

# *Research and Improvement of China's National Image in Africa through Foreign Aid*

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**Abstract:** Improving China's national image in Africa through aid to Africa is one of the important components of China's soft power in Africa. Based on Chinese aid data from 2000-2014, this paper conducts an empirical analysis, and the findings show that China's aid to Africa can significantly improve China's national image in Africa, but there are some differences in the impact of different types of aid, among which ODA is more helpful to improve China's national image than OOF. Additionally, there is (statistical heterogeneity or heterogeneity?) in the impact of bilateral relations between China and recipient countries on China's national image in Africa. In recipient countries with better bilateral relations with China, Chinese aid can more significantly improve the local people's positive evaluation of China. This paper has both practical and theoretical implications for improving China's national image in Africa.

## **1. Introduction**

Since the establishment of the Forum on China-Africa Cooperation (FOCAC) in 2000, China-Africa relations have entered a new stage and become an important benchmark for international cooperation with Africa. Africa's position as the "foundation of the foundation" of China's diplomacy has become more and more prominent. President Xi attaches great importance to the status and role of Africa in China's diplomatic strategy, emphasizing that China and Africa are good friends, good partners and good brothers supporting each other and sharing weal and woe. At the Opening Ceremony of the 8th Ministerial Conference of the Forum on China-Africa Cooperation, President Xi spoke highly of China-Africa relations: "China and Africa have forged an unbreakable bond of brotherhood in the struggle against imperialism and colonialism, and have consolidated the everlasting spirit of China-Africa friendship with sincere friendship, equality, mutual benefit and common development, fairness, justice, openness and inclusiveness. This truly captures the relations of China and Africa working together in good and hard times over the past decades, and provides a source of strength for the continuous growth of China-Africa friendly relations." Meanwhile, President Xi has always been committed to building a China-Africa community with a shared future in the new era and promoting the implementation of Five Principles of Peaceful, Ten China-Africa Cooperation Plans and the Eight Major Initiatives. Xi noted in his congratulatory message to the 36th African Union Summit: "the cooperation between China and Africa is moving steadily forward in an all-around, multitiered and high-quality fashion, which

takes the lead in international collaboration with Africa." The president emphasized that he is willing to work with African leaders to further enhance friendly cooperation and facilitate coordination in international and regional affairs, and advance the building of a high-level China-Africa community with a shared future.

However, against the background of increasingly close China-Africa cooperation and improving China-Africa relations, China-Africa cooperation still faces great challenges, the bigger of which is that the positive effect of China's aid to Africa on China's national image in Africa is still relatively limited. On the one hand, from the perspective of local residents in Africa, there is still a large gap between their perception and recognition of China's aid to Africa and the official narrative among local residents due to their limited knowledge, therefore the perception of China's national image is more ambiguous. For example, the China's multibillion-dollar loan to Angola in June 2015 was strongly condemned by the Angolan people, who believed that the loan not only made the relationship between the two countries more unequal but also increased the cost of living for local dweller; Furthermore, coupled with the rapid development of non-economic relations between China and Africa, African political developments and leadership changes have undermined the traditional friendly foundation of China-Africa relations in Africa to some extent, and a few media and academic elites joined the ranks of Western critics of China. On the other hand, from the perspective of international society, due to domination of Western discourse in international public opinion and weakness of China's Africa strategy in propaganda, the improving China-Africa relations and aid to Africa have been often misunderstood, misinterpreted, and attacked by Western countries, with trended toward systematization, theorization and officialization. China's national image in Africa are in peril of being damaged. Some Chinese aid projects to Africa have been ceased because of these unfriendly voices, for instance, when President Magufuli came to power in Tanzania, he called a halt to the aid contract signed by the former president and President Xi for the construction of the Bagamoyo port, also claiming that the contract was exploitative essentially.

International image-building is a topic that cannot be ignored as China embarks on foreign aid, and it's also an area that cannot be bypassed in international relations, but most of the existing literature focus on whether China's aid to Africa can have a positive effect on Africa's economy and society, while few use empirical research methods to explore the relationship between China's aid to Africa and China's national image in Africa. Based on this, this paper introduces an empirical research method to find whether China's aid to Africa promotes China's national image in Africa[1-9].

