

identified, we created an edge list of all source and target actors meeting the criteria, which then formed the media-reported stakeholder network.

Our goal, as outlined in the theoretical discussion, is to capture the degree to which networks involving businesses are more insular compared to the broader socio-political network. Although the literature suggests various measures for assessing network structure, many of these methods were computationally unfeasible given the large scale of some individual cell-year networks (e.g., some grid cells in cities like New York or London contain tens of thousands of nodes and dyads). Our analysis covered more than 400,000 networks in total (from 7,317 in 1990 to 23,080 in 2020). Storing these networks would have consumed enormous amounts of data, estimated at dozens of terabytes, making it cost-prohibitive.

As a manageable alternative, we calculated the Herfindahl index of degree centrality, a summary statistic that can be computed even for large networks and has been shown to correlate with more traditional measures of network hierarchy (Neal, 2008). We used this index to compute our measure of relative insularity (**Equation 1**).

Equation 1: Herfindahl Concentration of Degree Centrality in a Network

$$H_{it} = \sum_{n=1}^N \left(\frac{e_{nit}}{w_{it}} \right)^2$$

Where:
 e_{nit} = # of media mentions of ties between stakeholder n and other stakeholders of type i in time period t
 w_{it} = # of media mentions of ties between stakeholders of type i in time period t

In an extreme case, if one actor is involved in every media mention and all other actors are mentioned only in connection with that central actor, the network would resemble a perfect star graph. The Herfindahl index would be high, indicating a highly centralized network. A lower concentration of degree centrality, meaning a more even distribution of media mentions per actor, would indicate a flatter network structure. If all actors were mentioned an equal number of times, the Herfindahl index would be at its lowest point, and any actor would be equally likely to appear in a media mention. To address skewness in the data, we log-transform the Herfindahl index in our main analysis.

We next compared the concentration of ties in the business network (derived from business-initiated statements and actions) with that of the overall network. Simply comparing the Herfindahl indexes directly would be inappropriate because business networks are, by definition, smaller in size, and the Herfindahl index is negatively correlated with network size. To correct for this, we calculated the average concentration of degree centrality for networks of different sizes across all observed PRIO-GRID cell-year networks. We then compared the actual Herfindahl index for each network to the expected average for a network of that size.

Finally, we took the ratio of the business network’s Herfindahl index to the overall network’s index to calculate our measure of relative insularity. A relative insularity value greater than 1 indicates that the business network is more concentrated (i.e., has a higher degree of centrality) than the overall network. This suggests that the business network may be perceived as more insular or less representative in media reports.

Control Variables. We incorporate a range of control variables at the PRIO GRID-cell year level, which are relevant to both our dependent variable—conflict-related deaths—and our independent variable—the location of development projects. Specifically, we control for

population size (logged), Gross Domestic Product (GDP, logged), distance to the national capital, drought conditions, the presence of agricultural land, and the number of politically marginalized ethnic groups. Logged population size, obtained from HYDE, serves as a proxy for labor market potential, which may attract development initiatives, and larger populations can correlate with heightened social tensions and conflict. Logged GDP, adjusted for purchasing power parity (Nordhaus, 2006), reflects the economic conditions that may influence both conflict intensity and the selection of investment locations. Distance to the national capital, calculated using spherical distance in kilometers as per Weidmann et al. (2010), indicates administrative accessibility and security, which can impact both the occurrence of conflict and the placement of projects. Drought conditions are measured by calculating the percentage of consecutive months during the growing season with rainfall levels significantly below the average (Guttman, 1999; Klein Goldewijk et al., 2017; McKee et al., 1993), as droughts can heighten competition over scarce resources and influence the feasibility of development efforts. Agricultural land coverage, classified using FAO land cover data from Bontemps et al. (2009), is included as it represents resource availability that could foster economic opportunities for projects, while also potentially serving as a source of contention. Finally, we control for the number of politically excluded ethnic groups, documented by Vogt et al. (2015), as ethnic marginalization can both elevate the risk of conflict and act as a risk factor considered by investors. For all time-varying control variables (excluding distance to the capital and agricultural land), the data have been extended through 2020 using the original sources. Descriptive statistics for all variables can be found in **Table 1**.

