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# Aid and Governance: Impact of Chinese Aid on the Evaluation of Government Performance in Sub-Saharan Africa

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## Abstract

One of a government's primary responsibilities is to provide public goods and services for the benefit of citizens. A government that excels in such provision may therefore win favorable evaluations from its citizens. However, if external state and non-state actors through foreign aid issuance become providers of what citizens expect from their government, citizens may doubt their government's competence. In recent decades, China has become an important donor to Africa, providing the continent with several aid projects. Consequently, this study examines whether aid from China undermines citizens' evaluations of government performance. Geocoded data on Chinese aid projects are matched to 4 waves of Afrobarometer survey respondents from 31 sub-Saharan African countries. Using an instrumental variable estimation, the findings indicate that Chinese aid undermines the evaluation of government performance. Testing for the mechanism through which this effect manifests, the results suggest Chinese aid engenders corruption perceptions and erodes trust.

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### **Keywords**

Chinese aid, government performance, evaluation, sub-Saharan Africa, perception, governance

## **Introduction**

In their public administrative roles, governments are expected to provide public goods and services for the benefit of their citizens (World Bank, 1992, 1997). Consequently, citizens are likely to give positive evaluations of a government that provides such amenities. In sub-Saharan African (SSA), a considerable number of governments fail to optimally meet the expectation of delivering the needed public goods and services. Such provisions have instead been significantly made available by foreign donors and non-governmental organizations (NGOs) (Batley and Mcloughlin, 2010). These provisions, therefore, raise the question of whether citizens are likely to alter their evaluations when external state and non-state actors become providers of what they expect from the government. Foreign aid donors often brand their projects as a means of publicizing their benevolent gesture and cultivating favorable donor perceptions among the citizens of the recipient country (Goldsmith et al., 2014; Xu and Zhang, 2020). Due to these branding acts, citizens are able to identify the funders of public goods and services and distinguish them from those that their government funds.

If citizens realize what they expect from their government is being provided by external state or non-state actors, they are likely to have poor perceptions of their government's competence in carrying out its responsibilities. Thus, despite the benefits that may be associated with aid (Dreher et al., 2021; Hirano and Otsubo, 2014), it is also likely to be concomitant with adverse effects on citizens' perceptions about their aid-receiving government (Atitianti, 2022; Briggs, 2018; Watkins, 2021).

Therefore, focusing on Chinese aid, this paper tests the hypothesis that aid induces poor assessments of government performance among citizens in recipient countries. Specifically, we examine whether Chinese aid undermines citizens' evaluations of government performance in SSA. China is the most significant aid donor to have arisen in recent decades. In a few decades, the nation has issued out aid that rivals the traditional West (Dreher et al., 2018; Dreher, Fuchs, Parks, et al., 2021). According to the China Africa Research Initiative (CARI), global aid outflows from China reached US\$ 3 billion in 2015, after which it declined to US\$ 2.3 billion in 2016 and then rose to US \$ 2.94 billion in 2020.<sup>1</sup> African countries have been major recipients, receiving 44.65% of the flows between 2013 and 2018 (Information Office of the State Council, 2021). The significant volumes of Chinese aid in African economies make it an interesting case to analyze its impact on citizens' evaluations of government performance.

Accordingly, we match geocoded data on Chinese aid projects in 31 SSA countries over the period between 2000 to 2014 to respondents from rounds 3 to 6 of Afrobarometer survey and analyze the respondents' assessments of how well the government is managing the economy based on their proximity to aid project sites. To cater to the potential endogeneity of aid, China's foreign currency reserves and annual production inputs are used as instruments in an instrumental variable (IV) estimation.

The estimation results indicate that Chinese aid induces poor assessments of government performance among citizens, thus, lending support to the hypothesis that aid undermines the evaluation of government performance. This finding is robust to an extensive set of estimations. Moreover, in exploring the potential transmission mechanisms for the observed poor assessments, the test results suggest that Chinese aid stimulates perceptions that government officials are involved in corrupt activities and erodes citizens' trust in the government.

In using geocoded data, this paper adds to the recently growing body of literature assessing aid's impact using micro-level analysis; specifically to those that analyze aid's effect on citizenry perceptions (see, e.g., Atitianti, 2022; Bai et al., 2022; Knutsen and Kotsadam, 2020; Watkins, 2021). An additional significance is that this paper studies the nexus between aid and citizenry attitudes by focusing on a relatively less studied attitude—government performance evaluation. Most studies on this theme have focused on trust, public support in the form of votes, and legitimacy attitudes such as tax payments.

## **Aid and Citizenry Attitudes**

It is hard to coin a one-fits-all definition of governance, as rightly opined by Fukuyama (2016). Literature on governance often considers governance in three broad dimensions: international cooperation, public administration, or social behavior regulation<sup>2</sup>. The perspective of governance as public administration, also known as good governance, to a large extent, concerns the state's capacity to provide public goods and services (World Bank, 1992, 1997). Thus, the effectiveness in delivering such becomes one of the metrics citizens use in assessing governance effectiveness. In other words, a government that adequately provides the needed public goods and services amidst other provisions would most likely be perceived as managing the economy well. However, would citizens alter their evaluations when these amenities are provided by external state and non-state actors in the form of foreign aid?

Because foreign aid can improve welfare in recipient countries (Gomanee et al., 2005; Kaya et al., 2013; Kaya and Kaya, 2019), citizens are likely to develop positive attitudes toward a government under whose regime foreign donors provide public goods and services. Thus, aid is likely to foster positive state-citizenry relations. In addition, governments being able to negotiate, solicit for and successfully manage aid may signal their competence and capacity to citizens and, therefore, engender positive responses from citizens. Accordingly, some studies document the positive impact of aid on citizenry legitimizing attitudes, often measured as citizens' willingness to comply with instructions

such as tax payment (Blair and Roessler, 2021; Dietrich et al., 2018; Dietrich and Winters, 2015; Sacks, 2012), confidence in state institutions (Bai et al., 2022), and support in the form of votes for the incumbent government (Briggs, 2012). Such positive impacts are likely to manifest when aid is effective and lives up to expectations.