## 2. Literature Review and Theoretical Analysis

Most of the existing literature has explored the impact of various aspects of international aid and provides much empirical evidence in the context of the growing wealth of aid data in recent years. International aid has had a significant impact on recipient countries' economies, societies, and bilateral political relations. In terms of economy, on the one hand, aid helps recipient countries with infrastructure development to enhance their economic growth potential, and increases human capital accumulation in recipient countries through healthcare and education, all of which ultimately contribute to the economic growth of these countries.

China's infrastructure assistance, loans and technical support to African countries are conducive to poverty reduction and long-term economic and social development of African countries. Hu Jianmei et al tested the impact of China's aid to Africa on the economic growth of recipient countries by empirical research and found that infrastructure plays a partial mediating effect in China's aid to Africa in promoting the economic growth of recipient countries. In addition, the study demonstrated the heterogeneity of the mediating effect of different types of infrastructure, for

example, energy infrastructure, information infrastructure, and living infrastructure play a partial mediating effect, while transportation infrastructure has a full mediating effect.

On the other hand, however, some researches argued that international aid can lead to a "aid curse" in which recipient countries become overly dependent on external resource rather than developing endogenous growth power, and economic growth stagnates. The "aid curse" refers to the fact that a country that receives more than 75 percent of its GNP in foreign aid over a five-year period can have a more serious negative effect than the "resource curse" because excessive aid funding reduces the government's incentive to collect taxes, resulting in a degradation of overall state capacity. Some researchers have argued that past aid from Western countries has increased corruption, reduced the quality of government governance, resulted conflicts over control of aid funds, and reduced the urgency to reform inefficient policies in recipient countries, which have a negative effect in recipient countries. Moreover, Tekin explores the relationship between foreign aid, trade openness and economic growth in the world's LDCs (Least Developed Countries) between 1970 and 2010, questioning the effectiveness of development aid for LDCs and suggesting that "Dutch disease" seems to be a potential reason why development aid didn't help LDCs. Kanbur examines the relationship between aid, conditionality, and debt regimes in African countries, pointing out that aid in the Africa tends to flow to countries with a poor political environment and doesn't contribute to the improvement of the political environment in these countries. Meanwhile, foreign aid, to a certain extent, crowds out private capital investment and isn't conducive to promote the development of the country's economy[10-17].

In terms of impact on society, aid is also a "double-edged sword". On the one hand, recipient countries often lag behind in economic and social development. International aid is used for many aspects such as medical care and education, which can obviously improve local social development and the welfare of residents in recipient countries. China has helped African LDCs improve the living conditions of their people and raise their standard of living by assisting in the construction of public welfare facilities, civilian housing, indemnificatory housing and medical teams in cities and rural areas. However, in some cases, international aid has become a tool used by recipient governments to strengthen authoritarian rule, instead of promoting local social development, it has given rise to more conflicts and contradictions.

Aid from one country to another can also improve bilateral diplomatic relations. For example, China's aid to Africa, based on South-South cooperation, emphasizes cooperation rather than aid, thus China-Africa relations are changing from mutual aid with mutual support and equality to cooperation for mutual benefit and common development. Japan's substantial economic assistance to Cambodia has given a strong impetus to Cambodia's economic development since it embarked on the peace process, facilitating Cambodia's integration into the economic system of Asian region as well as worldwide, and promoting the rapid development of Cambodia-Japan relations.

As a major recipient of international aid and a priority area of China's foreign aid, many studies have focused on Africa, examining impact of the international community's and China's aid on Africa from various aspects.

In the first place, the traditional philosophy of aid to Africa is more utilitarian, based on neo-liberalism, using foreign aid as a political tool, attaching political conditions to aid, and requiring recipient countries to reform in accordance with Western demands. Samuel P. Huntington points out that the United States requires recipient countries to accept its aid with the requirements of pluralism and democratization, but this transplanted democratic values aren't directly related to the economic development of the recipient countries. Similarly, the Japanese government usually portrays its aid to Africa as being motivated by human compassion, but in fact it uses aid only as an instrument of foreign policy that encompasses a range of strategic considerations of national economic and political interests. Moreover, some local scholars in Africa indicate that Western aid

to Africa for a long time has only contributed to the corruption of African governments and the poverty of their people, and didn't brought substantial help to Africa's economic growth.

