

Original Paper

The Social Effects of Chinese Foreign Aid

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Abstract

Nowadays, there is widespread skepticism, misunderstanding, and misinterpretation regarding China's foreign aid to developing countries, and very few studies have been devoted even to the question of whether China's aid causes the occurrence of civil conflicts in recipient countries. Existing knowledge, mechanisms, practices, and even values and goals of China's foreign aid remain incomplete. This paper therefore examines the effects of Chinese foreign aid (broken down into project aid and development loans) on the incidence of civil conflict in Africa between 2000 and 2014. Analyzing the extent to which disaggregated Chinese foreign aid affects the incidence of civil conflict in Africa from 2000 to 2014 using annual country-specific data from AidData, the Uppsala Conflict Data Program, World Bank National Account Data, Atlas Narodov Mira, and Ethnic Power Relations Dataset by conducting probit regression analysis, we found that the categories of development loan aid have explanatory power in reducing the incidence of civil conflict in a recipient country. This study concludes that Chinese foreign aid, especially Development loan aid that flowed to African countries during the study period, has explanatory power for reducing civil conflict. This study therefore seeks to contribute to scholars and policymakers by identifying the effectiveness of specific aid components that serve as key tools for donor countries to manage aid flows.

Keywords

Chinese Foreign aid, Development loan aid, Project aid, African countries, civil conflict

1. Introduction

Different Economic theories have identified low capital formation as the basic problem constraining the development of most developing countries, especially Africa, and hence aid is adjudged to play a vital role in capital formation. The general objectives of foreign aid have been to eradicate extreme world

poverty, increase saving and investment, and enhance living standards especially in developing countries (Michael, Omoruyi, & Zhibin, 2016).

African Countries have received more foreign Aid from China than other international donors. China's foreign aid system had its origins at the Asian-African Conference in Bandung, Indonesia, in April 1955 with the entry of Chinese Premier Zhou Enlai on the global stage (Ministry of Foreign Affairs, 2014). Chinese aid to developing countries especially in Africa has continued to increase, at February 2017 Forum on China-Africa Cooperation (FOCAC) while hosting more than 40 of the continent's leaders in Beijing, China's President Xi Jinping pledged to offer 60 billion US dollars in development finance assistance to African countries, saying that the money came with no expectation of anything in return (Lina Benabdallah & Robertson, 2018).

There are different scholar's works have tackled Chinese aid's motives, allocation, implications, and outcome. From them one of the most reviewed scholars, Strange (2015) asserts that Chinese aid flows can mitigate the instability caused by traditional donors' sudden aid withdrawal in a recipient country. Also, Brant (2014) provides us a key insight into Chinese foreign aid positive effects on "enhancing the authoritarian tendency of recipients". Since Chinese assistance allows the government of the recipient country to use the aid tools more flexibility, it would be expected that the governments of the recipients of aid will be involved in a risky event realizing that it is shielded from the danger and the other party would bear the costs. It departs from the original intention of China to foster benefits for the beneficiaries of the assistance. Unfair use of assistance will instigate resentment on the part of people. Those who benefited from the assistance, the government have a greater capacity to take military action against protesters, possible terrorists, and insurgents (Brant, 2014). Another research by Dreher (2015) indicated that African countries receiving Chinese assistance distribute their support resources more strongly in the hometown of the incumbent political leaders. In other words, due to the lack of follow-up of the assistance used by China, most African beneficiaries used aid merely to support a certain group of people (Dreher, 2016). To strengthen these ideas Cheng (2017) documented on his work by focusing on Chinese foreign aid and African conflict nexus from 2004 to 2013, that Chinese official aid money and Chinese official aid project have high explanatory power in causing civil conflicts to the recipient countries. He added that China's concessional loans are all tied, which is perceived to undermine aid effectiveness in recipient countries.

Civil conflict is the most prevalent form of armed conflict, during the period between 1945 and 2014 an estimated 10 million battle-related deaths occurred in 195 civil conflicts in 105 states (Said, 2017). Further, civil conflicts from 1945 to 2014 displaced an estimated 54 million people, nearly 75 percent of who took refuge in neighboring countries (UNHCR, 2016). On average, countries affected by civil conflict face a 50 percent chance of reverting to violence within the first five years of conflict termination (Carter, 2010). In contrast, conventional wars between countries, commonly known as interstate wars, were far less common. During the period between 1945 and 2014, 47 interstate wars occurred involving 70 countries and resulted in an estimated 4 million battle-related deaths (Gleditsch et al., 2016). The

number of countries involved in civil conflict has grown dramatically from 16 countries in 1945 to 89 countries in 2014 (Said, 2017).

