

A New Scramble for Africa?

Chinese Aid and Africa's Civil Conflict 2004 – 2013, An Instrumental Variable Approach

by

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Thesis submitted in partial fulfillment of
the requirements for the degree of Master of Arts in the Department of
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ABSTRACT

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Abstract

Does Chinese aid cause more civil conflicts in Africa? Doubts have been cast about Chinese development assistance finance. In this article, I argue that Chinese aid is likely to arouse more civil conflicts in Africa because Chinese aid's non-conditionality on the recipient country tends to cause the moral hazard problem—— the recipient country may use the aid to strengthen its capacity to repress the dissents and rebels, while the unfair aid allocation could intensify the grievances in that country. Focusing on Chinese aid and African conflicts nexus from 2004 to 2013, I collect data from multiple databases and websites, and conduct a series of negative binomial regression analyses. In order to evade aid's endogeneity problem, I employ Confucius Institutes' development level as my instrumental variable to predict Chinese aid. I find that Chinese official aid money and Chinese official aid projects have explanatory powers for a recipient country's civil conflicts. This study attempts to contribute to the scholarship by clarifying Chinese aid's effects on African conflicts through an instrumental variable approach and by extending the time range for research from 2004 to 2013.

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1. Introduction

At the December 2015 Forum on China-Africa Cooperation (FOCAC), China's President Xi Jinping pledged to offer 60 billion US dollars in development finance assistance to African countries during the following three years. Chinese aid to Africa has continued to increase, while the doubts about Chinese aid have been rocketing. A prevalent belief is that China's aid can arouse conflicts in the recipient countries, as aid from China attaches few conditions on the aid usage, nor does it require monitoring of the financial flows. As a result, the recipient country's government can use the money at their own discretion without any constraints. Meanwhile, China's choice of evading the Organization for Economic Co-operation and Development (OECD) Creditor Reporting System (CRS) to operate its aid plans adds to such doubts. As China's influence becomes increasingly paramount in the African continent, the following question remains: is China's aid more likely to invoke conflicts in Africa?

According to the United Nation's Department of Economic & Social Affairs, since 1971, most of the "least developed countries" (LDC) have been clustered in Africa¹. Meanwhile, Africa has severely suffered from conflicts among states, ethnic groups as well as conflicts between the people and the government. Given all those difficulties and grievances a continent like Africa can encounter, African countries also

¹ See http://www.un.org/en/development/desa/policy/cdp/lcd/lcd_list.pdf.

have a long history of receiving aids in different forms, and a majority of them rely heavily on aid.

In civil war studies, explanations on causes for violence are primarily dominated by two schools. One school, famously known as the “grievance” school (e.g. Reynal-Querol 2002; Cederman, Lars-Erik Gleditsch, Weidmann 2011; Lacina 2014; Hegre 2014), emphasizes how social structures and cohesions, political institutions, and social-economic conditions would have an impact on civil war onset. The other school, namely the “greed” school, focuses on rebels’ cost-benefits calculation on choices of whether or not to fight against the government. As Collier and Hoeffler (2004) point out, rebels’ choices are very likely to be based on the availability of finance and lucrative loots they might obtain after fighting, while the rebels might be also constrained by the costs of getting involved in war. Notable among all kinds of costs is a state’s capacity to repress the rebels and military powers are important factors. Inclined towards the “greed” camp, Fearon and Laitin (2003) suggest that a country’s poor economic performance, weak bureaucracy and some other natural factors can stimulate civil war’s occurrence, although they merely discuss one type of civil war, insurgency (Kalyvas and Balcells 2010). Miguel, Satyanath and Sergenti (2004) add to the viewpoint that economic instability could enhance the likelihood for civil war.

Following these different approaches to tackling civil war, aid’s role in the conflict mechanism can be stretched in different directions. Perceived from the

grievance side, aid may promote economic growth and therefore, relieve the inequalities among people and groups (e.g. Grossman 1992; Böhnke and Zürcher 2013), or the recipient government's unfair aid allocation may intensify the inequalities across regions and ethnic groups (Dreher, Fuchs, Hodler, Parks, Raschky and Tierney 2016), and add to people's motivations for rebellion. Regarding the "greed" side, aid may strengthen a state's repressive capacity and military powers, and therefore prevent potential rebels from taking actions, or the rebels would destroy the aid plan deliberately and resort to more violence for fear of aid's positive implications (e.g. Sexton 2016; Crost, Felter and Johnston 2014). Or, aid may stimulate the rebels' appetites to capture the aid and invoke more violence (e.g. Nunn and Qian 2014). Parallel with conflict studies' perspectives, political economists also find aid's place in strengthen economics' resilience. In Collier and Goderis's paper "Does Aid Mitigate External Shocks" (2008), they assert that at certain levels, aid can mitigate negative economic shocks, strengthen the state's stability, and appease conflicts.