Secondly, China's aid to Africa has a history of nearly 70 years. Unlike traditional Western aid to Africa, China's aid philosophy is typically progressive, characterized by "no conditionalities" and "non-interference in internal affairs," emphasis on bilateral aid rather than multilateral aid, and a focus on "hardware projects" such as infrastructure development rather than "software projects" such as superstructure, which is in line with the basic conditions and development aspirations of the recipient countries, but also changes the power structure of the traditional Western aid system. Guided by this aid philosophy, China's aid to Africa hasn't reduced the economic prospects of African countries, but has effectively contributed to their economic growth and the improvement of residents' welfare. Feng Kai et al. conducted empirical tests and found that both public expenditure-based aid and non-transfer aid can directly promote economic growth, but the effect of both on the welfare of domestic residents is heterogeneous. Chen Weibing et al. investigated the transmission mechanism between Chinese infrastructure aid and direct investment in Africa by constructing an infrastructure variable including 16 indicators in two dimensions of infrastructure quality and quantity and using cross-country panel data for 39 African countries. Their research showed China's infrastructure aid to Africa significantly boosts local direct investment.

Foreign aid can have a notable impact on a country's international image, and the experience of developed countries shows that foreign aid spreads their values and philosophy, shapes the image of these countries as "saviors", and becomes part of the "soft power" of developed countries. It has become part of the "soft power" of these countries. For example, Canada has increased its foreign aid to Africa and the Caribbean through its participation in various aid programs. It takes this way as one of the ways to strengthen its soft power, successfully exporting the national values of "peace, poverty eradication, goodwill, and contribution" and achieving the goal of constructing a "internationalism with a goodwill". In recent years, the EU has been seeking changes in its foreign aid policy. One of its fundamental motivations is to achieve soft and hard power parity in the field of international aid and to solve the practical problems of unclear and low visibility of the EU's aid image.

In recent years, China has invested more and more resources in the construction of its international image and has gained fruitful results. Existing studies have conducted preliminary explorations on the construction of China's international image. Some scholars said that with the rapid growth of China's economic power and the increase of China's centrality in the network of international relations, the accumulation of economic interdependence and benign relations with China will theoretically contribute to the self-shaping and other-shaping of China's national image. Since the founding of New China, China has made continuous efforts in shaping its national image. China's national image has continued to be upgraded through active participation in international affairs, great-power diplomacy, and opening its doors.

In the new era, President Xi emphasizes on telling China's stories well and the self-shaping of national image with Chinese characteristics by combining official and public propaganda, especially since the epidemic, the documentary about the epidemic has successfully self-shaped a good national image under different dimensions of politics, system, economy, science and technology, diplomacy and nationals using a variety of conceptual metaphors. However, along with the achievements, there are also some problems found. There is a great gap between China's national image in self-shaping and other-shaping. The dynamic game between them fluctuate unstably, and the strong power of other-shaping squeezes the space of self-shaping, so that the positive image of self-shaping is repeatedly turned over. Some studies found that an increase in economic and trade dependence doesn't actually mean a higher positive opinion of China. For instance, there is a significant negative correlation between the economic and trade dependence between China and

East Asian countries and their people's evaluation of China, i.e., countries with close economic and trade relations with China have a low evaluation of China. But in general, close trade, investment, politic and military ties and deepening economic interdependence with China have a significant positive effect on China's national image[18-26].

Some researchers believe that although China has made some achievements in self-shaping its international image, propaganda is still China's weakness, such as failure to give full play to the role of public propaganda, Western countries' control of international public opinion, China's insufficient international discourse power and propagation differences in the national image, resulting propagation effect of China's national image in the international community is still limited. In addition, due to factors such as the strategic competition between China and the United States, China still suffers from a deficit in the transformation of its economic power into political influence.

### **3. Data, Empirical research design and Variable description**

#### **3.1 Data**

There are three main sources of data in this paper: first, China's national image data are from the Pew Research Center's Global Public Opinion Survey database; second, China's foreign aid data are from the AidData database; and third, other control variables are from the World Bank's WDI database, CEIC, and China's Ministry of Commerce.