Nowadays to answer the question of whether China's foreign aid fosters the incidence of civil conflict in recipient countries only a few studies have attempted to answer it. Even the existing knowledge, mechanism, practices, and even the principles and objectives of China's foreign aid remain hazy. Admittedly, apart from limited information and data releasing by the Chinese government, the difference of language, culture, and history also restrict the researcher's further study about China's foreign aid. In tied to this there is widespread criticism, misunderstanding, and misinterpretation about China's foreign aid, and the existing knowledge on the social effect of China's foreign aid was insufficient on recipient countries and still controversial within academic, public and policymaking rounds. At the same times different anecdotes and doubt on Chinese aid have been shooting up. Because of the few condition requirement to get the Chinese foreign aid, along with the Chinese aid doesn't follow the organization for economic cooperation and development creditor system to operate aid plan, moreover, it doesn't require monitoring of the financial flow this helps to create a prevalent belief that Chinese foreign aid can arouse conflict in the recipient countries (Cheng, 2017). As a result, the aid recipient countries' government has no restriction on the financial aid and can use it in their interest without any difficulties, and this will lead to asking a question about the relationship between Chinese foreign aid and civil conflict in the aid recipient countries. Therefore exploring the effects of Chinese foreign aid on the incidence of civil conflict in recipient countries is meaningful through answering a series of questions centering on this issue. What is the effect of Chinese foreign aid on the incidence of civil conflict in African countries from 2000 to 2014?

2. Literature Review: Chinese Foreign Aid and Civil Conflict Debate

2.1 Foreign Aid and Civil Conflict

Different sources defined civil conflict that the conflict takes place between the government and organized rebel groups, but they differ mainly with respect to the death thresholds applied to define a civil conflict (Bleaney & Dimico, 2009; Collier, Hoeffler, & Rohner, 2009). Use the strictest death threshold, based on data for the Correlates of War (COW) project. Civil conflict is only recorded when the battle-related deaths exceed 1,000 per year. The Political Instability Task Force (PITF) and the UCDP/PRIO do not use any strict battle-related death-threshold. To code a conflict the PITF requires a mobilization threshold (at least 1,000 people), and the condition that in at least one year the conflict-related death toll exceeds 100 fatalities. The PITF codes 134 onsets throughout the period 1948-2004, which includes data on the intensity, geographic extent, which a number of citizens mobilized for each war. The cumulative number of episodes from the year of the war is 1007. The UCDP/PRIO only allow deaths related to the war to reach 25 per annum. It codes the largest number of 1945-2004 war-year episodes (1170) and onsets (249) (Collier, Hoeffler, & Rohnert, 2009). This paper follow the

interpretation of UCDP/PRIO based on the above definitions since the description and data used in this work have been obtained from the same sources.

To explain the effects of foreign aid on the incidence of civil conflict, several pieces of research basing the utility and unintended consequence of foreign aid have employed several mechanisms. Collier and Hoeffler (2002) documented that different rent capture studies suggested that foreign aid from traditional donors to Africa affects the incidence or the duration of civil war especially through the attraction of the state to the rebel groups. Findley (2018) foreign aid function as state rent and fungible aid can be reallocated based on the needs of the regime and used to support the regime. The accumulation of this foreign aid benefits the selected area and communities and can be used to support the network of the patronage of the regime (Kishi & Raleigh, 2015).

There is a hot debate question whether countries that received foreign aid experience an increased occurrence of civil conflict, this is due to the allocation and distributive effects of foreign aid and the competition to 'capture' such form of provision (Kishi & Raleigh, 2015). The two camps have developed to address the specific effects of aid on conflicts. The first scholars argue that foreign aid increases the spoils to be won from the rebellion (Azam, 1995). Although the government may use aid to discourage the rebellion, discouraging is not always successful, and the rebels may decide to go to war to win and control of the aid rather than settle for what the government offers. The other scholars argue that foreign aid decreases the likelihood of civil conflict indirectly. Collier and Hoeffler (2002) discovered that aid can potentially prevent a civil war by disallowing economic growth, by reducing government reliance on primary commodity export it's a potential source of the rebel funding, and by improving the government military capacity, most of the time this one is used through aid.

Nowadays there are some studies that examined the relationship between the incidence of civil conflict and foreign aid especially focusing on the overall amount of aid flown to the recipient countries, on the other way there are also few pieces of literature which examined the relationship between the incidence of civil conflict and different categories of aid flows. However the finding evidenced that the results are mixed, most of the findings stated that civil conflict is highly sensitive to the existing economic condition, when the economic condition improves the incidence of civil conflict decrease whereas while the economic condition is in a shock the incidence of civil conflict is increased (Wang, 2014).

Scholars have been dedicated to accounting for the mechanism of aid performance and its connection with civil conflicts. However, their findings can be classified into two categories, the positive and the adverse relationship. When we look at the positive side some scholars Such as: (Jan Rasmus Bonke & Zurkher, 2013; Savun & Tirone 2011; De Ree & Nillesen 2008; Collier & Hoeffler, 2002) acknowledged aid's positive impacts on civil conflict. Nunn and Qian (2014) use country-year panel data for 125 countries from 1971 through 2006, to estimate the effect of US food aid on civil conflict incidence and duration. They found that increases in food aid increase the incidence and duration of civil conflict. Eli Berman and Felter's (2011) study within-country analysis in Iraq by using district-year panel data on violence against Coalition and Iraqi forces, aid spending, and a set of community characteristics controls

to estimate the effect of aid spending on levels of violence across Iraqi districts. They found that foreign aid flows targeted at small-scale development projects lead to fewer insurgent attacks.