However, there is reason to hypothesize that foreign aid may adversely affect citizens' attitudes toward their government. If external state and non-state actors become the providers of what is expected of the government, citizens are likely to adjudge the government as failing in its responsibility, hence dampening their legitimating beliefs in their governments (Bezzola et al., 2022). The adverse effects are likely to be pronounced when aid is ineffective or fails to live up to local expectations (Briggs, 2018). Briggs opines that citizens' dissatisfaction with the government "can exist whether or not aid actually led to improvements in people's lives, as it depends on an aid project not meeting local expectations rather than aid not meeting its own goals" (Briggs, 2018: p. 10). Additionally, aid meeting its own goals, especially in SSA, has been an issue of concern. Despite the significant amount of aid SSA has received in past decades, the sub-region remains the poorest in the world (Schoch and Lakner, 2020), raising a debate on aid effectiveness which has been dominant in aid literature (see, e.g., Easterly, 2006; Moyo, 2009). Moreover, aid-dependent governments are prone to channeling budgets for public investment to other purposes when aid provides the needed public goods and services (Chatterjee et al., 2012). If aid crowds out governments' public investments and reduces their tendency to provide public goods and services, citizens may develop negative perceptions of their governments.

Furthermore, aid-dependent countries are more likely to be accountable to their donors (especially when aid has accompanying conditions) than their citizens and therefore have fewer incentives to maintain citizens' legitimizing beliefs (Moss et al., 2006). Besides, receiving foreign aid also raises concerns about the relationship between donors and recipient governments, donors' control over the recipient governments and their resources, concerns about aid conditionality and fungibility, and whether or not such partnerships are advantageous to the recipient countries (Dietrich et al., 2018; Dolan, 2020; Milner et al., 2016).

Accordingly, existing studies find that foreign aid reduces trust in governments (Atitianti, 2022; Watkins, 2021). In addition, some studies postulate that the relationship between the state and its citizens is a form of "fiscal contract" in which the state, in exchange for the public goods and services it provides, receives complying attitudes from citizens in the form of tax payments and other civic responsibilities (Moore, 2008; Timmons, 2005). Hence, when the government is not the main provider of public goods and services, the contract is broken, and citizens withhold their "contractual" duties. In line with this, evidence shows that foreign aid reduces support for the incumbent government (Briggs, 2018).

Based on the foregoing, we hypothesize that aid will fuel poor evaluations of government performance among citizens of recipient governments. Citizens' assessment of a government's performance is influenced by the government's efforts in meeting certain expectations (Gottlieb, 2016). Hence, if external state and non-state actors instead

meet these expectations, citizens will likely rate the government poorly. Particularly for Chinese aid, which has been described as self-interest seeking (Harchaoui et al., 2021), with no or few strings attached, thereby increasing the likelihood of fungibility (Dolan and McDade, 2020; Dreher et al., 2019), the adverse effect may be pronounced. Existing studies on this state-citizen nexus have dominantly focused on compliance with tax payment, trust in state institutions, and vote choice as the measures of citizenry attitudes; thus, by focusing on the evaluation of government performance, this study extends the scope of knowledge on how aid impacts citizens' attitudes.

## Data and Empirical Framework

### Data

The data on Chinese aid projects is sourced from AidData's Geocoded Global Chinese Official Finance Dataset (Version 1.1.1) (AidData Research and Evaluation Unit, 2017; Bluhm et al., 2018). The dataset covers China's global official financial outflows and was compiled by Bluhm et al. (2018) using a media-based tracking underreported financial flows (TUFF) methodology to collect data on China's financial outflows to other nations<sup>3</sup>. The projects are geocoded, making it possible to locate each project's site. The geocoding process is such that the location precision of each project is revealed by its assigned number, ranging from 1 to 8 in decreasing order of precision. In order to estimate the local effects of the aid projects, we focus on precision levels 1 and 2. 1 is representative of coordinates corresponding to an exact location, and 2 means that the specified location is near, in the "area" of, or up to 25 km away from the exact location.

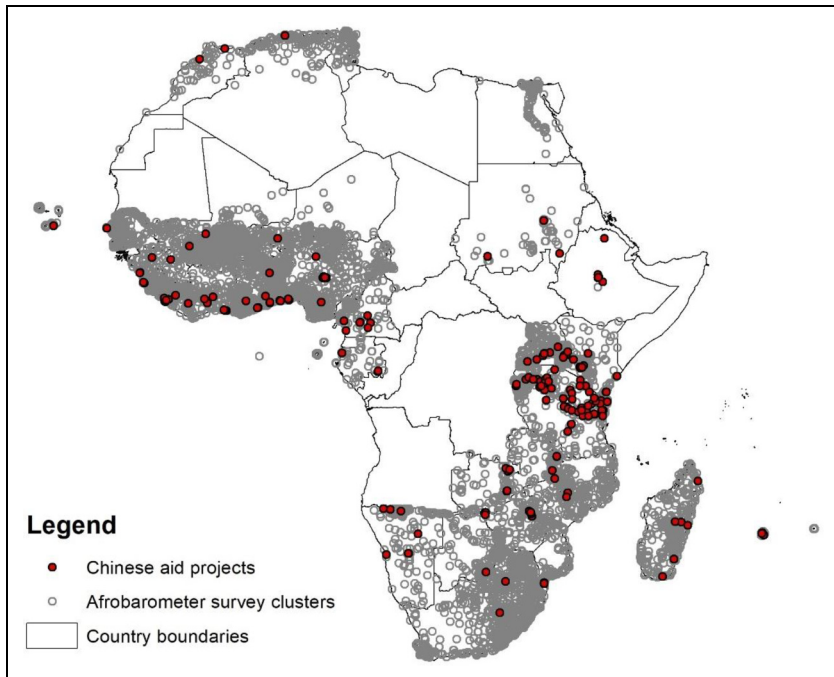
AidData categorizes the aid flows into three types; official development assistance (ODA), other official flows (OOF), or vague flows (VF). ODA represents aid flows from official agencies to developing economies that are listed in DAC's ODA recipients. These flows ought to be channeled at improving welfare and economic development and must be concessional with a grant element of 25% or more<sup>4</sup>. Financial flows that do not meet the requirements of ODA are labelled as OOF. VF is a third category to capture flows that are neither ODA nor OOF. This paper focuses strictly on aid; hence, only projects categorized as ODA are maintained for the analyses. In addition, only projects with available start dates are kept, leaving a total of 328 projects.