#### **3.2 Empirical research design**

This paper conducts an empirical research based on a quasi-natural experiment, Chinese foreign aid, from 2005-2014, by adopting an asymptotic double-difference model. The regression equation is shown below.

Is the evaluation of China by respondent  $j$  in country  $i$  in year  $t$ ; is the amount of aid received from China in country  $i$  in year  $t$ ; and is other control variables.

#### **3.3 Variable description**

1) China's national image: This paper uses the indicator "Views of China" from the Pew Research Center's Global Public Opinion Survey database as a proxy variable for China's national image. In this questionnaire, nearly 1,000 respondents from 60 countries were asked to choose their opinion between "very positive," "relatively positive," "relatively negative," and "very negative. In order to quantitative research, this paper refers to the existing literature and assigns "very positive", "relatively positive", "relatively negative", and "very negative" as 4, 3, 2, and 1 respectively. Finally, individual data from 2007-2014 of 18435 respondents from 9 African countries, namely Nigeria, Côte d'Ivoire, South Africa, Egypt, Tunisia, Tanzania, Mali, Morocco, and Senegal, were obtained and cleaned in this paper.

2) Core explanatory variables: This paper collates and analyzes Chinese aid data from 2000-2014 in AidData, with all aid amounts based on 2014 dollar values. There are some differences between AidData data indicators and the definition of Chinese official aid, and AidData classifies Chinese aid as mainly Official Development Assistance (ODA) and Other Official Flows (OOF) according to standards of OECD. While China does not adopt OECD standards in aid operation, but divides aid to foreign countries into non-reimbursable aid, interest-free loans and concessional loans, among which non-reimbursable aid and interest-free loans expense from national finance and concessional loans are provided by the Export-Import Bank of China.

3) Control variables: This paper also controls for four other variables that may affect China's

national image. First, this paper considers the bilateral economic and trade relations between China and African countries, and control China's exports to the country, the country's exports to China, and China's direct investment in the country, with data from the CEIC database; second, this paper controls the bilateral political relations between China and the country, specifically, it assigns a value of 3 to strategic cooperative partnership, 2 to strategic partnership, and 1 to partnership, with data from the Ministry of Foreign Affairs website; Third, this paper controls for the country's development level, including economic growth rate and GDP per capital, with data from the World Bank WDI database; Finally, this paper controls for the level of governance of the government and social development, including the proportion of education expenditure and military expenditure in total fiscal expenditure respectively, with data from the World Bank WDI database[27-33].

### 3.4 Descriptive statistics

The descriptive statistics of this paper are shown in the following table. Table 1 shows that the average value of people's opinion on China's image in African of is 2.527, with an overall positive value; the standard deviation is about 0.934, indicating that there is still a large variability in people's perception of China's image in African countries.

Table 1: Descriptive statistics

VARIABLES	N	mean	sd	min	max	p50
y	15,964	2.527	0.934	1	4	3
aid_oof	18,435	1.382	4.799	0	22.37	0
aid_oda	18,435	0.426	1.001	0	4.098	0.000300
aid_all	18,435	1.808	4.781	0	22.37	0.00932
fdi	17,433	203.7	356.6	-130.5	1,015	28.65
import	18,435	36.98	53.09	-68.57	140.7	39.31
export	18,435	35.28	24.20	-14.31	81.38	29.42
relation	18,435	1.998	0.859	0	3	2
edu	13,974	4.039	1.294	0.526	5.720	4.033
gdp	18,435	4.679	2.267	-1.538	7.156	5.686
rgdp	18,435	2.324	1.993	-2.702	5.078	3.375
military	18,435	1.174	0.525	0.370	2.380	1.146

## 4. Empirical Results

### 4.1 Baseline regression results

In the baseline regression, this paper uses stepwise regression to examine the impact of China's aid to Africa on China's national image in Africa. Column (1) of the baseline regression results (Table 2) shows that the coefficient of China's total aid to African countries is significantly positive, which initially indicates that China's aid to Africa can promote China's national image in Africa. Additionally, control variables reflecting bilateral trade and investment, bilateral political relations, economic development level and social development level of recipient countries are added to the regressions in turn (columns 2-5). The results show that whether control variables are added and the number of control variables added or not don't affect the sign and significance of the coefficients of China's aid to Africa, and all Chinese aid to Africa significantly enhances China's national image in Africa. Numerically, with all control variables included, every 1% increase in China's aid to Africa will increase China's country image score in Africa by 0.03.

