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Chinese Aid in Africa: Attitudes and Conflict*

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Abstract

This study examines Chinese aid projects' impact on conflict and perceptions of China in 820 African districts from 2000 to 2012. We show that a 10% increase in Chinese aid projects results in a 6% increase in conflict incidents. This rise is mainly due to confrontations involving non-state actors, such as militias and rebel groups, and clashes between these groups and government forces. Civilian attitudes toward China's presence do not drive this increase, as evidenced by both revealed and stated preferences. We find that Chinese aid does not provoke protests, riots, or strikes, nor does it amplify critical views among Africans regarding Chinese culture, resource extraction, or land acquisitions. Our evidence suggests that Africans attribute the rise in conflict to the interaction of resource influx and local politics, rather than to China itself, reflecting a discerning perspective on China's influence on the continent.

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1 Introduction

Over the past six decades, foreign aid has increased steadily and proven to be one of the most stable external financial sources for countries in the Global South (Ahmad et al., 2020). More recently, a new set of donors has started to shape the aid landscape. Most notably, China has emerged as one of the largest donors, allocating over 3.1 billion USD to international development co-operation in 2021 alone (OECD, 2023). Despite the increase in the volume of aid and the proliferation of donors, policy makers increasingly acknowledge the challenges and adverse consequences associated with aid delivery (Qian, 2015).

The potential benefits or adverse effects of aid on the stability of recipient nations hinge on a variety of determinants.[1] First, aid can foster economic growth, raise state capacity and improve public goods provision (Bjerg et al., 2011; Dreher et al., 2021b). The associated rise in citizens' incomes increases the opportunity cost of violence and reduce protest triggers in the first place (Buchanan et al., 1980; Hillman and Riley, 1989; Collier and Hoeffler, 1998). However, the empirical evidence on the growth-promoting effects of aid are - at best - weak. In many cases, aid has been shown to deteriorate economic performance, political stability and institutional quality (Neanidis and Varvarigos, 2009; Dang et al., 2013; Young and Sheehan, 2014; Dutta and Williamson, 2016; Nunn and Qian, 2014; Adam and Tsarsitalidou, 2022; Kalyvitis and Vlachaki, 2012). Moreover, aid resources may be directed towards or captured by economic and political elites (Dreher et al., 2019; Isaksson and Kotsadam, 2018). The resulting increase in inequality can erode civic capital, plant distrust in institutions and ultimately lead to conflict and violence (Dube and Naidu, 2015; Berman et al., 2017; Gehring et al., 2020).

Second, the mode of aid delivery itself – which is typically in the hands of the donor – can affect conflict in recipient countries. For instance, donors may focus on specific sectors, execute projects primarily with the help of domestic or foreign workers, or tie aid to specific requirements, such as aid governance and reporting (Tir and Karreth, 2018; Zvobgo and Graham, 2020; Honig et al., 2022; Moscona, 2023). The extent to which these forces drive conflict depends on their interplay with local institutions and their compatibility with the cultural context (Dutta and Williamson, 2016; Dreher et al., 2018; Brazys and Vadlamannati, 2021; Budjan and Fuchs, 2021). Against this backdrop, traditional donors have criticized the mode of Chinese aid delivery, emphasizing that Chinese aid could do "more harm than good" and that the "rogue donor" China fuels conflict in the region due to its managerial malpractice and extractive approach to development cooperation.[2]

Addressing this controversy, a burgeoning economics literature finds mixed results on the qualitative difference between Chinese and traditional aid. While some papers highlight that Chinese aid is not less effective (Dreher et al., 2021a) and does not exhibit allocation patterns different from traditional donors (Dreher and Fuchs, 2015), other papers show that China's "no strings attached" policy increases the risk of political capture and inhibits broader political reform (Dreher et al., 2019; Brazys and Vadlamannati, 2021). These mixed results extend to the realm of Chinese aid and conflict. Most notably, Gehring et al. (2022) find that neither Chinese nor World Bank aid increase conflict in Africa. Conversely, Iacoella et al. (2021) find

[1] See Gehring et al. (2022) for a careful discussion of the various mechanisms.
[2] The Guardian (2007) and The Guardian (2013)

that Chinese aid increases conflict in the form of protest. They attribute this to a heightened perception of China's influence in the country and lower trust in government. In contrast, Eichenauer et al. (2021) do not find that Chinese economic presence in the form of trade, aid and investments significantly impacts attitudes towards China in the context of Latin America.

We reconcile and complement these findings two ways. First, we deviate from previous papers by considering a different unit of analysis and employing an alternative identification strategy. More specifically, Iacoella et al. (2021) use grid-cells of 50×50km, thereby discounting the importance of local capitals or population size for generating conflict in the first place. Consequently, their results might be driven by the fact that workers and firms settle in new locations that were previously unpopulated. Similarly, it is not obvious that grid cells are the relevant unit of observation. For instance, a Chinese mining project in the outskirts of a district will likely generate protest in the local capital rather than at the project location itself. Conversely, Gehring et al. (2022) investigate conflict at the national and province level. This allows them to account for general equilibrium effects in the sense that they capture the substitution of conflict away from one location to another, thereby circumventing the problems faced by Iacoella et al. (2021). On the other hand, and as they acknowledge, their parsimonious fixed effects structure is prone to omitted variable bias since there are various other unobserved differences in the likelihood of receiving aid and experiencing conflict at the local level. We address these issues by using an intermediate geographic unit of analysis, i.e. the district, that captures the local political and administrative entity to measure conflict while simultaneously allowing for a more saturated fixed effects structure. We include district fixed effects as well as county-year fixed effects and combine this with a shift-share type instrument frequently used in the literature to overcome important challenges in identifying the causal effect of aid on conflict (Nunn and Qian, 2014).

Second, we bring nuance to the investigation of attitudinal changes in response to the presence of Chinese aid projects. Iacoella et al. (2021) suggest that conflict is driven by the collectively shared perception that China's economic influence is harmful to national interests. They rely on only one survey question about the perceived extent (but not quality) of China's influence on the country's economy. Conversely, and for the Latin American case, Eichenauer et al. (2021) suggest that exposure to Chinese aid, trade or FDI at the country level does not deteriorate attitudes towards China, again relying on only one (dummy) variable that switches on if respondents consider China's overall influence on the country as positive. In contrast, we are the first to exploit a special survey module on China in the 6th wave of the Afrobarometer that comprises a large set of questions about China's image, including – among other things – their (non-)interference in internal affairs, their investments in infrastructure and economic development, or their culture, people and language. This allows us to distinguish between political, economic or cultural factors, going far beyond those investigated in Iacoella et al. (2021) and Eichenauer et al. (2021). Importantly, we develop a novel instrument that allows us to exploit cross-sectional variation in survey responses, linking attitudes towards China to the exposure to Chinese aid projects over the past 15 years. Specifically, we leverage exogenous variation in the "cultural and economic ease of doing business", exploiting cultural proximity between the ethno-linguistic group Ubuntu in Africa and Chinese Confucianism interacted with the accessibility of a district in the form of distance to railroads, the capital city and coast.

Overall, we find that Chinese aid increases conflict at the district level. These effects are less pronounced at more aggregate geographic levels (province and country), suggesting that there are displacement effects of conflict in response to aid. We also find that conflict is driven by non-state actors, more specifically rebel groups and militia but not by the civilian population in the form of protest, demonstrations or violence among or against civilians. Consistent with this result, we also do not find that respondents in districts with higher exposure to Chinese aid over the past decade hold more unfavorable views towards China. This holds even when restricting attention to countries and aid sectors that are associated with large increases in conflict. However, citizens voice fewer concerns about the quality of local infrastructure and are more worried about political stability in places with more Chinese aid. This suggests that citizens experience both the positive and negative consequences of aid but do not attribute these to China directly. In addition, we show that the conflicting findings in the literature can be explained by the level of aggregation used as the unit of analysis and by the downward bias arising in the OLS estimation. The use of different data sets does not seem to drive the divergence in findings. Using various different specifications, we can replicate results from other papers.

2 Data and Descriptive Statistics

Aid. Information on the location, size and sector of Chinese aid projects comes from *AidData*, a research lab at William and Mary University (Strange et al., 2014). Using their so-called "Tracking Underreported Financial Flows" (TUFF) methodology, *AidData* synthesizes and standardizes project-level information from governments, international organizations, civil society groups, the private sector, journalists, and researchers to create a data set with detailed information on location, sector, and committed dollar amounts for all Chinese aid projects between 2000 and 2012.[3] We use the term "aid" somewhat imprecisely as a short-cut for both Official Development Assistance and Other Financial Flows from China.[4] We also make use of data on World Bank aid in Africa from the *AidData* Research Lab. It includes a comprehensive data set that has geo-coded locations of all projects approved from 1995-2014 of the World Bank IBRD/IDA (International Bank for Reconstruction and Development/International Development Association), tracking 5,684 projects across 61,243 locations.

Table 1 presents summary statistics on the number and volume of Chinese aid across districts in Africa. Out of a total of about 3,500 Chinese aid projects in Africa, we can identify 1,063 projects with a precise location.[5] The left panel of Figure 1 shows the cumulative number of Chinese aid projects between

[3]We do not use the expanded aid data set until 2017 since we have survey data starting in 2014 and want to look at past exposure to Chinese aid on attitudes towards China. Therefore, we also limit the conflict analysis to this time frame for coherence.

[4]Official development assistance (ODA) is defined as government aid designed to promote the economic development and welfare of developing countries. Loans and credits for military purposes are excluded. Aid may be provided bilaterally, from donor to recipient, or channeled through a multilateral development agency such as the United Nations or the World Bank. Aid includes grants, "soft" loans (where the grant element is at least 25% of the total) and the provision of technical assistance. The OECD maintains a list of developing countries and territories; only aid to these countries counts as ODA.

[5]The geographic location of some aid projects is imprecise and only available at a more aggregate level, i.e. the national or province level. We purposefully exclude those projects since we would otherwise have to mechanically assign them to the province or country capital or the geometric center of the geographic unit. This may lead to a bias in measurement since conflict is more likely in the capital or geographic center. Dropping these observations will introduce measurement error and downward bias our results since we will consider districts as not treated even if they host Chinese aid projects in reality. In addition, our

2000 and 2012 by province and district. China's engagement is spread across the entire continent. On average a district receives 0.3 aid projects in a given year and almost 4 projects over the whole observation period from 2000 to 2012. There is large variation in the intensity of Chinese aid activities in our sample with some counties receiving up to 19 projects in a given year. The volume of Chinese aid commitments can reach up to 60 mio. USD with an average of 300K USD per project. We also report summary statistics for a sub-set of aid sectors for which we have a strong enough first stage in the instrumental variable regression presented in the next section. These include water and sanitation projects, debt relief, education and health, as well as transportation. The latter being the largest sector with almost 2% of African districts receiving Chinese aid directed at the transportation sector. World Bank aid exceeds Chinese aid, both in terms of number of projects and their volume. About 40% of districts in our sample receive World Bank aid in a given district and year. World Bank commitments and disbursements can reach up to 6 and 9 billion USD respectively.

Conflict. Data on conflict at the local level comes from the Armed Conflict Location and Event Data Project (ACLED), which is a conflict collection, analysis and crisis mapping project.[6] Figure 2 illustrates the co-evolution of the number of Chinese aid projects and conflicts on the African continent over time. ACLED codes the actions of rebels, governments, and militias within unstable states, specifying the exact location and date. Table 1 shows that, on average, districts experience almost four conflict events in a given year. Some districts experience as much as 1178 conflicts per year. ACLED conflict events are divided into nine categories: battle with no change of territory; battle with non-state actor overtaking territory; battle with government regaining territory; headquarters or base established; strategic development (incursions, rallies, arrests); riots/protests; violence against civilians; non-violent transfer of territory; remote violence. We combine these categories into three groups that distinguish between conflicts that do not involve civilians, i.e. conflicts between rebel groups, militias and the government, and conflicts that involve civilians (unarmed population), i.e. riots and protests as well as violence against civilians, lastly we create a conflict category that includes all conflict events that are disputes over territory. This categorization has two advantages: it facilitates the comparison to other conflict data sources described below and it allows us to uncover whether conflict arises from discontent in the local civilian population, as suggested by Iacoella et al. (2021). The most frequent conflict events involve civilians with an average of 2.3 conflict incidents per district and year, compared to 1.3 events involving only non-state and state-actors; only a small proportion involves territorial disputes.

In addition, we draw from two additional sources: the Uppsala Conflict Data Program (UCDP) and the Social Conflict Analysis Database (SCAD). Operating under the Department of Peace and Conflict Research at Uppsala University in Sweden, UCDP offers a range of datasets that include variables like conflict type, actors, fatalities, and geographical locations, benchmarking conflict against the involvement of state-actors. Developed initially by researchers at the University of Texas, SCAD is particularly useful

results should be interpreted as the causal effect of geo-coded aid projects rather than aid projects more generally. While this does not invalidate the identification strategy, it limits the external validity of our findings.

[6] See Raleigh et al. (2010) for a more detailed description of the data collection and coding process.

for scholars interested in studying the dynamics of protests, riots, and other forms of social unrest. We use these two alternative data sources to validate our results and reconcile our findings with those of other papers. Figure A.1 shows that in the SCAD, UCDP and ACLED data sets, the cumulative number of conflict incidents between 2000 and 2012 are most pronounced in Central and Western Africa. Overall, UCDP reports more conflict events on average while SCAD records fewer conflict events than ACLED but the district-year correlation is large (0.4-0.6) and highly significant.

Attitudes. Information on the attitudes of Africans towards China comes from the Afrobarometer. The Afrobarometer is a pan-African, non-partisan research network that conducts public attitude surveys on democracy, governance, economic conditions, and related issues in more than 35 countries in Africa. The 6th wave of the Afrobarometer (2014/2015) includes a special section on China, surveying 56,000 citizens on China's influence on the economy, its image, as well as reasons for its positive or negative image.