The accompanying dataset that allows the measurement of citizens' attitudes is the Afrobarometer survey data. This is a nationally representative survey aimed at gathering public perspectives on democracy, governance, the economy, and society in African countries<sup>5</sup>. The data are also geocoded, thus, containing point coordinates that allow us to identify the location of the survey respondents. The point coordinates refer to enumeration areas (EAs) of the survey, which are villages, towns, or neighborhoods. These point coordinates are matched to that of the Chinese aid projects in order to determine respondents' proximity to aid project sites. We follow Knutsen et al. (2017) to conduct this matching process; hence, we measure the distance between the location of Chinese projects and the center points of the EAs and analyze the evaluations of

respondents in EAs that fall within a specified cut-off distance from at least one Chinese aid project location. Figure 1 shows the location of Chinese aid projects and Afrobarometer survey EAs.

As part of the data collected, the Afrobarometer survey collects public perceptions on the quality of governance and therefore makes it feasible to investigate citizens' perceptions of governance based on their proximity to Chinese aid project sites. As part of the governance-related questions, respondents are asked to rate the current government's performance on a select number of indicators. The question of interest for this research reads; "How well or badly would you say the current government is handling the following matters, or haven't you heard enough to say: Handling managing the economy?" The response categories range from 1 "very badly" to 4 "very well," 9 represents "don't know/haven't heard enough." Respondents' answers to this question serve as the main variable of interest in this study. After dropping respondents who answer "don't know/haven't heard enough," we generate a dummy variable that assumes the value of 1 for response numbers 3 or 4 and 0 otherwise.

The main variable of interest focuses on respondents living within 50 km of a Chinese aid project site. In line with the approach of Cruzatti et al. (2020), we measure the presence of Chinese aid projects using a dummy variable that takes the value of 1 if at least



**Figure 1.** Location of Chinese aid project sites and Afrobarometer survey clusters.

one Chinese aid project has been implemented within 50 km of a survey cluster and 0 otherwise. Table 1 presents the descriptive statistics of the variables.

### *Empirical Framework*

Assuming that the distribution of Chinese aid projects is random may be an unconvincing assumption. The implementation of aid projects is targeted at meeting certain needs; hence its distribution is more likely to be non-random. This non-random distribution suggests that some areas marked by some distinguishing traits will likely receive more aid than others. Furthermore, since the implementation of the projects takes place with the cooperation of incumbent governments, they could influence site selection for the projects. Consequently, the location of aid projects is prone to be influenced by pre-existing public perceptions of the incumbent government and other related factors. For example, aid projects could be situated in areas where the incumbent government is unpopular in order to win over public support for the government. Conversely, such projects could be used as reward schemes and be sited in areas that have shown support for the incumbent government (see, e.g., Dreher et al., 2019). Aid is, therefore, likely to be endogenous to evaluation outcomes.

**Table 1.** Descriptive Statistics.

	N	Mean	Sd	Min	Max
Economic management (dummy)	63,200	0.444	0.497	0.000	1.000
Economic management (ordinal)	63,200	2.260	0.943	1.000	4.000
Chinese aid	63,200	0.318	0.466	0.000	1.000
Age of respondent	63,200	36.600	14.444	18.000	115.000
Age squared/100	63,200	15.482	12.848	3.240	132.250
Female dummy	63,200	0.493	0.500	0.000	1.000
Urban dummy	63,200	0.456	0.498	0.000	1.000
Reserves	63,200	28.240	0.599	25.849	28.981
Materials	63,200	0.005	0.164	-1.242	0.576
Probability of aid	63,200	0.065	0.136	0.000	0.733
Country direction	41,038	0.443	0.497	0.000	1.000
President's performance	59,969	2.764	0.964	1.000	4.000
MP's performance	57,500	2.495	0.911	1.000	4.000
President corruption	55,243	1.278	0.896	0.000	3.000
MP corruption	55,757	1.334	0.845	0.000	3.000
Party support	34,360	0.581	0.493	0.000	1.000
Trust president	64,706	0.826	0.379	0.000	1.000
Trust MP	63,159	0.806	0.395	0.000	1.000
Trust ruling party	63,614	0.747	0.435	0.000	1.000

Notes: The statistics are based on the baseline estimation sample.



We, therefore, employ an IV estimation to deal with the potential endogeneity issue. Our choice of instruments is guided by those introduced by Bluhm et al. (2018), Dreher, Fuchs, Holder et al. (2021), and Dreher, Fuchs, Parks et al. (2021).

Dreher, Fuchs, Holder et al. (2021) indicate that because China rewards its officials for steel production, the produced amounts often surpass what is needed locally. The surplus amounts of steel, therefore, make it cheaper for China to fund aid projects which use steel. Consequently, Chinese aid is likely to increase with increases in Chinese steel production. Therefore, Dreher, Fuchs, Holder et al. (2021) use the log of China's annual steel production as an instrument for Chinese aid. This instrument is further modified by Bluhm et al. (2018), who add to this instrument the annual production amounts of pig iron, timber, glass, aluminum, and cement. The authors further detrend the (logged) inputs, extract the first principal factor and interact it with the number of years each region has received Chinese aid during the sample period the dataset covers (2000–2014). Following in similar steps, we use Bluhm et al. (2018)'s version as the first instrument for the availability of Chinese aid ( $Materials_{t-1}$ ).