Aid to Africa has always been reckoned as one of the diplomatic tools for China to improve its national image in Africa both in terms of "hard power" and "soft power". Foremost, China's aid to Africa has brought huge economic benefits to the recipient countries and enhanced their "hard

power", which is conducive to improving the local people's evaluation of China. After the establishment of the Forum on China-Africa Cooperation (FOCAC) in 2000, China has attached great importance to its assistance to Africa, trying its best to train local talents and improve technology for African recipient countries, helping them to build their infrastructure, exploiting and utilize their own resources in order to lay a solid foundation for development, and gradually move on to a path of self-reliance and independent development. As the scale of China's aid to Africa continues to expand, the effectiveness of China's aid has also brought a lot of praise. A 2014 article in Ghana's official media praise that "China's aid to Africa has no political strings attached and provides assistance in areas that can significantly improve people's lives, such as infrastructure. And the 'Beijing Consensus' is more attractive in Africa than the 'Washington Consensus'." Moreover, China's foreign aid philosophy of treating each other equally, focusing on effectiveness, keeping promises and promoting justice and profitability has built a wide recognition among African recipient countries and good emotional foundation for China among the people of recipient countries. The process of providing "hard power" aid to Africa, such as infrastructure, is also a process of exporting "soft power" to recipient countries through material assistance, technical cooperation, medical teams, debt relief, etc. Compared with the traditional aid of attaching political conditions to aid, China always insists on "soft power". In contrast to the traditional aid practices of aid countries with political strings, China has always insisted on "equal aid" and "reciprocal aid" to build up a wide recognition of China among African recipient countries and enhance China's "soft power" in the minds of recipient countries.

Table 2: Impact of China's aid to Africa on China's national image in Africa

VARIABLES	(1) y	(2) y	(3) y	(4) y	(5) y
aid_all	0.0045*** (2.95)	0.0054*** (3.40)	0.0095*** (5.62)	0.0077*** (4.13)	0.0264*** (12.20)
export		0.0010*** (2.64)	0.0009** (2.49)	0.0033*** (7.46)	-0.0055*** (-8.48)
import		-0.0006*** (-3.46)	-0.0004** (-2.32)	0.0011*** (4.88)	0.0051*** (19.11)
fdi		-0.0000 (-0.76)	-0.0000 (-1.52)	0.0001*** (2.90)	0.0003*** (7.84)
relation			-0.0645*** (-6.91)	-0.0257** (-2.56)	-0.4740*** (-16.54)
gdp				0.0449*** (2.89)	0.3530*** (14.29)
rgdp				-0.1100*** (-6.12)	-0.3754*** (-14.49)
edu					0.0600*** (5.23)
military					-0.6473*** (-16.59)
Constant	2.5187*** (318.29)	2.4937*** (132.90)	2.6130*** (102.62)	2.4477*** (58.82)	3.3357* (40.89)
Observations	15,964	15,100	15,100	15,100	12,468
R-squared	0.001	0.003	0.006	0.016	0.056

What's more, the regression results also show that the country's GDP and China's national image in Africa are positively correlated, which proves that the larger the country's economic aggregate has the more positive impact on China's national image in Africa; the proportion of military expenditure in total fiscal expenditure (military), the bilateral relationship between China and the



country and China's national image in Africa are negatively correlated, i.e., the larger the African country's military expenditure, the better the bilateral political relationship between the two countries will have a negative impact on China's national image in Africa. By adding different control variables, China's exports to the country (export), China's imports from the country (import) and China's direct investment in the country (fdi) don't significantly affect China's national image in Africa, so it's hard to judge whether China's import and export trade with the country and China's direct investment in the country can improve China's national image in Africa.

## 4.2 Different types of aid

This paper uses stepwise regression to examine the mechanisms of China's Official Development Assistance (ODA) and Other Official Flows (OOF) to Africa on China's national image in Africa.