In contrast to the positive relationship, other researchers (Weintraub, 2016; Felter & Johnson, 2014; Nunn & Qian 2014; Nielsen & Ree 2011; Collier & Hoeffler, 2007; Milton J. Esman & Knight, 2003 casts doubts on those positive implications of aid. Interestingly, Collier and Hoeffler, the authors who propose aid's positive role in mitigating conflicts in "Does Aid Mitigate External Shocks" (2008), suggest in another nearly contemporary article (2007) that Aid could theoretically promote a 'regional poor press' as assistance would require recipient nations to spend money in the military. Nielsen and Ree (2011) discovered in their study using a sample of sub-Saharan countries by improving the Collier and Hoeffler's work and they found a negative relationship between aid and civil conflict.

Paul Collier and Soderbom (2008), in their paper "Does Aid Mitigate External Shocks" they argue that at certain levels, aid can mitigate the negative economic shocks, and therefore helps strengthen the state's stability. Concurring with such thoughts, Ree and Nillesen (2011) conduct a cross-national study on the relationship between civil conflict and aid flows in sub-Saharan African countries, and found that aid flows can reduce civil conflict duration. Generally basing these findings there is no clear cut result that was found whether foreign aid causes for the incidence of civil conflict.

2.2 Chinese Foreign Aid and Civil Conflict

Chinese foreign aid to African countries rising to its major figure of 15 billion USD in 2018, while doing this president Xi Jinping has stressed out the condition-free nature of the assistance and how Beijing was not looking for selfish political gain in investment and financing cooperation like others does (Dahir, 2019). Basing this Chinese foreign aid differs from traditional foreign aid along these lines the country can determine how foreign aid is spent as China specifically declares a non-interference policy, and Chinese foreign aid program is designed to support the country distinctively, for instance, the Chinese direct aid to Zimbabwe earlier to the 2013 election (Kishi & Raleigh, 2017). As Dahir (2019) documented aid from China to Africa has proven to be political, at least on the local level it defined narrowly and captured by the state clientele. The finding stated that the 1650 development projects performed between 2000 and 2012 were based on 117 African leaders' birthplaces in 49 nations including Kenya, Ghana, Egypt, Ethiopia, South Africa, and Nigeria. Dahir added that the total number of projects covered was estimated at \$83.3 billion, therefore this indicates that the African presidents' birth regions received almost triple the number of assistance inflows from Beijing in the years when those leaders were in power compared to other times. In an attempt to "improve their chances of staying in power" these incumbents even provided substantial assistance to their backyards in the year before competitive elections. Leaders also distribute a large number of aids not just in their home districts but also in their home provinces to maximize voter turnout in stronghold areas, so this miss-allocation of aid resources encourages the residence of the undeveloped areas to raise their right and may lead to a conflict in the country.

Therefore Chinese foreign aid deviation from the traditional foreign aid procedures and conditions we argue that the instrument previously referred to in the literature are not able to accurately identify the

way mediating the relationship between Chinese foreign aid and civil conflict dynamics. What we are proposing is that an accountability mechanism to play here: The Chinese foreign aid is unrestricted and the government does not need to account for its use rather use it towards programs and crucial to the interest of the Chinese government. The foreign aid provided by the traditional donors has a substantial responsibility and conditions basing use, obedience, or non-obedience to the conditions. Even though traditional foreign aid undoubtedly has its challenges and casual consequences, they do not bring to an end from a lack of accountability mechanisms due to aid fungible.

While the Chinese government provides aids to the African countries it is provided widely across both the non-violent and violet countries . These countries' violence may be a function of the Chinese foreign aid given to these countries. Some evidence suggests that Chinese foreign aid goes to the areas with significant resources, in other words to the more repressive area, because these are the countries courting Chinese investors based on a lack of funding from other sources (Naim, 2009). As Collier and Hoeffler (2005) documented most of the recourse dependent countries have a higher rate of political violence cause of inequality, poor governance, economic corruption, and competition for state control.

Because of the existed high level of conjectures basing the distribution practices on foreign aid create an impact on the discussion on civil violence; some classic studies on the relationship of civil conflict and Aid have focused on the demand of state rent to the rebel administration challenger. Regardless of a crucial component of government practice and quality the level of the country violence towards the citizen and different political challenges remains unaddressed (De Waal, 2015).