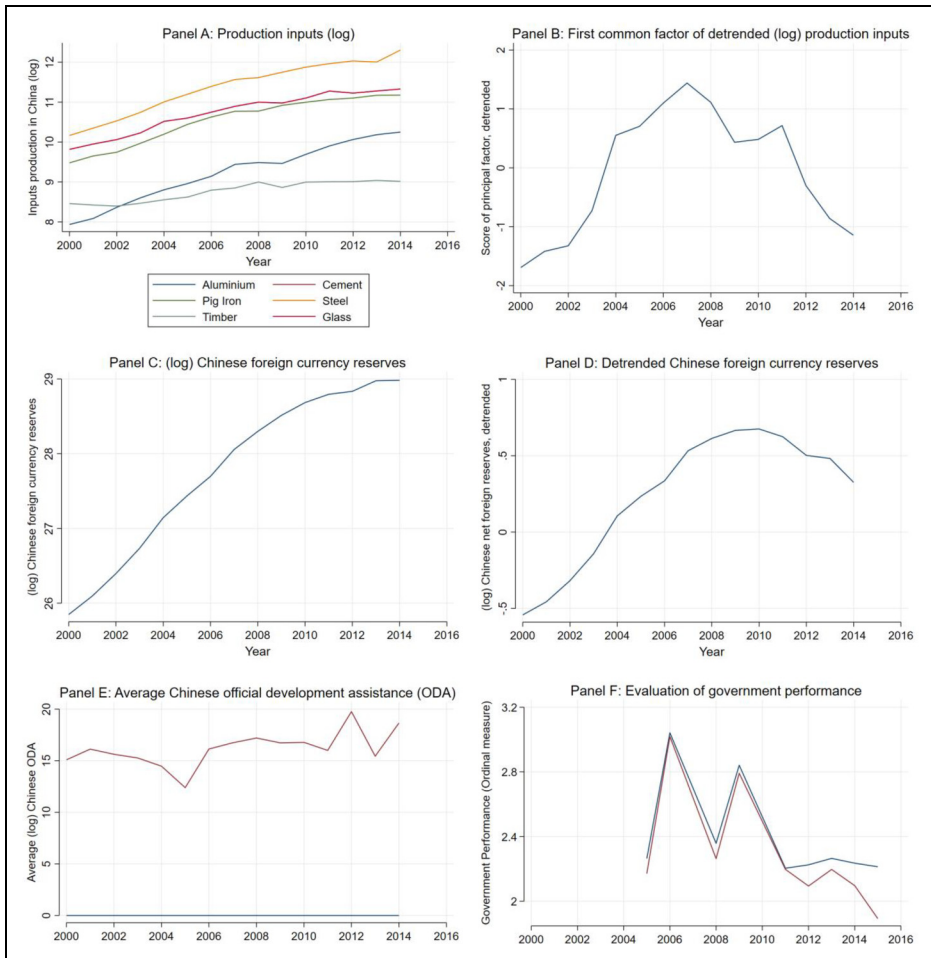
Furthermore, Dreher, Fuchs, Parks et al. (2021) suggest that one of the reasons China gives non-concessional, dollar-denominated loans is the opportunity of earning interest rates higher than what is obtainable locally. Such motives simultaneously make granting concessional projects more probable since the income effect of cheaper aid provision should make the provision of both aid types more likely. Accordingly, it can be expected that when China's foreign currency reserves increase, the supply of Chinese aid will increase. Dreher, Fuchs, Parks et al. (2021) provide evidence of this, showing that China increased its aid supply in years its foreign currency reserves increased. To instrument for Chinese aid, the authors interact China's net currency reserves with a region's probability of receiving Chinese aid. We adopt this as our second instrument, ( $Reserves_{t-1}$ )<sup>6</sup>, calculating the probability of receiving Chinese aid as the discrete number of years a location receives at least one Chinese aid project during the period between 2000 and 2014;  $\frac{1}{15} \sum_{2000}^{2014} p_{c,t}$ , where  $p_{c,t}$  is a dummy variable that assumes 1 if a location  $c$  receives Chinese aid in year  $t$ . Panels A to D of Figure 2 show the instruments' trend over time. Panel A shows the logged amounts of the production inputs; Panel B shows the detrended first common factor of these inputs which we use as our instrument interacted with the probability of receiving aid. Panels C and D show the logged amounts and detrended foreign currency reserves, respectively.

The first and second stages of the baseline regression, respectively, are:

$$Aid_{c,t} = \alpha_1 Materials_{t-1} * p_c + \alpha_1 Reserves_{t-1} * p_c + \gamma X_{i,t} + \delta_s + \varphi_t + \varepsilon_{c,t} \quad (1)$$

$$Gov_{i,c,t} = \beta_1 Aid_{c,t} + \gamma X_{i,t} + \delta_s + \varphi_t + \varepsilon_{i,c,t} \quad (2)$$

where  $Gov_{i,c,t}$  is the response on how well the government is “managing the economy” of individual  $i$  in cluster  $c$  in year  $t$ .  $Aid_{c,t}$  is a dummy that takes the value of 1 if at least one Chinese aid project has been implemented within 50 km of an Afrobarometer survey cluster.  $X_{i,t}$  is a vector of individual controls: urban/rural residence, gender, age,



**Figure 2.** Chinese official development assistance (ODA), production inputs, and government performance. *Notes:* Panel A shows the variation of production inputs over time. Panel B shows the detrended first common factor of these inputs. Panels C and D show the logged amounts and detrended foreign currency reserves, respectively. Panels E and F, respectively, show the variation in Chinese aid and evaluation of government performance between aid recipients and non-aid recipients.

and age squared.  $\delta_s$  and  $\varphi_t$  are country and year fixed effects to control for variations across countries and years, respectively. Standard errors are clustered at the level of first-order administrative regions (ADM1). Both instruments are lagged by 1 year.