Table 1 gives a summary of the questions included in the China section. Individuals are asked whether they have an overall positive or negative image of China (on a 5 point scale from very negative to very positive). China receives a positive rating of 3.8 on average. In fact, 76% of respondents in our sample have either a positive or very positive view of China. However, this masks substantial heterogeneity across countries with shares as low as 46% in Madagascar and shares surpassing 90% in Mali or Niger. Importantly, the Afrobarometer module investigates the underlying drivers of positive or negative attitudes towards China. Reasons for a positive image of China include their support in international affairs, their non-interference in internal affairs, their investments in infrastructure and economic development, their investment in business, the quality of Chinese products and sympathy for the people, their cultural and their language. Reasons for a negative image include China's extraction of national resources, land grabbing by Chinese individuals or businesses, their willingness to cooperate with undemocratic rulers, taking away jobs and business from locals, the quality of Chinese products, or the behavior of Chinese citizens. This large set of questions allows us to distinguish between potential political, economic or cultural animosity towards China. At 35%, respondents' prime reason for China's positive image is their investment in infrastructure and development. Only a small proportion of respondents - 14% - considers the extraction of resources as a primary concern about China. Somewhat surprisingly, 42% of respondents mention the quality of Chinese products as a reason for China's negative image. The second most important reason for a negative image, lagging far behind at 16%, is the concern that Chinese economic activities take jobs and business away from locals.

3 Chinese Aid and Conflict

3.1 Empirical Strategy: Panel Evidence

The known difficulties in identifying a causal link between aid and conflict arise from reverse causality and joint determination. On the one hand, locations that are at the cusp of violent conflict may become the political focus of international development cooperation in an attempt to mitigate economic or social distress through aid interventions (Chauvet, 2003). On the other hand, donors may consider high conflict locations

less attractive for development cooperation as state capacity is weak and implementation highly costly. Additionally, there may unobserved factors that drive both aid allocation and conflict intensity.

In order to address this issue, we will rely on an instrumental variable strategy first put forth by Nunn and Qian (2014) and adapted to the Chinese context by Dreher et al. (2021b). The instrument leverages two sources of variation: the cross-sectional variation comes from a location's overall probability of receiving aid in the observation period. In the case of Nunn and Qian (2014), it is a country's average probability of receiving US food aid; in the case of Dreher et al. (2021b) it is a country's average probability of receiving Chinese aid. We apply this logic to a more granular geographic setting, and use the district's average probability of receiving Chinese aid. The time-variant component of the instrument comes from the logged amount of Chinese steel production in the previous year. The relationship between Chinese aid and steel becomes clear in three dimensions. First, steel is a crucial commodity in Chinese aid allocation since "it has a track record of generating an oversupply of steel and looking for overseas markets where it can dump its steel products at artificially low prices" (Dreher et al., 2021b). Second, this overproduction is also used to subsidize Chinese state-owned enterprises in their efforts to go global, promoting national exports and stimulate business for Chinese companies overseas. Third, many Chinese development projects involve some form of construction activity using steel (Worldview, 2016; Zheng et al., 2009; Chen and Orr, 2009).

The identifying assumption is based on the exogeneity of the interaction term conditional on baseline controls. The excludability assumption demands that underlying drivers of Chinese steel production do not influence district-level conflict through other channels than Chinese aid projects. For instance, Chinese steel production could influence world prices of construction material, which in turn could influence conflict. However, in our specification we control for country time fixed effects, which captures price changes or other effects of Chinese steel production, which do not vary on the district-level but a higher level of aggregation. This also includes other determinants of conflict at the country level, such as GDP, trade or FDI (most of these data are only available on the country and not on the district level). Additionally, district fixed effects will capture any district specific determinants on Chinese involvement as well as other time-invariant characteristics that co-determine conflict (ruggedness, latitude, historical exposure to colonialism, past ethnic frictions etc.). Importantly, we also control for lagged conflict at the district level, alleviating concerns that violence is serially correlated and therefore determines the probability of observing both aid and conflict. In addition, this also alleviates the concern that recent outbreaks of conflict lead to a reallocation of aid across district. Lastly, we also control for World Bank aid in the same district and year, to account for a potential coordination of different aid sources that may be correlated with conflict. We write the first and second stage equations as:

$$Y_{dct} = \beta \hat{Aid}_{dt} + X'_{dt}\zeta + \delta_{ct} + \phi_d + \upsilon_{dct} \tag{1}$$

$$Aid_{dt} = \alpha(P_{t-1} \times \bar{C}_d) + X'_{dt}\theta + \gamma_{ct} + \psi_d + \epsilon_{dct} \tag{2}$$

Equation 1 represents the second stage of our 2SLS estimation. Let Y_{dct} be our outcome of interest, in the baseline case it is the log of one plus the number of conflicts in district d of country c in year t. The main endogenous variable Aid_{dt} is the log of one plus the number of Chinese aid, either in the form of the total number of projects or overall financial commitments in mio. USD. The vector X' controls for previous levels of violence, i.e. the lagged dependent variable and the log of one plus the number of World Bank aid projects in the same district and year. Our coefficient of interest can be interpreted as the effect of a 1% change in Chinese aid on the onset of violence in a certain district by β%. As mentioned above we include country-year δ_{ct} and district fixed effects ϕ_d.

Equation 2 is our first stage, where P_{t-1} is the log of Chinese steel production (in mio. tons) in the previous year and $\bar{C}_{dc}$ is a district's overall propensity to receive Chinese aid over the observation period from 2000 to 2012. Standard errors are clustered at the district level. Information on yearly Chinese steel production comes from the World Steel Association's annual reports. Table 1 describes the average annual Chinese steel production, which lies at about 43 million tons on average over the period between 2000 and 2012 and goes as high as almost 71 million tonnes in 2012. In the same table, we also report the average probability of receiving a Chinese aid project over the full observation period, which lies at about 17% and is reflected in our variable P_{t-1} of equation 2. The left panel of Figure 3 shows a strong correlation between the instrument and our outcome of interest net of fixed effects and controls. We report both the first stage and reduced form results in Panel C and D of out main Table 2. Our instrument is significantly and positively associated with both the log volume of aid flows (measured in aid commitments in USD) and the log number of aid projects with Fstatistics of approximately 13 and 19, respectively.

3.2 Main Results on Aid and Conflict

Aid and conflict types. Table 2 presents our main results. Columns 1 to 4 use the log number of all Chinese aid projects as the main independent variable and columns 5 to 8 use the log volume of Chinese aid commitments as the main independent variable. Our outcome of interest, reported in columns 1 and 5 respectively, is the log number of conflicts in a given district and year. In the subsequent columns, we distinguish between different types of conflict, focusing on conflicts that involve the government, militias and rebel groups in columns 2 and 6; conflicts that involve civilians, such as rallies, protests and violence against civilians in columns 3 and 7; and lastly all conflicts that involve a non-violent or violent transfer of territory in columns 4 and 8.

The 2SLS estimates in Panel A of Table 2 reveal a positive effect of Chinese aid on conflict, suggesting that a 10% increase in the number of Chinese aid projects increases the number of conflicts in a given district and year by more than 6%. In other words, going from one to two Chinese aid projects increases the number of conflicts from about 12 to 19 in a given district an year. The effect is largest and most precisely estimated for conflicts that involve clashes between the government and non-state actors as well as conflict between non-state actors, including militias and rebels. This pattern also extends to the volume of Chinese aid commitments. A 10% increase in the volume of Chinese aid is associated with an almost 0.7% increase in the number of conflicts and a 1% increase in the number of conflict involving militia

and rebels. Effects are substantially smaller and imprecisely smaller estimated for conflicts that involve civilians and territorial disputes. In particular, the presence of Chinese aid projects does not incite riots or protest in the civilian population, lying at odds with papers that suggest conflict as a result of discontent of the local population. The OLS estimates reported in Panel B are systematically smaller than our 2SLS estimates indicating a downward bias in the absence of exogenous variation in the number of Chinese aid projects. This is consistent with the allocation of Chinese aid to districts that are less prone to conflict and violence. In addition, the LATE may capture a higher sensitivity of conflict in response to aid projects for compliers. For instance, the ad-hoc allocation of aid following a surge in steel prices may favor some sectors over others. We will present evidence consistent with this hypothesis in the next section.

Regional and sectoral heterogeneity. Next, we investigate heterogeneous treatment effects by country. Specifically, we re-run the baseline specification for each country separately, such that country-year fixed effects become year fixed effects and report the standardized 2SLS coefficients and p-values in Figure 4. Sufficiently strong first stages are marked with blue circles; estimates with a KP-Fstat lower than 10 are marked with red crosses. Overall, we find no evidence for a large dispersion of treatment effects across countries with effect sizes ranging from 0.153 in Mozambique to 0.158 in Rwanda. Nevertheless, in the next section we will focus on the sub-set of countries with the largest effect sizes to investigate whether attitudes change differentially in these locations. In in Figure 5a, we explore regional heterogeneity at a more aggregate level, distinguishing between Southern, Central, West and East Africa and Bantu speaking countries. With the exception of Southern Africa, all coefficients are positive but imprecisely estimated.

We further explore heterogeneity by looking at aid to different sectors. *AidData* categorizes Chinese aid projects into 22 sectors, ranging from food aid to infrastructure projects. We adapt the instrument to predict the number of Chinese aid projects in a specific sector. The general probability of receiving aid $\bar{C}_{dc}$ now becomes the probability of receiving aid in a specific sector $\bar{C}_{dc}^{sector}$ interacted with Chinese steel production in the previous year. Four sectors deliver sufficiently strong first stages: water and sanitation projects, debt relief, education, health and transportation. As mentioned above, this is in line with some sectors responding more to ad-hoc increases in aid availability. Figure 5b shows standardized coefficients for the number of Chinese aid projects by sectors, revealing that some sectors have a substantially stronger impact on conflict than others. Projects in the transportation sector, such as the upgrading of airports or restoration of highways, exhibit the largest effect on conflict. This is in line with the public perception that large scale infrastructure projects may be the sources of conflict in Africa. However, projects in the health sector, which primarily include the delivery of anti-malaria drugs and hospital equipment, exhibit the same adverse effect in a similar magnitude. This is in line with the findings of Nunn and Qian (2014) who show that in-kind food aid can generate conflict. Conversely, water and sanitation projects, which include the construction of dams for drinking water or construction of sewage systems, decrease the incidence of conflict. These countervailing effects emphasize that the underlying sources of conflict are complex and not only depend on the presence of Chinese aid projects themselves but on the type of aid and the mode of delivery which can, for instance, depend on individual project managers (Moscona, 2023).

3.3 Chinese Aid versus World Bank Aid

In this section, we compare Chinese aid projects with those from the World Bank (WB), more specifically the lending arms of the World Bank IBRD/IDA. The IBRD is a global development cooperative owned by its 188 member countries. As a financial institution the IBRD primarily provides loans, guarantees, risk management products in developing countries to eradicate extreme poverty. The IBRD's sister agency, the IDA, takes on a similar role as resource for concessional financing. While the IBRD issues bonds in international capital markets to support it's financial commitments to developing countries, the IDA is largely financed by its partner countries (e.g. donors) and can therefore offer more flexible terms to their recipients. Overall, this type of aid is highly concessional, e.g. financial support (in the form of grants or loans) to recipients that they can in turn invest in development projects.

We estimate the effect of World Bank aid, measured as the log of one plus the number of World Bank projects and the log of one plus the number of World Bank aid disbursements, on conflict in a given district and year. Again, we distinguish between different types of conflict. As for Chinese aid, we face the same challenges in ascertaining the causal effect of World Bank aid on conflict. In order to address this concern, we introduce an instrumental variable that follows the same logic as before, leveraging cross-sectional variation from the overall probability of receiving WB aid and time variation in the availability of IDA funding. Specifically, we exploit year-on-year variation in the London Stock Exchange value of the FTSE100.[7] We use the performance of the FTSE100 three years prior to the number of projects, commitments, and disbursements to a given district in a given year interacted with the district's propensity to receive aid over our sample period 2000 to 2012. The rationale behind this instrument is the following: IDA funds are replenished to a great extent by its richer member countries. In recent years, the UK has become its largest donor - despite public perception of the US being the largest contributor to IDA. The allocations to IDA are made through replenishment rounds every three years.[8] The FTSE100 represents the performance of the largest companies traded on the UK stock exchange. The better the UK market performs, the more the UK can commit to fund IDA in a given replenishment round. Again, any direct effect of UK stock market performance at the country-year level as well as any unobserved heterogeneity at the district level will be captured by the fixed effects. We also always control for the number of Chinese aid projects and the lagged dependent variable. The first stage Kleinbergen-Paap Fstat lies at 9.9 for the the number of aid projects and 13.3 for the aid disbursements.

Figure 6 presents the OLS results in the top panel and 2SLS results in the bottom panel, distinguishing between the number of WB projects and disbursements and looking at different types of conflict. Across all estimations, we find no significant positive effect of WB aid on conflict. If anything, 2SLS estimates suggest a negative relationship between WB aid and conflict. As mentioned above, World Bank aid is highly concessional and primarily consists of grants for specific development projects. Conversely, Chinese aid comes in various forms, including more hands-on infrastructure projects or purely financial flows with no direct exposure to Chinese firms, workers and project management. The most comparable Chinese aid

[7] We take the information from the London Stock Exchange, available under: https://www.londonstockexchange.com/statistics/ftse/ftse.htm

[8] Further information on replenishment rounds is available under http://ida.worldbank.org/financing/replenishments

sector is debt relief, which generates a budget surplus in the form of writing off grant repayments by local authorities or firms. As shown in Figure 6b, Chinese aid in that sector – similar to WB aid - does not generate more conflict.

3.4 Comparison with other studies

In this section, we compare our findings with those of other studies that investigate the effect of Chinese aid on conflict. This paper reconciles the countervailing results of Iacoella et al. (2021) and Gehring et al. (2022) by providing insights on how the underlying specifications, unit of analysis and use of data may generate different results. In a first step, we replicate the specification used in Gehring et al. (2022), exploiting variation across countries rather than variation within countries over time. In addition, we follow the authors' specification and use leads and lags for Chinese and World Bank aid projects and drop the instrumental variable approach. Figure 7 shows that our results are very similar to those presented in Gehring et al. (2022), i.e. we find no differential effect of aid on conflict at the country level.

As mentioned above, this can be driven by two factors: first, aid may shift conflict from one location to another such that the aggregate effect is capturing general equilibrium effects and masks the underlying heterogeneity in treatment effects. Second, unobserved heterogeneity at the local level may bias the results if the characteristics of a project location drive both the occurrence of conflict and aid allocation. For instance, within provinces and countries there may be a reallocation of aid resources away from locations that are at the cusp of conflict to more peaceful locations, thereby downward biasing the results. Appendix Table A.1 investigates the potential sources of these diverging findings more systematically. Again, we collapse the data to a more aggregate level, i.e. the province level in Panel A and the country level in Panel B and present OLS and 2SLS results from our baseline specification. District fixed effects become province fixed effects in Panel A and country fixed effects in Panel B. Similarly, the instrument is based on the average probability of a province or country to receive aid between 2000 and 2012. In all specifications the OLS exhibits a down-ward bias relative to the 2SLS estimation indicating that unobserved heterogeneity may drive some of the differences in findings with the caveat that the first stage is very weak for the country-level analysis. In addition, none of the effects are precisely estimated, suggesting that the aggregation itself masks some of the underlying heterogeneity.

Lastly, we examine whether the conflict data sources drive some of the differences in findings. As mentioned in Section 2, ACLED, UCDP and SCAD gather information from different sources and focus on different aspects of conflict. UCDP conflict data carefully distinguishes between state and non-state based conflicts, and whether violence is one-sided or two-sided. SCAD conflict data is primarily interested in civilian conflict in the from of demonstrations, riots and strikes. Our choice of categorization for the ACLED event types is - in part - made to ease comparison between these data sources. For instance, conflicts that involve rebel groups and militia in the ACLED data are most similar to the non-state based conflicts in the UCDP data set, while ACLED conflict involving civilians is more akin to the SCAD data on demonstrations, strikes and protests. In Appendix Table A.2, we replicate our baseline regression using these different conflict data sources. In all estimations we focus on the sub-set of districts that record both ACLED and UCDP/SCAD

conflicts respectively, such that differences in estimates are not driven by sample composition. This reduces the overall sample from almost 10K to approximately 3.3K district-year observations. In Panels A1 and A2 we focus on conflict data from UCDP and ACLED. As mentioned above, militia/rebel conflict in ACLED is comparable to non-state based conflicts in the UCDP data. We find that the presence of Chinese aid projects also increases non-state based conflicts in the UCDP data set. Turning to the SCAD data set, which primarily records civilian conflict, we find no effect of the presence of Chinese aid projects on conflict, confirming our findings on civilian conflict in the ACLED data set.

4 Chinese Aid and Attitudes towards China

4.1 Empirical Strategy: Cross-sectional Evidence

In the previous section, we did not find evidence that conflict is driven by the civilian population, in the form of riots and protests. However, conflict between militias, rebel groups and the government could influence the attitudes of the civilian population if they associate these conflicts with Chinese aid. In other words, even if Chinese aid projects do not directly impact civilian uprisings in the same year, in the long-run, they could generate discontent towards the Chinese presence. In this section, we test this hypothesis leveraging rich information on Africans' attitudes towards China from the sixth wave of the Afrobarometer and linking it to long-term exposure to Chinese projects over the past 15 years. This data set allows us to delve deeper into the underlying reasons for a positive or negative perception of China than previous studies. These papers typically exploit variation in respondents attitudes towards China over time and have to rely on only one questions that assesses respondents' views towards China's overall influence on the country (Eichenauer et al., 2021; Iacoella et al., 2021; Gehring et al., 2022). In contrast, we develop an instrument that allows us to exploit cross-sectional variation in exposure to Chinese aid projects such that we are able to *i*) investigate the drivers of content or discontent and *ii*) shed light on the long-term consequences of exposure to Chinese aid over the previous decade.

Much of the literature in economic growth has struggled to identify reasonable cross-sectional instrumental variables for the determinants of growth, including aid.[9] There are various instruments for governance quality and trade that rely on, for instance, deaths of national leaders (Jones and Olken, 2005), settler mortality (Acemoglu et al., 2001), distance to equator (Hall and Jones, 1999) and other geographic or climatic variables (Feyrer and Sacerdote, 2009; Frankel and Rose, 2002; Miguel et al., 2004). Most instruments for international aid exploit either bilateral links, such as political/colonial ties or national economic policies or demographic variables, that may be as simple as country size (Burnside and Dollar, 2000; Angeles and Neanidis, 2009; Boone, 1996). However, these instruments are quite contested have been subject to critique in recent years and cannot be applied to more granular geographic units (Bazzi and Clemens, 2013).

In our setting, we would like to understand how districts that received more Chinese aid during the previous 15 years think about China in comparison to districts that received less aid. In order to make any causal inference through an IV estimation, we need an instrument that exogenously predicts Chinese

[9] See a full critique of the use of "blunt instruments" in growth regressions in Bazzi and Clemens (2013)

aid at the district level. This is challenging in three ways: First, this instrument has to predict Chinese aid in particular, and not aid in general. Second, it has to predict aid at a very disaggregate scale, namely the district and not the national level. Third, we are not able to exploit any time-variation but have to rely on cross-sectional differences between districts.

In order to address all of these challenges, we develop a proxy for Chinese "cost of doing business", combining cultural and logistic "pull"-factors for Chinese aid. In particular, we predict Chinese aid with the presence of an ethno-linguistic group in Africa, whose main philosophy *Ubuntu* is said to have striking similarities to Chinese Confucianism, and combine it with other, more universal logistic and infrastructure pull-factors at the district level. We will use the interaction between *bantu* and accessibility of the district as an instrument, controlling for both components of the interaction separately. We will discuss the identifying assumptions, as well as advantages and disadvantages of the instrument in the next section but let us now write the first and second stage equations as follows:

$$O_{idc} = \beta \hat{A_{dc}} + X_i \Gamma + Y_d' \Delta + \phi_c + \upsilon_{idc} \tag{3}$$

$$A_{dc} = \alpha(Bantu_{dc} \times Access_{dc}) + Y_d' \Theta + \phi_c + \epsilon_{dct} \tag{4}$$

We denote O_{idc} to be the opinion of individual i living in district d of country c towards China. As described in Section 2, we have a battery of questions that cover cultural, economic and political views on China. The main variable of interest is A_{dc}, the coefficient β will indicate how exposure to Chinese aid projects between 2000 and 2012 impacts attitudes towards China in 2014. X_i is a vector of individual level controls such as age, gender, occupation, rural-urban dummy, religiosity, race, education and employment status. We use a wide set of controls at the district level Y_d, including a district's distance to its capital city, its mean ruggedness, suitability for high and low inputs separately, its distance to coast. In equation 4, we describe the first stage regression when we interact the cultural pull factor *bantu* with another pull factor $Access_{dc}$, which is an index for how accessible the location is in terms of geographic and infrastructural characteristics at baseline, measured as the inverse of the average distance to the closest railroad and coast and to the capital city. We also include country fixed effects ϕ_c. Standard errors are clustered at the sub-national province level.

4.2 Instrumental Variable Approach

Ubuntu and Confucianism. First, we establish that cultural links between Chinese Confucianism and *Bantu*-speaking districts in Africa exist and that this cultural similarity is indeed a pull factor for Chinese projects in Africa. *Ubuntu* is a collectivist ideology that holds the idea that "a person is a person only through other persons" and it can be defined "as humaneness, a pervasive spirit of caring and community, harmony and hospitality, respect and responsiveness that individuals and groups display for one another" (Mangaliso, 2001). The philosophy originated in Zimbabwe in the mid 19th century and spread over South-Eastern Africa through the *Bantu* linguistic family to various countries, most prominently to Zambia, Mozambique,

Tanzania, and South-Africa (Ramose, 1999). Similarities between *Ubuntu* and Confucianism trace back to the concept of *Guanxi*, which describes the rudimentary dynamics in personalized social networks. *Guanxi* is established on the basis of five types of cardinal relationships of Confucianism (the five "Lun" are the ruler and subjects, the parents and offspring, husband and wife, siblings, and friends). The fundamental ethics behind these cardinal relationships is based on sincerity, loyalty, and obligation. This is very similar to the philosophical kinship and feeling of affinity and loyalty towards the social networks of Africans in *Ubuntu* communities (Chen and Chen, 2004; Ip, 2009; Jackson et al., 2013; Xing et al., 2016).

The academic literature transposes these similarities to the business context, where Ip (2009), for instance, defines the core principles of the Confucian firm, in terms of *ren* (a virtue or capacity of benevolence and compassion), *yi* (a sense of moral rightness) and *li* (conventions, etiquettes or norms) and points out that the *ren* component is very similar to the *Ubuntu* philosophy. Recently, many papers have emerged in the management and human resources literature that propose to leverage the *Ubuntu* philosophy at the workplace, particularly for Chinese firms operating in Africa (Karsten and Illa, 2005; Lutz, 2009; Ncube, 2010; Jackson et al., 2013). These papers argue that the core principles of this widely held philosophy can be translated into management practices, particularly in work environments where international and local labor come together. For instance, in their paper on "Intercultural influences on managing African employees of Chinese firms in Africa" Xing et al. (2016) argue that Chinese managers are not only aware of the similarities between Chinese culture and *Ubuntu*, they even actively seek out businesses in locations where *Ubuntu* is a dominant philosophy. The authors conducted in-depth narrative interviews with 32 Chinese managers (both senior and middle) with three to eight years of professional experience in African countries from 21 Chinese firms (both state-owned and privately owned) and find that Chinese managers blend Confucianism with Ubuntu to manage African employees. The authors state that their "findings show that the similarity between Ubuntu and Guanxi is apparent at three levels: relationships with others, time, and productivity. These similarities enabled Chinese managers to recognize and integrate local culture into their HRM practices".

Figure 8 depicts the geographic spread of the Bantu language across Africa. Geo-coded ethno-linguistic locations are taken from Felix and Meur (2001) and identify exact locations of *bantu* majority districts in the 1980s, e.g. at baseline and before our observation period in 2000. We take the latitude-longitude information and assign them to the administrative districts, which is the unit of observation for our Chinese aid data. *Bantu* districts are mainly located in Southern, Western, and Central Africa. Since our specification includes country fixed effects, and we distinguish between *bantu* and non-*bantu* with a simple dummy variable, the variance will come from countries that have both types of districts. None of the countries in North Africa have districts with *bantu* linguistic origins. Countries like Zambia consists of only *bantu* districts. We list the subset of countries for which we have some variance in *bantu*-related ethno-linguistic origin next to Figure 8. These 9 countries include Botswana, Cameroon, Gabon, Kenya, Namibia, Nigeria, South Africa, Tanzania, and Uganda. The share of *bantu* districts in these countries reaches from only 4% in Nigeria to 83% in Gabon, with an average of 56% over all countries (467 out of 833 districts).

Threats to Identification The interaction between *Ubuntu* culture and accessibility of a district should only affect attitudes towards China through the presence of Chinese aid projects. We rely on the conditional exogeneity of the interaction term, controlling for *bantu* and accessibility of the district separately and capturing any unobserved heterogeneity at the country-level with the fixed effects. This assumption is violated if, for instance, accessible *bantu* districts also attract aid from other donors which may in-turn impact respondents' views on foreigners more generally, not only China. Alternatively, *bantu* districts may hold more favorable views towards China to begin with and may even be more positive towards China if they are closer to metropolitan areas. We test these and similar threats to identification in multiple ways.

First, we check whether *bantu* itself is associated with district level characteristics that may simultaneously be correlated with Chinese aid and attitudes towards China. Figure 9a shows the standardized coefficients for *bantu* on various district-level outcomes. As in our baseline specification, we include country fixed effects and cluster standard errors at the sub-national province level. We do not find that *bantu* is systematically correlated with any component of our accessibility index (i.e., distance to coast, railroad and capital city) and is also not correlated with low or high soil suitability. In addition, we check whether *bantu* districts are characterized by higher amenities by looking at the number of hospitals in schools. Again, we find no systematic correlation between *bantu* and amenities. Lastly, we check whether respondents in *bantu* district generally hold more favorable views towards China. As described above, Chinese managers seek out Ubuntu districts specifically. However, the population in Ubuntu districts may not directly associate their culture with Chinese Confucianism and Chinese involvement. We regress *bantu* on a dummy variable that switches on if respondents have a very positive or positive view towards China and one dummy variable that switches on if respondents have a positive view of Chinese culture and language. Again, we do not find that respondents who live in *bantu* districts have generally a more favorable view of China.

In a second step, we turn to the interaction between *bantu* and the accessibility of a district, measured as the average distance to the closest railroad, coast and capital city. We measure accessibility at baseline, i.e. before 2000 to ensure that Chinese aid itself does not impact the accessibility of a district. In Figure 9b, we show that the interaction predicts Chinese aid in particular and not aid more generally. The interaction does not predict the number of World Bank aid projects or World Bank committments and disbursements in the previous 15 year, assuaging concerns that our instrument is capturing the universal cost of doing business. Conversely, the interaction strongly predicts the number and volume of Chinese aid in the district. The first stage is strong with an KP F-stat of 12.3 for the number of Chinese aid projects and 9.9 for the volume of Chinese aid commitments. Table 3 Panel C and D present the first stage and reduced form results.[10]

4.3 Main Results on Aid and Attitudes towards China

Aid exposure and China's image. Table 3 presents the main results on past exposure to Chinese aid projects on attitudes towards China. In a first step, we focus on one question that elicits respondents'

[10]Figure A.2 illustrates the reduced form in a scatter-plot in the left panel and the correlation between aid and attitudes towards China.

assessment of China's image, ranging from a scale of one to five with larger values indicating more positives views on China. We present 2SLS and OLS results in Panels A and B respectively and focus on the full sample in columns 1 and 4, i.e. we look at past exposure to Chinese aid in terms of the number of projects or volume of aid commitments, leaving aside the level of conflict that was associated with Chinese aid in the past. Again, we use the log of one plus the number of aid projects or one plus the volume of aid commitments as our main explanatory variables. For both OLS and 2SLS, we find no evidence that exposure to Chinese aid projects affects China's image among respondents.[11] to Next, we explore the possibility that Chinese aid only affects attitudes in places that are plagued by conflict. We do this in two ways. First, in columns 2 and 5, we only look at districts that overlap between the ACLED and the Afrobarometer sample. This ensures that sample composition is not driving the differences in conflict versus attitudes. Second, we focus on the sub-set of countries for which the estimates of aid on conflict were largest and most precisely estimated. This includes Mozambique, Zimbabwe, Mauritius, Morocco, and Tunisia. This ensures that the potential negative effect on attitudes is not washed out by countries that do not experience conflict in response to Chinese aid. Again, we find no significant differences in attitudes towards China in any of these samples.

Reasons for China's image. There are two explanations for why exposure to Chinese aid does not impact respondents' attitudes towards China, even in a context where it is associated with conflict. For one, respondents may not link local conflict to Chinese aid directly. Or alternatively, respondents are discerning and distinguish between Chinese aid itself as a driver of conflict versus conflict instigated by local rebel groups and militias in response to any influx of resources. Another explanation, consistent with the previous one is that average changes in attitudes towards China mask an underlying shift in reasons for a positive or negative view of China that cancel each other out. The rich set of questions in the sixth wave of the Afrobarometer allow us to shed light on these questions. The top Panel of Figure 10 show the standardized OLS and 2SLS coefficients of past exposure to the number of Chinese aid projects on the reasons for a positive image of China. Respondents can choose multiple reasons, including the Chinese culture and language, the costs of Chinese products, China's investment in local businesses, their investment in local infrastructure, as well as their political approach, including non-interference with internal affairs and their support in international affairs. Again, we find no systematic relationship between exposure to Chinese aid and attitudes towards China. Turning to the reasons for China's negative image, we investigate Chinese aid changes the likelihood of mentioning the behaviour of Chinese people, the quality of Chinese products, China taking away jobs and businesses from locals, their cooperation with undemocratic rulers, land grabbing and resource extraction. Overall, we find no substantial shift in attitudes with the exception of China's cooperation with undemocratic rulers in the 2SLS estimation. This result underscores the possibility that respondents view Chinese aid as problematic only in as far as it interacts with the local political environment. We will investigate the effect of Chinese aid on attitudes towards other social and political issues (unrelated to China) in the next section.

[11] In Appendix Table A.3, we repeat this exercise using four different measures for attitudes towards China, including respondents views on whether China is the best model to follow for their country, whether China is the country with the most influence overall or on the economy and whether China does a very bad - very good job at meeting the country's needs.

Heterogeneity by respondent characteristics. Next, we verify whether the zero-effect on attitudes hides some underlying shifts in the perception of China across different demographic groups. While attitudes may not change on average, one it is possible that there are winners and losers from Chinese aid projects. This polarization of opinions within a society may consequently lead to more tensions and conflict. In order to address this issue, we make use of detailed information on respondent characteristics and run separate regressions for each group. In Appendix Table A.4, we investigate whether attitudes change differently across gender, urban versus rural, age, education, race and occupation. For the latter we make use of the Afrobaromter occupation codes to classify individuals as manual workers. The category manual worker includes cleaners, laborers, domestic help, unskilled manufacturing workers, as well as artisan or skilled manual workers (e.g., trades like electrician, mechanic, machinist or skilled manufacturing worker). As shown in section 3, the transportation sector exhibits one of the largest effect sizes on conflict. Manual workers (about 8% of respondents) may be more exposed to this aid sector and therefore hold more negative views towards China. Both the OLS and 2SLS results do not reveal any systematic difference across demographic or occupational groups regarding the perception of China's influence. We take this as evidence that there is no polarization in the local population in response to exposure to Chinese aid.

Heterogeneity by aid sector. Similarly, we investigate whether different types of aid affect attitudes towards China in opposite directions that may cancel each other out on aggregate. We link this to our findings in section 3 and focus on water/sanitation, debt relief, education, health and transportation. We analyze in how far aid sectors that reduce conflict (water/sanitation) compare against aid sectors that are associated with an increase in conflict (health, transportation). In addition, we group aid sectors more broadly, combining all projects that are in the infrastructure, transport, and energy sector as well as all projects that involve Chinese technical assistance under aid to infrastructure. In the *aid to business* category, we include all aid projects that are investments in businesses, agriculture, trade and banking projects. For *aid to social* we include projects in education, health, women's issues and support to local NGOs. Table A.5 presents our results, again using China's image as our main outcome variable. As expected, the first stage becomes significantly weaker if we focus aid to specific sectors as year district-country cell will be less populated. However, the results are qualitatively the some for both OLS and 2SLS. None of the types of projects seem to have a negative effect of public opinion of China. If anything, coefficients are consistently positive and even significant for the OLS coefficient for debt relief.

Heterogeneity by country characteristics. In a last step, we analyze whether Chinese aid affects attitudes in settings already plagued by internal conflict and competition for resources. We build on the literature that shows that more fractionalized societies have a higher propensity for conflict in response to an influx of resources (Esteban et al., 2012). Appendix Table A.6 reports coefficients for our baseline specification for the set of countries with an above and below median level of ethnic fractionalization in 1990 taken from Posner (2004). There is no differential impact of Chinese aid on attitudes towards China in context where ethnic divisions are larger. Similarly, the literature on the so-called "resource curse" suggests that windfall gains from natural resources raise the returns to political capture and therefore conflict, especially in

the presence of weak institutions and rule of law (Ploeg, 2011). China may follow a more resource extractive approach to aid in resource abundant countries. We use the median rents from natural resources as a share of national GDP from the World Development Indicators at baseline in 1999 and do not find that respondents in resource rich countries respond more negatively to the influx of Chinese aid.

Other attitudes. Aid may influence citizens' attitudes indirectly. For instance, the downstream consequences of aid, including a rise in inequality, political instability or corruption may direct citizens' attention towards a different set of political issues and favor some political agendas over others (Neanidis and Varvarigos, 2009; Dang et al., 2013; Young and Sheehan, 2014; Dutta and Williamson, 2016; Nunn and Qian, 2014; Adam and Tsarsitalidou, 2022; Kalyvitis and Vlachaki, 2012; Dreher et al., 2019; Isaksson and Kotsadam, 2018). In this section, we look at the effect of exposure to Chinese aid on respondents' views on the most important problem facing the country. Afrobarometer respondents can choose up to three answers from a long list of issues that range from economic issues, such as concerns about inequality, redistribution and wages to political issues, such as war, ethnic tensions or corruption. Figure 11 shows the standardized OLS and 2SLS coefficients for the log number of Chinese aid projects on the likelihood of mentioning one of these issues ordered by their effect sizes. If anything, OLS and 2SLS results suggest a negative relationship between exposure to Chinese aid and the likelihood that respondents think infrastructure and roads or agricultural marketing, i.e. access of farmers to local and regional market, belong to the main problems of their country. In contrast, respondents are more likely to mention political instability in places that are more exposed to Chinese aid. The coefficient for political instability is one of the largest and most precisely estimated, indicating that while the rise in conflict may not be directly attributed to Chinese aid, its repercussions are perceived in the local population.

5 Conclusion

This study analyzes the impact of Chinese aid in Africa, specifically assessing its effect on conflict incidents and African attitudes toward China. Our findings demonstrate that a 10% increase in Chinese aid projects correlates with a 6% rise in conflict incidents. Notably, this escalation predominantly involves non-state actors, including militias and rebel groups, as well as confrontations with government forces. Our analysis reveals that this increase in conflict is not directly attributed to civilian attitudes towards China. Through a comprehensive evaluation of both revealed and stated preferences, we establish that Chinese aid does not significantly incite protests, riots, or strikes, nor does it intensify critical views among Africans regarding Chinese culture, resource extraction, or land acquisitions.

This distinction is crucial as it suggests that Africans discern between the presence of Chinese aid and the internal dynamics catalyzing these conflicts. Our results imply that the surge in conflict incidents is more intricately linked to the interplay of resource influx and local political contexts rather than to Chinese actions per se. This finding is significant as it underscores the complex nature of aid-induced conflict, going beyond simplistic narratives that often dominate discussions about foreign aid in Africa and emphasize the adverse consequences of China's "no strings attached" approach to aid delivery.

Moreover, our study makes a significant contribution to reconciling findings in the existing literature on foreign aid and its socio-political impacts in recipient countries. Some scholars argue that foreign aid, particularly from major powers like China, can heighten tensions by altering local power dynamics or exacerbating resource competition. Others contend that aid can promote stability and development by improving infrastructure and economic opportunities. Our findings offer a nuanced perspective that bridges these divergent views. We show that the diverging findings may be explained by *i*) heterogeneous effects by aid sector and by conflict type *ii*) the level of aggregation for the unit of analysis due to displacement effects of conflict and *iii*) differences in empirical specification and downward bias of OLS estimates.

The temporal scope (2000-2012) and may not fully encapsulate the evolving dynamics of Chinese aid. Future research should aim to extend the analysis to more recent years, considering the evolving nature of Chinese foreign policy and African geopolitical realities. In addition, there may be other forces that shape attitudes towards China, which were overwhelmingly positive in 2014/15. These may have changed in more recent years and may be shaped by other forces such as local media coverage of China or local political conditions.

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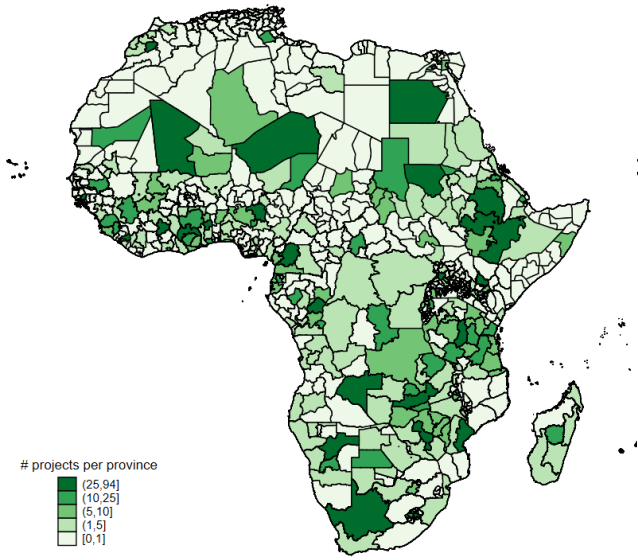
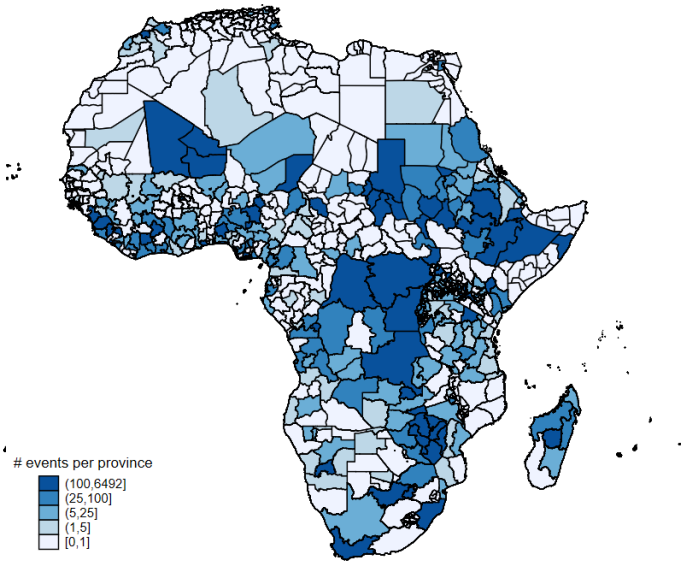
6 Tables and Figures

Figure 1: Cumulative number of Chinese aid projects and conflict events (2000 - 2012)

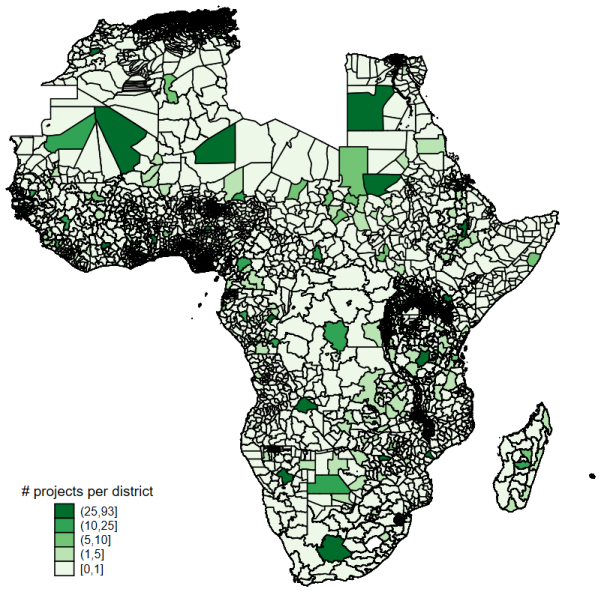
(a) Number of aid projects by province



(b) Number of conflict events by province (ACLED)



(c) Number of aid projects by district



(d) Number of conflict events by district (ACLED)

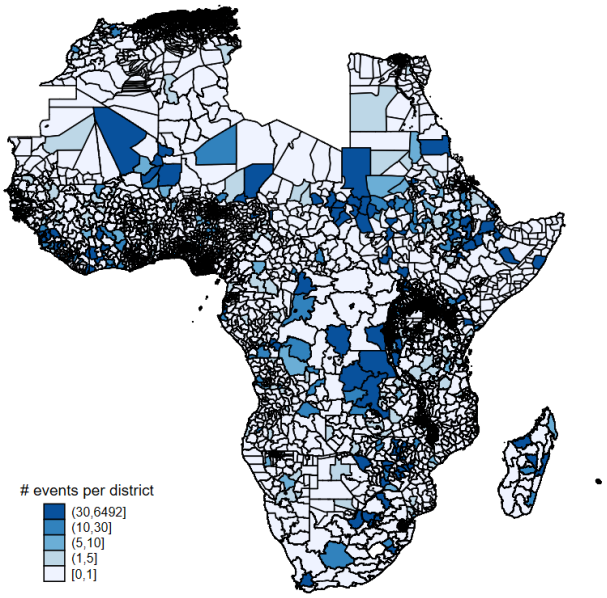
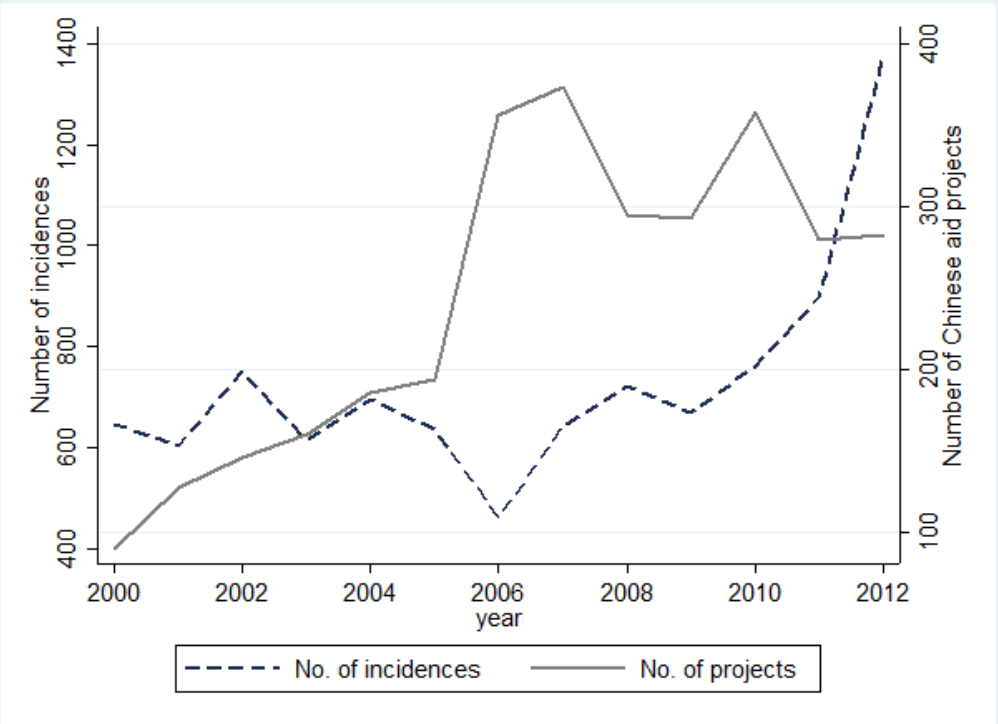
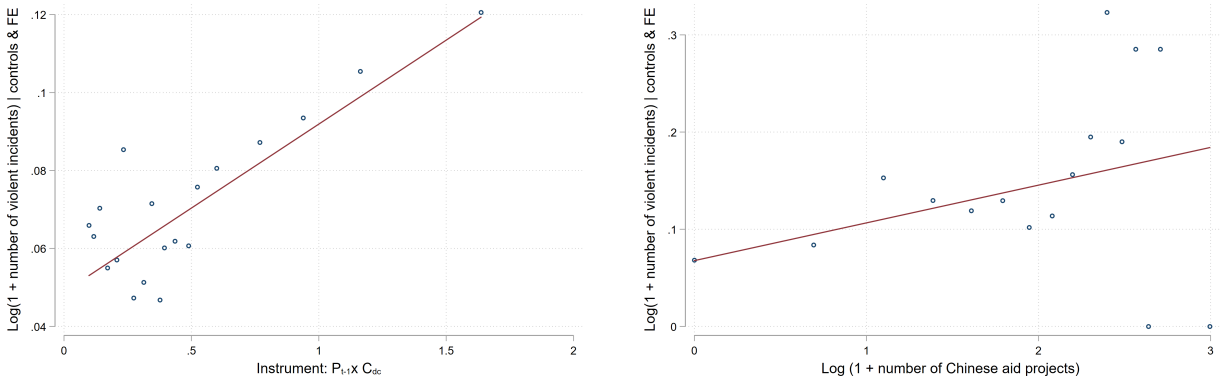


Figure 2: Aid and conflict over time



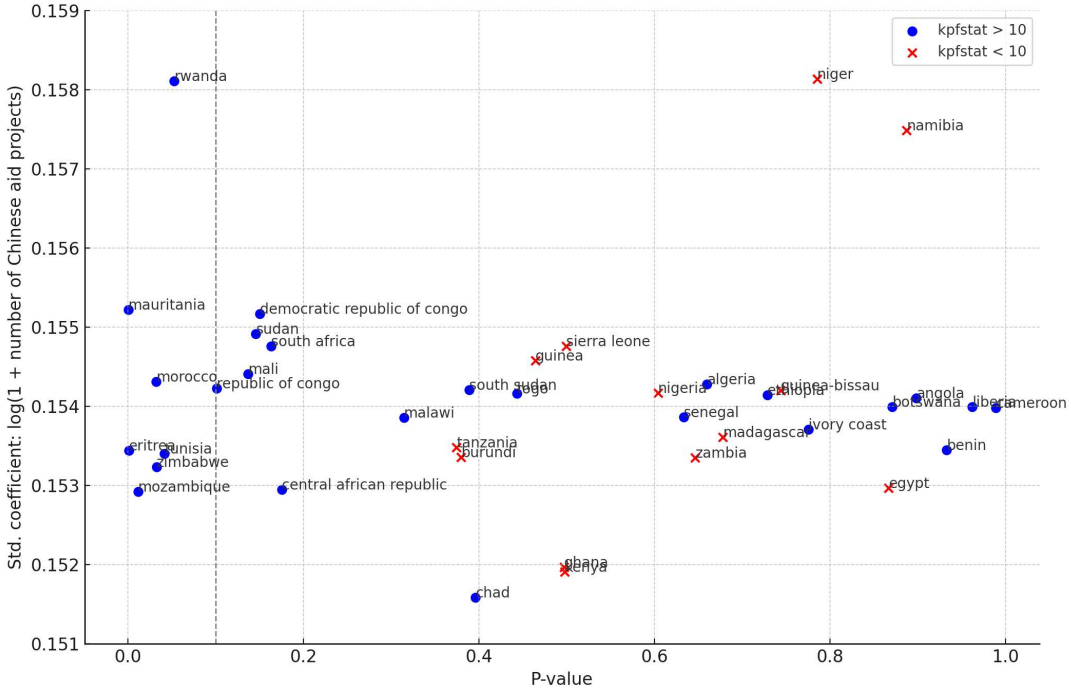
Note: Solid line shows the yearly total number of Chinese aid projects on the African continent between 2000 and 2012. Dashed line indicates the yearly total number of violent incidents.

Figure 3: Binned scatterplot of instrument and Chinese aid on residualized conflict outcome



Note: Binned scatterplot for the instrument on the left and log of 1 + number of Chinese aid projects on the right. Y-axis represents the residualized dependent variable, i.e. the log of 1 + numer of conflict indicents of any type, conditional on district fixed effects, country-year fixed effects and controls, including lagged dependent variable and log of 1 + the number of World Bank aid projects in the same district and year.

Figure 4: Effect sizes and precision of main coefficient by country

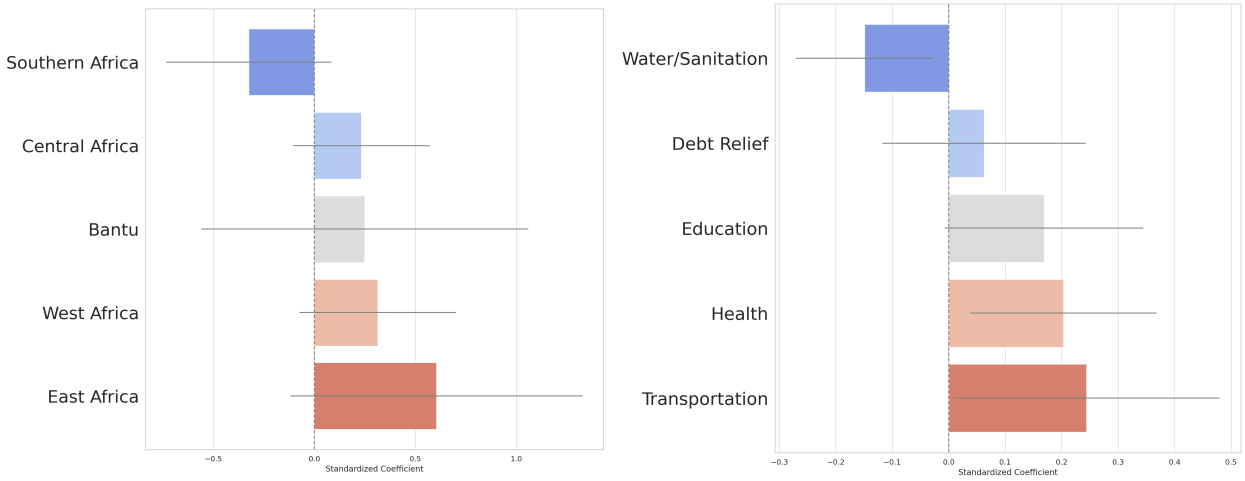


Note: Figure shows size of the standardized coefficient on the y-axis and p-values for the main independent variable, the log of 1 + the number of Chinese aid projects in a given district and year for each country on the x-axis. We run separate regressions for each country using the baseline specification with all fixed effects and controls. Blue circles show countries for which the first stage Kleinbergen-Paap Fstats is larger than 10, Xs in red represent countries for which the first stage Kleinbergen-Paap Fstats is weak, i.e. smaller than 10.

Figure 5: Heterogeneity of aid and conflict by region and sector

(a) Sub-continents and bantu speaking countries

(b) Sectors and industries

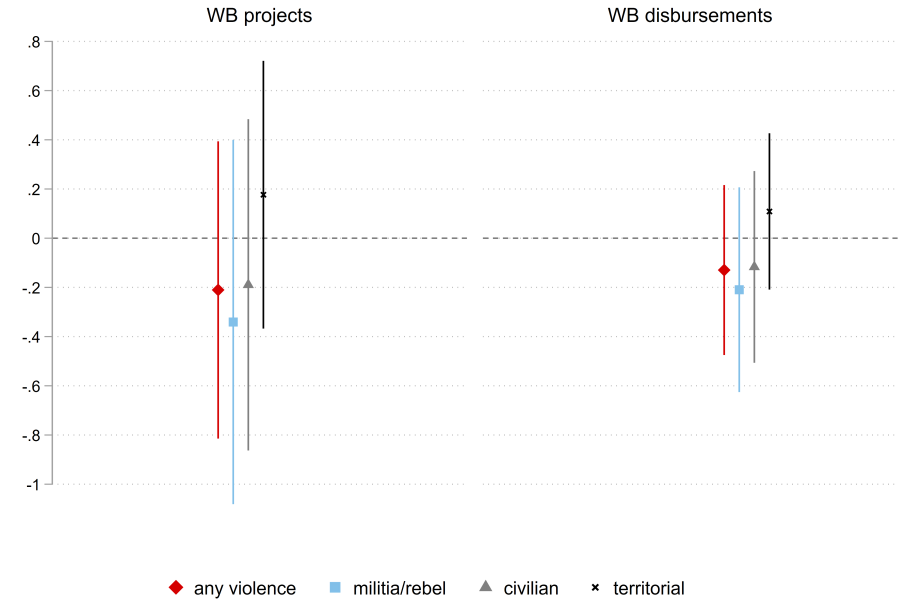


Note: Standardized coefficient for aid by sector using baseline 2SLS specification. Left panel reports coefficients for log(1 + number of aid projects) by regions, including Southern Africa (KP Fstat 4.6), West Africa (KP Fstat 4.9), East Africa (KP Fstat 7.9)and Central Africa (KP Fstat 9.6), as well as countries with a Bantu speaking population (KP Fstat 3.2). Right panel report coefficients for log(1 + number of aid projects in sector s) instrumented by the overall probability of receiving aid in that sector during the observation period interacted with lagged Chinese steel production. Sectors include transportation (KP Fstat 12.2), education (KP Fstat 15.9), health (KP Fstat 19.3), water and sanitation (KP Fstat 30.1) as well as debt relief (KP Fstat 9.3). We only report sectors with number of observations > 36 (min. 2% of full sample of aid projects) and with KP-Fstat > 10.

Figure 6: World Bank aid and conflict types - OLS and 2SLS estimates

(a) OLS estimates

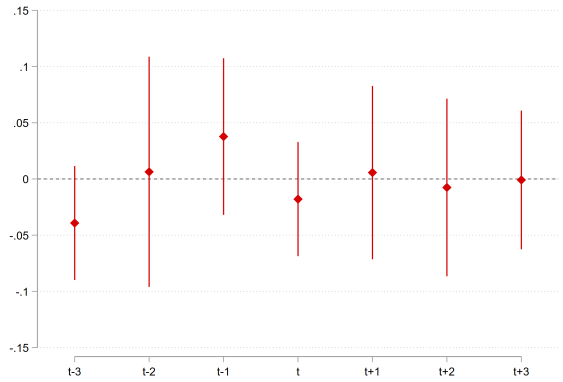
(b) 2SLS estimates



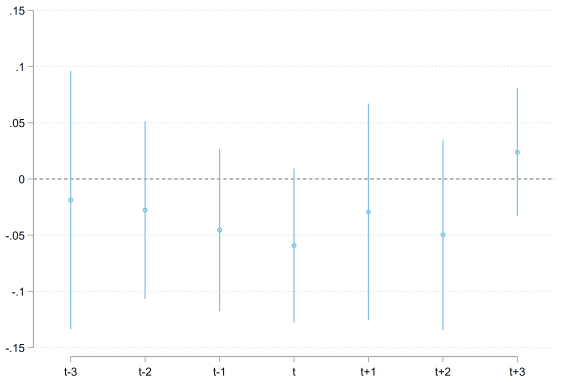
Note: Figure shows OLS (top) and 2SLS (bottom) for og(1 + number of WB aid projects) and Log(1 + volume of WB aid disbursements) on the Log(1 + number of conflicts by type). Red line with diamond marker corresponds to any type of conflict, blue square marker corresponds to conflict involving militia and rebels, grey triangle marker corresponds to conflict involving civilians and cross markers corresponds to territorial battle. The instrument for WB projects and disbursements uses performance of the UK FTSE100 performance three years prior.

Figure 7: Country level analysis with lags and leads

(a) Chinese aid in $t - \Delta T$ and conflict



(b) World Bank aid in $t - \Delta T$ and conflict



Note: Data collapsed to the country and year level. Estimation results for the following specification $Log(1 + number\ of\ conflicts)_{ct} = \beta_T \sum Aid_{t\Delta T} + \gamma_t + \theta_c + \epsilon_{ct}$, for lags and leads ΔT for the log of 1 + number of Chinese aid projects on the left and log of 1 + number of World Bank aid projects on the right.

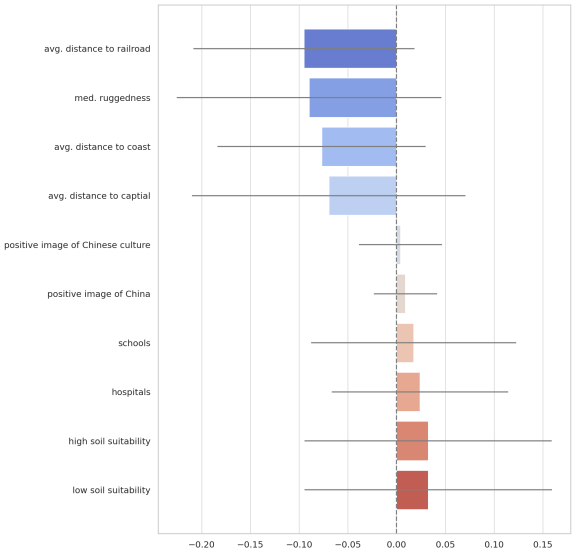
Figure 8: Geographic spread of Bantu

Note: Dark blue areas indicate majority Bantu speaking districts. Data comes from Felix and Meur (2001) and identify exact locations of *Bantu* majority districts in the 1980s.

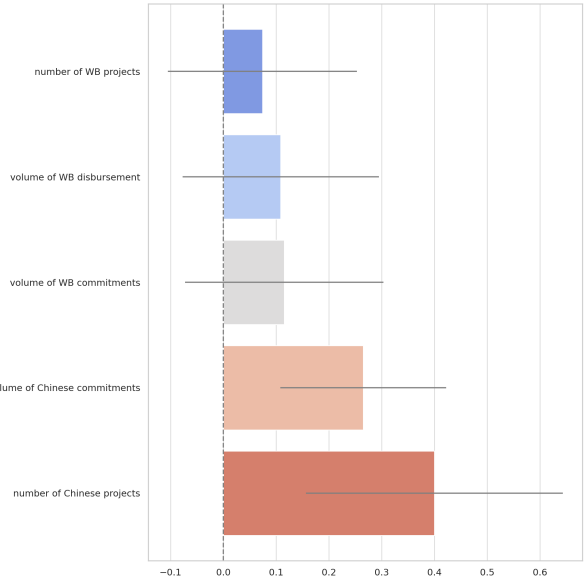
	N districts	share bantu	sd
Botswana	27	0.44	0.51
Cameroon	43	0.40	0.49
Gabon	29	0.83	0.38
Kenya	172	0.60	0.49
Namibia	71	0.66	0.48
Nigeria	199	0.04	0.20
South Africa	52	0.65	0.48
Tanzania	121	0.80	0.40
Uganda	119	0.66	0.48
Total	833	0.56	

Figure 9: Plausibility of exogeneity assumption

(a) $Bantu_d$ & district characteristics



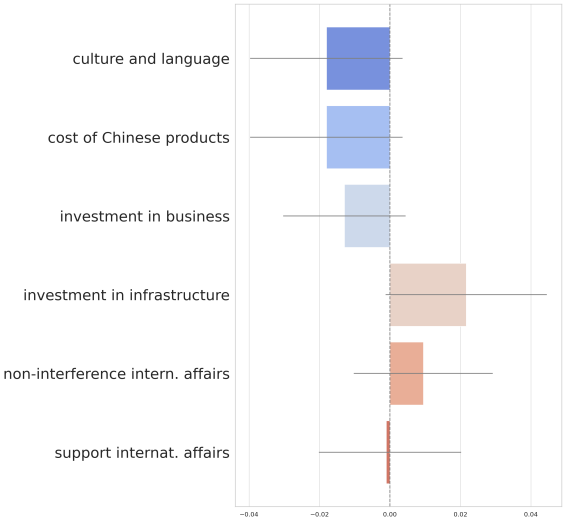
(b) $Bantu_d \times Access_d$ & World Bank vs Chinese aid



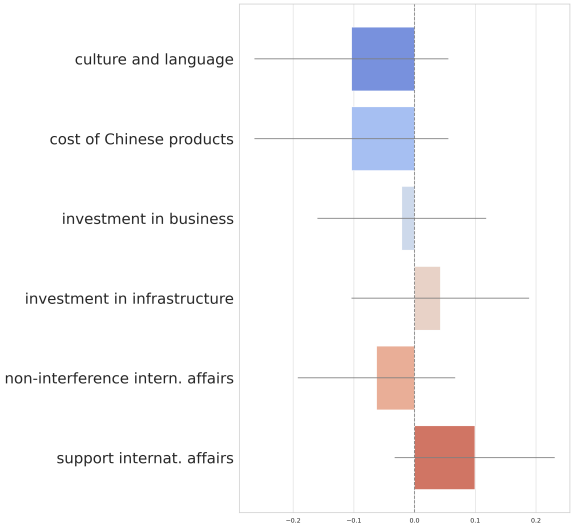
Note: Left panel shows standardized coefficient for the correlation between the dummy variable *bantu* (which switches on if the majority ethno-linguistic group in the district is *bantu*) on various district-level characteristics. The regression includes country fixed effects and standard errors are clustered at the sub-national regional level. Outcomes include average distance to railroad, median ruggedness, average distance to coats, average distance to capital, positive image towards China, positive view of Chinese language and culture, the number of schools in the district, the number of hospitals in the district, high and low soil suitability. The right panel shows the standardized coefficients for the interaction between *bantu* and accessibility index (average distance to railroad, capital city and coats) on the number of World Bank (WB) aid projects, volume of WB disbursements, volume of WB com,ittments, as well as volume of Chinese aid disbursements, and number of Chinese aid projects.

Figure 10: Past exposure to Chinese aid projects (2000-2012) and Afrobarometer respondents' views about reasons for China's positive or negative image (2014)

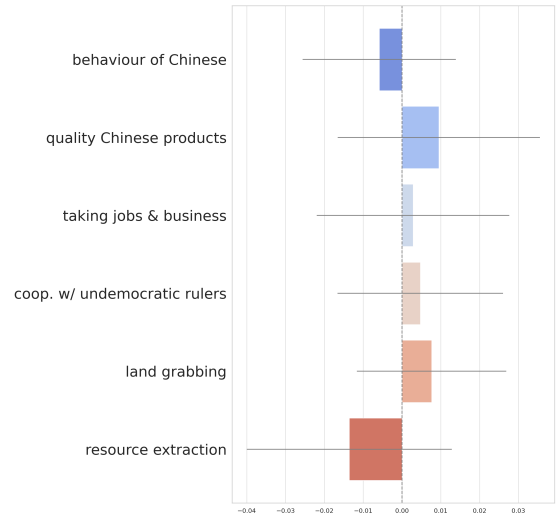
(a) Reasons for positive image: OLS estimates



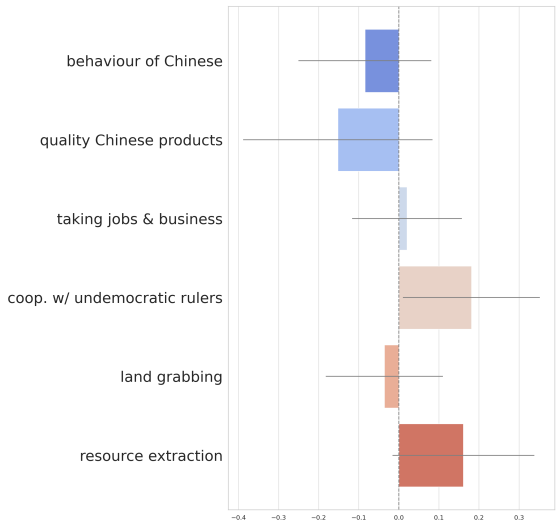
(b) Reasons for positive image: 2SLS estimates



(c) Reasons for negative image: OLS estimates

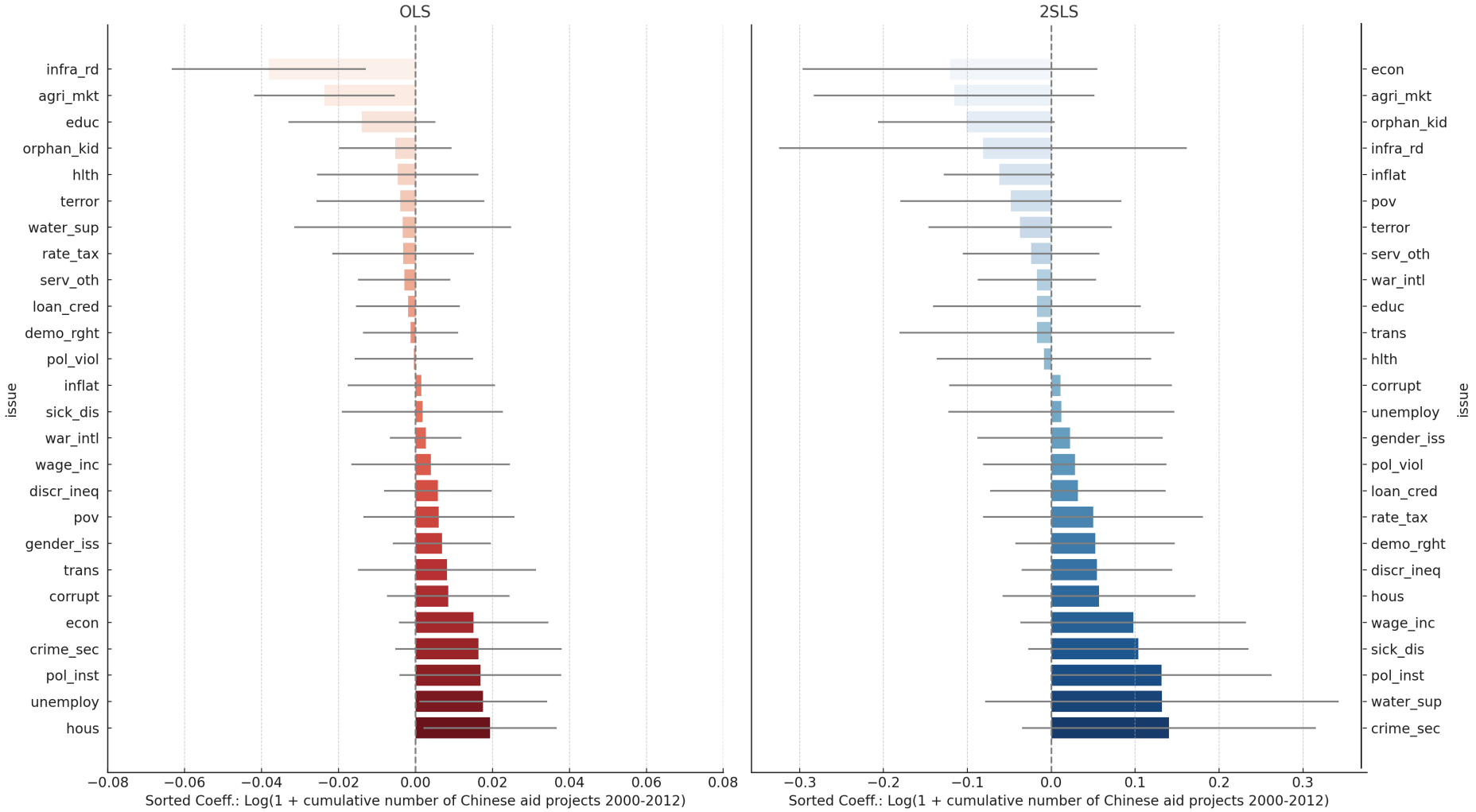


(d) Reasons for negative image: 2SLS estimates



Note: Figure shows standardized coefficients for the log of 1 + the cumulative number of Chinese aid projects between 2000 and 2012 on various outcomes. Top panel reports the reasons for a positive image of China; bottom panel reports reasons for a negative image of China. OLS results are shown on the left side; 2SLS estimates are shown on the right, using the $Bantu_c \times Access_c$ instrument. Coefficient of support for international affairs in the top left is re-scaled by 100 for readability.

Figure 11: Past exposure to Chinese aid projects (2000-2012) and Afrobarometer respondents' views about most important problem facing the country (2014)



Note: Standardized coefficient for aid using baseline specification with OLS on the left and 2SLS on the right. Coefficients are sorted by size and presented as bars. Horizontal lines indicate 95% confidence intervals. Question used: *In your opinion, what are the most important problems facing this country that government should address?* Response options (top to bottom OLS coefficients): infrastructure/roads; agricultural marketing; education; orphans/street children/homeless children; health; terrorism; water supply; rates and taxes; services (other); loans /credit; democracy/political rights; inflation; sickness/disease; war(international); wages, income and salaries; discrimination/inequality; poverty/destitution; gender issues/women's rights; transportation; corruption; management of the economy; crime and security; political instability/political divisions/ethnic tensions; unemployment; housing.

Table 1: Summary statistics - Chinese Aid and Conflict

	mean	sd	min	max
Aid				
Chinese aid projects (number)	0.3053	0.915	0	19
Chinese aid commitments (mio. USD)	0.3386	3.004	0	60
Sector: water and sanitation	0.0033	0.057	0	1
Sector: debt relief	0.0059	0.080	0	2
Sector: education	0.0135	0.127	0	3
Sector: health	0.0154	0.137	0	3
Sector: transportation	0.0192	0.142	0	2
World Bank projects	0.4293	1.100	0	25
World Bank commitments (mio. USD)	42.1011	179.933	0	6699
World Bank disbursements (mio. USD)	24.7173	206.332	0	9845
Conflict				
ACLED any conflict incident	3.9801	28.054	0	1178
involving rebel groups/governments/militia	1.2818	13.585	0	614
involving civilians	2.3081	13.141	0	373
territorial disputes	0.1411	1.671	0	64
UCDP any conflict incident	25.7963	138.524	0	2108
state-based conflicts	0.6572	7.348	0	237
non-state conflicts	0.1070	0.937	0	36
one-sided violence	0.3377	2.676	0	87
SCAD any conflict incident	0.8714	4.314	0	195
demonstrations	0.2734	2.387	0	126
riots	0.0767	0.346	0	7
strikes	0.0314	0.319	0	12
violence	0.1009	0.535	0	13
District characteristics				
distance to railroad	74.9032	101.940	0	723
distance to capital	218.4004	192.585	0	1213
distance to coast	409.6725	373.105	0	1736
ruggedness	4.3100	1.311	1	9
low soil suitability	2.9670	1.300	-6	9
health clinic present (2014)	0.5923	0.491	0	1
school present (2014)	0.8670	0.340	0	1
Observations	9,732	T=12	N =811	
Instruments				
Chinese steel production (mio. tons)	43.4533	18.9064	15.1634	70.8784
probability of aid	0.1717	0.187	0	1
bantu	0.4192	0.493	0	1
access	-234.2782	171.567	-1013	-1
Attitudes				
China's influence: 1=very negative, 5=very positive	3.7689	1.211	1	5
positive image: support in international affairs	0.0729	0.260	0	1
positive image: non interference in internal affairs	0.0562	0.230	0	1
positive image: investment infrastructure & development	0.3500	0.477	0	1
positive image: business investment	0.1994	0.400	0	1
positive image: cost of Chinese products	0.2651	0.441	0	1
positive image: people culture language	0.2651	0.441	0	1
negative image: extraction of resources	0.1423	0.349	0	1
negative image: Land grabbing by Chinese individuals or businesses	0.0873	0.282	0	1
negative image: willingness to cooperate w/ undemocratic rulers	0.0504	0.219	0	1
negative image: economic activities taking jobs or business	0.1633	0.370	0	1
negative image: quality of Chinese products	0.4269	0.495	0	1
negative image: behavior of Chinese citizens	0.0666	0.249	0	1
Respondent characteristics				
age	36.9074	14.180	18	103
gender, 1=male	0.4960	0.500	0	1
urban=1	0.4367	0.496	0	1
dummy=1 at least high school completed or higher	0.3374	0.473	0	1
Employment status, 1=unemployed	0.5908	0.492	0	1
Occuptation code	6.9968	16.340	0	95
black	0.8678	0.339	0	1
Religious practice 0=never - 6	3.6789	1.878	0	6
Observations	35,491			

Note: Table 1 lists the summary statistics of dependent, independent and instrumental variables for the full sample Data on Chinese aid come from *AidData*, including sector classification. Conflict data comes from ACLED, SCAD and UCDP. Survey data come from the 6th wave of the Afrobarometer conducted in 2014 and 2015. The results are not weighted by Afrobarometer sample weights.

Table 2: Chinese Aid and Conflict - Baseline Results

Dep. var.:	Log(1 + number of conflict type)							
Conflict type	any conflict	militia/rebel	civilian	territorial	any conflict	militia/rebel	civilian	territorial
Panel A: 2SLS	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log(1 + no. of projects)	0.657*	0.993***	0.375	0.0440				
	(0.353)	(0.306)	(0.318)	(0.0916)				
Log(1+ commit mio. USD)					0.0687*	0.104***	0.0392	0.00460
					(0.0389)	(0.0362)	(0.0340)	(0.00959)
Panel B: OLS								
Log(1 + no. of projects)	0.00398	0.0150	-0.00210	0.00220				
	(0.0257)	(0.0201)	(0.0217)	(0.00834)				
Log(1+ commit mio. USD)					0.000252	-0.00116	0.00122	-0.000295
					(0.00140)	(0.00102)	(0.00126)	(0.000463)
Panel C: Reduced Form								
$P_{t-1} \times \bar{C}_{dc}$	0.0534*	0.0806***	0.0305	0.00354	0.0534*	0.0806***	0.0305	0.00354
	(0.0280)	(0.0212)	(0.0256)	(0.00739)	(0.0280)	(0.0212)	(0.0256)	(0.00739)
Panel D: First Stage	Number of aid projects				Volume of aid commitments			
$P_{t-1} \times \bar{C}_{dc}$	0.0816***	0.0816***	0.0816***	0.0814***	0.790***	0.789***	0.791***	0.789***
	(0.0186)	(0.0186)	(0.0187)	(0.0186)	(0.215)	(0.215)	(0.216)	(0.215)
Observations	9,732	9,732	9,732	9,732	9,732	9,732	9,732	9,732
No. of districts	811	811	811	811	811	811	811	811
Mean dep. var.	0.504	0.226	0.378	0.0360	0.504	0.226	0.378	0.0360
K-P F stat	18.84	12.88	18.92	12.88	18.78	12.89	18.69	12.82
District FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lagged dep. var.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
World Bank aid	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Regression results based on the main specification, including district fixed effects, country-year fixed effects and controlling for lagged outcome variable and 1 + log of the number of World Bank projects in the same district and year. Panel A presents 2SLS, OLS results presented Panel B, first stage coefficients (re-scaled by 1:100 for readability) are reported in Panel C. Standard errors are clustered at the district level. The main independent variable is the log of 1 + the number of Chinese aid projects in a given district and year (columns 1 to 4) and the log of 1 + the volume of Chinese aid commitments in mio. USD in a given district and year. The instrument is the interaction between a district's overall probability of receiving aid between 2000 and 2012 and lagged Chinese steel production in the previous year. We report the Kleinbergen-Paap Fstatistic at the bottom of the table. The dependent variable is always measured as the log of 1 + the number of conflict events in a given district and year. Columns 1 and 5 report any conflict event. Column 2 includes conflict events that primarily involve non-civilian actors, such as the government, militia or rebel groups (ACLED classifications: "battle without change of territory", "strategic development"), columns 3 and 7 include events that primarily involve civilian actors (ACLED classifications:"riots/protests" and "violence against civilians") and columns 4 and 8 include events where the main reason dispute concerns territory (ACLED classifications: "battle: government regains territory", "battle: non-state actor overtakes", "headquarters or base established", "non-violent transfer of territory"). Mean of the dependent variable are presented at the bottom of the table. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

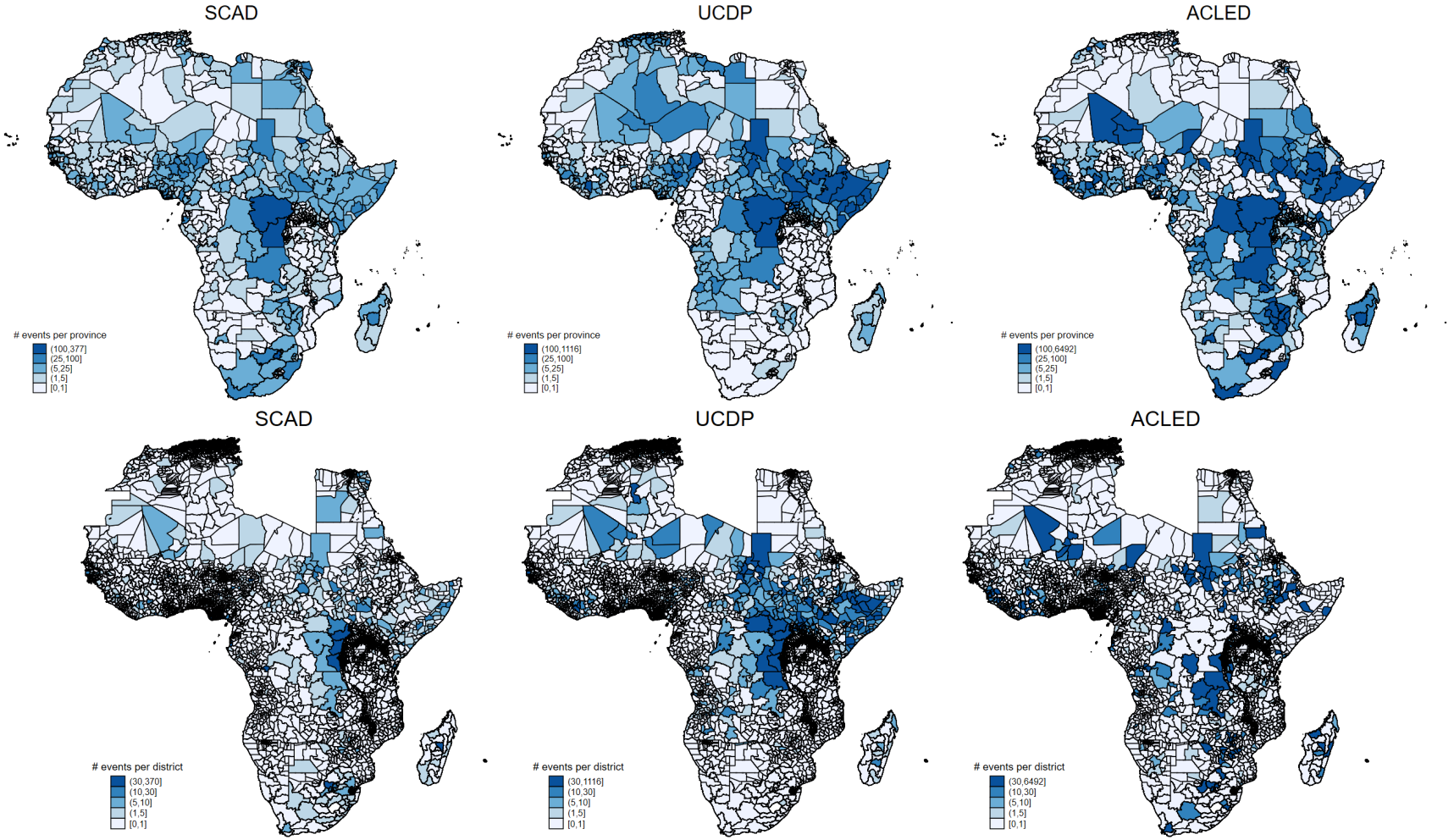
Table 3: Chinese Aid and Attitudes towards China

Dep. var.:	Image of China [1 very negative; 5 very positive]					
Indep. var.:	Number of aid projects 2000 - 2012			Volume of aid commitments 2000 - 2012		
	full sample	ACLED Afrobar overlap sample	high conflict sample	full sample	ACLED Afrobar overlap sample	high conflict sample
Panel A: 2SLS	(1)	(2)	(3)	(4)	(5)	(6)
Log(1 + no. of projects)	0.0826	-0.165	0.208			
	(0.117)	(0.156)	(0.158)			
Log(1+ commit mio. USD)				0.103	-0.343	0.285
				(0.139)	(0.447)	(0.214)
Panel B: OLS						
Log(1 + no. of projects)	-0.00634	0.0134	0.00983			
	(0.0165)	(0.0204)	(0.0261)			
Log(1+ commit mio. USD)				0.00515	0.0100	0.0248
				(0.0227)	(0.0291)	(0.0325)
Panel C: Reduced Form						
$Access_{dc} \times Bantu_{dc}$	0.000226	-0.000421	0.00177	0.000226	-0.000421	0.00177
	(0.000311)	(0.000391)	(0.000311)	(0.000391)	(0.00107)	(0.00107)
Panel D: First Stage	Number of aid projects 2000 - 2012			Volume of aid commitments 2000 - 2012		
$Access_{dc} \times Bantu_{dc}$	0.00266***	0.00244***	0.00803**	0.00207***	0.00103	0.00564*
	(0.000765)	(0.000838)	(0.00326)	(0.000681)	(0.000789)	(0.00286)
Observations	30,007	13,707	4,754	30,007	13,707	4,754
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
District controls	Yes	Yes	Yes	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes
Regions	381	235	381	235	56	56
Mean dep. var.	3.769	3.769	3.769	3.769	3.769	3.769
Kleibergen-Paap F stat	12.32	9.342	6.415	9.899	2.356	4.406

Note: Regression results based on the main specification on Chinese aid and attitudes, including country fixed effects, district level controls for the log cumulative number of 1 + World Bank aid projects in the same district between 2000 and 2012, dummy for bantu district, average distance to railroad, capital city and coast, median ruggedness, and soil suitability. Panel A presents 2SLS, OLS results presented Panel B, first stage coefficients are reported in Panel C. Standard errors are clustered at the sub-national regional level. The main independent variable is the log of 1 + the cumulative number of Chinese aid projects in a given district between 2000 and 2012 (columns 1 to 3) and the log of 1 + the total volume of Chinese aid commitments in mio. USD in a given district between 2000 and 2012 (columns 4-6). The instrument is the interaction between access (i.e. average distance to railroad, capital city and nearest port) and bantu dummy. We report the Kleinbergen-Paap Fstatistic at the bottom of the table. The dependent variable measured on a scale from 1 to 5, from very negative image of China to very positive image of China. Columns 1 and 4 report coefficients for the full sample, columns 2 and 5 report coefficients for the sample that overlaps with sample in the Chinese aid and conflict ACLED sample in the previous section and columns 3 and 6 report coefficient of the sub-sample with the strongest impact of Chinese aid on conflict and that also have Afrobarometer data: Mozambique, Zimbabwe, Mauritius, Morrocco, Tunisia. Mean of the dependent variable are presented at the bottom of the table. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

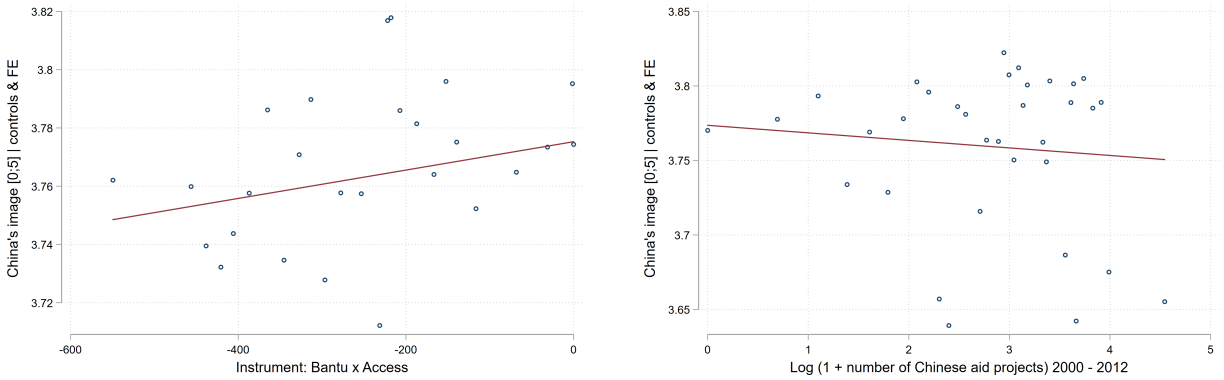
Online Appendix

Figure A.1: Number of conflict events by data source (district and province level)



Note: Comparison of main conflict data source ACLED with Uppsala Conflict Data Program (UCDP) and the Social Conflict Analysis Database (SCAD). Top panel shows the cumulative number of conflicts between 2000 and 2012 at the province level, the bottom panel shows this information for the sub-sample of geo-coded conflicts at the district level.

Figure A.2: Binned scatterplot of Chinese aid and instrument on residualized attitudes towards China



Note: Binned scatterplot for the instrument on the left and log of 1 + cumulative number of Chinese aid projects between 2000 and 2012 on the right. Y-axis represents the residualized dependent variable, i.e. the China's image raning from 1 very negative to 5 very positive, conditional on country fixed effects, as well as district level and individual controls described in the baseline specification. We display 60 bins with 500 observations each.

Table A.1: Chinese Aid and Conflict - Region and Country-level results

Conflict type	any conflict		militia/rebel		civilian		territorial	
	OLS	2SLS	OLS	2SLS	OLS	2SLS	OLS	2SLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: province-level								
Log(1+ commit mio. USD)	0.00236	0.00660	-0.000642	-0.00414	0.000212	-0.00480	-0.000249	0.00658
	(0.00290)	(0.0483)	(0.00107)	(0.0151)	(0.00116)	(0.0194)	(0.000537)	(0.00585)
Observations	2940	2940	2940	2940	2940	2940	2940	2940
Provinces	245	245	245	245	245	245	245	245
Kleibergen-Paap F stat		8.289		8.329		8.265		8.225
Mean dep. var.	0.815	0.815	0.161	0.161	0.276	0.276	0.0233	0.0233
Province FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lagged dep. var.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
World Bank Aid	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: country-level								
Log(1+ commit mio. USD)	-0.00133	-0.214	0.00138	0.274	-0.00206	0.406	-0.00166	0.0787
	(0.00502)	(0.938)	(0.00238)	(1.759)	(0.00203)	(2.131)	(0.00217)	(0.527)
Observations	588	588	588	588	588	588	588	588
Countries	49	49	49	49	49	49	49	49
Mean dep. var.	2.657	2.657	0.799	0.799	1.100	1.100	0.165	0.165
Kleibergen-Paap F stat		0.0579		0.0267		0.0368		0.0261
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lagged dep. var.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
World Bank Aid	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Data collapsed to the province level (Panel A) and country-level (Panel B). Regression results based on the main specification, including unit (at the province or country-level) fixed effects, country-year fixed effects for the province level analysis and country and year fixed effects for the country level analysis. Controls include lagged outcome variable and 1 + log of the number of World Bank projects in the same geographic unit and and year. Standard errors are clustered at the province and country level, respectively. The main independent variable is the log of 1 + the volume of Chinese aid commitments in mio. USD in a given geographic unit and year. The instrument is the interaction between a province's/country's overall probability of receiving aid between 2000 and 2012 and lagged Chinese steel production in the previous year. We report the Kleinbergen-Paap Fstatistic at the bottom of each panel. The dependent variable is always measured as the log of 1 + the number of conflict events in a given geographic unit and year. Odd columns present OLS coefficients and even columns report 2SLS coefficients. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.2: Chinese Aid and Conflict - 2SLS estimates by conflict data sources

Panel A1: UCDP	any conflict		state-based		non-state based		one-sided	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Log(1 + no. of projects)	-0.0446		-0.0482		0.177*		0.0730	
	(0.0467)		(0.0476)		(0.0998)		(0.159)	
Log(1+ commit mio. USD)		-0.0677		-0.0733		0.268*		0.111
		(0.0686)		(0.0717)		(0.150)		(0.241)
Observations	3299	3299	3299	3299	3299	3299	3299	3299
Districts	275	275	275	275	275	275	275	275
Mean dep. var.	0.00660	0.00660	0.00314	0.00314	0.00875	0.00875	0.00343	0.00343
Kleibergen-Paap F stat	15.42	17.44	15.56	17.47	15.46	17.54	15.36	17.39
Panel A2: ACLED	any conflict		militia/rebel		civilian		territorial	
Log(1 + no. of projects)	0.313*		0.424***		0.209		0.00907	
	(0.169)		(0.147)		(0.153)		(0.0507)	
Log(1+ commit mio. USD)		0.479*		0.648***		0.320		0.0138
		(0.269)		(0.228)		(0.241)		(0.0769)
Observations	3299	3299	3299	3299	3299	3299	3299	3299
Districts	275	275	275	275	275	275	275	275
Mean dep. var.	0.993	0.993	0.538	0.538	0.710	0.710	0.0948	0.0948
Kleibergen-Paap F stat	15.20	16.92	15.35	17.21	15.23	16.96	15.31	17.42
Panel B1: SCAD	any conflict		demonstrations		riots		strikes	
Log(1 + no. of projects)	0.414		0.346		0.0854		-0.256	
	(0.283)		(0.396)		(0.213)		(0.201)	
Log(1+ commit mio. USD)		0.605		0.506		0.124		-0.373
		(0.426)		(0.575)		(0.300)		(0.298)
Observations	3468	3468	3468	3468	3468	3468	3468	3468
Districts	289	289	289	289	289	289	289	289
Mean dep. var.	-0.000991	-0.000991	-0.00161	-0.00161	-0.0140	-0.0140	-0.00503	-0.00503
Kleibergen-Paap F stat	12.66	9.932	12.75	10.06	12.56	10.18	12.61	10.06
Panel B2: ACLED	any conflict		militia/rebel		civilian		territorial	
Log(1 + no. of projects)	0.414		0.346		0.0854		-0.256	
	(0.283)		(0.396)		(0.213)		(0.201)	
Log(1+ commit mio. USD)		0.605		0.506		0.124		-0.373
		(0.426)		(0.575)		(0.300)		(0.298)
Observations	3468	3468	3468	3468	3468	3468	3468	3468
Districts	289	289	289	289	289	289	289	289
Mean dep. var.	-0.000991	-0.000991	-0.00161	-0.00161	-0.0140	-0.0140	-0.00503	-0.00503
Kleibergen-Paap F stat	12.66	9.932	12.75	10.06	12.56	10.18	12.61	10.06
District FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lagged dep. var.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
World Bank Aid	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: 2SLS regression results based on the main specification, including unit (at the province or country-level) fixed effects, country-year fixed effects and controlling for lagged outcome variable and 1 + log of the number of World Bank projects in the same district and year. Panel A1 and A2 use sample for which both UCDP and ACLED data are available. Panel B1 and B2 use sample for which both SCAD and ACLED data are available. Standard errors are clustered at the district level. The main independent variable is the log of 1 + the number of Chinese aid projects in odd columns and log of 1 plus the volume of Chinese aid commitments in mio. USD in even columns. The instrument is the interaction between a district's overall probability of receiving aid between 2000 and 2012 and lagged Chinese steel production in the previous year. We report the Kleinbergen-Paap Fstatistic at the bottom of each panel. The dependent variable is always measured as the log of 1 + the number of conflict events in a given district and year distinguished by event type coded in each conflict data source. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.3: Chinese Aid and Attitudes towards China - Alternative Outcomes

	country w/ most influence [0,1 = China] (1)	C's influence on economy [0=none, 3=a lot] (2)	C meeting country's needs [1=v.bad; 5= v.good] (3)	best model [0,1 = China] (4)
Panel A: 2SLS				
Log(1 + no. of projects)	-0.0785	-0.138	0.159	-0.0785
	(0.0522)	(0.0940)	(0.136)	(0.0522)
Mean dep. var.	0.128	0.124	0.128	0.124
S.d. dep. var.	0.334	0.330	0.334	0.330
Panel B: OLS				
Log(1 + no. of projects)	-0.000268	0.00219	0.00535	-0.000268
	(0.00528)	(0.00889)	(0.0154)	(0.00528)
Observations	35481	30180	29148	35481
Regions	385	381	381	385
Mean dep. var.	0.280	2.245	3.562	0.280
Kleibergen-Paap F stat	12.07	12.24	9.604	12.07
Country FE	Yes	Yes	Yes	Yes
District controls	Yes	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes	Yes

Note: Regression results based on the main specification on Chinese aid and attitudes, including country fixed effects, district level controls for the log cumulative number of 1 + World Bank aid projects in the same district between 2000 and 2012, dummy for bantu district, average distance to railroad, capital city and nearest port, median ruggedness, and soil suitability. Panel A presents 2SLS, OLS results presented Panel B. Standard errors are clustered at the sub-national regional level. The main independent variable is the log of 1 + the cumulative number of Chinese aid projects in a given district between 2000 and 2012. The instrument is the interaction between access (i.e. average distance to railroad, capital city and nearest port) and bantu dummy. We report the Kleinbergen-Paap Fstatistic at the bottom of the table. Dependent variable is a dummy variable that switches on if respondent chooses China as the country with the most influence. In column 2 its the respondents' assessment of how large China's influence on the country's economy is, ranging from 0 none to 3 a lot. Column 3 asks whether China does a good job at meeting the country's needs, ranging from 1 very bad job to 5 very good job. Column 4 is a dummy variable that switches on if respondent chooses China as the best model for the future development of the country. Mean of the dependent variable are presented at the bottom of the table. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.4: Respondent heterogeneity: Chinese Aid and Attitudes towards China

Dep. var.:	Image of China [1 very negative; 5 very positive]											
Respondent characteristic:	male	female	urban	rural	$\leq$ age 30	$>$ age 30	high school	no high school	Black	non-Black	manual labor	non-manual
Panel A: 2SLS	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Log(1 + no. of projects)	0.0925	0.0778	0.0598	0.226	0.0161	0.149	-0.00472	0.205	0.242	0.207	0.183	0.0504
	(0.122)	(0.124)	(0.0832)	(0.227)	(0.0908)	(0.167)	(0.0936)	(0.165)	(0.508)	(0.244)	(0.148)	(0.119)
Panel B: OLS												
Log(1 + no. of projects)	-0.0124	9.82e-05	0.0215	-0.0271	0.0160	-0.0203	0.00976	-0.0100	-0.0106	0.00226	-0.00632	-0.00562
	(0.0174)	(0.0184)	(0.0215)	(0.0219)	(0.0187)	(0.0190)	(0.0218)	(0.0166)	(0.0171)	(0.0489)	(0.0260)	(0.0167)
Observations	15,560	14,447	13,906	16,101	11,336	18,671	10,943	19,064	25,978	4,025	4,745	25,262
R-squared	0.184	0.158	0.174	0.165	0.145	0.187	0.156	0.177	0.158	0.076	0.170	0.169
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Kleibergen-Paap F stat	12.66	11.79	18.47	8.045	15.58	9.785	15.60	9.241	0.859	17.82	12.38	11.78

Note: Regression results based on the main specification on Chinese aid and attitudes, including country fixed effects, district level controls for the log cumulative number of 1 + World Bank aid projects in the same district between 2000 and 2012, dummy for bantu district, average distance to railroad, capital city and nearest port, median ruggedness, and soil suitability. Panel A presents 2SLS, OLS results presented Panel B. Standard errors are clustered at the sub-national regional level. The main independent variable is the log of 1 + the cumulative number of Chinese aid projects in a given district between 2000 and 2012. The instrument is the interaction between access (i.e. average distance to railroad, capital city and nearest port) and bantu dummy. We report the Kleinbergen-Paap Fstatistic at the bottom of the table. The dependent variable measured on a scale from 1 to 5, from very negative image of China to very positive image of China. Separate regressions for respondent characteristics, distinguishing between gender, urban, age group, education, race and manual labor. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.5: Aid sector heterogeneity: Chinese Aid and Attitudes towards China

Dep. var.:	Image of China [1 very negative; 5 very positive]							
Aid sector:	water	debt	edu	health	trans	infrastructure	social	business
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: 2SLS								
Log(1 + no. of projects)	1.228	-10.32	0.527	0.462	0.524	0.449	0.289	0.473
	(1.887)	(34.31)	(0.817)	(0.679)	(0.768)	(0.661)	(0.421)	(0.708)
Panel B: OLS								
Log(1 + no. of projects)	0.134	0.104**	0.0433	0.0655	0.0165	0.0164	0.0420	-0.0378
	(0.113)	(0.0471)	(0.0504)	(0.0436)	(0.0699)	(0.0413)	(0.0342)	(0.0489)
Observations	30,007	30,007	30,007	30,007	30,007	30,007	30,007	30,007
Kleibergen-Paap F stat	2.397	0.114	1.814	2.732	3.040	2.414	3.318	2.282
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
District controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Note: Regression results based on the main specification on Chinese aid and attitudes, including country fixed effects, district level controls for the log cumulative number of 1 + World Bank aid projects in the same district between 2000 and 2012, dummy for bantu district, average distance to railroad, capital city and nearest port, median ruggedness, and soil suitability. Panel A presents 2SLS, OLS results presented Panel B. Standard errors are clustered at the sub-national regional level. The main independent variable is the log of 1 + the cumulative number of Chinese aid projects in a given district and sector between 2000 and 2012. The instrument is the interaction between access (i.e. average distance to railroad, capital city and nearest port) and bantu dummy. We report the Kleinbergen-Paap Fstatistic at the bottom of the table. The dependent variable measured on a scale from 1 to 5, from very negative image of China to very positive image of China. Columns 1-4 use the same aid sectors as in section 3 and focus on water/sanitation, debt relief, education, health and transportation. Infrastructure includes infrastructure, transport, and energy sector as well as all projects that involve Chinese technical assistance under aid to infrastructure. Business includes all aid projects that are investments in businesses, agriculture, trade and banking projects. Social includes projects in education, health, women's issues and support to local NGOs. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A.6: Country heterogeneity: Aid and Attittudes towards Chin by ethnic fractionalization and rents from natural resources

Dep. var.:	Image of China [1 very negative; 5 very positive]			
	ethnic fractionalization		% GDP natural resources	
	> median	≤ median	> median	≤ median
	(1)	(2)	(3)	(4)
Panel A: 2SLS				
Log(1 + no. of projects)	-0.679	0.0890	-0.0137	1.344
	(1.606)	(0.114)	(0.0850)	(5.465)
Panel B: OLS				
Log(1 + no. of projects)	-0.0194	0.00530	0.00958	-0.0238
	(0.0159)	(0.0249)	(0.0285)	(0.0197)
Observations	14,571	15,436	14,707	15,300
Kleibergen-Paap F stat	0.228	9.963	23.93	0.0809
Country FE	Yes	Yes	Yes	Yes
District controls	Yes	Yes	Yes	Yes
Individual controls	Yes	Yes	Yes	Yes

Note: Regression results based on the main specification on Chinese aid and attitudes, including country fixed effects, district level controls for the log cumulative number of 1 + World Bank aid projects in the same district between 2000 and 2012, dummy for bantu district, average distance to railroad, capital city and nearest port, median ruggedness, and soil suitability. Panel A presents 2SLS, OLS results presented Panel B. Standard errors are clustered at the sub-national regional level. The main independent variable is the log of 1 + the cumulative number of Chinese aid projects in a given district between 2000 and 2012. The instrument is the interaction between access (i.e. average distance to railroad, capital city and nearest port) and bantu dummy. We report the Kleinbergen-Paap Fstatistic at the bottom of the table. The dependent variable measured on a scale from 1 to 5, from very negative image of China to very positive image of China. We report coefficients for above median of ethnic fractionalization taken from Posner (2004) in column 1 and below the median in column 2. We take the rents from natural resources as a share of overall GDP of countries in 1999 from the World Development Indicators and report coefficients above and below the median in columns 3 and 4, respectively. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.