Table 1: Descriptive statistics

| Variables | Mean | Max | Min | SD | Obs |
|------------------------|----------|----------|---------|----------|---------|
| IFC project | 0.001 | 1.000 | 0.000 | 0.038 | 1750086 |
| IBRD/IDA & IFC project | 0.000 | 1.000 | 0.000 | 0.016 | 1750086 |
| IBRD/IDA project | 0.007 | 1.000 | 0.000 | 0.085 | 1620450 |
| Insularity | 2.302 | 189.701 | 0.095 | 3.138 | 558570 |
| Deaths (sqrt) | 0.078 | 478.648 | 0.000 | 1.218 | 1750086 |
| Agricultural land | 10.695 | 100.000 | 0.000 | 19.645 | 1618677 |
| Distance to capital | 1795.173 | 7958.346 | 1.773 | 1614.630 | 1750086 |
| Excluded groups | 0.380 | 6.000 | 0.000 | 0.566 | 1750086 |
| D. GDP (ln) | 0.013 | 7.998 | -10.393 | 0.077 | 1749816 |
| Population (ln) | 7.601 | 16.954 | -13.633 | 3.959 | 1750070 |
| Drought | 0.043 | 1.333 | 0.000 | 0.054 | 1098513 |
| Regime type | 0.485 | 0.919 | 0.000 | 0.284 | 1750086 |

---Insert Table 2 about here---

RESEARCH DESIGN

Our unit of analysis is the grid cell-year. Our primary estimation approach consists of two stages. First, we employ propensity score panel matching for time-series cross-sectional data to account for the non-random distribution of development projects across different locations (referenced in Gehring et al. (2022), although not directly addressed with panel matching). Certain characteristics of a grid cell determine the likelihood of it receiving a development project. We verify this in our data through covariate balancing. T-tests indicate significant

differences in all control variables between the treatment group (with a development project) and the control group (without a development project). To correct for this, we implement panel propensity score matching, a method gaining traction in the social sciences. This technique ensures that observable characteristics are balanced between treated and untreated groups, thereby creating a quasi-experimental setting (Rosenbaum & Rubin, 1983). By aligning the covariate distributions of both groups, propensity score matching seeks to isolate the effect of the treatment. The rationale is that by identifying grid cells that are otherwise comparable prior to the “treatment” (receiving a development project) and analyzing the resulting differences, we can enhance causal inference, though we remain aware of the limitations associated with observational data.

Panel propensity score matching extends traditional propensity score matching, which is typically designed for cross-sectional data, to accommodate the temporal aspect of panel data. We begin by estimating the propensity score—the likelihood of receiving treatment based on observed covariates—for each unit in each time period using logistic regression. Once these propensity scores are calculated, we perform matching to identify control units that closely resemble the treated units based on their propensity scores. This is achieved through a nearest-neighbor algorithm. Given our large sample size of nearly two million observations, we use the five nearest neighbors, but we confirm the robustness of our results by also matching with the nearest eight and ten neighbors. Since the goal of matching is to align the treatment and control groups on observable characteristics that influence both treatment assignment and outcomes, we match on our control variables.

In our main analysis, we utilize a fixed-effects linear model that includes both grid-cell and year-specific fixed effects, restricting the sample to the observations matched by the nearest-neighbor algorithm. Grid-cell fixed effects account for unobserved heterogeneity at the grid-cell level that remains constant over time, while year-specific fixed effects control for global macroeconomic shifts. The Hausman test supports the use of a fixed-effects model over a random-effects model. To address simultaneity bias, all time-varying independent variables are lagged by one year. Additionally, we include the first lag of the dependent variable, as its statistical significance indicates that excluding it may introduce omitted variable bias.