There might be concerns that the instruments violate the exclusion restriction because the likelihood of receiving aid may directly impact governance attitudes. However, the

second stage regressions we implement control for the probability of receiving aid through country and year-fixed effects. Implementing these fixed effects suggests that these variables are not likely to be correlated with the error term and hence exogenous to Chinese aid. Furthermore, interacting the probability of aid, which we control for, with an exogenous variable (production inputs) engenders an exogenous instrument in line with the parallel trends assumption (Bun and Harrison, 2019; Nizalova and Murtazashvili, 2016).

Like a difference-in-difference estimation, our approach establishes the differential impact of aid projects in locations with a high compared to a low probability of receiving aid. The identifying assumption is that governance attitudinal outcomes in locations with varying probabilities of receiving aid will not be affected differently by changes in China's aid input production, and the availability of reserves, other than through the impact of aid, controlling for the probability of receiving aid, and country and year fixed effects. Consequently, our estimation approach relies on (conditionally) exogenous treatment and the absence of different pre-trends across groups (Dreher, Fuchs, Hodler, et al., 2021).

In line with Christian and Barrett (2017), Panels E and F of Figure 2 plot the variation in Chinese aid and government performance evaluation<sup>7</sup>, respectively, dependent on the median probability of receiving aid. As the graphs show, the parallel trends assumption appears to hold. A parallel trend can be observed between Chinese aid recipients (locations with above-median probability of receiving aid) and no Chinese aid recipients (locations with below-median probability of receiving aid, which is zero in our estimations).

Considering the IV we use, one might think our local average treatment effect (LATE) may be capturing the impacts from aid that is infrastructure-heavy and thus relies significantly on the production inputs China produces. This may suggest that it might not make a good enough prediction of other non-infrastructure-heavy projects and that the projects it predicts might be larger than average. However, other projects that might not be infrastructure-heavy but involve some construction also use these production inputs. Hence, the higher amounts of these inputs available make China more likely to fund such aid projects.

Furthermore, higher amounts of these production inputs arguably make the provision of other aid projects unrelated to these inputs more likely. We suggest this to happen in instances where the income effect of cheaper aid provision surpasses the substitution effect away from the aid projects that are more expensive and that do not require production inputs in periods in which these inputs are more easily available (Dreher, Fuchs, Parks, et al., 2021). In addition, as Dreher, Fuchs, Parks et al. (2021) reveal, China issues aid in response to recipients' requests, and these recipients are not likely to modify the content of their requests based on the available amounts of China's production inputs. Consequently, it is expected that various aid types can be funded during periods aid supply becomes cheaper. Furthermore, we find it hard to unearth any cogent reason for which aid projects financed as a result of reserve availability will differ primarily from other projects whose funding is not tied to the availability of reserves.

## Results

### *Baseline Results: Chinese Aid and the Evaluation of Government Performance*

The estimation results suggest that Chinese aid induces a poor or negative assessment of government performance among the citizens in recipient countries. Table 2 presents the baseline estimation results; the dummy dependent variable is captured in column 1, and its ordinal form in column 2. The baseline controls include urban/rural residence, gender, age, and age squared. For ease of interpreting the results, we focus on the dummy dependent variable in column 1. The coefficient of Chinese aid in column 1 suggests that Chinese aid is associated with a 6.4 percentage points decline in the likelihood of citizens indicating that the government is managing the economy well. The negative effect similarly holds in column 2, where the dependent variable is ordinal. The strength of the instruments is represented by the first-stage F-statistic (Kleibergen-Paap F).

In democratic countries, it is very likely that citizens are affiliated with or support certain political parties; hence, such affiliations shape their political perceptions (Tilley and Hobolt, 2011; Ward and Tavits, 2019). Supporters of the incumbent

**Table 2.** Chinese Aid and the Evaluation of Government Performance: Baseline Results.

	(1) Dummy	(2) Ordinal	(3) Dummy	(4) Ordinal
Chinese aid	-0.064*** (0.016)	-0.134*** (0.035)	-0.063*** (0.016)	-0.137*** (0.035)
Party support			0.232*** (0.013)	0.469*** (0.029)
First stage				
Materials (t-1) x Prob.	0.592*** (0.087)	0.592*** (0.087)	0.592*** (0.087)	0.582*** (0.094)
Reserves (t-1) x Prob.	0.094*** (0.007)	0.094*** (0.007)	0.094*** (0.007)	0.093*** (0.007)
Observations	63,200	63,200	34,360	34,360
R-squared	0.083	0.096	0.133	0.150
Kleibergen-Paap F	104.034	104.034	96.155	96.155
Baseline controls	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Notes: These results are based on the sample of countries where there was either no government turnover or turnover within the same party during the sample period (2000–2014). When turnover occurs between different parties, the regime with the highest survey rounds and aid projects is maintained. The baseline controls include urban/rural residence, age, age squared, and gender. Robust standard errors clustered at the first-order administrative region (ADMI) level are in parentheses; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

government are more prone to biased favorable assessments and, therefore, more likely to indicate that the current government is managing the economy well (see, e.g., Carlson, 2016; van der Eijk et al., 2007). Consequently, controlling for political party support is essential to confirm the robustness of the initial findings. The question that most likely represents political support in the set of survey questions are these two questions: “Do you feel close to any particular political party?” and “which party is that?” We, therefore, generate a dummy variable, *Party support*, which assumes 1 if the respondent feels close to the ruling party and 0 otherwise. The regression results are presented in columns 3 and 4 of Table 2. Due to respondents’ reticence in answering this question, there is a significant reduction in the sample size. As expected, the results in both columns show that individuals who feel close to the ruling party are more likely to give positive evaluations of government performance. The negative effect of Chinese aid still holds in columns 3 and 4.