Table 3: Impact of China's ODA to Africa on China's national image in Africa

VARIABLES	(1)	(2)	(3)	(4)	(5)
	y	y	y	y	y
aid_oda	0.1173*** (15.42)	0.1166*** (13.28)	0.1350*** (14.98)	0.1296*** (13.66)	0.1691*** (15.16)
export		-0.0010** (-2.51)	-0.0016*** (-3.98)	0.0014*** (2.98)	-0.0087*** (-12.20)
import		-0.0007*** (-3.95)	-0.0005*** (-2.72)	0.0004* (1.83)	0.0030*** (11.31)
fdi		-0.0000 (-1.53)	-0.0001*** (-3.08)	-0.0000 (-1.04)	-0.0001** (-2.38)
relation			-0.0776*** (-8.68)	-0.0459*** (-4.83)	-0.5388*** (-18.35)
gdp				-0.0410*** (-2.77)	0.1276*** (6.09)
rgdp				-0.0072 (-0.40)	-0.0991*** (-4.17)
edu					0.1187*** (9.42)
military					-0.7924*** (-19.05)
Constant	2.4795*** (311.49)	2.5352*** (144.70)	2.7021*** (104.01)	2.7212*** (63.57)	4.0174*** (43.41)
Observations	15,964	15,100	15,100	15,100	12,468
R-squared	0.015	0.014	0.018	0.027	0.062

ODA is a transfer of funds or resources to developing countries that requires a cost savings of at least 25% compared to loans in international financial markets, and consists mainly of outright grants and loans that are not based on commercial interests and are highly concessional in terms of interest rates and repayment terms. ODA is divided into three types, namely strategic aid, humanitarian aid, and development aid. OOF differs from ODA in that it includes Official Export Credits, medium and long-term loans provided by multilateral development agencies (e.g., the World Bank and regional development banks) on market requirement, which is often referred to as "hard loans". The regression results for ODA (Table 3) show that regression coefficient of China's ODA to Africa is positive correlations at 1% level of significance, i.e., Chinese ODA to Africa can significantly improve China's national image in Africa. The regression results of OOF (Table 4) show that the regression coefficients of China's OOF to Africa are positive and both negative, and regressions are insignificant for some groups, making it difficult to determine the impact of China's



OOF to Africa on China's national image in Africa. Moreover, even with the regressions controlling for all control variables, the regression coefficient of OOF, although significantly positive, is only 0.0204, which is a very small effect relative to the regression coefficient of ODA (0.1691).

Table 4: Impact of China's OOF to Africa on China's national image in Africa

VARIABLES	(1)	(2)	(3)	(4)	(5)
	y	y	y	y	y
aid_oof	-0.0001 (-0.06)	0.0017 (1.05)	0.0048*** (2.84)	0.0029 (1.50)	0.0204*** (9.34)
export		0.0008** (2.17)	0.0008** (2.11)	0.0034*** (7.65)	-0.0044*** (-6.92)
import		-0.0006*** (-3.52)	-0.0004** (-2.55)	0.0010*** (4.52)	0.0050*** (18.47)
fdi		-0.0000 (-1.22)	-0.0000* (-1.90)	0.0001** (2.23)	0.0003*** (7.28)
relation			-0.0543*** (-5.90)	-0.0142 (-1.44)	-0.4065*** (-14.84)
gdp				0.0299* (1.87)	0.3227*** (12.78)
rgdp				-0.0958*** (-5.19)	-0.3541*** (-13.20)
edu					0.0431*** (3.80)
military					-0.5835*** (-15.25)
Constant	2.5273*** (327.65)	2.5090*** (132.80)	2.6102*** (102.32)	2.4745*** (57.81)	3.2576*** (39.57)
Observations	15,964	15,100	15,100	15,100	12,468
R-squared	0.000	0.002	0.004	0.015	0.052

China's foreign aid is mostly ODA, which is relatively more favorable, basically with non-economic returns and a strong public interest. Therefore it's more easily accepted by recipient countries and more conducive to establishing a good national image. Taking the Chinese medical aid team to Africa as an example, China dispatched the first medical aid team to Algeria in 1963 to carry out medical aid, then established the China Medical Aid Team to Africa. Up to now, the China Medical Aid Team to Africa has sent 16,000 medical team members to 45 African countries, enabling 260 million African people to receive free medical aid. While healing the wounded and rescue the dying, Chinese medical teams also help recipient countries improve their medical conditions, bring advanced medical technology and Combine Traditional Chinese and Western Medicine Therapy, and improve the technical level and capabilities of local medical personnel. Besides, there is no fundamental ideological distinction in the life-saving function of medical aid. It represents a common value that transcend different political ideologies and cultural values. Therefore, medical aid can significantly improve the positive evaluation of China by the people in the recipient countries.

As mentioned above, OOF generally refers to export credits or intergovernmental loans that is required to save at least 25% compared to international financial market loans, and it is difficult to judge its impact on China's national image in Africa due to its types. For one thing compared with ODA, OOF doesn't directly improve people's living standards and be easily accepted by the residents in recipient countries, so it's difficult to improve China's national image among local people. For another OOF may lead to huge external debt in the recipient countries, which are used by Western countries to concoct malicious rumors such as "debt trap", "neo-colonialism" and

"neo-imperialism". These slanders influence the elites and the general public of the recipient countries through their power of public opinion in African countries, and to slander of China's national image[34-39].

### 4.3 Robustness testing: further controlling for national unobservable heterogeneity

Table 5: Robustness testing results

VARIABLES	(1)	(2)	(3)	(4)	(5)
	y	y	y	y	y
aid_all	0.0052*** (3.08)	0.0042** (2.28)	0.0100*** (3.08)	0.0116*** (3.45)	0.0598*** (18.27)
export		0.0037*** (7.17)	0.0037*** (7.20)	0.0101*** (14.76)	0.0142*** (13.01)
import		-0.0014*** (-5.83)	-0.0011*** (-3.83)	-0.0004 (-1.54)	-0.0000 (-0.00)
fdi		-0.0000 (-1.30)	-0.0001** (-2.14)	0.0001*** (3.57)	-0.0007*** (-5.52)
relation			-0.1400** (-2.17)	-0.0696 (-1.09)	2.9970*** (14.10)
gdp				-0.1213 (-1.30)	-7.9231*** (-18.34)
rgdp				0.0191 (0.20)	7.7267*** (17.36)
edu					-3.2908*** (-14.53)
military					1.3848*** (6.90)
Constant	2.5160*** (144.94)	2.5497*** (100.30)	2.8486*** (20.38)	2.7816*** (15.12)	19.3104*** (13.84)
Observations	15,964	15,100	15,100	15,100	12,468
R-squared	0.045	0.049	0.050	0.066	0.217

To test the reliability of the baseline regression results, this paper further strictly controls for national unobservable heterogeneity. The regression results show (Table 5) that the coefficient of China's total aid to African countries remains significantly positive, indicating that China's aid to Africa can promote China's national image in Africa. The test results are consistent with those in the basic regression analysis, indicating that the model set up in this paper is valid and stable.

### 5. Heterogeneity analysis

Africa is a vast continent with many countries which have large differences in bilateral relations with China. In order to further analyze the heterogeneity of China's aid effects in Africa, the heterogeneity analysis is conducted through interaction term in the following regressions.

The results of the bilateral relationship heterogeneity test (Table 6) show that the regression coefficients are positive at the 1% level, indicating that China's aid can more significantly raise local people's positive evaluation of China in countries with a higher level of bilateral relationship with China, but it has a relatively limited effect on raising China's national image in countries with a lower level of bilateral relationship with China.

Taking Tanzania as an example, the long-standing friendly relationship between China and Tanzania provides a guarantee for Chinese aid to improve its national image. Since the establishment of diplomatic relations between the two countries, China has provided a large amount

of free aid to Tanzania, the most famous of which is Tanzania Zambia Railway, which is still one of the largest foreign aid projects in China; in addition, China has also actively provided military aid to Tanzania, making its army known as the "Liberation Army of East Africa". In the new era, China has been actively trading with Tanzania, buying Tanzanian economic crops and helping Tanzania to earn foreign exchange, thus realizing mutual benefit and win-win cooperation; during COVID-19 pandemic, China has provided 5.61 million doses of COVID-19 vaccine and a large amount of anti-epidemic supplies to Tanzania. It is because China's assistance to Tanzania in various periods has helped Tanzania achieve national independence and progress, and the friendly relations between the two countries are in line with public opinion and have won the hearts of the people.

Table 6: Results of the test for heterogeneity of bilateral relationships

VARIABLES	(1)	(2)	(3)	(4)	(5)
	y	y	y	y	y
relation *aid	0.0013** (2.51)	0.0020*** (3.88)	0.0017*** (3.29)	0.0020*** (3.51)	0.0031*** (4.90)
export		0.0022*** (7.04)	0.0010*** (2.65)	0.0036*** (8.31)	0.0010* (1.91)
import		-0.0001 (-0.45)	-0.0006*** (-3.53)	0.0011*** (4.86)	0.0042*** (15.88)
fdi			-0.0000 (-0.77)	0.0001*** (3.24)	0.0003*** (8.37)
gdp				0.0406*** (2.63)	0.1610*** (7.35)
rgdp				-0.1099*** (-6.10)	-0.2472*** (-9.93)
edu					-0.0839*** (-10.93)
military					-0.0853*** (-4.35)
Constant	2.5204*** (320.65)	2.4436*** (164.07)	2.4945*** (132.97)	2.4100*** (61.28)	2.6296*** (37.47)
Observations	15,964	15,964	15,100	15,100	12,468
R-squared	0.000	0.004	0.003	0.016	0.036

## 6. Summary and Policy Implications

With the establishment of the Forum on China-Africa Cooperation and the implementation of the Belt and Road Initiative, the fields and scale of China's aid to Africa have been expanded, and China's influence in Africa has been increased, but China's national image has been suppressed by the Western countries forming a great resistance to China's cooperation with Africa. Both aid to Africa and China's national image in Africa are important components of China's interests in Africa, therefore, exploring the impact of China's aid to Africa on China's national image can help China to improve its national image in Africa effectively. Based on the data of China's aid to Africa from 2005-2014, this paper uses an empirical method to investigate whether China's aid to Africa can improve China's national image. The findings show that Chinese aid can effectively improve China's national image, and the heterogeneity test finds that the degree of economic development of African recipient countries and their bilateral relations with China also affect the effect of aid on improving China's national image. The conclusion of this paper is still tenable after robustness tests, and aid to Africa significantly improves China's national image.

Enhancing our national image in Africa through aid to Africa is one of the important components

of our soft power in Africa. Therefore, based on the findings of this paper, we propose the following policy recommendations:

First, to enhance China's "self-shaping" of its own national image. Since the scale and effectiveness of China's aid to Africa are deepening and China-Africa relations are getting better, Western countries has started to smear China, attacking China for imposing "neo-colonialism" to Africa and setting "debt traps" for Africa. Therefore, while China focuses on helping African recipient countries to achieve economic growth, it is necessary to strengthen propaganda, publicize China's philosophy and principles of aid to Africa in order to eliminate the negative influence of other countries' public opinion and be a leader in the "African public opinion", and broaden people-to-people contact between China and Africa.

Second, strengthen the power of "other-shaping" China's national image in Africa. At present, in the propaganda field of China's national image, the system of Western domination of public opinion hasn't been broken, and China's national image in Africa is still mainly shaped by Western countries. Therefore, China should strengthen the cooperation with the governments, media and private media of African recipient countries to guide them to understand China's aid projects, philosophy and policies such as the Belt and Road Initiative, and advocate their official media to guide the private media, so as to form a system where the government and the public can jointly shape China's national image as a "responsible world power".

Third, enhance the transparency of China's aid projects in Africa. To some extent, the difficulties in building China's national image in Africa are caused by the high secrecy of aid projects. Some people in recipient countries cannot really understand China's aid projects but only believe Western public opinion and form a negative evaluation of China. Therefore, China can appropriately enhance the transparency of its aid projects to Africa and publicize the economic and social benefits brought by the aid projects to the local communities, so as to improve the national image of China in the recipient countries.

In the context of China's peaceful rise, China's aid to Africa is the economic foundation for the rosy development of China-Africa relations, and China's positive image in Africa is the guarantee for the rosy development of China-Africa relations which is also an important part of China's national soft power, hence China should combine "self-shaping" and "other-shaping", and public branding of China's "self-branding" and "other branding". Therefore, China should combine "self-modeling" and "other-modeling" to build a positive national image of China as a "responsible world power" together.

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