To test for the stationarity of each variable, we apply the Levin-Lin-Chu (Levin et al., 2002) and Harris-Tzavalis (Harris & Tzavalis, 1999) tests, finding that all variables except for GDP are stationary. We address this by using the first difference of GDP, which is stationary. Since only GDP is non-stationary, cointegration is not a concern.

FINDINGS

We first investigate whether the introduction of an IFC project, an IBRD/IDA project, or either an IFC or IBRD/IDA project to a grid cell is associated with an increase in the number of deaths from conflict. The first column, whether an IFC project is associated with an increased in the number of deaths from conflict, is a replication of Jamison et al. (2024). As in that paper, we find that when an IFC project is introduced to a grid cell, there is a statistically significant

increase in the number of deaths from conflict (**Table 2**). Column (1) displays our main specification with the square root of deaths from conflict as the dependent variable. These results suggest that, all else equal, the presence of an IFC project is associated with an increase in the number of deaths by approximately 0.6 when using the mean value of deaths as the reference point. Column (2) shows the same model but looking exclusively at IBRD/IDA project. The statistically insignificant coefficient on IBRD/IDA projects suggests that, at least in our model, there is no statistically significant relationship between IBRD/IDA projects and deaths from conflict. Column (3) shows the same model but looks at grid-years that have both an IBRD/IDA project and an IFC project. This overlap variable is again statistically insignificant.

Table 2: World Bank Group projects and conflict

| VARIABLES | (1) IFC | (2) IBRD/IDA | (3) IFC & IBRD/IDA |
|---------------------------------------|-------------------------|-------------------------|---------------------------|
| IFC project ($t-1$) | 0.217** (0.0938) | | |
| IBRD/IDA project ($t-1$) | | 0.00431 (0.0312) | |
| IBRD/IDA and IFC project ($t-1$) | | | 0.180 (0.248) |
| d. GDP (ln) ($t-1$) | 0.238 (0.219) | -0.658*** (0.229) | -0.545 (1.886) |
| Politically excluded groups ($t-1$) | -0.120 (0.163) | 0.0221 (0.0522) | -0.594 (0.661) |
| Drought (ln) ($t-1$) | 1.505** (0.740) | 0.309* (0.171) | 0.618 (1.196) |
| Agricultural land | 0.00118 (0.0168) | -0.0112 (0.00752) | -0.100 (0.0611) |
| Distance to capital | -8.16e-05 (7.66e-05) | -2.24e-06 (2.57e-05) | -0.00129*** (0.000341) |
| Population (ln) ($t-1$) | -0.0549 (0.113) | 0.0277 (0.0409) | -0.632 (0.576) |
| Constant | 1.028 (1.757) | 0.219 (0.622) | 14.23 (8.954) |
| Observations | 7,996 | 47,383 | 1,544 |
| R-squared | 0.489 | 0.617 | 0.451 |
| Grid fixed effects | YES | YES | YES |
| Year fixed effects | YES | YES | YES |
| Lagged dependent variable | YES | YES | YES |
| Panel matching | YES | YES | YES |

Standard errors (clustered at the grid level) in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

We next investigate our theorized mechanism. Specifically, we look at whether the insularity of stakeholder relations between implementing agents and the stakeholders in the grid cell affects conflict outcomes. Here, we repeat the three models shown in **Table 2** but split each sample of grid cells into two groups: those with relatively hierarchical stakeholder relations (above the mean) and those with relatively non-hierarchical stakeholder relations (below the mean). As Column (1) in **Table 3** shows, IFC projects where we observe insular stakeholder relations appear to be driving the conflict result. As Column (2) shows, IFC projects where we do not observe insular stakeholder relations do not appear to be associated with conflict outcomes. As Columns (3) and (4) shows, IBRD/IDA projects do not seem to have a statistically significant impact on conflict in more hierarchical or less hierarchical settings. Interestingly, Columns (5) and (6) show that when we look at grid cells treated with both an IFC and a World Bank project in the same year, those in which we observe more insular stakeholder relations see a statistically significant *increase* in deaths from deaths conflict. On

the contrary, those in which we observe less insular stakeholder relations see a statistically significant *decrease* in deaths from conflict. We note that the effect size in the increase in deaths from conflict in the grid cells treated with both types of projects (Column 5) is more than double the effect size for IFC projects alone (Column 1).

Table 3: World Bank Group projects, insularity, and conflict

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) |
|--|-------------------------|-------------------------|-------------------------|---------------------------|---------------------------|----------------------|
| | IFC | IFC | IBRD/IDA | IBRD/IDA | IFC & IBRD/IDA | IFC & IBRD/IDA |
| | More hierarchical | Less hierarchical | More hierarchical | Less hierarchical | More hierarchical | Less hierarchical |
| IFC project (<i>t</i> -1) | 0.280** (0.115) | -0.0379 (0.234) | | | | |
| IBRD/IDA project (<i>t</i> -1) | | | -0.0172 (0.0587) | -0.0171 (0.0429) | | |
| IBRD/IDA and IFC project (<i>t</i> -1) | | | | | 0.627* (0.378) | -1.378* (0.735) |
| d. GDP (ln) (<i>t</i> -1) | -0.204 (0.690) | -0.832 (0.728) | -1.302** (0.538) | -0.0972 (0.127) | -1.733 (2.057) | -2.751 (4.170) |
| Politically excluded groups (<i>t</i> -1) | -0.277* (0.162) | 0.527* (0.297) | -0.140** (0.0644) | 0.000613 (0.0580) | -1.239 (0.853) | -0.391 (0.607) |
| Drought (ln) (<i>t</i> -1) | -0.453 (0.675) | 0.331 (0.931) | 0.0228 (0.307) | 0.0699 (0.172) | 2.809* (1.458) | 4.435 (4.814) |
| Agricultural land | -0.0247 (0.0266) | 0.0129 (0.0156) | -0.00429 (0.00960) | 0.0178* (0.00950) | -0.0137 (0.0637) | -0.0379 (0.115) |
| Distance to capital | -5.72e-06 (9.33e-05) | -8.59e-05 (0.000181) | -2.35e-05 (3.37e-05) | -0.000104** (5.21e-05) | -0.000485** (0.000213) | |
| Population (ln) (<i>t</i> -1) | 0.0645 (0.211) | -0.244 (0.265) | 0.120 (0.0925) | -0.0497 (0.0457) | -0.799 (0.719) | -0.354 (1.337) |
| Constant | 0.541 (3.165) | 2.848 (3.818) | -1.029 (1.343) | 0.210 (0.681) | 13.57 (11.46) | 7.296 (21.33) |
| Observations | 4,455 | 1,637 | 20,147 | 17,188 | 1,129 | 251 |
| R-squared | 0.578 | 0.468 | 0.604 | 0.500 | 0.511 | 0.349 |
| Grid fixed effects | YES | YES | YES | YES | YES | YES |
| Year fixed effects | YES | YES | YES | YES | YES | YES |
| Lagged dependent variable | YES | YES | YES | YES | YES | YES |
| Panel matching | YES | YES | YES | YES | YES | YES |

Standard errors (clustered at the grid level) in parentheses, *** p<0.01, ** p<0.05, * p<0.1

DISCUSSION

Our findings show that insular stakeholder relations within World Bank Group projects are driving conflict outcomes. They also show that projects with inclusive stakeholder relations may be capable of reducing conflictual outcomes.

This research makes several important contributions. First, we lend support to the argument that development projects can induce conflict in the environment in which they operate. We extend contest theory, which predicts that development aid increases conflict (e.g., Collier & Hoeffler, 2004; Hirshleifer, 1989, 1995) by highlighting the role of inequity across identity groups as suggested by scholars examining horizontal inequality (Stewart, 1998, 2008, 2011) as well as examining the role of the characteristics of the project organization (Denizer et al., 2013; Kilby, 2015; Malik & Stone, 2018; McLean, 2017; Winters, 2014). We build on the rich research that examines the impact of elite relationships, egalitarianism and political connections on business operations and strategy (e.g., Faccio, 2006; Siegel et al., 2013; Zhang et al., 2016) and extend recent analyses of the impact of insularity on conflict (W. Henisz & Jamison, 2024; Nartey et al., 2018) to show how project characteristics aggravate the impact of insularity. In doing so, we contribute to the work of past scholars such as Crost, Felter & Johnson (2014), Berman, Couttenier, Rohner & Thoenig (2017), Sexton (2016), Wood & Molfino (2016), Boutton & Pascoe (2018), Gehring, Kaplan & Wong (2018) and De Juan (2020) that show when and how development projects lead to an increase in conflict. We extend this analysis to the global sample of development projects funded by the World Bank Group. We highlight that the impact of development aid, in some cases, has the opposite effect than intended, drawing attention to the importance of the choice of which stakeholders are engaged by a project in the host country environment as well as their perceptions of benefits and risks. We note further that inattentiveness to such factors is higher in the portfolio of projects funded by the IFC involving private investors as compared to the public portfolio of the IBRD/IDA.

Second, to management scholarship, our research contributes a new outcome measure focused on societal outcomes, specifically societal conflict. In doing so, it emphasizes a broader view of firm impact. In management research, scholars have long examined how firm behavior impacts outcomes such as innovation, formation, longevity, and financial success, among others, and how a firm's external context, including political, environmental, and institutional risks, social context, and crises impact firm outcomes (Delios & Henisz, 2003; Lampel et al., 2009; Lee et al., 2020; Rerup, 2009; J. Zhang & Luo, 2013), including the impact of terrorist attacks (Oetzel & Oh, 2014). Yet, past research has only limitedly taken into account outcomes related to the external environment in which a firm or firms operate, for example, how a firm may support infrastructure and labor markets after epidemics, natural disasters and terrorist attacks (e.g., Ballesteros & Magelssen, 2021).

As such, we build support for the view that firm behavior should be examined beyond its impact on shareholders (e.g., Friedman, 1962) and extended to its impact on other stakeholders, such as non-profit organizations, ethnic groups, local businesses, governments,

and other members of civil society (Ganson, He & Henisz, 2022), and that accounting for the historical context in which the firm operates matters (Kluppel et al., 2018). Furthermore, we add to the research that examines how composition and partner background affect project organizations (Jiang et al., 2010; Wuyts & Dutta, 2014; L. Zhang et al., 2017), and extend our understanding of how project organizations interact with and are impacted by the external environment in which they operate (Dorobantu et al., 2020; Grabher, 2004). We build on the body of work examining how exogeneous violence, instability, and conflict, affects the ability of project organizations to successfully achieve their goals (Cagno et al., 2007; Henisz et al., 2012; Söderlund, 2004).

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APPENDICES

Appendix A: IFC data collection and descriptive statistics (from Jamison et al. 2024)

This appendix describes the data gathering process for all publicly disclosed IFC projects from 1994-2022 as reported in Jamison et al. 2024. “As this data was not aggregated, we scraped the project information from each individual project page on the IFC website. Deploying significant human oversight, we scraped 7,332³ projects for the period 1994-2022, encompassing all the IFC project data made available. Information collected included project status, disclosure date, environmental rating, sector, text description of location, any budgetary information, and project description. We scraped and had intended to include in the analysis project budget information. However, the IFC provided estimated budget information for less than 30 percent of projects, prohibiting us from doing any meaningful statistical analysis with this data. This is an important limitation of our analysis as it inhibits analysis of the concentration of IFC investments or the impact of project scale on conflict. In lieu of this, we created a category of “capital-intensive projects” including agribusiness & forestry; oil, gas & mining; telecoms and infrastructure that are often both large in scale and particularly disruptive to their socio-economic contexts.

Once the data were scraped, we had human coders identify the location of the project. Once we had this location, we used the World Cities database to match each place to its respective latitude and longitude coordinates. Once we had these coordinates, we use the standard PRIO GRID methodology (Tollefsen et al. (2012)) to match the coordinates onto PRIO-GRID cell(s). We outline this process in more detail in **Appendix B**.

We excluded IFC projects that could not be specifically geolocated. These excluded projects often involved investments in funds and financial institutions where IFC funds are dispersed across various sub-projects, making it challenging to pinpoint their exact locations and, consequently, their localized impacts.⁴ We further excluded projects for which the status was “pending”, “pending approval” or “on hold,” on the premise that their impacts are speculative and have not yet materialized, thus providing limited utility for analyzing localized effects. After removing these observations, we were left with 2,131 unique project identifiers, though, as one project can keep the same project identifier across multiple locations or disbursements, this equated to 2,597 individual project “treatments.” We then aggregated to the cell-year. These projects are in 1,188 unique PRIO-GRID cells. We note that the remaining sample constitutes a nearly full sample of IFC lending to firms (approximating greenfield investment) but not fully represent IFC lending to financial institutions, given that we could not follow where that money ultimately landed.

The IFC projects analyzed are diverse in their industry categories, risk categories, and in their distribution, both geographic and by nature of the context. The top industry categories of investment are shown in **Table 1**. Together, the top six industry categories account for 40 percent of observations, with the balance captured within IFC systems as “Other” across more than 150 industry subcategories or left unclassified. Additionally, the IFC categorizes its portfolio in ways meant to capture their potential environmental and social risks and impacts. In the IFC environmental and social category schema, Category A signifies the most severe potential environmental impact—’business activities with potential significant adverse environmental or social risks and/or impacts that are diverse, irreversible, or unprecedented’—while C signifies the least so—’business activities with minimal or no adverse environmental or social risks and/or impacts’ (International Finance Corporation, 2012). We provide a

³ As of this writing, the IFC has now disclosed 7732 projects. There were 7332 disclosed at the time of scraping.

⁴ The failure of the IFC to track and make publicly available the ultimate business client of its funds has been strongly criticized. See, e.g., Geary (2015).

breakdown of projects by classification in **Table A1**. Categories beginning with FI are investments in financial institutions or through delivery mechanisms involving financial intermediation. We note that the total number of observations for the environmental scheme differs from the industry classification above due to missing data on the IFC project portal.

Table A1: IFC projects by industry & category

| Industry | IFC project count* | Category | IFC project count* |
|---------------------|--------------------|------------|--------------------|
| Agribusiness | 262 | Category A | 209 |
| Manufacturing | 212 | Category B | 2,001 |
| Oil, mining and gas | 45 | Category C | 124 |
| Infrastructure | 402 | Category F | 255 |
| Telecoms | 31 | | |
| Tourism and retail | 93 | | |
| Other | 905 | | |

**Projects included in our dataset only. See text for a description of excluded projects. We note that the number does not add up to the project total as some projects are unclassified.*

In terms of geographic scope, we find that Asia Pacific has the largest number of IFC projects (579), followed by the Middle East & North Africa (503), Sub-Saharan Africa (485) and Latin America (471). The project database thus includes 2,597 unique project-location-years in the period 1994 to 2022.”

Appendix B: Coding of IFC projects (from Jamison et al. 2024)

“In the first stage, we web scraped every piece of information on every project on the IFC’s public project portal. The public data is available from the IFC project portal, located at <https://disclosures.ifc.org/>. We aggregated this into a spreadsheet, with each column representing a category of information, such as “project name” or “project description.”

In the second stage, we had five human coders (undergraduate and graduate students at the University of Pennsylvania) follow these instructions:

- Go to column N, labeled “Project Description.” Carefully read each paragraph in the Project Description and record the specific location(s) of the project in column O, labeled “Exact Locations.”
- Exclude any references to the investment company’s headquarters, other manufacturing plants, or other locations. We are only interested in the specific subnational location that the IFC loan is intended to finance.
- Leave the cell in column O blank if the relevant location is not mentioned or is unknown.
- If the subnational location is unknown but you know which country it is based in mark a “1” in column P for country-level only.
- If you encounter multiple subnational locations within a project description, document all of them.

Consider the following examples:

1. The project description reads “Pandurata Alimentos Ltda. (Bauducco or the Company), an existing IFC client, is a baked products company in Brazil, having five manufacturing plants, two located in Guarulhos (Sao Paulo), one located in Extrema

(Minas Gerais) one in Rio Largo (Alagoas) and more recently one in Miami (Florida, USA). IFC is a long-term partner of Bauducco, having committed four investments since 2007, namely #25765 disclosed in April 2007 (<https://disclosures.ifc.org/#/projectDetail/ESRS/25765>), #27783 disclosed in May 2009 (<https://disclosures.ifc.org/#/projectDetail/ESRS/27783>), #37708 disclosed in February 2016 (<https://disclosures.ifc.org/#/projectDetail/ESRS/37708>), and finally #40796 disclosed in April 2018 (<https://disclosures.ifc.org/project-detail/ESRS/40796/auducco-growth>). Bauducco's current environmental and social performance is satisfactory. Bauducco has a portfolio of products, including sliced bread, toasts, wafers, cookies, panettones, among others. All facilities are in industrial areas, except for the two facilities located in Guarulhos, which are in an urban area. The proposed investment involves a loan of up to US\$20 million to finance Bauducco's expansion of a new bread production line within the footprint of its plant in Bonsucesso (Guarulhos). As a result of this expansion, approximately 160 new job positions will be created."

- a. We coded the location of this project as Bonsucesso, Guarulhos.
2. The project description reads "Founded by the Ling family in 1973, Fitesa S.A. ('Fitesa' or the 'Company') is one of the world's largest manufacturers of nonwoven spunmelt textiles for the medical, hygiene and industrial sectors. Headquartered in Porto Alegre, Brazil, Fitesa operates 23 plants in 13 countries, 5 innovation centers. Fitesa produces nonwoven fabrics by spunmelt, meltblown, carded and airlaid technology, and elastic and non-elastic films and laminates. Nonwovens are produced by extruding a variety of polymers into filaments which are consolidated thermally into a flexible, fabric like web. All products are sold in rolled form. Customers use the fabrics for producing diapers, feminine care products, adult incontinence products, surgical masks and gowns, agricultural and industrial specialties. In response to the COVID-19 Pandemic, Fitesa expanded and converted capacity to supply the healthcare sector with nonwovens for masks, respirators and hospital gowns in critically short supply. IFC's proposed investment consists of a \$50m A Loan to support Fitesa's expansion at two manufacturing plants in Brazil (Gravatá plant in the State of Rio Grande do Sul, and Cosmópolis plant in the State of Sao Paulo) including capex for maintenance and related working capital ('the Project') associated with these two manufacturing plants in Brazil. Through its expansion, Fitesa seeks to continue providing high-quality products through advanced technology to the hygiene, healthcare and industrial segments in Latin America, particularly considering the heightened demand following the COVID-19 pandemic. The Project falls under IFC's Global Health Platform, as it aims at increasing capacity for raw material for masks and other essential nonwoven products."
 - a. We coded the locations of this project as Gravataí, Rio Grande do Sul, Brazil and Cosmópolis, Sao Paulo, Brazil.

In the third stage, we used WorldCities (Pro version), which is a dataset containing information about various cities around the world, including their names, countries, population, latitude, and longitude. We used a fuzzy matching algorithm to find the latitude and longitude of the subnational locations identified in stage (2).

In the fourth stage, we used the published PRIO-GRID methodology to identify the PRIO-GRID associated with each latitude, longitude pair."