### *Population Heterogeneity*

We further analyze the heterogeneous effect of Chinese aid projects on the assessment of governance by segregating the population into subgroups. The segregation categories are rural and urban residence, male and female, employed and unemployed, and tertiary and non-tertiary. Employed refers to individuals who are part or full-time employed, while unemployed refers to individuals without any form of employment. Tertiary comprises individuals who have completed university education, and non-tertiary captures those who haven’t. As can be observed from Table 3, the poor governance evaluations are more pronounced for people living in rural areas, females, the unemployed, and those without tertiary education compared to their respective counterparts.

### *Robustness Checks*

To examine how the result will respond to altering the cut-off distance, we reduce the cut-off to 25 km and re-run the baseline estimation. The results which are presented in Table A1 are similar to the baseline results. Across all the columns, Chinese aid has a negative effect on the evaluation of government performance. Secondly, it is often the case that the allocation of aid resources takes time and may therefore prolong the time it takes for aid’s effects to manifest. China disburses its aid relatively faster than Western donors (see Dreher et al., 2019); thus, we use one-year lags in the main estimations. Nevertheless, to test the effect of different lag periods, Table A2 replicates the baseline estimation where we lag the instruments by 2 (Panel A) and 3 years (Panel B), respectively. Across all the columns of both panels, Chinese aid’s negative effect on citizens’ assessments is significant at the 1% significance level. Thirdly, we consider two alternative measures of government performance. The first, *country direction*, is a dummy variable capturing respondents’ perceptions of whether the country is going in the wrong (0) or right direction (1). This variable is only available for rounds 5 and 6 of the Afrobarometer survey, thus reducing the sample size. The second variable,

Table 3. Population Heterogeneity.

	(1) Urban	(2) Rural	(3) Male	(4) Female	(5) Employed	(6) Unemployed	(7) Tertiary	(8) Non-Tertiary
Chinese aid	-0.045** (0.017)	-0.095*** (0.023)	-0.054*** (0.016)	-0.075*** (0.018)	-0.052* (0.023)	-0.069*** (0.016)	-0.011 (0.028)	-0.068*** (0.016)
First stage Materials (t-1) x Prob.	0.464*** (0.121)	0.685*** (0.096)	0.595*** (0.087)	0.588*** (0.087)	0.490*** (0.105)	0.648*** (0.089)	0.516** (0.172)	0.595*** (0.086)
Reserves (t-1) x Prob.	0.097*** (0.008)	0.104*** (0.008)	0.094*** (0.007)	0.094*** (0.007)	0.090*** (0.008)	0.095*** (0.006)	0.103*** (0.010)	0.094*** (0.006)
Observations	28,825	34,375	32,062	31,138	18,228	44,817	4,526	58,564
R-squared	0.109	0.068	0.081	0.086	0.098	0.085	0.117	0.082
Kleibergen-Paap F	81.927	78.308	103.943	103.996	57.851	122.648	53.133	107.387
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: These results are based on the sample of countries where there was either no government turnover or turnover within the same party during the sample period (2000–2014). When turnover occurs between different parties, the regime with the highest survey rounds and aid projects is maintained. The baseline controls include urban/rural residence, age, age squared, and gender. Robust standard errors clustered at ADM1 level are in parentheses. ADM1 first-order administrative region \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

*president's performance*, captures citizens' approval or disapproval of the president's performance. The responses include "strongly disapprove" (1), "disapprove" (2), "approve" (3) and "strongly approve" (4). The results, presented in Table A3, are similar to the baseline findings and confirm that Chinese aid undermines government performance evaluation. In Table A4, we estimate the baseline model using the full sample, that is, including periods where turnovers were between different political parties. Again, the results are similar, showing a negative effect of Chinese aid on citizens' evaluations.

### **Exploring Transmission Mechanisms**

So far, all the estimation results convincingly show that Chinese aid projects induce poor assessments of government performance. It is, therefore, imperative to explore the potential mediums through which aid projects may impact the evaluation of government performance. Studies reveal that despite the benefits associated with foreign aid, it is likely to make rife concerns about donor-recipient relationship and aid fungibility (Dietrich et al., 2018; Dolan, 2020; Milner et al., 2016). Accordingly, these concerns suggest that foreign aid may fuel perceptions among citizens that their government is involved in corrupt activities. This proposition is corroborated by studies documenting that foreign aid increases corruption experiences and perceptions (see, e.g., Asongu and Jellal, 2013; Brazys et al., 2017; Knack, 2001). In addition, Van de Walle and Bouckaert (2003) argue that existing levels of trust may also influence perceptions of government performance. Intuitively, if Chinese aid fuels corruption perceptions, trust is also likely to be low.

Therefore, we test whether Chinese aid fuels perceptions that government officials are involved in corrupt activities and whether it declines trust in the government. *President corruption* and *MP corruption* capture respondents' perception of the number of people involved in corruption at the office of the president/prime minister and members of parliament/national assembly, respectively. The response scale includes "none" (0), "some of them" (1), "most of them" (2), and "all of them" (3). Consequently, should the proposed mechanism hold, Chinese aid will positively impact these variables. The trust variables are dummy variables that measure whether respondents trust the president/prime minister, members of parliament/national assembly, and the ruling party. We, thus, expect Chinese aid to have a negative effect on trust. The results in Table 4 suggest the proposed mechanisms hold; Chinese aid fuels corruption perceptions (columns 1 and 2) and declines trust in the government (columns 3–5).

### **Discussion**

The literature on aid reveals that despite the positive intentions for which aid may be issued, its impact could be either positive or negative. This paper finds that one of the unintended adverse effects of Chinese aid is that it undermines citizens' evaluations of government performance. This finding is robust to a battery of robustness checks and therefore contributes to the sect of literature that document how aid inadvertently erodes belief in recipient governments. Briggs (2018) finds interesting evidence based

Table 4. Transmission Mechanisms.