With China's rocketing influence in Africa and China's generous official development assistance flowing into this continent, concerns about Chinese aid's roles in Africa's conflicts are important for theorists and policy makers. On one hand, previous macro-level studies on conflict-aid relationships suffer from bias because of the exclusion of Chinese aid in their research. On the other hand, how to cooperate or compete with this incoming donor in Africa so as to attain the traditional donors' aid

targets has become an important reality. Triggered by China's victory over the World Bank on Nigeria's railway, Foreign Policy magazine's editor-in-chief Naiim first proposed in 2007 the concept of "rogue aid" to describe China's near non-conditional aid to the recipient countries whose governments are usually corrupt. Since then, scholarly works have tackled Chinese aid's motives, allocation, implications and outcome. Strange et al. (2015) assert that Chinese aid flows can mitigate the instability caused by traditional donors' sudden aid withdrawal in a recipient country. Contrary to Strange et al.'s (2015) finding, Kishi and Raleigh (2015) argue that Chinese aid would cause a higher possibility for conflicts.

Although both studies shed light on new methodologies like collecting Chinese aid data or recording conflicts at geospatial level, causation identification and mechanism exploration for aid-conflicts relationship are insufficient in their research designs. Of greater concern is that both research designs are exposed to the risks of bias as a result of aid's endogeneity issues. For example, the employment of lagged aid variable in Strange et al.'s (2015) research is insufficient to evade the statistical bias.

Sharing a similar research interest on conflict-aid relationship with an emphasis on China, I aim to connect African Conflict-Chinese aid nexus closer to the conflict theory and identify causation by dealing with the endogeneity problem.

As Collier and Hoeffler (2007) articulate, aid may stimulate the recipient country to strengthen their military power so as to compete with the neighboring country, but

aid has no deterrence effects on domestic rebels. This finding indicates that, although aid might be unable to deter the rebels, aid is able to empower the government to resort to military actions more effectively against the rebels. My study assumes that aid recipients in Africa would benefit from Chinese aid's non-conditionality and take advantage of the aid to build the government's army, while the rebels would not be deterred by the government's increased military power.

In the meantime, Chinese aid is very likely to intensify grievance in the recipient country. Suggested by Dreher et al. (2016), African countries which receive Chinese aid allocate their aid resources more heavily in the incumbent political leaders' hometown. That is to say, owing to the lack of supervisions of aid use by China, African recipients would use aid to merely favor a certain group of people. Also, Brant (2012) provides us a key insight into Chinese aid's positive effects on "enhance[ing] the authoritarian tendency of recipients".

As Chinese aid allows more autonomy for the recipient country's government to use the aid resources, we would expect moral hazard's occurrence from the aid recipients—the recipient government's aid usage would depart from China's original intention for promoting benefits for the aid recipients. The unfair aid distribution would enhance people's grievance, but not prevent people from rebellion. The government, benefited from the aid, has a stronger will and commands higher capacity to take military actions against the dissidents, potential rebels and rebels. Thus, Chinese aid

should have a higher possibility to invoke conflicts. In this study, my core hypothesis is that Chinese aid may increase the likelihood for civil conflicts in a recipient country in Africa.

My core hypothesis can be constructed into two testable ones:

Hypothesis 1: *when more Chinese official aid money flows into an African country, we expect more conflicts in that country.*

Hypothesis 2: *when more Chinese official aid projects are established in an African country, we expect more conflicts in that country.*

I intend to contribute to scholarship in the following three aspects. First, I extend the definition of “conflicts” in this study, so as to include a variety of types of domestic political violence. I construct my conflict data through the Armed Conflict Location and Event Data Project (ACLED) dataset, which records different forms of civil conflict and domestic violence events in great details. The existing literature on civil conflicts usually uses the UCDP/ PRIO Armed Conflict Dataset (Gleditsch et al. 2002), which records the civil war onset for a country in a year, and codes the armed conflict in a binary form by setting 25 battle deaths as a threshold. The UCDP/ PRIO Dataset’ s coding method, however, is very likely to cause bias to the aid-conflict studies. It would filter out a significant number of domestic political violence events, whose potential connections with aid require examination. More importantly, the extension of conflicts to a variety of types of domestic political violence would be more effective to serve my investigation

into the Chinese aid- conflict nexus and provide a comprehensive picture of the aid- conflict mechanisms. Second, I tackle aid's endogeneity problem by using Confucius Institute's development level in Africa as an instrumental variable for Chinese aid in the regression analysis. I will illustrate the use of this instrumental variable in greater detail later. Third, I cover the time range from 2004 to 2013, improving upon previous relevant studies (e.g. Strange et al. 2015) which seldom extend their research scope to the years after 2005. This extension is important because it includes the time period when China's influence in Africa has been increasingly strengthened.