Chinese foreign aid may disproportionately increase the violence as compared to other official aid when the government can use these monies to material into their military and auxiliary forces to assist in repression against competitors and civilians. The African countries fund for the military is mainly determined by the internal and external challenge as well as neighboring context, most of the challenges to the African leaders are frequently emanated from domestically, and gradually more challengers are political elites within the formal government as opposed to external rebel coalitions (Kishi & Raleigh, 2016). Although only a few studies have touched on the topic, a consensus has not been reached, Strange et al. (2015)'s contemporary work suggests that Chinese aid would alleviate the potential conflicts caused by traditional aid's sudden drop. Still, a few studies on Chinese aid to developing countries especially in Africa conflicts take serious of the Endogeneity problem. Strange et al. (2015) simply include lagged Chinese aid in their research, and Kishi and Raleigh (2015) barely discuss the issue. This neglect is very likely to estimate Chinese aid's effect on conflict bias (Cheng, 2017).

The present study "the effects of Chinese foreign aid on civil conflict in African countries" will contribute to the literature by disaggregating Chinese foreign aid flows into two categories, specifically, development loan aid and project aid categories. Through exploring the relationship between Chinese foreign aid and the incidence of civil conflict, we seek out to broaden our understanding of Chinese foreign aid efficiency. This is a key issue for both scholarly and policy relevance. After all tests and

regression taking place and if the Chinese foreign aid has peace-inducing consequences, the Chinese government has additional incentives to increase the level of foreign assistance.

3. Data and Methodology

3.1 Data Type and Sources

By merging the available datasets and information, new panel dataset was created with 55 countries, covering the allocation/flow of Chinese assistance to African countries recipients for the period 2000-2014. All African countries, excluding Somalia, are included in the dataset. The World Bank has not calculated GDP values for Somalia during the majority of the period analyzed due to the difficult conditions in Somalia, while other missing values in the dataset was supplemented with other figures. Our Key independent variable is Chinese foreign aid; it was formulated by following AidData through different Chinese foreign aid distribution instruments such as a grant, technical assistance, export credit, scholarship, and strategic supplier credit. For this study, by taking Chinese aid flow from this source and by following OECD (2018) aid flow definitions we composed the Chinese foreign aid flow to the recipient countries into two main variables such as project aid and development loan aid.

Project aid is the aggregated amount of Chinese foreign aid that accounts for three major distinct types of aid: grant aid, humanitarian, and export credit aid. Grant aid is assistance committed to projects related to infrastructure, industry, trade, service sector, and agriculture. Humanitarian Aid is the amount of foreign aid committed to projects that provide emergency and disaster relief assistance aid and Export credit aid is assistance committed to projects related to, energy generation and supply, Banking and finance Transport and storage, communication, government, and civil society, forestry, and fishing. Project aid also included financing various programs including health program (vaccine campaign), education program (literacy campaign), civic program (awareness-raising campaign), and included thematic activities such as youth and women empowerment. It is an independent variable for all questions and measured as a percentage.

Development loan aid is comprised of Chinese loans aid that is administered to developing and least developing countries for the exclusive purpose of promoting economic development and social welfare. It accounts for four distinct types of aid: loan, debt rescheduling, debt forgiveness, and strategic supplier credit. Loan aid is assistance committed to projects related to communication, industry, mining, construction, trade, tourism, and other social infrastructures. Debt rescheduling and forgiveness are committed to projects related to transport and storage and action related to debt. Strategic supplier credit is assistance committed to projects related to energy generation and supply industry, mining, and construction, health. These two main independent variables data were mainly obtained from AidData V3.0 (Dreher, Fuchs, Parks, Strange, & Tierney, 2017). Therefore, my key independent variable was represented by the two main types of Chinese foreign aid flows for the year 2000 to 2014, which may not be homogenous. The sums of these two categories are almost equivalent to the total sum of Chinese foreign aid flow to African countries. The AidData is maintained by the College of William & Mary,

Development Gateway, and Brigham Young University (AidData's Geocoded Global Chinese Official Finance, Dataset, 2000-2014 Version 1.3).

In addition to the above sources, the following data sources were used to organize the new dataset: The basic information on organized and armed civil conflict is from the Armed Conflict Location and Event Data Project (ACLED), this information collects on a range of political violence, distinguished by event characteristics, types of the group participating with geo-location information and date (Raleigh, Linke, Hegre, & Karlsen, 2010), UCDP/PRIO Armed Conflict Dataset (version 18.1, 1946-2017), The Interuniversity Consortium for Political and Social Research (ICPSR) at the University of Michigan, These data are available from 1997 to this year but for this, the information from 2000-2014 is incorporated into this analysis. Organization for Economic Co-operation and Development (OECD), Development Assistance Committee (DAC) database, the annual panel of African countries between 2000 to 2014 (AidData's Geocoded Global Chinese Official Finance, Dataset, 2000-2014 Version 1.3), Polity IV Annual Time-Series, 1800-2017 (Polity database), Real GDP per capita (World Bank data, world table PWT9.0), IMF(World Economic Outlook, 2018) and correlates of war database v.40. All African countries were included in the dataset, except Somalia. Due to the difficult conditions or war in these countries getting data is difficult also cannot get meaning to the aid and civil conflict causal relationship.

3.2 Methodology

The following model is designed to examine the effects of Chinese foreign aid (Disaggregated as project aid and development loan aid) on the incidence of civil conflict in African countries from 2000 to 2014. Our basic model is a probit analysis of the incidence of civil conflict, where the dependent variable (Y_{jt}) takes the value of one if a civil conflict occurs in country j in year t , and zero otherwise. If X_{kjt} is a k -vector of explanatory variables, then the following equation is estimated by maximum likelihood:

$$P_r(Y_{jt} = 1) = \Phi(X_{kjt}\beta_k) \text{ --- (i)}$$

Where: $\Phi(\cdot)$ represents the cumulative normal distribution function

$$\text{Incidence } it = \Phi(\beta F_{it} + \alpha_i + \gamma_t + \varepsilon_{it}) \text{ --- (ii)}$$

Then to assess the effects of disaggregated Chinese foreign aid on the incidence of civil conflict in African countries from 2000 to 2014, considering the binary nature of the dependent variables the model took the following form:

$$C_{it} = \beta F_{it} + \alpha_i + \gamma_t + \varepsilon_{it} \text{ --- (iii)}$$

C_{it} is an indicator variable that equals one if there is conflict in the country i and year t

Where: i denote the countries index and t denotes the year's index

F_{it} , The main explanatory variable is the amount of Chinese foreign aid (Disaggregated as project aid and development loan aid) that a country receives

β , is a parameter that is to be estimated in the model

α_i , it is vector of country dummies

γ_t , it is dummy variable for every year

ε_{it} , is the error term

Therefore, to assess the effects of disaggregated Chinese foreign aid on civil conflict in Africa countries to the stated time, the econometric model is written as follow:

$$C_{it} = \Phi(\beta_0 + \beta_1 (Pro_{Aid}/GDP)_{it} + \beta_2 (Loan_{Aid}/GDP)_{it} + \beta_3 (Mili_Ass)_{it} + \beta_4 (Net_ODA)_{it} + \beta_5 (Pop)_{it} + \beta_6 (GDP/Pop)_{it} + \beta_7 (Exp/GDP)_{it} + \beta_8 (Sos_Frac)_{it} + \beta_9 (Eth_Domi)_{it} + \beta_{10} (Geo_Disp)_{it} + \beta_{11} (Lev_Dem)_{it} + \alpha_i + \gamma_t + \varepsilon_{it}) \text{--- (iv)}$$

Where: C_{it} represents the incidence of civil conflict at time t and country i; $(Pro_{Aid}/GDP)_{it}$ is the disaggregated Chinese aid that represents project aid as a share of GDP at time t and country i; $(Loan_{Aid}/GDP)_{it}$ Is disaggregated Chinese aid that represents the development loan aid as a share of GDP at time t and country i, $(Mili_Ass)_{it}$, is the military assistance at time t and country i, $(Net_ODA)_{it}$, is represents Net ODA assistance at time t and country I, $(Pop)_{it}$, is the population size at time t and country I, $(GDP/Pop)_{it}$, is the ratio of GDP to the population at time t and country I, $(Exp/GDP)_{it}$, is the ratio of export to GDP at time t and country, $(Eth_Domi)_{it}$, is the ethic dominance of the country at time t and country i $(Geo_Disp)_{it}$ represents the geographic desperation of the country at time t and country i, $(Sos_Frac)_{it}$ represents the social fractionalization of country i at time t, $(Lev_Dem)_{it}$ represents the level of Democracy at time t and country i. The symbols $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}$ and β_{11} are a parameter that is to be estimated in the model, α_i is a vector of country dummies, γ_t represents dummy variables for each year, and ε_{it} represents the error term in period t and country i. As indicated above the continuous aid variables are reflects a country that received aid annually in a given year and the other two categorical variables indicate whether a country received some amount of military assistance or Net ODA assistance.

We test our sample on the Chinese foreign aid (CFA) to eligible countries for the fifteen years of 2000 to 2014, the inclusion of Chinese foreign aid eligible countries but those are not aid recipient in the particular year it mitigates the concern of selection included by limiting the sample to the actual recipients of aid. Countries that are aid-eligible, but for which no Chinese foreign aid data are recorded in a given year, are coded as receiving no aid in that year. The country-year is analytical unit.

Missing values for all variables are filled with country averages for analysis. In the case when only the final data missing, the missed values are filled in using previous year-values that means by carrying forward. With the exception of some African Countries (the countries that recognized Taiwan as a state) all African countries are received at least some Chinese foreign aid from 2000 to 2014, a selection model was not used here as almost all countries were pass the first stage selection equation.

The Dependent Variable is the incidence of Civil conflict, that code 1 for the first year of conflict and Zero otherwise. We used the Uppsala Conflict Data program Peace research institute of Oslo conflict data set to identify the civil conflict involving at least 25 battle deaths throughout the conflict. Our argument focus on four primary independent variables: Project Aid, Development loan aid, Military

assistance, and net ODA. We measure the disaggregated Chinese foreign Aid in constant 2010 USD. In addition to the primary independent variable outlined here, we also included a series of country-specific control variables in our model.

To measure the incidence of civil conflict, we have begun by calculating the aid to GDP percentage (Standardized by GDP) for each country-year (Aid/GDP). The reason why we standardized by the recipients' GDP is that the importance of an aid decrease depends on the size of the economy. So using the un-standardized aid dollars is probably inappropriate because losing one million dollars in aid matters more to the countries with less income.

4. Empirical Result and Interpretation

4.1 Descriptive Analysis

Our primary outcome of interest, the incidence of conflict, is constructed using data from the Uppsala Conflict Data Program/ Peace Research Institute of Oslo (UCDP/PRIO) Armed Conflict Dataset, where conflict is defined as the use of armed force between two parties that result in at least 25 battle deaths in a year. We examine the incidence of civil conflict; civil conflict is defined as a conflict between a government and one or more internal opposition groups, without intervention from other states. The measure of civil conflicts is labeled by UCDP/PRIO as conflicts. Our measure of the Chinese foreign aid (dis-aggregated into project aid and development loan aid) measured as a percentage of GDP. The data are from AidData. Statistics taken from the databases of the UCDP/PRIO Armed Conflict Dataset, IMF, and the World Bank are reported in USD. Total Chinese foreign aid (disaggregated as Project aid and development load aid) data were collected in US dollars, Data analyzes were performed using the statistical program STATA (version 13).

Table 1. Descriptive Statistics for Dependent Variable, Key Independent Variables, and Control Variables

Variables	Observation	Mean	Minimum	Maximum	Standard Deviation
Year	825	2007	2000	2014	4.323115
Civ_Conf	825	0.2533333	0	1	0.435184
Project Aid_GDP	825	7.240374	3.14e-06	3253.167	115.6559
Dev't Loan aid_GDP	825	1.571046	1.53e-08	21.08833	2.239385
Mili_Ass	825	0.7612121	0	1	0.426615
Net ODA Flow_GDP	825	4.631909	0.0157791	48.77804	5.499427
logGDP_pop	825	7.174068	2.302585	12.55493	1.425814

Exp_GDP	825	31.53898	3.150354	106.3095	19.57829
logPop	825	15.7329	11.30382	18.98861	1.531484
Sos_Frac	825	1.353818	0.14	2.47	0.5260028
Eth_Domi	825	0.7272727	0	1	0.4456319
Geo_Dis	825	0.7818182	0	1	0.4132621
Lev_Dem	825	0.3418182	0	1	0.4746067

According to Table 1, the value of the dependent variables of this research, the incidence of civil conflict for the period specified (2000 to 2014) is 0 to 1 among 55 countries, and there is a minor variation in value. It is confirmed by a standard deviation equivalent to 0.435 and greater than the mean equivalent to 0.253. The first two independent variables Project aid and development loan aid, ranging from 3.14 to 3253 for project aid and 1.53 to 21.08 for development loan. There is a variance that means that there is an enormous difference between developing countries receiving project aid and development loan assistance from China. This small variation of observation is also confirmed by their standard deviation which is equal to 115.6 and 2.23 which is greater than the mean value of 7.24 and 1.57 respectively and the other two independent variables Military assistance and Net ODA Flow for the specified period, range from 0 to 1 and 0.01 to 48.77 respectively, in the first case there is no variation in values, but in the second one, there is a minor variation. This small variation of observation is also confirmed by the small standard deviation which is equal to 0.42 which is smaller than the mean 0.76 and 5.49 which is greater than the mean which is equal to 4.63 respectively. This means there are no differences between the African countries in the military assistance received from other donors, on the other hand for the second case there is a limited variance, which means there is no enormous difference between developing countries receiving net ODA from other donors or non-China aid.

4.2 Analysis and Interpretation of Result

The regression results on Chinese foreign aid, military assistance, and net ODA flow on the incidence of civil conflict for African countries are presented in Table 2 below, where the 15 years' panel datasets are organized systematically. These tests aim to look at the relationship between the incidence of civil conflict and selected independent and control variables. The dependent variable is the incidence of civil conflict and the independent variables are Project aid, development loan aid, Military assistance, net ODA, per capita GDP, primary commodity export, population, social fractionalization, ethnic dominance, geographic dispersion, and level of democracy.

Table 2. Probit Model Regression Result for the Effects of Chinese Foreign Aid on the Incidence of Civil Conflict in Africa from 2000 to 2014

Estimation Method: Probit Model (4.2A)	
VARIABLES	Civ_Conf
Pro_Aid_GDP	0.000901 (0.000842)
Loan_Aid_GDP	-0.123** (0.0513)
Mili_Ass	0.568*** (0.205)
Net ODA Flow_GDP	-0.421** (0.180)
logGDP_pop	0.0119 (0.0771)
Exp_GDP	-0.0152** (0.00734)
logPop	0.265* (0.153)
Sos_Frac	-0.766 (0.491)
Eth_Domi	1.612** (0.674)
Geo_Dis	-1.494*** (0.540)
Lev_Dem	-1.764*** (0.358)
Constant	-3.748 (2.558)
Observations	825
Number of Country1	55

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 2 presents regression results for the probit regression. The key independent variables of interest are the two categories of aid: project aid and development loan aid, which are continuous variables

measured in millions of 2010 USD as a proportion to GDP. Military assistance was dichotomous variables that assume a value of one if a country in a given year received any amount of military assistance. Since we used the probit estimation to analyze a binary dependent variable, the coefficients for the aid variables quantify the predicted probability, in terms of percentage point changes of civil conflict incidence for a country that received foreign aid flows in a particular year, holding the other variables constant.

This study was motivated by the argument that Chinese foreign aid flows to African countries can be the main cause of the incidence of civil conflict in the countries. Such an argument tackled by, some research findings, these stated that by providing an exogenous pool of resources, foreign aid can decrease the pressure on the recipient countries to cut spending, thereby minimizing the risk of civil conflict (Crost et al., 2014; Nillesen et al., 2011). Similarly our regression results', using the probit regression estimation method, provides a suggestive evidence that the Chinese development loan aid category/flows are associated with a marginal decrease in the incidence of civil conflict. As can be seen in Table 2 the finding has produced results consistent with those who were found in earlier analyses of the relationship between similar measures of foreign aid and civil conflict incidence, such as: Nielsen and Ree (2011), discovered in their study using a sample of sub-Saharan countries by improving the Collier and Hoeffler's (2007), work and they found a negative relationship between aid and civil conflict incidence.

In particular, we found a small positive and statistically insignificant relationship between project aid and per capita GDP on the incidence of civil conflict. Even if the result is not significant these results provide suggestive evidence to support Collier and Hoeffler's (2007) finding that foreign aid flows facilitate government efforts to develop a strong military due to the fungibility of aid into military expenditure. The results also provide suggestive support to Nillesen's (2011) finding that foreign aid translates into military expenditure more effectively when a country is experiencing an increased likelihood of civil conflict. Furthermore, our results suggest that while certain categories of foreign aid are positively associated with civil conflict, development loan aid, major product export at the percentage of GDP, Geographical dispersion, and level of Democracy are negatively associated with the incidence of civil conflict. This demonstrates the importance of disaggregating aid into multiple categories before assessing the implications of increased aid to countries affected by civil conflict. Additionally, this finding provides support for the conceptual approach of Nunn (2014) and Crost et al., (2016) who call on future researchers to disaggregate aid flows before examining their efficiency.

Although our results suggest that Chinese foreign aid especially development loan aid is negatively associated with the incidence of civil conflict, this analysis has several limitations. First, for many government-to-government (bilateral) dealings, there are no public records; emerging economies such as Brazil, China, and India refuse to report any of their foreign aid flows to the OECD (OECD, 2014). Second, non-development aid that is requested by governments and provided through private entities at commercial interest rates represents another source of foreign funding that governments can use. Since our study focuses on bilateral aid disbursements between countries, we did not consider this aid flow in

my analyses. Basing the relationship between military assistance, and the incidence of civil conflict, researchers decided to consider categorical data. Unfortunately, there are no public records of the amount or number of military assistance transfers between governments, and the most accurate records reflect sporadic efforts by researchers involved in the subject. For these reasons, I was not able to monetize military assistance for all years in the time window encompassed by my analysis. Constructing a data set that collects accurate yearly military assistance data would be a novel way to improve future studies of this topic. The finding suggests that when one percent of military assistance increase the incidence of civil conflict raised by 56.8%, in another word military assistance is significant at the one percent level and the results suggest that the average country that receives military assistance is 0.006 percentage points likely to experience civil conflict than the average country that does not receive military assistance. This is because military assistance is provided to increase the military strength of a country and increase the likelihood of a successful outcome in conflict and make the country ready to respond to any repression. The control variables included in my regression model are closely replicated to those used by prominent studies of civil conflicts (Collier & Hoeffler, 2002; 2007; Crost et al., 2016; Fearon & Laitin, 2003). The effect of net ODA assistance on the incidence of civil conflict results also suggests that when the average net ODA assistance goes up by an infinitesimal amount the probability for the incidence of civil conflict in the aid recipient countries decreased by 42.1%. This finding has produced results that consistent with those found in earlier analyses of the relationship between similar measures of foreign aid and civil conflict incidences. Nielsen and Ree (2011), discovered in their study using a sample of sub-Saharan countries by improving the Collier and Hoeffler's(2007) work and they found a negative relationship between aid and civil conflict incidence.

The increasing dependence of a nation on the export of primary commodity appears to decrease the incidence of conflict in Africa when the average primary commodity export increased by an infinitesimal amount the probability for the incidence of civil conflict decreased by 1.52 percentage point. The size of the population affects the incidence of civil conflict. If the effect of the population were neutral, we might expect that a doubling of the population would approximately double the risk of the incidence of civil conflict, the result stated that when the percentage of population size or number goes up an infinitesimal amount the probability of the incidence of civil conflict increased by 26.5%. Regarding ethnic dominance, the regression result found that when the percentage of ethnic dominance goes up infinitesimally the probability of the incidence of civil conflict increased by 161.2%. The results provide suggestive support to Collier and Hoeffler (2002) they documented that ethnic dominance significantly increases the risk of civil conflict.

Different scholars such as Horowitz (1985) argued that social fractionalization, manifest in ethnic, linguistic, or religious cleavages may play an important role in internal armed confrontations. Whereas, this research found that there are an inverse and insignificant relationship between social fractionalization and the incidence of civil conflict during the stated period. This finding has produced results consistent with those found in earlier analyses of the relationship between similar measures of social

fractionalization and civil conflict incidence, Collier and Hoeffler (2002) argue that greater ethnic diversity in societies increases domestic peace by raising transaction and coordination costs to rebellion. Fearon and Laitin (2003) also come to similar findings; they asserted that there is no statistically significant relationship between civil war and ethnic or religious fractionalization.

The relationship between the geographic dispersion and level of democracy on the incidence of civil conflict in this paper found that a significant and inverse relationship when the percentage of geographic dispersion and level of democracy goes up by an infinitesimal amount the probability for the incidence of civil conflict decreased by 149.4 % and 176.4 % respectively. The findings on the level of democracy coincide with the theory of Muller (1985) and Weede (1987) conflict would be prevalent in regimes that are in transition from one type to another but would be less likely in countries that are either very democratic or autocratic.

In general, our results suggest that disaggregated foreign aid flows (disaggregated Chinese foreign aid) are one of many important tools for policymakers, donor countries, aid agencies, and multilateral organizations to consider in their efforts to prevent future conflict. As the public debate surrounding the efficiency of foreign aid continues, these findings suggest that dis-aggregated Chinese foreign aid should not be considered as a monolith or black box and that public policy decisions should be based on methodologically sound studies, rigorous quantitative analyses, and solid evidence.

5. Conclusion

Civil conflict is not unique to Africa; however, the relatively recent number of outbreaks of civil conflict and duration of violence certainly rare. This study used a probit regression techniques to identify the effects of dis aggregated Chinese foreign aid on the incidence of civil conflict and found an inverse relationship between development loan aid and the incidence of civil conflict. But the second aid categories, project aid has a direct relationship with the incidence of civil conflict and insignificant. At the same time, we controlled for GDP/Capita, Primary Commodity Exports/GDP, Population, Ethnic Dominance, Geographic Dispersion, and Level of Democracy. What remains unknown is why the inverse and the direct relationship exist. Do countries receive more Chinese foreign aid invest the money into better governmental and economic institutions that are more receptive to the people and create diversified economies, making it easier for citizens to earn a living and raise a family? Or, do the findings indicate that countries receiving more Chinese foreign aid divert that cash flow for military purposes to suppress insurrection? Perhaps those two questions are the key to shed some light on the debates or on the biasness of foreign aid in fueling the incidence of civil conflict in Africa. If the foreign assistance is being utilized to create better political and economic institutions and conflict naturally begins to disappear as citizens start to experience prosperity, then aid should continue to flow to these nations. If, however, foreign aid is acting as a band-aid to cover up the inadequacies of government or the needs of the people, then we, as a global community, need to find another solution other than continually increasing non-traditional aid or traditional aid to this area.

In sum, our results suggest that foreign aid flow categories are one of many important tools for policymakers, donor countries, aid agencies, and multilateral organizations to consider in their efforts to prevent future conflict. As the public debate surrounding the efficacy of Chinese foreign aid continues, these findings suggest that Chinese foreign aid should not be considered as a black box and that public policy decisions should be based on methodologically sound studies, rigorous quantitative analyses, and solid evidence. Given our findings discussed above, we see tentative policy implications such as: Careful policies to promote the development of loan aid and net ODA assistance may help to lower the incidence of civil conflicts in African countries; Efforts to reduce the incidence of civil conflicts in Africa countries seem to require Monitoring democratic or intermediate (mixed autocratic-democratic) regimes and strengthening political institutions for good domestic governance; Managing ethnic dominance may help to decrease the incidence of civil conflict in African countries also, Encouraging lower levels of military assistance and the number of population may contribute to reducing the incidence of civil conflicts in Africa countries.

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Appendices

Appendix 1

Algeria	Liberia
Angola	Libya
Benin	Madagascar
Botswana	Malawi
Burkina Faso	Mali
Burundi	Mauritania
Cabo Verde	Mauritius
Cameroon	Morocco
Central African Republic CAR)	Mozambique
Chad	Namibia
Comoros	Niger
Congo, the Democratic Republic of the Congo	Nigeria
Congo, Republic of the Congo	Papa New Guinea
Cote d'Ivoire	Rwanda
Djibouti	Sao Tome and Principe
Egypt	Senegal
Equatorial Guinea	Seychelles
Eritrea	Sierra Leone
Eswatini	South Africa
Ethiopia	South Sudan
Gabon	Sudan
Gambia	Tanzania
Ghana	Togo
Guinea	Tunisia

Guinea-Bissau

Uganda

Kenya

Zambia

Lesotho

Zimbabwe