	(1) President Corruption	(2) MP Corruption	(3) Trust President	(4) Trust MP	(5) Trust Ruling Party
Chinese aid	0.095*** (0.028)	0.113*** (0.019)	-0.039** (0.012)	-0.051*** (0.009)	-0.048*** (0.012)
First stage Materials (t-1) x Prob.	0.581*** (0.088)	0.576*** (0.087)	0.593*** (0.087)	0.589*** (0.088)	0.589*** (0.087)
Reserves (t-1) x Prob.	0.093*** (0.007)	0.093*** (0.007)	0.094*** (0.007)	0.094*** (0.007)	0.094*** (0.007)
Observations	56,753	57,260	64,706	63,159	63,614
R-squared	0.109	0.102	0.064	0.052	0.089
Kleibergen-Paap F	103.132	102.097	105.549	104.862	104.563
Baseline controls	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes

Notes: These results are based on the sample of countries where there was either no government turnover or turnover within the same party during the sample period (2000–2014). When turnover occurs between different parties, the regime with the highest survey rounds and aid projects is maintained. The baseline controls include urban/rural residence, age, age squared, and gender. Robust standard errors clustered at ADM1 level are in parentheses. ADM1: first-order administrative region; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



on a sample of 3 countries (Nigeria, Senegal, and Uganda) that aid reduces support in the form of votes for the incumbent government. Relatedly, Watkins (2021), based on the same sample of countries, also concludes that aid reduces citizens' trust in the government. These conclusions are particularly concerning because governments need the support and cooperation of their citizens if they are to excel in meeting citizens' expectations.

On the other hand, it must be noted that a contrasting set of studies argue that aid has a rather positive effect on citizen attitudes. These studies, however, mainly focus on aid's effect on legitimizing attitudes, typically tax compliance and morale (Blair and Roessler, 2021; Dietrich and Winters, 2015). In addition, some recent studies find positive (Bai et al., 2022) and nuanced (Wellner et al., 2022) effects on support and confidence in governments.

In an effort to understand the factors accounting for the varying findings, Blair and Winters (2020) explain that aid may rather be declining governments' investment in institutions, resulting in the poor state of institutions which eventually dampens citizens' confidence in governments. Baldwin and Winters (2020) also assert aid's effect is influenced by the mode of disbursement and implementation. The authors find that bypass aid (donor aid to NGOs) undermines citizens' evaluations of government performance but do not find evidence that information about aid affects citizens' legitimacy attitudes. Furthermore, Dolan (2020) adds that citizens may not necessarily expect their government to be self-sufficient to provide all needed public goods and services. In addition, Dolan (2020) adds that tax-based measures of legitimacy are sometimes not properly suited to the contexts of developing countries.

In light of these mixed findings, perhaps the heterogeneous impacts that may result from variations in aid types, aid volumes, implementation approaches, and the context of recipient countries, among others, may underpin the diverse perspectives of these studies on aid-citizen attitudes nexus.

## Conclusion

Chinese aid has, in recent years, become a major focus of aid research owing to China's meteoric ascent to become a major donor, issuing volumes of aid that rivals that of traditional donors. Though aid is likely to be associated with various benefits, it is also likely to undermine state-citizen relations. In this paper, we hypothesize that if citizens expect the government to be the provider of public goods and services, the provision of such amenities through foreign aid may cause citizens to deem the government incompetent in managing the economy. Furthermore, the issues of aid fungibility and unclarity in donor-recipient relationships are also likely to stimulate perceptions that government officials are involved in corrupt activities. Consequently, aid may fuel poor evaluations of government performance among the citizens in recipient countries.

To test this hypothesis, we match geocoded data on Chinese aid projects in SSA between 2000 and 2014 to respondents from 4 waves of Afrobarometer survey. Using an IV estimation, this paper finds robust supporting evidence for the hypothesis that

Chinese aid induces poor evaluations of government performance. In analyzing the transmission mechanisms through which Chinese aid influences citizens' assessments of government performance, the results suggest that Chinese aid stimulates perceptions that government officials are involved in corrupt activities and, in addition, reduces citizens' trust in the government.


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### Notes

1. <http://www.sais-cari.org/data-chinese-global-foreign-aid>
2. For a detailed discussion, see Fukuyama (2016).
3. See Strange et al. (2017) for a detailed discussion on the TUFF methodology.
4. OECD-DAC Glossary of Key Terms and Concepts: <http://www.oecd.org/dac/dac-glossary.htm>
5. <https://afrobarometer.org/about>
6. We use the log of China's foreign currency reserves. Prior to taking any log, the value of one is added to prevent data loss for observations with zero values.
7. It must be noted that the four rounds of the Afrobarometer survey (rounds 3-6) we use does not equate 4 years of data. The period of data collection varies across countries. The data collection for round 3 took place between 2005 and 2006, and between 2008 and 2009 for round 4. Round 5 data collection took place between 2011 and 2013 while that of round 6 occurred between 2014 and 2015, totaling 9 years of data.

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## **Entwicklungshilfe und Regierungsführung: Auswirkungen chinesischer Entwicklungshilfe auf die Bewertung der Regierungsleistung in subsaharischen Ländern Afrikas**

### **Zusammenfassung**

Eine der Hauptaufgaben einer Regierung besteht darin, öffentliche Güter und Dienstleistungen zum Nutzen der Bürger bereitzustellen. Eine Regierung, die sich bei der Bereitstellung solcher Güter und Dienstleistungen auszeichnet, kann daher von ihren Bürgern positiv bewertet werden. Wenn jedoch externe staatliche und nichtstaatliche Akteure durch Entwicklungshilfe das anbieten, was die Bürger von ihrer Regierung erwarten, können die Bürger an der Kompetenz ihrer Regierung zweifeln. In den letzten Jahrzehnten hat sich China zu einem wichtigen Geber für Afrika entwickelt und den Kontinent mit mehreren Hilfsprojekten unterstützt. In dieser Studie wird daher untersucht, ob die Hilfe aus China die Bewertung der Regierungsleistung durch die Bürger untergräbt. Geocodierte Daten über chinesische Hilfsprojekte werden mit 4 Wellen von Afrobarometer-Umfragen in 31 afrikanischen Ländern südlich der Sahara (SSA) abgeglichen. Die Ergebnisse zeigen, dass die chinesische Hilfe die Bewertung der Regierungsleistung untergräbt. Bei der Prüfung des Mechanismus, durch den sich dieser Effekt manifestiert, deuten die Ergebnisse darauf hin, dass die chinesische Hilfe die Wahrnehmung von Korruption fördert und das Vertrauen untergräbt.