The remainder of this article is organized as follows: In the second section, I present a literature review. In the third section, I illustrate my research design and empirical strategies. In the fourth section, I present my empirical results. Finally, I share some discussions for my studies and conclude this article.

2. Literature Review

2.1 Aid' s Controversial Effects on Conflicts

Scholars have been dedicated to accounting for the mechanism of aid performance and its connection with conflicts. However, their findings, most of which can be classified into two categories, are inconsistent. Some scholars (i.e. Collier and Goderis 2008; Collier and Hoeffler 2002; De Ree and Nillesen 2009; Savun and Tirone 2011; Savun and Tirone 2012; Berman and Felter 2011; Böhnke and Zürcher 2013; Fearon, Humphreys and Weinstein 2009) acknowledge aid's positive impacts on reducing instability. In Collier and Goderis's paper "Does Aid Mitigate External Shocks" (2008), they argue that at certain levels, aid is able to mitigate the negative economic shocks, and therefore helps strengthen the state's stability. Concurring with such thoughts, De Ree and Nillesen (2009) conduct a cross-national study on the relationship between civil conflict and aid flows in sub-Saharan African countries, and find that aid flows can reduce civil conflict duration.

In contrast, other research (Collier and Hoeffler 2007; Esman and Herring 2003; Grossman 1992; Nunn and Qian 2014; Crost, Felter and Johnston 2014; Weintraub 2016; Nielsen, Findley, Davis, Candland and Nielson 2011) casts doubts on those positive implications of aid. Interestingly, Collier and Hoeffler, the authors who propose aid's positive role in mitigate conflicts in "Does Aid Mitigate External Shocks" (2008), suggest in another nearly contemporary article (2007) that "potentially, aid is encouraging a

'regional public bad"', as aid would stimulate the recipient country to spend more on military. Focusing on the impact of aid money's fluctuation on a recipient country, Nielsen et al. (2011) point out that the sudden decrease of aid would increase a recipient country's civil conflicts. In addition to those cross-national generalized studies, some scholarly works dig into how some specific kinds of aid would stimulate conflicts, or extend their research scope to sub-national level. For example, Num and Qian (2014) investigate the U.S. food aid's negative implications on the recipient countries' conflicts, and Crost et al. (2014) estimate the conflicts aroused by aid projects in different areas in Philippines.

As for the specific studies on Chinese aid-conflict relationships, most of the empirical results and implications are inconsistent, even among the same authors' research. Dreher and Fuchs (2015) argue that Chinese aid allocation is not driven by political motives or natural resources; yet these same two authors, suggest in another paper (Dreher, Fuchs, Hodler, Parks, Raschky, and Tierney 2016), in which co-author with the other four authors, , that Chinese aid allocation is highly correlated with the hometown of the recipient countries' political leaders. Further, in contrast with Dreher and Fuchs (2015)'s conclusion regarding Chinese aid and China's needs for resources, Brant (2012) proposes that Chinese aid heavily favors countries with energy resource advantages. As for the relationship between Chinese aid and conflicts, although only a few studies have touched on the topic, consensus has not been reached, either. Kishi

and Raleigh (2015) argue that Chinese aid would cause a higher possibility for conflicts, while Strange et al. (2015)'s contemporary work suggests that Chinese aid would alleviate the potential conflicts caused by traditional aid's sudden drop.

2.2 Causation Identification

As shown above, empirical results on aid-conflicts nexus are inconsistent, and aid's impacts on conflicts are unsettled. This frustration on aid-conflicts nexus is very likely to be caused by aid's endogeneity problem. To determine that whether aid is logically prior to conflicts is difficult. Of great concern is that if it is the case that aid is sent in response to the conflicts, we would observe a positive correlation between aid and conflicts, but the direction for the causation would be from conflicts to aid. Likewise, the causation direction for conflict-aid could be more complex if aid and conflicts simultaneously influence each other; that is to say, conflicts might induce more aid, and more aid simultaneously induce more conflicts.

Scholars have been working on this problem as early as when academia began to take interest in aid's relationship with economic growth (e.g. Papanek 1972; Burnside and Dollar 1997; Tavares 2003; Dalgaard, Hansen, Tarp 2004). But that research provides few insights for conflicts studies on aid. Using "lagged aid" as an instrumental variable to model aid's impacts on the variable of interests still exposes the research to the risks of statistical bias, as aid in a given year could be correlated with each other in the time series.

As for conflict studies on aid, Crost, Felter and Johnston (2014) present a good example using regression continuity to identify causation. Nunn and Qian (2014)'s inclusion of "the interaction of last year's US wheat production and the frequency that a country receives any US food aid" as an instrumental variable to model U.S. food aid's effects on conflicts in recipient countries is effective to solve this problem.

However, few studies on Chinese aid-African conflicts take serious of endogeneity problem. Strange et al. (2015) merely include "lagged Chinese aid" in their research, and Kishi and Raleigh (2015) barely discuss the issue. This neglect is very likely to make estimation for Chinese aid's effect on conflicts bias.

In the meantime, data measurement on conflicts could lead the empirical results to different directions as well. Generally, researchers would prefer the UCDP/ PRIO Armed Conflict Dataset to measure conflicts. But to an extent, this measurement is ineffective for us to capture a comprehensive picture of the causal mechanism for aid's influence on domestic conflicts. Setting 25 battle deaths as a threshold would filter out aid's potential implications on the dynamics and tensions among competing powers, and between the government and the people.

In my study on Chinese aid and African conflicts, I intend to conduct cross-national research on country-year level, include an instrumental variable to solve the endogeneity problem, and explore aid's implications on conflicts— a concept requires being understood in a broader sense.

3. Research Design and Empirical Strategies

I collected data from multiple sources, compiled an original dataset, and conducted a series of negative binomial models for my cross-national research on all the African countries from 2004 to 2013 as detailed below.

3.1 Data and Measurements

3.1.1 Definition of Conflict and Dependent Variable

The core research object “conflict” is defined in a relatively broad sense: it covers the domestic political violence ranging from civil war to societal protests. I build my dependent variable, the count of conflict events in a given country in a year, upon the Armed Conflict Location and Event Data Project (ACLED) dataset, which records comprehensive and individual events of domestic conflicts and a variety of political violence¹. I recoded and aggregated the data at country-year level.

3.1.2 Independent Variables

Thanks to the “Tracking Chinese Development Finance” Project conducted by AM Strange, Axel Dreher, Andreas Fuchs, Bradley Parks, and Michael J. Tierney, I am able to create my independent variables *Chinese Official Aid Money*, *Chinese Official Aid Project Number*. China’s development finance has been famous for its opaqueness,

¹ The ACLED dataset records 9 categories of domestic conflicts: “Battle-Government regains territory, Battle-No change of territory, Battle-Non-state actor overtakes territory, Headquarters or base established, Non-violent transfer of territory, Remote violence Riots/Protests, Strategic development Violence against civilians.” (See the Codebook.)

since it does not follow the usual categorization of aid as “Official Development Assistance” (ODA) or “Other Official Flows” (OOF), nor does it report to the Organization for Economic Co-operation and Development (OECD) Creditor Reporting System (CRS). The “Tracking Chinese Development Finance” Project has filled the gap by collecting data from open sources and shaping the data at the project level. I recoded the data from the project level to the country-year level, and obtained the following variables:

a) Chinese Official Aid Money: the amount of Chinese aid money that falls into the OECD’s ODA category.

b) Chinese Official Aid Project Number: the number of Chinese aid projects that falls into the OECD’s ODA category.

3.1.3 Control Variables

My core control variables, *Aid Shock* and *Positive Aid Shock*, are aimed to capture the intensity of aid flow fluctuation from traditional donors to a recipient country in Africa in a year. These two concepts, initially proposed by Nielsen et al. (2011), presume aid flows as a certain form of external shocks, and are used to explain how a sudden decrease in aid revenues or a sudden increase in aid revenue would influence a recipient country’s civil conflict level. According to Nielsen et al. (2011), we would expect a higher likelihood for civil conflicts associated with the sudden drop of development assistance. Slightly different from Nielsen et al. (2011)’s approach, I code

Aid Shock as “1” if the difference of the aid change for a country in a year is 20% lower than the average aid change rate; otherwise, *Aid Shock* is coded as “0”. I code Positive *Aid Shock* as “1” if the difference of the aid change for a country in a year is 20% higher than the average aid change rate; otherwise, Positive *Aid Shock* is coded as “0”.

Taken from the World Bank’s World Development Index, GDP and population are also controlled for each recipient country per year. Many studies have suggested GDP’s potential impact on civil conflicts, namely Fearon and Laitin (2003) as well as Collier and Hoeffler (2004), though some prefer to use gross domestic product, others gross domestic product per capital. My inclusion of GDP and population reflects these considerations.

Meanwhile, given that different political regimes might have different implications on civil conflicts, I include Political Regime and Human Rights in my analysis. Political Regime is measured by the Polity IV Project’s Polity2 Score, which ranges from -10 to 10 to annotate the political spectrum from the most autocratic regime to the most democratic regime. As for human rights, I use data from the Freedom House’s “Freedom in the World” project. Human Rights is a continuous variable Ranging from 0 to 100 and measuring a country’s performance in political rights and civil liberties. 0 suggests the minimum freedom and rights a country’s people can obtain, and 100 indicates the maximum.

Additionally, oil prices in the global market in a year are included in the analysis, as the oil price fluctuation might potentially invoke conflicts in the countries whose economic environment has limited resilience to external shocks, or oil is perceived as loot for rebels (Ross, 2004). The oil price data used here is taken from Ross and Mahdavi's "Oil and Gas data". According to the authors, "Values are in nominal dollars per million British Thermal Units of natural gas priced at the Henry Hub in Louisiana." ²

As one of the most heated factors discussed in the civil war literature, Ethnicity Fraction is necessary for my analysis. I use a variable from the ETH Zurich's "Power Access Data" describing the proportion of the population for an ethnicity group in power to the whole country's population. It is a fraction ranging from 0 to 1.

Further, considering the possibility that conflicts might diffuse from one country to another, I control for bad neighborhoods which indicate the number of a country's neighboring countries which have been through civil conflicts during a given year. This count variable was built upon two sources: Direct Contiguity Data from "Correlates of War Project" and the ACLED dataset. Specifically, I first code African countries' neighboring countries from Direct Contiguity Data, then match them with the civil conflicts they have been through in a given year, and finally calculate how many neighboring countries have civil conflicts in a year.

² See the codebook.

3.1.4 Instrumental Variable

I include the Confucius Institute's development level, which is measured by the number of Confucius Institute and Confucius Classroom in a country in a year, as my instrumental variable. I collected the information and coded the data from the Confucius Institute's official website³.

Similar to the Goethe-Institut, the Confucius Institute is a non-profit organization aimed at Chinese culture and language advocacy. The establishment of a Confucius Institute should first be initiated by bilateral individuals or universities, and then approved by Confucius Institute Headquarter (Hanban), which is affiliated with the Chinese Ministry of Education. Confucius Institute Headquarter (Hanban) usually provides a max of 50,000 US dollars for a branch per year, and the local branch, co-operated by Chinese personnel and the local personnel, should take major responsibility for their management and financial conditions.⁴

As mentioned previously in this study, the identification of a causal relationship between aid and conflicts suffers from the case of endogeneity, namely, a possibility can seldom be eliminated that aid is logically posterior to conflicts—donors might increase aid flows to a country where the people suffer heavily from the ongoing conflicts, or where aid demands are strong in the post-conflict era. If this is the case, we would

³ See http://english.hanban.org/node_10971.htm.

⁴ See <http://english.hanban.org/index.html>.

expect to see a positive correlation between conflicts and aid, but the direction for causation is from conflict to aid, rather than from aid to conflict. To solve this problem, an instrumental variable approach can be employed. Should an instrumental variable be correlated with the endogenous variable and causally prior to the endogenous variable, but have no connections with the ultimate dependent variable.

My proposal of using the existing number of Confucius Institute in a given country in a year as an instrument satisfies these requirements. First, Confucius Institute would influence China's development aid choice. Aimed at building bridges between Chinese civilization and local cultures, Confucius Institutes have been smoothing cross-culture communications, reducing local's misunderstanding about China, and creating warm feelings between Chinese and African people. Not only do those good signs brought by Confucius Institutes reduce the transaction costs Chinese aid would carry in a continent remote from China, but they promote Chinese policy communities to allocate more aid to those countries which have a bond with Confucius Institutes. See Table 2 in Appendix A for the empirical support for Confucius Institutes' relationship with Chinese aid.

Second, I do not expect that Confucius Institute's establishment, maintenance and development in a given country would be correlated with a country's civil conflicts. Hosted and operated by local personnel and Chinese teachers' mutual efforts, Confucius Institutes are not Chinese government's tool to manipulate the local people, nor do these

language learning organizations have the ability to do so. In a nutshell, Confucius Institute's development at the country-year level is exogenous to the model of Chinese aid's effects on the expected count of civil conflicts.

3.2 Model Specifications

Given that this paper's dependent variable is a count variable indicating the number of conflict events at the country-year level, a series of negative binomial models have been established to test the hypotheses. Notably is that the data have a tendency for over-dispersion; thus, Poisson models are unable to fit the data. See Appendix B for the Poisson regression results and over-dispersion test results.

4. Empirical Results

Two sets of models were built to test the three hypotheses. The regression results are shown in Table 1. For the first set of the model which estimates the relationship between conflicts and Chinese official aid money, a first-stage linear regression is estimated to present the relationship between Chinese aid money and the number of existing Confucius Institute in a country (see Table 1 in Appendix A), and then, the predicted values of Chinese aid money which are built upon the first-stage linear regression, are inserted into the second-stage negative binomial regression. We can see that Chinese aid money is statistically significant at 99% confidence intervals. When there is 1 unit increase in Chinese aid money in the recipient country, we would expect that the number of conflict events in that country increases by 2. In contrast, when aid flows from the traditional donors, the sudden drop of traditional aid, and the increase of traditional aid are statistically insignificant.

For the second set of model which estimates the relationship between conflicts and Chinese official aid projects, a first-stage linear regression is estimated to present the relationship between Chinese aid project numbers and the number of existing Confucius Institute in a country (see Table 1 in Appendix A), and then, the predicted values of Chinese aid project number which are built upon the first-stage linear regression, are included in the second-stage negative binomial regression. We would expect that the number of Chinese official aid projects is statistically significant at 99% confidence

intervals. When there is 1 unit increase in the number of Chinese official aid project, we would expect that the number of conflict events increases by 1. Similar to the first set of models, aid flows from the traditional donors, the sudden drop of traditional aid, and the increase of traditional aid are statistically insignificant.

The third model tries to estimate the relationship between conflicts and Chinese aid proportion in a recipient country's GDP. Given that no solid reasons can support the idea that conflicts in a country would stimulate Chinese aid proportion in a recipient country's GDP, I do not need to consider endogeneity problem here. As a result, an instrumental variable approach is not included here. As for the results, especially noteworthy is that Chinese aid's proportion in a recipient country's GDP is statistically insignificant, while aid flows from the traditional donors are statistically significant at 90% confident intervals. Additionally, the sudden drop of traditional aid, and the increase of traditional aid are statistically insignificant.

Table 1: Chinese Aid and African Civil Conflicts

	<i>Dependent variable:</i>	
	Number of Civil Conflicts	
	Model 1	Model 2
	(1)	(2)
Chinese Official Aid Money	0.809*** (0.181)	
Chinese Official Project Number		0.070*** (0.023)
Traditional Aid Money	0.056 (0.668)	0.800 (0.677)

Aid Shock	0.261 (0.362)	0.162 (0.365)
Positive Aid Shock	0.365 (0.364)	0.263 (0.366)
Logged Oil Price	0.855*** (0.288)	1.138*** (0.281)
Political Regime	0.050*** (0.018)	0.049*** (0.018)
Human Rights	-0.840*** (0.156)	-0.836*** (0.157)
Bad Neighborhood	0.242*** (0.036)	0.243*** (0.036)
Ethnicity Proportion	0.728** (0.293)	0.544* (0.295)
Population	1.559*** (0.399)	1.282*** (0.403)
GDP	1.229 (1.193)	3.734*** (1.204)
Constant	1.604 (1.390)	0.645 (1.383)
Observations	372	372
Log Likelihood	-2,024.012	-2,028.138
theta	0.769*** (0.050)	0.756*** (0.049)
Akaike Inf. Crit.	4,072.023	4,080.276
<i>Note:</i>	* p<0.1; ** p<0.05; *** p<0.01	

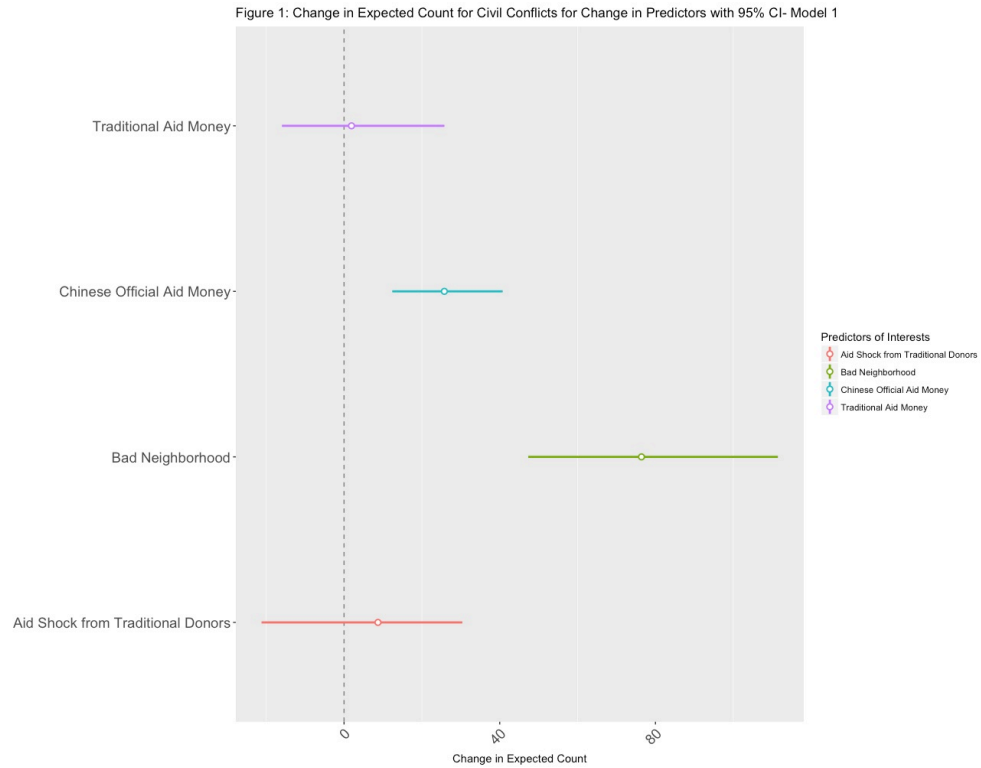


Figure 1: Change in Expected Count for Civil Conflicts for Change in Predictors with 95% CI – Model 1

Figure 1 shows the change of the expected count of civil conflicts with 95% confidence intervals for the changes in some key predictors in model 1, while holding other variables at their median values. The results are obtained through 1000 random draws from posterior distribution of model 1's coefficients. As we can see from Figure 1, when the key predictor, Chinese Official Aid Money, changes from its 5th quantile to its 95th quantile, its effects on a given country's civil conflicts in a given year is statistically

significant, while holding other variables at their median values. In contrast, aid shock from the traditional donors have no effects on a given country’s civil conflicts in a given year.

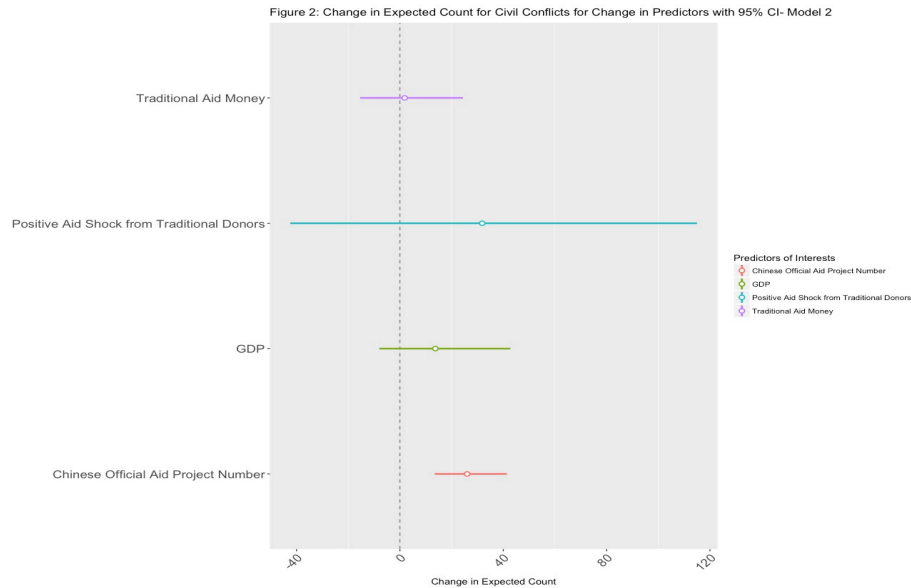


Figure 2: Change in Expected Count for Civil Conflicts for Change in Predictors with 95% CI – Model 2

Likewise, Figure 2 shows the change in the expected count of civil conflicts with 95% confidence intervals for the changes in some key predictors in model 2, while holding other variables at their median values. The results are also obtained through a simulation-based approach for posterior estimation. As we can see from Figure 2, when the key predictor, Chinese Official Aid Project Number, changes from its 5th quantile to its 95th quantile, its effects on a given country’s civil conflicts in a given year is statistically significant, while holding other variables at their median values.

5. Discussion and Conclusion

This study investigates the relationship between conflicts and Chinese aid in Africa, specifically, how Chinese official aid flows would influence the number of civil conflicts in Africa. I provide an extensive definition for civil conflicts, namely, civil conflicts are not only about the direct confrontation between the government and the rebels on the battlefield, but also social protests against the government as well as any other tensions between the people and the government. Based upon such understanding and definition on civil conflicts, I use ACLED's dataset and recode the data at the country-year level.

To address aid's endogeneity problem, as the doubt cannot be eliminated that aid allocation could come after violence, I use the number of Confucius Institute in a country as my instrumental variable. Aimed at building bridges across Chinese culture and local civilization, Confucius Institutes have been smoothing cross-culture communications, reducing local's misunderstanding towards China, and creating warm feelings between Chinese people and African people. Those good signs brought by Confucius Institutes are very likely to promote Chinese policy communities to consider more aid allocation to those countries which have a bond with Confucius Institutes. This argument is supported by my empirical tests on the relationship between Chinese aid money and the number of existing Confucius Institutes at the country-year level, and

on the relationship between Chinese official aid projects and the number of existing Confucius Institutes at the country-year level.

Further, given that my dependent variable, the occurrence of civil conflicts at the country-year level, is a count variable with over-dispersion issues, I build negative binomial models to estimate results. As shown from the models, Chinese official aid money and Chinese official project number have explanatory powers in the occurrence of the recipient countries' civil conflicts.

By conducting cross-national regression analyses at country-year level, my study is unable to answer Chinese aid's micro-mechanisms on conflicts. The micro-level studies would benefit us to gain deeper understanding of the local stories, which might ultimately contribute to classical theories on the causes for conflicts. So far, more data have been released at the sub-national level— some are even coded in specific geographical details. Future studies should consider taking advantage of the new data so as to dig deeper in this area.

Appendix A

Table 2: First-Stage Regression Results for Model 1 and Model 2

	<i>Dependent variable:</i>	
	Chinese Official Aid Money (1)	Chinese Official Aid Project Number (2)
Confucius Institute Number	0.545*** (0.111)	0.788*** (0.159)
Constant	0.360*** (0.076)	2.249*** (0.109)
Observations	623	623
R ²	0.037	0.038
Adjusted R ²	0.036	0.036
Residual Std. Error (df = 621)	1.757	2.521
F Statistic (df = 1; 621)	24.181***	24.559***
<i>Note:</i>	* p<0.1; ** p<0.05; *** p<0.01	

Appendix B

Table 3: Poisson Regressions

	<i>Dependent variable:</i>	
	Number of Civil Conflicts	
	Model 4	Model 5
Chinese Official Aid Money	0.502*** (0.008)	
Chinese Official Project Number		0.037*** (0.001)
Traditional Aid Money	0.004 (0.030)	0.011 (0.028)
Aid Shock	0.474*** (0.016)	0.671*** (0.016)
Positive Aid Shock	0.075*** (0.001)	0.078*** (0.001)
Logged Oil Price	-0.654*** (0.010)	-0.650*** (0.010)
Political Regime	0.157*** (0.003)	0.181*** (0.003)
Human Rights	0.967*** (0.019)	0.778*** (0.020)
Bad Neighborhood	1.187*** (0.016)	1.119*** (0.016)

Ethnicity Proportion	1.433 ^{***} (0.053)	2.861 ^{***} (0.055)
Population	3.505 ^{***} (0.082)	2.722 ^{***} (0.081)
Observations	415	415
Log Likelihood	-32,453.720	-33,772.680
Akaike Inf. Crit.	64,927.430	67,565.370
<i>Note:</i>	* p<0.1; ** p<0.05; *** p<0.01	

For Model 4, the over-dispersion test through R packages shows that $\alpha=248.8442$. For Model 5, the over-dispersion test through R packages shows that $\alpha=269.6936$. Therefore, the data have a tendency for over-dispersion, and they do not fit Poisson regressions.

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