### **Stichwörter**

Chinesische Entwicklungshilfe, Regierungsleistung, Evaluierung, Afrika, Wahrnehmung, Governance

## Appendix

**Table A1.** 25 km Cut-Off Distance.

	(1) Dummy	(2) Ordinal	(3) Dummy	(4) Ordinal
Chinese aid	-0.083*** (0.022)	-0.175*** (0.048)	-0.082*** (0.022)	-0.181*** (0.048)
Party support			0.232*** (0.013)	0.469*** (0.030)
First stage				
Materials ( $t-1$ ) $\times$ Prob.	0.350*** (0.071)	0.350*** (0.071)	0.346*** (0.073)	0.346*** (0.073)
Reserves ( $t-1$ ) $\times$ Prob.	0.073*** (0.005)	0.073*** (0.005)	0.072*** (0.005)	0.072*** (0.005)
Observations	63,200	63,200	34,360	34,360
R-squared	0.080	0.093	0.130	0.147
Kleibergen-Paap F	121.560	121.560	121.381	121.381
Baseline controls	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Notes: These results are based on the sample of countries where there was either no government turnover or turnover within the same party during the sample period (2000–2014). When turnover occurs between different parties, the regime with the highest survey rounds and aid projects is maintained. The baseline controls include urban/rural residence, age, age squared, and gender. Robust standard errors clustered at first-order administrative region (ADM1) level are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A2.** Different Lags.

	(1) Dummy	(2) Ordinal	(3) Dummy	(4) Ordinal
Panel A: 2-year lag				
Chinese aid	-0.065*** (0.017)	-0.139*** (0.037)	-0.062*** (0.017)	-0.139*** (0.036)
Party support			0.232*** (0.013)	0.469*** (0.029)
First stage				
Materials (t-2) x Prob.	0.445*** (0.087)	0.445*** (0.087)	0.449*** (0.099)	0.449*** (0.099)
Reserves (t-2) x Prob.	0.092*** (0.008)	0.092*** (0.008)	0.092*** (0.008)	0.092*** (0.008)
Kleibergen-Paap F	69.482	69.482	68.183	68.183
Panel B: 3-year lag				
Chinese aid	-0.066*** (0.018)	-0.140*** (0.039)	-0.061*** (0.017)	-0.138*** (0.037)
Party support			0.232*** (0.013)	0.469*** (0.029)
First stage				
Materials (t-3) x Prob.	-0.032 (0.081)	-0.032 (0.081)	-0.049 (0.087)	-0.049 (0.087)
Reserves (t-3) x Prob.	0.091***	0.091***	0.092***	0.092***
Kleibergen-Paap F	69.482	69.482	68.183	68.183
Observations	63,200	63,200	34,360	34,360
R-squared	0.083	0.096	0.133	0.150
Baseline controls	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Notes: These results are based on the sample of countries where there was either no government turnover or turnover within the same party during the sample period (2000–2014). When turnover occurs between different parties, the regime with the highest survey rounds and aid projects is maintained. The baseline controls include urban/rural residence, age, age squared, and gender. Robust standard errors clustered at first-order administrative region (ADM1) level are in parentheses; \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



**Table A3.** Alternative Measures of Government Performance.

	(1) Country Direction	(2) President's Performance	(3) Country Direction	(4) President's Performance
Chinese aid	-0.059*** (0.016)	-0.094* (0.037)	-0.063*** (0.015)	-0.082** (0.031)
Party support			0.211*** (0.014)	0.728*** (0.031)
First stage				
Materials (t-1) x Prob.	0.524*** (0.114)	0.587*** (0.087)	0.510*** (0.120)	0.579*** (0.094)
Reserves (t-1) x Prob.	0.096*** (0.008)	0.094*** (0.007)	0.093*** (0.008)	0.093*** (0.007)
Observations	42,767	62,377	22,609	34,586
R-squared	0.091	0.122	0.155	0.246
Kleibergen-Paap F	79.978	105.062	71.795	96.733
Baseline controls	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Notes: These results are based on the sample of countries where there was either no government turnover or turnover within the same party during the sample period (2000–2014). When turnover occurs between different parties, the regime with the highest survey rounds and aid projects is maintained. The baseline controls include urban/rural residence, age, age squared, and gender. Robust standard errors clustered at first-order administrative region (ADMI) level are in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table A4.** Including Turnovers Between Different Parties.

	(1) Dummy	(2) Ordinal	(3) Dummy	(4) Ordinal
Chinese aid	-0.044** (0.016)	-0.096** (0.035)	-0.037* (0.017)	-0.085* (0.036)
Party support			0.229*** (0.012)	0.460*** (0.026)
First Stage				
Materials (t-1) x Prob.	0.539*** (0.083)	0.539*** (0.083)	0.536*** (0.089)	0.536*** (0.089)
Reserves (t-1) x Prob.	0.096*** (0.006)	0.096*** (0.006)	0.096*** (0.006)	0.096*** (0.006)
Observations	79,434	79,434	43,024	43,024
R-squared	0.076	0.087	0.124	0.138
Kleibergen-Paap F	131.488	131.488	122.807	122.807
Baseline controls	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes

Notes: The results in this table are based on the inclusion of country periods where there were turnovers between different political parties. The baseline controls include urban/rural residence, age, age squared, and gender. Robust standard errors clustered at ADMI level are in parentheses. ADMI: first-order administrative region. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .