WORKING PAPER

CHINA AFRICA RESEARCH INITIATIVE

NO. 21 NOV 2018

Comparing the Determinants of Western and Chinese Development Finance Flows to Africa

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JOHNS HOPKINS SCHOOL of ADVANCED INTERNATIONAL STUDIES

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WORKING PAPER SERIES

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TO CITE THIS PAPER:

Landry, David G. 2018. *Comparing the Determinants of Western and Chinese Development Finance Flows to Africa*. Working Paper No. 2018/21. China-Africa Research Initiative, School of Advanced International Studies, Johns Hopkins University, Washington, DC. Retrieved from http://www.sais-cari.org/publications.

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Editor: Daniela Solano-Ward

ABSTRACT

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In 2000, China's annual development finance to Africa totaled US$121 million, and was distributed among a handful of countries. By 2013, that figure had risen to well over US$16 billion. Over the same period, the west began paying growing attention to the quality of governance in the developing world, and how it relates to economic development. Many have hypothesized that China—through its growing economic and political footprint—is undermining the west's drive to promote good governance in developing countries, and in Africa in particular, by predominantly engaging with countries ruled through corruption, autocracy, and despotism. Furthermore, China has been accused of distributing development finance to further its own strategic and economic interests, rather than to benefit the development of the recipients of its money. This paper explores whether various governance indicators among African countries impact the development finance they can secure from China and western countries differently. It is the first to explicitly compare the determinants of the value of Chinese and western development finance received by other countries. This paper finds that China sends more development finance to countries with worse governance outcomes than the west. It also finds that bilateral trade relations and UN voting alignment have a stronger impact on China's development finance than that of western countries.

INTRODUCTION

CHINA'S INCREASING CLOUT IN INTERNATIONAL AFFAIRS came as western actors began to pay increasing attention to the quality of governance in developing countries. Corruption controls, democratic development, and respect for human rights all made it to the forefront of the agenda articulated by the west in the decade following the end of the Cold War, as their foreign policy calculus changed fundamentally. This increasing focus on good governance among western countries has also been featured prominently in their development agendas. For example, the USAID website states: "we are integrating democracy programming throughout our core development work, focusing on strengthening and promoting human rights, accountable and transparent governance, and an independent and politically active civil society across all our work."[1] However, according to much of the conventional thinking on the matter, China's engagement abroad not only disregards governance issues, but undermines the west's efforts to tackle them.

A slew of reporting documents how Chinese commercial actors and Chinese policy banks—the two often being conflated—operate. Headlines like "China in Africa: Investment or Exploitation" reported by *al Jazeera* and "China in Africa: The New Imperialists?" in the *The New Yorker* are commonplace.[2] In a hugely influential piece, Moises Naím refers to Chinese aid as "rogue aid".[3] He states: "It is development assistance that is nondemocratic in origin and nontransparent in practice; its effect is typically to stifle real progress while hurting average citizens."[4] A common assertion is that China operates with utter disregard for good governance among its partners. In that view, Chinese firms—backed by the Chinese state—orchestrate shady deals to get ahead commercially. French states: "Contracts are greased with monetary bribes and other enticements like expense-paid shopping trips to China and scholarships there for elite children. Adding to the opacity, China typically favors its state-owned companies for African projects and bypasses open, competitive bidding procedures."[5] Another frequent critique against China is that its economic engagement in Africa is only forthcoming when the continent's abundant natural resources are at play. For example, a Congressional Research Service study states: "China's foreign aid is driven primarily by the need for natural resources."[6] Finally, allegations that Chinese loans finance "white elephant" projects, such as football stadiums, are commonplace. Chadwick writes: "After all, what is increasingly apparent across Africa are white elephant stadium projects funded by China that are more a reflection of some African leaders' personal vanity than of a lasting legacy for the nations over which they rule."[7]

These views have been articulated at the highest echelons of power in western countries. For example, US Secretary of State Hillary Clinton stated in 2012 that "a model of sustainable partnership that adds value, rather than extracts it" was needed in Africa.[8] Implicitly contrasting the US model of engagement to its Chinese counterpart, she added "America will stand up for democracy and universal human rights even when it might be easier to look the other way and keep the resources flowing."[9] Similarly, President Barack Obama said that China had "been able to funnel an awful lot of money into Africa, basically in exchange for raw materials that are being extracted from Africa."[10]

This paper tests whether the beliefs on China summarized above are borne out by the data. It explores whether China responds to different factors than western countries in allocating development finance to Africa. This paper employs gravity models to test whether China responds differently to the governance outcomes and economic needs of the African countries to which it allocates development finance, and whether bilateral trade relations and political alignment weight more heavily in China's allocation decisions than on those of western countries. It also explores the role of specific governance indicators—corruption controls, political stability, democratic development, and respect for human rights—in predicting development finance.

This paper employs panel country-level development finance data for 2000 to 2015 as an outcome variable. It combines the development finance data of China and that of the west (France, Germany, the UK, and the US) and test whether the factors outlined above impact China's development finance differently from the west's, controlling for various economic, political, and geographic factors. Two distinct models are used for each specification—the preferred Poisson Pseudo-Maximum-Likelihood (PPML) estimation and the Ordinary Least Square (OLS) model.[11]

This paper finds that governance quality plays a much stronger role in predicting western development finance than that of China. More specifically, western countries send more development finance than China to African countries with lower corruption levels, better levels of democratic development, and a better human rights track record. While, in absolute terms, China does not send more development finance to African countries with worse aggregate governance outcomes, it does send more development finance to African countries that suffer from low levels of democratic development and from human rights abuses. This paper also finds that bilateral trade (total exports and imports) and political alignment (UN voting patterns) have a stronger impact on China's development finance than that of western countries, and that China allocates more development finance than the west to richer African countries. In other words, China favors its economic and political partners more than the west in allocating development finance and does not take receiving countries' level of needs into account as much as they do. Finally, colonial ties, which only apply to the western countries sample, play a sizable role in predicting their development finance flows to Africa.

LITERATURE REVIEW

THE DETERMINANTS OF DEVELOPMENT FINANCE

LUMSDAINE POSITS THAT MORAL VISION, VALUES, AND PRINCIPLES, rather than sending countries' strategic economic and political considerations, represent the fundamental determinants of foreign aid.[12] He supports this argument through the use of descriptive statistics and simple models. However, he fails to disentangle the effects of the principles he stresses from their strategic counterparts, or to carefully consider

the idea that different motives might predict foreign aid in different cases. Western donors often voice the importance of receiving countries' needs, in addition to moral objectives, in their decision to allocate development finance. However, despite these narratives, the literature reviewed in this section suggests that the quality of receiving countries' governance plays a relatively limited role in predicting how much development finance they actually receive. It is worth noting that most of this literature employs Cold War era data. The nature of world politics during the Cold War likely inflated the role played by strategic considerations in sending countries' development finance allocation decisions, at the expense of receiving countries' level of need. Additionally, the good governance agenda had yet to be fully developed at the time, which likely limited the role of governance in predicting development finance flows.

A rich literature explores the determinants of development finance from bilateral and multilateral donors. It presents ample evidence that sending countries' strategic economic and political considerations represent the key determinant of how they allocate funds. Receiving countries' needs also play a role in the process of funds allocation but, again, it is weaker than that of strategic interests. These two sets of factors, which used to be perceived as competing in the literature, are now accepted as important independent predictors of development finance flows. In other words, the literature suggests that development finance is a component of broader foreign policy, but that it also takes the needs of the countries to which it flows into consideration.

This paper finds that governance quality plays a much stronger role in predicting western development finance than that of China. More specifically, western countries send more development finance than China to African countries with lower corruption levels and a better human rights track record.

McKinlay and Little model the competing views of aid allocation—sending countries' strategic interests and receiving countries' humanitarian needs—using aid data on France, Germany, the UK, and the US from 1960 to 1970.[13] To reflect strategic considerations, they model "development interests", "overseas economic interests", "security interests", "power-political interests", and "interests in political stability and democracy". They find that the four major sending countries pursue different foreign policy interests but that each of them prioritizes foreign policy considerations over the needs of receiving countries. Using aid data on the same four countries for 1969 to 1980, Maizels and Nissanke find that receiving countries' needs represent a strong predictor of multilateral aid, but that strategic political, security, and economic interests play a larger role in predicting bilateral aid.[14] Similarly, using data on France, Japan, Sweden, and the US for the 1980s, Schraeder, Hook, and Taylor find that sending countries' political and trade considerations are the most important predictors of their development assistance.[15] Kuziemko & Worker evince the importance of political calculations for aid allocation.[16] They demonstrate that non-permanent members of the UN Security Council (a rotating role) receive on average US$ 16 million more in aid from the US—and US$ 1 million more from UN—than they otherwise would.[17] Furthermore, in years when they vote on important issues, the bump in aid they receive from the US rises to US$ 45 million and that of the UN by US$ 8 million.

Burnside and Dollar are among the first to explicitly link receiving countries' policies and the aid they receive.[18] Using data for 1970 to 1993, they show that good policies (measured in terms of fiscal surplus, inflation controls, and trade openness) positively impact how much aid countries receive in total. However, they also find that

China favors its economic and political partners more than the west in allocating development finance and does not take receiving countries' level of needs into account as much as they do.

the tendency for aid to reward good policies is dwarfed by donor countries' pursuit of their own strategic interests. Similarly, using data for 1970 to 1994, Alesina and Dollar explore the roles of sending countries' strategic interests, receiving countries' policy performance, and receiving countries' economic needs in predicting foreign aid patterns.[19] They show that receiving countries' voting patterns at the United Nations General Assembly (UNGA), and their colonial past, represent key determinants of their aid inflows. They also show that such factors generally represent more powerful predictors of aid than receiving countries' political institutions or economic policies. Similarly, Berthelemy concludes: "most donors behave in a rather egoistic way."[20] Using data on 22 sending countries for the 1980s and 1990s, he finds that every country modeled (except Switzerland) partially targets its aid to its most significant trading partners. He also finds that former colonizers give disproportionate amounts of aid to their former colonies. Finally, Berthelemy shows that donors also target countries based on need, as well as democratic development and political stability—but to a lesser extent than they pursue strategic interests.[21] Alesina and Weder explicitly explore the link between corruption and aid flows. They conclude: "There is no evidence whatsoever that less corrupt countries receive more foreign aid."[22]

McGillivray develops an index of DAC donors' allocation performance based on how much of their aid is allocated on the basis of receiving countries' needs.[23] He concludes that the major donors (France, Germany, Italy, and the US, among others) prioritize economic and political strategic interests in their aid allocation. Similarly, Dollar and Levin rank 41 donors on the extent to which they prioritize receiving countries' institutional and policy environments as part of their aid allocation process.[24] They find that some sending countries, as well as most multilateral donors, allocate more assistance to poor countries with reasonably good economic governance. However, they also find that large donors, like France and the US, are not particularly selective with regards to either policies or needs. As a result, they conclude: "overall bilateral aid is not very selective."[25]

Burnside and Dollar revisit their previous findings using data focusing on the 1990s—following the end of the Cold War—and uncover important changes in the determinants of aid allocation among western donors.[26] They show that receiving countries' governance levels play a positive role in predicting the aid they receive. Using 1990s cross-sectional OECD data, they find that aid allocation favors countries with better governance outcomes, measured through democratic development (Freedom House data) and rule of law (International Country Risk Guide data). They conclude: "Based on all the evidence, we think that it is good news that aid is now more systematically allocated to countries with sound institutions and policies."[27]

THE DETERMINANTS OF DEVELOPMENT FINANCE: IS CHINA DIFFERENT?

LARGELY DUE TO A LACK OF DATA ON CHINESE DEVELOPMENT financing, the determinants of Chinese development finance remained relatively unexplored until recently. In fact, none of the papers explored above feature data on Chinese

development finance. Dreher and Fuchs use data on Chinese aid spanning roughly five decades to highlight key trends in Chinese aid allocation.[28] They find that China favors countries with low per-capita income when allocating aid. However, they also find that China's aid allocation seems to be linked to its export interests and geopolitical considerations—UNGA voting patterns and sharing Beijing's stance towards Taiwan. The authors demonstrate that China allocates its aid independently of recipients' governance outcomes—democratic development and corruption controls. Finally, they find that recipient countries' natural resources endowments do not represent a key predictor of the Chinese aid they receive. Dreher and Fuchs also compare the determinants of China's development finance to those of other countries'.[29] To do so, they use completed projects as a dependent variable.[30] In another paper, Dreher et al. rely on AidData's Chinese Official Finance to Africa database—which captures reported "Global Chinese Official Finance" data—to investigate the determinants of China's development finance flows.[31] In doing so, they distinguish between the determinants of Chinese official development assistance (ODA) and other official flows (OOF)—development finance with a grant element of more or less than 25 percent. They find that Chinese ODA-like flows are linked to its foreign policy interests—UNGA voting patterns and countries' position vis-à-vis the One-China Policy. They do not find that the quality of governance among recipient countries predict their ODA-like flows from China. They also find that China's ODA-like funding is strongly oriented towards poorer countries. On the other hand, they find that China's OOF-like flows are strongly associated with natural resource wealth, and commercially driven in general. In other words, China's aid is linked to its political interests, but takes receiving countries' needs into consideration. Its OOF-like flows, on the other hand, are driven by commercial interest. This is similar to what Brautigam uncovers. In her words: "Over time, foreign aid has become one tool in a range of economic instruments adeptly managed by China's state leaders to boost China's exports and its own development."[32]

The fact that governance among African countries plays such a minimal role in predicting their development finance flows from China is not suprising. The internal affairs of partner countries do not matter to China, as per its principle of non-interference in the internal affairs of others - a bedrock of its foreign policy.

SHORTCOMINGS IN THE GOVERNANCE-DEVELOPMENT FINANCE LITERATURE

IMPORTANT GAPS REMAIN IN THE LITERATURE on the determinants of development finance, which are pertinent to this research. First, much of the existing literature on the determinants of development finance dates from the 1990s or earlier, and captures trends reflecting the Cold War and early post-Cold War order. Therefore, the sources and destinations of development activities—and the data that captures these trends—have evolved at a faster pace than the scholarship on the subject. The need for new research is underscored by Burnside and Dollar, who demonstrate that the determinants of western aid changed significantly over the 1990s.[33] Second, the majority of the research on development finance explores the role of a single governance indicator in predicting development finance flows. The literature exploring the role of governance in predicting development finance largely focuses on corruption, and sometimes democracy, in terms of governance indicators. Other governance

indicators—notably respect for human rights—that might impact development activities remain largely unaddressed. Finally, the development finance literature has largely ignored China as a donor. This is in large part due to the relatively small size of the Chinese economy—and of its development finance outflows—until recently. The unavailability of accurate data on Chinese overseas development activities has also long represented a key bottleneck to the scholarship on the subject. As a result, only one paper compares the determinants of both Chinese and western development finance, and it is forced to do so using completed projects rather than financial figures as an outcome variable.[34]

RESEARCH QUESTIONS

MANY REPORTS INDICATE THAT CHINA UNDERMINES the global drive for good governance by disproportionately engaging economically with countries ruled through corruption, autocracy, and despotism—often to quench its thirst for natural resources. Furthermore, claims that China's development finance serves to advance its own economic and political interests—rather than the needs of its loan's recipients—are commonplace. This paper tests these narratives. It asks the following questions:

1. What impacts do African countries' governance levels, resource endowment, and economic development, as well as their trade ties and political alignment with sending countries, have on the development finance they receive?
2. Do these factors impact China and western countries' development finance differently?
3. Are some governance indicators more important than others in predicting China and the west's development finance?

Brautigam presents a useful taxonomy of factors that shape China's foreign aid.[35] First, the policy principle of non-interference, articulated in the 1950s, still plays an important role in shaping China's foreign aid. Second, China's very notion of development, which is informed by its decades-long experience as a revolutionary communist country, differs fundamentally from that of the west. Third, the fact that China has long been—and still is—an aid recipient shapes its own foreign aid agenda. As a sending country, it mimics many of the deals it received when it was on the other side of the aid relationship. Finally, over time, China's aid has become an economic instrument its leaders can employ to support its own firms' exports and, in turn, its domestic development.

The principle of "non-interference in each other's internal affairs" has been one of the Five Principles of Peaceful Coexistence guiding China's foreign policy since 1954. Going from that principle alone, one can hardly expect African countries' governance quality to impact Chinese development finance the same way it does western countries'. On the one hand, western leaders have been heralding the importance of good governance for their foreign policy engagement for decades. On the other, a key

tenet of China's foreign policy is that it does not seek to interfere in other countries' governance matters. Therefore, it would be very surprising—to say the least—if African countries' governance levels had the same impact on Chinese and western development finance. Similarly, as stated by Brautigam, China's aid has become an economic instrument its leaders can employ to support Chinese firms' exports.[36] Meanwhile, there has been a strong push in the west since the 1990s for aid to become untied—resulting in a formal recommendation in 2001 by the OECD Development Assistance Committee to untie ODA to the least developed countries. Therefore, again, it would be very surprising if bilateral commercial ties had the same impact on Chinese and western development finance.

The key hypothesis of this paper is that governance has a positive—albeit limited—impact on development finance flows from western countries, and no impact on China's. Because of foreign policy norms, the impact on western and Chinese development finance of certain governance indicators—democracy and respect for human rights—is expected to differ more sharply than others. Furthermore, receiving countries' levels of economic need are not expected to have a significant impact on their development finance inflows. Finally, governance outcomes and economic needs are expected to matter relatively little in predicting development activities compared to political alignment and bilateral trade ties.

METHODOLOGY AND DATA

THIS PAPER EMPLOYS A QUANTITATIVE APPROACH TO ADDRESS the questions posed above. The data used is presented in Table 1.

The testing of the relationship between governance, natural resources, receiving countries' needs, bilateral trade ties, and political alignment on the one hand, and development finance on the other, takes place through enhanced gravity models, controlling for economic, political, and geographic factors. A set of dummy variables capture the identity of the sending country and the China dummy is interacted with the variables of interest in order to test the hypothesis that the determinants of China's development finance differ from those of western countries'. All the models are estimated using fixed effects reflecting the sending country, the receiving country, and the year captured by the data.

Two distinct models are used for each specification—the standard Ordinary Least Square (OLS) model and the preferred Poisson Pseudo-Maximum-Likelihood (PPML) estimation. As part of the OLS models, the paper uses a log-log specification, where the log of the yearly value of development finance flows (plus one) acts as the dependent variable.[37] For the PPML models, the yearly value of development finance flows is used as the dependent variable. The PPML models naturally deal with the multiple zeros in the dependent variable, essentially combining aspects of the extensive and intensive margin models in a single specification.[38] In other words, they capture whether development finance is sent to a receiving country (the extensive margin) and how much (the intensive margin). Another advantage of the PPML estimation is that it is

Table 1: Summary Statistics of the Data

VARIABLES	N	Mean	Std. Dev.	Min	Max	Source(s)
ODF and ODF-Like Flows (Restrictive)	4,136	7.39e + 07	2.21e + 08	0	4.02e + 09	OECD and SAIS-CARI
ODF and ODF-Like Flows (Comprehensive)	4,136	7.85e + 07	2.47e + 08	0	6.62e + 09	OECD and SAIS-CARI
Political Alignment	3,919	0	1	-2.417782	1.852955	Voeten
Bilateral Trade	3,975	1.21e + 09	3.70e + 09	127,000	6.52e + 10	UN Comtrade
Common Language (Dummy)	4,320	.2703704	.4442026	0	1	CEPII
Colonial Ties (Dummy)	4,320	.1703704	.3760014	0	1	CEPII
Geographic Distance	4,320	7,597.213	2,967.809	1,340.39	14,928.20	CEPII
GDP (PPP)	4,165	2.81e + 10	6.54e + 10	7.22e + 07	5.68e + 11	WB
GDP per Capita (PPP)	4,270	4,929.984	6,550.438	399.86	48,710.7	WB
Population	4,300	1.82e + 07	2.62e + 07	81,131	1.82e + 08	WB
Resources (% of GDP)	3,775	15.16461	16.22065	.001161	80.7124	WB
Governance (Index)	4,185	0	1	-2.041684	2.367621	WB, P4, FH, C & R
Corruption Controls (Index)	4,265	0	1	-2.711188	2.686247	WB
Political Stability (Index)	4,265	0	1	-2.150835	1.932351	WB
Democratic Development (Index)	4,265	0	1	-2.016056	1.963857	Polity 4, Freedom House
Respect for Human Rights (Index)	4,185	0	1	-2.101106	2.112613	Cingranelli & Richards

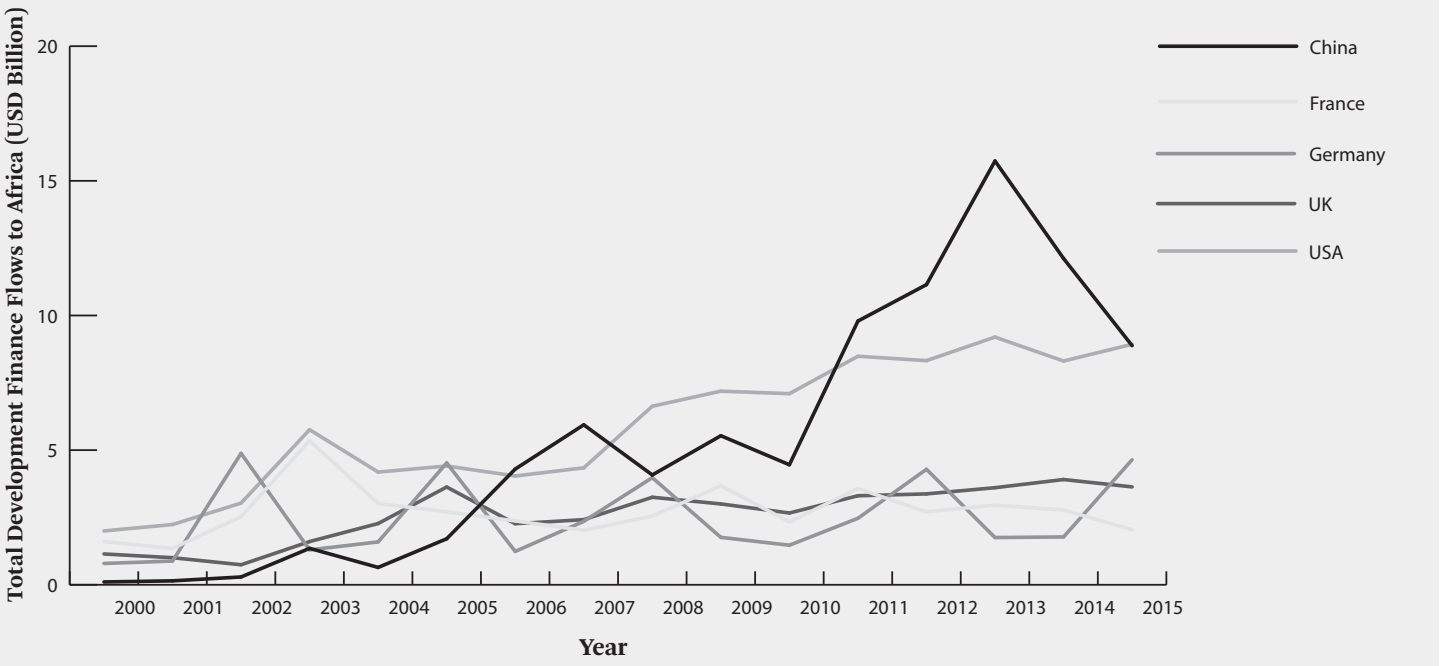
consistent even in the presence of heteroskedasticity (unlike OLS models). This is why the PPML models' results are preferred and used in the discussion section, while the OLS models are presented in the appendix.

This paper employs panel development finance data from two distinct sources.[39] For the western sample, it uses total official development assistance and other official flows by sending country data obtained from the Organization for Economic Cooperation and Development (OECD), which reflect the development finance sent by

each western country sampled to individual African countries for the years 2000 to 2015. The western countries comprised in sample are France, Germany, the UK, and the US.[40] The paper uses the Chinese loans data compiled—and generously shared—by the China Africa Research Initiative (CARI) at the Johns Hopkins University School of Advanced International Studies.[41] Some of the models presented exclude Angola because it is an outlier in terms of how much of China's development finance it receives.[42]

The political alignment variable measures the voting alignment of country pairs at the United Nations in a given year, as compiled by Voeten, while the bilateral trade variable reflects the total trade flows between two countries and is produced by UN Comtrade.[43] The dummy variables capturing country-pairs' colonial and linguistic ties, as well as the data reflecting the distance between country-pairs' respective capital cities, are compiled by the *Centre d'Etudes Prospectives et d'Informations Internationales* (CEPII). The variables reflecting the characteristics of the African countries sampled—their GDP, GDP per capita, population, and the importance of natural resource rents as a share of their economic output—are obtained from the World Bank. Finally, the data reflecting the governance outcomes of the African countries sampled come from a range of sources.[44] In short, the variables reflecting corruption controls and political stability are generated using the World Bank's Worldwide Governance Indicators, the variable reflecting democratic development amalgamates the yearly data produced by Freedom House and Polity IV, and the variable reflecting respect for human rights is based on data compiled by Cingranelli and Richards.[45] Finally, the variable that captures countries' aggregate governance outcomes is produced by combining the four individual measures through principal component analysis.

Figure 1: Total Development Finance Flows to Africa, by country (2000-2015)



Equation 1[46]

$$y_{ijt} = \alpha x_{ijt} + \beta z_{jt} + \gamma n_{jt} + \delta c_{it} + \zeta c^{*} n_{ijt} + \varepsilon_{ij}$$ [47]

Where:

- y_{ijt} is the total development finance—ODA and OOF from the sampled western countries and Chinese development finance loans—from country *i* to African country *j* in year *t*.
- x_{ijt} is a vector of United Nations voting pattern alignment, bilateral trade (log), and geographic distance (log) between countries *i* and *j*, as well as dummy variables reflecting their colonial and language ties, during year *t*.
- z_{jt} is a vector of variables reflecting the economic and demographic characteristics of African countries—their GDP (log), GDP per capita (log), and population (log)—in year *t*.
- n_{jt} is a vector of variables reflecting the governance outcomes of African countries, such as corruption controls, political stability, democratic development, and respect for human rights, as well as an aggregate indicator of their governance outcomes, in year *t*. n_{it} also reflects the size of natural resource rents as a percentage of African countries' GDP in year *t*.
- c_{it} is a vector of dummy variables that capture whether country *i* in year *t* is China.
- $c^{*}n_{ijt}$ is a vector of interaction terms capturing whether the sending country is China and governance outcomes during year *t* (or other variable of interest). In other words, it captures whether the impact of the variable of interest changes when China is the sending country.
- ε_{ij} is the error term.

RESULTS (PPML)

TABLES 2 AND 3 HIGHLIGHT HOW AFRICAN COUNTRIES' governance, poverty levels, and resource wealth, as well as their political alignment and trade ties with China and the west impact the development finance they receive. First, Table 3 shows that African countries' governance outcomes are positively associated with the development finance they receive from the four western countries sampled—France, Germany, the UK, and the US (though not to a statistically significant degree). Table 3's first model shows that a standard deviation increase in governance (roughly the difference between the scores of Sierra Leone and Senegal in 2015) is associated with an increase in western development finance of 22 percent (again, this coefficient is not statistically significant).[48] It also shows that a standard deviation increase in governance outcomes is associated with a five percent increase in development finance flows from China.[49] Finally, the difference between the two coefficients is statistically significant at the one percent level, which suggests that western countries send significantly more

Table 2: Overall Governance Outcome's Impact on African Countries Development Finance Inflows[a]

VARIABLES	(1)	(2)	(3)	(4)	(5)
Governance (Index)	0.232 (0.151)	0.183 (0.112)	0.188 (0.115)	0.177* (0.107)	0.167 (0.102)
China * Governance (Index)	-0.244*** (0.0530)	-	-	-	-
Political Alignment (Index)	-0.293 (0.307)	-0.441 (0.464)	-0.305 (0.348)	-0.333 (0.337)	-0.342 (0.332)
China * Political Alignment (Index)	-	0.931*** (0.181)	-	-	-
Trade (Log)	0.297* (0.176)	0.286 (0.169)	0.203 (0.126)	0.284* (0.162)	0.296* (0.167)
China * Trade (Log)	-	-	0.333*** (0.0340)	-	-
Resources (% of GDP)	0.0174** (0.00720)	0.0174** (0.00699)	0.0173*** (0.00637)	0.0116 (0.0107)	0.0178*** (0.00660)
China * Resources (% of GDP)	-	-	-	0.0190** (0.00813)	-
GDP per Capita, PPP (Log)	0.178 (0.484)	0.112 (0.503)	0.218 (0.464)	0.197 (0.488)	0.153 (0.480)
China * GDP per Capita, PPP (Log)	-	-	-	-	0.407*** (0.0954)
GDP, PPP (Log)	0.190 (0.329)	0.179 (0.330)	0.113 (0.277)	0.153 (0.311)	0.146 (0.296)
Population (Log)	-1.411 (2.247)	-1.441 (2.294)	-1.034 (2.257)	-1.308 (2.174)	-0.974 (2.113)
Language	0.689*** (0.179)	0.740*** (0.156)	0.676*** (0.159)	0.640*** (0.219)	0.673*** (0.121)
Colony	0.522* (0.273)	0.537** (0.252)	0.613*** (0.222)	0.548** (0.254)	0.602*** (0.198)
Distance (Log)	-0.331 (0.223)	-0.295* (0.151)	-0.538** (0.218)	-0.451*** (0.173)	-0.465** (0.213)
Observations R-squared	3,353 0.263	3,353 0.269	3,353 0.291	3,353 0.262	3,353 0.270

Notes:
[a]PPML - Restrictive Dataset
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

Table 3: Overall Governance Outcome's Impact on African Countries Development Finance Inflows (Excluding Angola)[b]

VARIABLES	(1)	(2)	(3)	(4)	(5)
Governance (Index)	0.197 (0.160)	0.177 (0.144)	0.180 (0.145)	0.166 (0.136)	0.166 (0.134)
China * Governance (Index)	-0.146*** (0.0534)	-	-	-	-
Political Alignment (Index)	-0.264 (0.316)	-0.369 (0.446)	-0.263 (0.335)	-0.268 (0.330)	-0.292 (0.333)
China * Political Alignment (Index)	-	0.719*** (0.211)	-	-	-
Trade (Log)	0.273* (0.163)	0.265* (0.157)	0.215 (0.131)	0.270* (0.159)	0.275* (0.161)
China * Trade (Log)	-	-	0.219*** (0.0290)	-	-
Resources (% of GDP)	0.0229** (0.00912)	0.0229** (0.00900)	0.0226*** (0.00868)	0.0216** (0.0101)	0.0231*** (0.00890)
China * Resources (% of GDP)	-	-	-	0.00585 (0.00614)	-
GDP per Capita, PPP (Log)	0.210 (0.502)	0.175 (0.505)	0.256 (0.491)	0.216 (0.498)	0.201 (0.494)
China * GDP per Capita, PPP (Log)	-	-	-	-	0.264** (0.104)
GDP, PPP (Log)	0.178 (0.335)	0.172 (0.334)	0.152 (0.305)	0.175 (0.333)	0.160 (0.316)
Population (Log)	-2.054 (2.445)	-2.039 (2.459)	-1.817 (2.381)	-2.040 (2.411)	-1.785 (2.298)
Language	0.517** (0.249)	0.550** (0.222)	0.549** (0.221)	0.516** (0.253)	0.516** (0.218)
Colony	0.578** (0.250)	0.582** (0.240)	0.621*** (0.220)	0.588** (0.238)	0.620*** (0.202)
Distance (Log)	-0.392** (0.198)	-0.368** (0.157)	-0.509*** (0.191)	-0.420** (0.165)	-0.468** (0.184)
Observations R-squared	3,288 0.239	3,288 0.244	3,288 0.245	3,288 0.235	3,288 0.238

Notes:
[b]PPML - Restrictive Dataset
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

development finance than China to countries that have better governance outcomes. The fact that governance among African countries plays such a minimal role in predicting their development finance flows from China is not surprising. As outlined in the previous section, the internal affairs of partner countries do not matter to China, as per its principle of non-interference.

Surprisingly, the tables presented above suggest that political alignment—which is instrumentalized through UN voting patterns—plays a negative (albeit not statistically significant) role in predicting Western countries' development finance flows to Africa.[50] In fact, Table 3's second model shows that a standard deviation increase in UN voting patterns alignment is associated with a 45 percent reduction in development finance from the western countries sampled. The models presented above also suggest that the exact opposite is true with regards to China. In fact, a standard deviation change in UN voting patterns alignment is associated with a 42 percent increase in development finance from China. Unsurprisingly, the difference between the two coefficients is statistically significant at the one percent level. Political alignment's lack of significance in predicting western development finance might be partly due to the inclusion of colonial and language dummy variables in the models. Both variables consistently play a statistically significant role in predicting development finance—and likely impact political alignment. For instance, being a sending country's former colony or sharing a language with it is associated with a 65 percent or more increase in development finance flows (statistically significant at the five percent level or more).

This paper finds that bilateral trade relations and UN voting alignment have a vastly stronger impact on China's development finance than that of western countries, and that China allocates significantly more development finance than the west to richer African countries. Put simply, China appears to prioritize its commercial partners and the countries with which it is more politically aligned when allocating development finance in Africa.

Other factors play a positive role in predicting Chinese and western development finance flows. Table 3's third model shows that a one percent increase in bilateral trade with a western country is associated with a 0.24 percent increase in development finance inflows from that country (though the coefficient lacks statistical significance). The same increase in bilateral trade is associated with a 0.54 percent increase in development finance from China. The difference between the west and China's respective coefficients is statistically significant at the one percent level, which suggests that China places a greater emphasis on trade ties than the west in allocating development to African countries.

Like bilateral trade, African countries' natural resources wealth also plays a positive role in predicting their development finance inflows—from both the west and China. Table 3's fourth model shows that a one percent increase in resources wealth as a percentage of GDP is associated with a two percent increase in development finance from Western countries (statistically significant at the five percent level) and a three percent increase in development finance from China (with the coefficient's difference with that of the west not being statistically significant).

Receiving countries' level of need—reflected in their per capita GDP—plays a negative role in predicting their development finance inflows from both western countries and China. The fifth model of Table 3 demonstrates that a one percent increase in African countries' GDP per capita level is associated with a 0.22 percent increase in the development finance they receive from western countries (though the

Table 4: Specific Governance Indicators' Impact on African Countries' Development Finance Inflows[c]

VARIABLES	(1)	(2)	(3)	(4)
Corruption (Index)	0.286 (0.342)	-	-	-
China * Corruption (Index)	-0.377*** (0.0760)	-	-	-
Stability (Index)	-	0.317*** (0.0911)	-	-
China * Stability (Index)	-	0.0487 (0.0709)	-	-
Democracy (Index)	-	-	-0.0342 (0.112)	-
China * Democracy (Index)	-	-	-0.231*** (0.0644)	-
Human Rights (Index)	-	-	-	-0.0603 (0.140)
China * Human Rights (Index)	-	-	-	-0.238*** (0.0326)
Resources (% of GDP)	0.0192*** (0.00620)	0.0167*** (0.00585)	0.0190*** (0.00668)	0.0194** (0.00832)
Political Alignment (Index)	-0.318 (0.335)	-0.266 (0.348)	-0.290 (0.322)	-0.315 (0.339)
Bilateral Trade (Log)	0.273 (0.170)	0.292* (0.171)	0.295* (0.172)	0.301* (0.176)
Log (GDP per Capita, PPP)	0.0538 (0.563)	0.0575 (0.507)	0.0877 (0.501)	0.0736 (0.475)
Log (GDP, PPP)	0.212 (0.337)	0.168 (0.330)	0.228 (0.347)	0.190 (0.317)
Population (Log)	-1.588 (2.335)	-1.469 (2.233)	-1.425 (2.413)	-1.010 (2.409)
Language	0.683*** (0.194)	0.713*** (0.151)	0.676*** (0.180)	0.701*** (0.166)
Colony	0.554** (0.261)	0.560** (0.246)	0.552** (0.263)	0.514* (0.269)
Distance (Log)	-0.322* (0.188)	-0.296* (0.174)	-0.322 (0.236)	-0.294 (0.231)
Observations R-squared	3,363 0.266	3,363 0.263	3,363 0.264	3,353 0.267

Notes:
[c] PPML - Restrictive Dataset
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

Table 5: Specific Governance Indicators' Impact on African Countries' Development Finance Inflows[d] (Excluding Angola)

VARIABLES	(1)	(2)	(3)	(4)
Corruption (Index)	0.236 (0.296)	-	-	-
China * Corruption (Index)	-0.188*** (0.0514)	-	-	-
Stability (Index)	-	0.326*** (0.0924)	-	-
China * Stability (Index)	-	-0.0168 (0.0582)	-	-
Democracy (Index)	-	-	-0.0740 (0.0950)	-
China * Democracy (Index)	-	-	-0.0925 (0.0641)	-
Human Rights (Index)	-	-	-	-0.0615 (0.144)
China * Human Rights (Index)	-	-	-	-0.163*** (0.0335)
Resources (% of GDP)	0.0243*** (0.00855)	0.0225*** (0.00808)	0.0244*** (0.00860)	0.0248** (0.0105)
Political Alignment (Index)	-0.286 (0.345)	-0.250 (0.349)	-0.263 (0.340)	-0.277 (0.346)
Bilateral Trade (Log)	0.259 (0.158)	0.269* (0.160)	0.270* (0.162)	0.276* (0.164)
Log (GDP per Capita, PPP)	0.0524 (0.564)	0.139 (0.510)	0.114 (0.518)	0.122 (0.492)
Log (GDP, PPP)	0.186 (0.336)	0.183 (0.339)	0.209 (0.343)	0.179 (0.321)
Population (Log)	-2.234 (2.524)	-2.025 (2.404)	-2.154 (2.603)	-1.763 (2.535)
Language	0.529** (0.251)	0.533** (0.235)	0.521** (0.247)	0.522** (0.240)
Colony	0.597** (0.244)	0.594** (0.238)	0.596** (0.241)	0.571** (0.248)
Distance (Log)	-0.378** (0.178)	-0.369** (0.178)	-0.375* (0.198)	-0.367* (0.206)
Observations R-squared	3,298 0.237	3,298 0.242	3,298 0.238	3,288 0.243

Notes:
[d]PPML - Restrictive Dataset
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

coefficient lacks statistical significance). The same increase in per capita wealth is associated with a 0.59 percent increase in development finance inflows from China (the difference between the two coefficients is statistically significant at the five percent level, which suggests that China sends significantly more development finance than the west to richer African countries).

Tables 4 and 5 highlight how various markers of governance outcomes impact development finance differently. Of the four governance indicators presented in Table 5 only political stability has a statistically significant positive impact on western countries' development finance flows. Table 5's second model reveals that a standard deviation increase in political stability is associated with a 39 percent increase in development finance from the west (statistically significant at the one percent level). The impact of political stability on China's development finance flows is sensibly the same—the same reduction in political instability results in a 36 percent increase in Chinese development finance (and the coefficient is not statistically different from that of the west).

Tables 4 and 5 also demonstrate that corruption controls and respect for human rights impact Chinese and western development finance flows differently. Table 5's first model shows that a standard deviation increase in the quality of corruption controls among African countries is associated with a 27 percent increase in their development finance inflows from the west (though the coefficient lacks statistical significance). On the other hand, the same change in corruption controls among African countries is associated with a mere five percent increase in the Chinese development finance they receive. The fact that the difference between the two coefficients is statistically significant at the one percent level shows that western countries send more development finance than China to African countries with lower levels of corruption. Table 5's fourth model presents a similar pattern with regards to respect for human rights—it suggests that China sends significantly more development finance than western countries to African countries with a poorer human rights track record. Surprisingly, human rights play a slightly negative role in predicting development finance from the west, as shown by the six percent decrease in western development finance flows associated with a standard deviation uptick in African countries' human rights track records (though the coefficient lacks statistical significance). The negative impact of such a change on China's development finance is larger, at 18 percent (and the coefficient's difference from that of the west is statistically significant at the one percent level).

CONCLUSION

THIS PAPER EXPLORES THE RELATIONSHIP BETWEEN African countries' governance outcomes and the development finance they receive through gravity models, controlling for their economic, political, and geographic factors in addition to their economic and political ties to donor countries. It does so to explicitly test whether China's engagement is impacted differently than that of western countries by receiving

countries' governance outcomes, poverty, and resource wealth levels, as well as economic and political ties. It is the first paper to directly compare the determinants of how much development finance China and the west disburse yearly.

This paper finds that governance outcomes among African countries play a positive role in predicting the development finance they receive from the west. That said, the only governance indicator that has a statistically significant impact on western development finance is political stability. While, in absolute terms, China does not send more development finance to African countries with worse aggregate governance outcomes, it does send more development finance to African countries that suffer from low levels of democratic development and from human rights abuses. Furthermore, the impacts of corruption controls, democratic development, and respect for human rights on development finance are markedly larger for the western countries sampled than for China. Surprisingly, political alignment and bilateral trade do not play a statistically significant role in predicting western development finance. This finding contradicts many of the papers highlighted in the literature review. The fact that the opposite holds true with regards to China supports Brautigam's assertion that China's aid can act as an economic instrument to support Chinese firms' exports. Finally, political alignment plays a significant role in predicting Chinese development finance. This suggests that Chinese loans are not only a tool of commercial promotion, but also a way to support Chinese foreign policy.

This research has important implications for researchers and policymakers. The ways in which Chinese and western actors engage with other countries, and particularly in Africa, are widely perceived to be at odds, and untested claims of exactly how that plays out can be propagated widely. For these reasons, systematically investigating how the respective approaches of China and the west with regards to development finance differ represents an important line of scholarship. The paper's findings suggest that China still has a gap to bridge in terms of how it allocates development finance, particularly in terms of prioritizing the needs of receiving countries rather than its own commercial and political interests. That said, western countries also fail to allocate development finance on the basis of the needs of receiving countries, which could maximize the potential impact of their development finance. ★

With regards to Chinese development finance, the models presented above show that bilateral trade relations and UN voting alignment have a vastly stronger impact on China's development finance than that of western countries, and that China allocates significantly more development finance than the west to richer African countries. Put simply, China appears to prioritize its commercial partners and the countries with which it is more politically aligned when allocating development finance in Africa.

APPENDIX A: DATA CONSTRUCTION AND DEFINITIONS

DEVELOPMENT FINANCE

This research pertains to how governance relates to development finance with the aim of differentiating how China and western countries engage with Africa.

Western development finance comprises official development assistance (ODA) and other official flows (OOF). ODA is, in line with the OECD's definition, "administered with the promotion of the economic development and welfare of developing countries as its main objective" and "concessional in character and conveys a grant element of at least 25 per cent (calculated at a rate of discount of 10 per cent)".[53] OOF represents, in line with the OECD's definition, "official sector transactions that do not meet official development assistance criteria".[54]

The data on China's development finance is compiled by CARI, which verifies publicly available information on Chinese loans to Africa. Two datasets are used—one that is more restrictive and another than is more comprehensive. The restrictive dataset contains Chinese government loans to African governments or businesses between 2000 and 2015. "Chinese government loans" are defined as loans from China's policy banks, including China Export-Import Bank and China Development Bank, as well as the Chinese Ministry of Commerce. "African governments or businesses" include African central banks, African state-owned enterprises, private African-owned enterprises, and any enterprises registered in an African country. The comprehensive dataset contains all Chinese loans to African governments or businesses between 2000 and 2015. This dataset includes all existing loans in the restrictive dataset in addition to loans from Chinese commercial banks that may or may not be government-owned (e.g. Industrial and Commercial Bank of China, China Merchants Bank, Bank of China, etc.), as well as supplier's credits and loan financing from Chinese companies that may or may not be Chinese government-owned (e.g. ZTE, Huawei, China Merchants Holdings, etc.).

GOVERNANCE

As part of this work, governance is operationalized through four sets of variables: corruption controls and the rule of law, political stability and absence of violence, democratic development, and respect of human rights. In order to facilitate the interpretation of the results, all of the variables outlined below are standardized, as follows:

$$(\text{Governance Score}_{it} - \text{Governance Score}_{\mu}) / \text{Governance Score}_{\sigma}$$

Furthermore, an aggregate governance indicator is generated using a principal component analysis of these same four governance indicators.

- **Corruption Controls and Rule of Law** – This variable indexes two distinct World Bank Worldwide Governance Indicators reflecting (1) "perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests" and (2) "perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence".[55] The variable is converted to a value between 0 and 5, as follows:

  [(Rule of Law + Control of Corruption)/2] + 2.5

- **Political Stability and Absence of Violence** – This indicator captures the World Bank Worldwide Governance Indicator reflecting "perceptions of the likelihood of political instability and/or politically-motivated violence, including terrorism."[56] It is then indexed and converted to a scale of 0 to 5, as follows:

  Political Stability and Absence of Violence + 2.5

- **Democratic Development** – This indexes two indicators of democratic progress. It reflects (1) the Polity Project data, which is based on electoral openness and competitiveness, political participation, and checks and balances to constrain individuals in power.[57] The resulting score is on a scale of -10 to +10, where autocracies score between -10 and -6, and democracies between 6 and 10. "Anocracies", regimes that fall between democracy and autocracy, score between -5 and 5. It also reflects (2) the Freedom House data, which evaluates political rights based on indicators covering the electoral process, political participation, and the functioning of government, as well as civil liberties, based on indicators of freedom of expression, rights of association, rule of law, and individual rights.[58] In Freedom House's methodology, states are scored between 1.0 and 7.0, where those considered free score between 1.0 and 2.5, those partly free between 3.0 and 5.0, and those not free between 5.5 and 7.0. Each dataset is indexed and converted to a scale from 0 to 5, using the following formula:

  [(Polity2 + 10)/4 + (7 - Freedom House)*0.83]/2

- **Respect for Human Rights** – This indicator reflects the data on human rights collected by Cingranelli, Richards, and Klay, from the University of Birmingham, the University of Connecticut, and the University of Georgia, respectively.[59] Their dataset—CIRI for short—contains quantitative indicators on respect for a set of 15 human rights in 202 countries for the years 1981 to 2011. The indicators are indexed and converted to 0-5 scale, as follows:

  [Human Rights/14] * 5

APPENDIX B: DATA LIMITATIONS

The variables reflecting governance outcomes—corruption controls and the rule of law, political stability and absence of violence, democratic development, and respect of human rights—do not exhaustively capture the depth of governance outcomes in specific countries. However, they offer enough breadth to capture the variance in governance outcomes in different settings, which is what this work aims to do. Finally, most of these variables are perception based—they are generated from the informed opinions of experts. However, no better governance indicators exist for the purpose of this research. Furthermore, the very mechanisms through which governance are expected to affect economic activities as part of this work are perception-driven.

The variable reflecting UN voting alignment estimates the difference between two countries' voting patterns at the UN general assembly during a given year, in terms of their respective ideal point estimates. The variable reduces a highly complex phenomenon that takes place over the span of a year into a single digit indicator and should thus be interpreted with caution. This limitation is particularly relevant when analyzing short time-periods, though this is not the case in this paper.

The key limitation to the development finance data is its comparability. While OECD countries gather and present their data in a standardized way, little information is made publicly available on China's development finance. This paper uses the most accurate source of information on Chinese development finance—that produced by CARI.

APPENDIX C: PAPER RESULTS (PPML - COMPREHENSIVE DATASET)

Table 2: Overall Governance Indicator's Impact on African Countries' Development Finance Inflows

VARIABLES	(1)	(2)	(3)	(4)	(5)
Governance (Index)	0.249 (0.159)	0.228 (0.140)	0.232 (0.142)	0.218 (0.133)	0.205* (0.123)
China * Governance (Index)	-0.127** (0.0522)	-	-	-	-
Political Alignment (Index)	-0.284 (0.253)	-0.498 (0.440)	-0.302 (0.280)	-0.331 (0.278)	-0.340 (0.267)
China * Political Alignment (Index)	-	1.206*** (0.188)	-	-	-
Trade (Log)	0.299* (0.167)	0.283* (0.160)	0.190 (0.116)	0.287* (0.155)	0.299* (0.162)
China * Trade (Log)	-	-	0.360*** (0.0338)	-	-
Resources (% of GDP)	0.0157** (0.00712)	0.0158** (0.00690)	0.0155** (0.00622)	0.00910 (0.0113)	0.0161** (0.00649)
China * Resources (% of GDP)	-	-	-	0.0192** (0.00836)	-
GDP per Capita, PPP (Log)	0.441 (0.451)	0.344 (0.440)	0.492 (0.420)	0.464 (0.466)	0.400 (0.429)
China * GDP per Capita, PPP (Log)	-	-	-	-	0.433*** (0.0989)
GDP, PPP (Log)	0.0531 (0.227)	0.0343 (0.227)	-0.0468 (0.178)	0.0107 (0.214)	0.00242 (0.199)
Population (Log)	-1.352 (2.119)	-1.399 (2.178)	-0.842 (2.133)	-1.251 (2.058)	-0.880 (2.003)
Language	0.641*** (0.190)	0.697*** (0.168)	0.617*** (0.184)	0.574** (0.255)	0.611*** (0.143)
Colony	0.585** (0.252)	0.590** (0.243)	0.678*** (0.216)	0.602** (0.250)	0.665*** (0.194)
Distance (Log)	-0.461** (0.234)	-0.420** (0.163)	-0.710*** (0.259)	-0.603*** (0.193)	-0.626** (0.259)
Observations R-squared	3,353 0.295	3,353 0.316	3,353 0.331	3,353 0.295	3,353 0.302

Notes:
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

Table 3: Overall Goverance Indicator's Impact on African Countries' Development Finance Inflows (Excluding Angola)

VARIABLES	(1)	(2)	(3)	(4)	(5)
Governance (Index)	0.164 (0.136)	0.172 (0.139)	0.175 (0.140)	0.155 (0.128)	0.154 (0.126)
China * Governance (Index)	-0.0346 (0.0490)	-	-	-	-
Political Alignment (Index)	-0.275 (0.277)	-0.428 (0.425)	-0.279 (0.286)	-0.285 (0.287)	-0.310 (0.284)
China * Political Alignment (Index)	-	0.923*** (0.206)	-	-	-
Trade (Log)	0.274* (0.154)	0.262* (0.148)	0.202* (0.120)	0.271* (0.152)	0.276* (0.155)
China * Trade (Log)	-	-	0.251*** (0.0332)	-	-
Resources (% of GDP)	0.0197** (0.00914)	0.0198** (0.00903)	0.0194** (0.00862)	0.0183* (0.0106)	0.0200** (0.00881)
China * Resources (% of GDP)	-	-	-	0.00578 (0.00630)	-
GDP per Capita, PPP (Log)	0.382 (0.464)	0.328 (0.456)	0.441 (0.455)	0.388 (0.463)	0.362 (0.449)
China * GDP per Capita, PPP (Log)	-	-	-	-	0.290*** (0.107)
GDP, PPP (Log)	0.0309 (0.210)	0.0203 (0.209)	-0.00632 (0.177)	0.0266 (0.208)	0.00986 (0.190)
Population (Log)	-2.094 (2.343)	-2.088 (2.371)	-1.751 (2.267)	-2.102 (2.320)	-1.800 (2.199)
Language	0.442 (0.283)	0.483* (0.257)	0.482* (0.254)	0.436 (0.298)	0.437* (0.260)
Colony	0.651*** (0.241)	0.644*** (0.239)	0.691*** (0.215)	0.653*** (0.240)	0.691*** (0.202)
Distance (Log)	-0.534*** (0.201)	-0.506*** (0.167)	-0.684*** (0.230)	-0.570*** (0.179)	-0.633*** (0.223)
Observations R-squared	3,288 0.254	3,288 0.269	3,288 0.267	3,288 0.251	3,288 0.252

Notes:
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

Table 4: Specific Governance Indicators' Impact on African Countries' Development Finance Inflows

VARIABLES	(1)	(2)	(3)	(4)
Corruption (Index)	0.273 (0.326)	-	-	-
China * Corruption (Index)	-0.201** (0.0890)	-	-	-
Stability (Index)	-	0.329*** (0.0933)	-	-
China * Stability (Index)	-	0.111* (0.0582)	-	-
Democracy (Index)	-	-	-0.0794 (0.0879)	-
China * Democracy (Index)	-	-	-0.182** (0.0717)	-
Human Rights (Index)	-	-	-	-0.0388 (0.142)
China * Human Rights (Index)	-	-	-	-0.136*** (0.0346)
Resources (% of GDP)	0.0177*** (0.00608)	0.0150*** (0.00570)	0.0177*** (0.00654)	0.0176** (0.00822)
Political Alignment (Index)	-0.313 (0.277)	-0.255 (0.283)	-0.288 (0.270)	-0.305 (0.280)
Bilateral Trade (Log)	0.283* (0.165)	0.292* (0.162)	0.297* (0.165)	0.302* (0.168)
Log (GDP per Capita, PPP)	0.290 (0.497)	0.300 (0.455)	0.305 (0.462)	0.355 (0.431)
Log (GDP, PPP)	0.0768 (0.233)	0.0230 (0.227)	0.108 (0.253)	0.0658 (0.231)
Population (Log)	-1.490 (2.178)	-1.356 (2.114)	-1.419 (2.334)	-1.035 (2.304)
Language	0.637*** (0.203)	0.654*** (0.164)	0.627*** (0.198)	0.648*** (0.181)
Colony	0.609** (0.251)	0.629*** (0.230)	0.604** (0.256)	0.577** (0.250)
Distance (Log)	-0.456** (0.214)	-0.427** (0.187)	-0.450* (0.256)	-0.439* (0.238)
Observations R-squared	3,363 0.293	3,363 0.298	3,363 0.299	3,353 0.296

Notes:
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

Table 5: Specific Governance Indicators' Impact on African Countries' Development Finance Inflows (Excluding Angola)

VARIABLES	(1)	(2)	(3)	(4)
Corruption (Index)	0.225 (0.284)	-	-	-
China * Corruption (Index)	-0.00365 (0.0544)	-	-	-
Stability (Index)	-	0.308*** (0.0778)	-	-
China * Stability (Index)	-	0.0388 (0.0499)	-	-
Democracy (Index)	-	-	-0.139* (0.0734)	-
China * Democracy (Index)	-	-	-0.0475 (0.0658)	-
Human Rights (Index)	-	-	-	-0.0736 (0.143)
China * Human Rights (Index)	-	-	-	-0.0647** (0.0305)
Resources (% of GDP)	0.0210** (0.00831)	0.0193** (0.00787)	0.0215** (0.00845)	0.0217** (0.0104)
Political Alignment (Index)	-0.300 (0.302)	-0.263 (0.300)	-0.282 (0.301)	-0.288 (0.303)
Bilateral Trade (Log)	0.268* (0.153)	0.267* (0.151)	0.270* (0.155)	0.275* (0.155)
Log (GDP per Capita, PPP)	0.191 (0.509)	0.307 (0.472)	0.229 (0.475)	0.295 (0.449)
Log (GDP, PPP)	0.0352 (0.209)	0.0325 (0.211)	0.0754 (0.226)	0.0370 (0.205)
Population (Log)	-2.271 (2.379)	-2.022 (2.294)	-2.328 (2.570)	-1.853 (2.444)
Language	0.454 (0.278)	0.454* (0.275)	0.447 (0.284)	0.443 (0.281)
Colony	0.662*** (0.238)	0.669*** (0.234)	0.661*** (0.241)	0.646*** (0.241)
Distance (Log)	-0.516*** (0.192)	-0.511*** (0.188)	-0.517** (0.209)	-0.524** (0.207)
Observations R-squared	3,298 0.254	3,298 0.257	3,298 0.256	3,288 0.257

Notes:
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

APPENDIX D: PAPER RESULTS (OLS - RESTRICTIVE DATASET)

Table 2: Overall Governance Indicator's Impact on African Countries' Development Finance Inflows

VARIABLES	(1)	(2)	(3)	(4)	(5)
Governance (Index)	0.460 (0.307)	0.457 (0.296)	0.435 (0.303)	0.457 (0.301)	0.469 (0.302)
China * Governance (Index)	-0.0330 (0.210)	-	-	-	-
Political Alignment (Index)	-0.536 (0.678)	-0.574 (0.824)	-0.288 (0.612)	-0.558 (0.682)	-0.740 (0.789)
China * Political Alignment (Index)	-	0.244 (0.886)	-	-	-
Trade (Log)	0.567 (0.291)	0.566 (0.297)	0.212 (0.372)	0.530 (0.287)	0.636* (0.265)
China * Trade (Log)	-	-	1.011*** (0.122)	-	-
Resources (% of GDP)	-0.00678 (0.0114)	-0.00677 (0.0113)	-0.00840 (0.0111)	-0.0164* (0.00735)	-0.00620 (0.0117)
China * Resources (% of GDP)	-	-	-	0.0502** (0.0165)	-
GDP per Capita, PPP (Log)	-0.286 (1.088)	-0.289 (1.097)	-0.182 (1.082)	-0.306 (1.088)	-0.917 (1.438)
China * GDP per Capita, PPP (Log)	-	-	-	-	2.448*** (0.466)
GDP, PPP (Log)	0.545 (1.611)	0.538 (1.588)	0.603 (1.616)	0.578 (1.629)	0.556 (1.621)
Population (Log)	-5.562 (7.427)	-5.526 (7.471)	-5.439 (7.347)	-5.547 (7.433)	-5.841 (7.262)
Language	2.443*** (0.479)	2.447*** (0.476)	2.607*** (0.472)	2.390*** (0.495)	2.451*** (0.426)
Colony	0.951** (0.209)	0.951*** (0.202)	1.262*** (0.245)	1.001** (0.226)	0.937*** (0.143)
Distance (Log)	-3.878** (1.103)	-3.859** (1.099)	-4.792*** (0.686)	-4.242** (1.018)	-3.845** (1.070)
Observations R-squared	3,353 0.413	3,353 0.413	3,353 0.427	3,353 0.415	3,353 0.431

Notes:
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

Table 3: Overall Governance Indicator's Impact on African Countries' Development Finance Inflows (Excluding Angola)

VARIABLES	(1)	(2)	(3)	(4)	(5)
Governance (Index)	0.451 (0.297)	0.479 (0.289)	0.461 (0.298)	0.480 (0.294)	0.494 (0.295)
China * Governance (Index)	0.127 (0.192)	-	-	-	-
Political Alignment (Index)	-0.541 (0.663)	-0.576 (0.807)	-0.327 (0.606)	-0.570 (0.671)	-0.748 (0.779)
China * Political Alignment (Index)	-	0.162 (0.882)	-	-	-
Trade (Log)	0.525 (0.294)	0.520 (0.300)	0.206 (0.376)	0.500 (0.293)	0.595* (0.264)
China * Trade (Log)	-	-	0.918*** (0.133)	-	-
Resources (% of GDP)	-0.00546 (0.0138)	-0.00535 (0.0137)	-0.00691 (0.0136)	-0.0115 (0.00979)	-0.00489 (0.0142)
China * Resources (% of GDP)	-	-	-	0.0316 (0.0159)	-
GDP per Capita, PPP (Log)	0.223 (1.247)	0.220 (1.250)	0.289 (1.214)	0.205 (1.242)	-0.391 (1.382)
China * GDP per Capita, PPP (Log)	-	-	-	-	2.354*** (0.466)
GDP, PPP (Log)	0.757 (1.606)	0.756 (1.591)	0.799 (1.611)	0.779 (1.619)	0.771 (1.617)
Population (Log)	-4.987 (8.214)	-4.947 (8.274)	-4.904 (8.115)	-4.968 (8.219)	-5.256 (8.047)
Language	2.444*** (0.483)	2.443*** (0.479)	2.620*** (0.469)	2.414*** (0.494)	2.453*** (0.433)
Colony	0.940** (0.223)	0.945** (0.218)	1.221*** (0.248)	0.975** (0.235)	0.929*** (0.180)
Distance (Log)	-3.758** (1.137)	-3.789** (1.115)	-4.649*** (0.716)	-4.036** (1.076)	-3.781** (1.076)
Observations R-squared	3,288 0.424	3,288 0.424	3,288 0.435	3,288 0.424	3,288 0.441

Notes:
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

Table 4: Specific Governance Indicators' Impact on African Countries' Development Finance Inflows

VARIABLES	(1)	(2)	(3)	(4)
Corruption (Index)	0.160 (0.249)	-	-	-
China * Corruption (Index)	0.490 (0.285)	-	-	-
Stability (Index)	-	-0.0294 (0.262)	-	-
China * Stability (Index)	-	0.684* (0.259)	-	-
Democracy (Index)	-	-	0.656 (0.509)	-
China * Democracy (Index)	-	-	-0.249 (0.188)	-
Human Rights (Index)	-	-	-	0.286 (0.238)
China * Human Rights (Index)	-	-	-	-0.768*** (0.146)
Resources (% of GDP)	-0.00710 (0.0115)	-0.00857 (0.0144)	-0.00962 (0.0116)	-0.00934 (0.0114)
Political Alignment (Index)	-0.592 (0.753)	-0.588 (0.766)	-0.641 (0.727)	-0.648 (0.763)
Bilateral Trade (Log)	0.584 (0.277)	0.568 (0.284)	0.548 (0.297)	0.562 (0.298)
Log (GDP per Capita, PPP)	-0.328 (1.051)	-0.175 (1.364)	0.118 (1.293)	-0.0880 (1.166)
Log (GDP, PPP)	0.574 (1.601)	0.561 (1.568)	0.527 (1.649)	0.582 (1.612)
Population (Log)	-5.556 (7.414)	-5.593 (7.255)	-4.746 (7.553)	-5.566 (7.530)
Language	2.485*** (0.487)	2.482*** (0.480)	2.460*** (0.475)	2.448*** (0.468)
Colony	0.924** (0.208)	0.945*** (0.197)	0.970*** (0.208)	0.946*** (0.199)
Distance (Log)	-3.675** (1.166)	-3.635** (1.194)	-3.868** (1.082)	-3.967** (1.026)
Observations R-squared	3,363 0.414	3,363 0.414	3,363 0.414	3,353 0.414

Notes:
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

Table 5: Specific Governance Indicators' Impact on African Countries' Development Finance Inflows (Excluding Angola)

VARIABLES	(1)	(2)	(3)	(4)
Corruption (Index)	0.0444 (0.237)	-	-	-
China * Corruption (Index)	0.735** (0.259)	-	-	-
Stability (Index)	-	0.0150 (0.285)	-	-
China * Stability (Index)	-	0.712** (0.241)	-	-
Democracy (Index)	-	-	0.657 (0.540)	-
China * Democracy (Index)	-	-	-0.104 (0.188)	-
Human Rights (Index)	-	-	-	0.254 (0.221)
China * Human Rights (Index)	-	-	-	-0.647*** (0.140)
Resources (% of GDP)	-0.00672 (0.0134)	-0.00683 (0.0169)	-0.00866 (0.0139)	-0.00817 (0.0136)
Political Alignment (Index)	-0.594 (0.744)	-0.597 (0.756)	-0.638 (0.710)	-0.649 (0.748)
Bilateral Trade (Log)	0.551 (0.278)	0.522 (0.287)	0.502 (0.300)	0.518 (0.300)
Log (GDP per Capita, PPP)	0.253 (1.202)	0.310 (1.456)	0.668 (1.507)	0.434 (1.351)
Log (GDP, PPP)	0.770 (1.595)	0.769 (1.582)	0.733 (1.641)	0.787 (1.610)
Population (Log)	-4.986 (8.200)	-5.022 (8.054)	-4.105 (8.393)	-4.979 (8.350)
Language	2.484*** (0.488)	2.478*** (0.481)	2.463*** (0.477)	2.447*** (0.472)
Colony	0.901** (0.225)	0.938** (0.213)	0.961** (0.223)	0.940** (0.216)
Distance (Log)	-3.540** (1.200)	-3.556** (1.208)	-3.753** (1.114)	-3.882** (1.047)
Observations R-squared	3,298 0.425	3,298 0.425	3,298 0.424	3,288 0.425

Notes:
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

APPENDIX E: PAPER RESULTS (PPML - RESTRICTIVE DATASET - REDUCED FORM)

Table 2: Overall Governance Indicator's Impact on African Countries' Development Finance Inflows

VARIABLES	(1)	(2)	(3)	(4)	(5)
Governance (Index)	0.276 (0.199)	-	-	-	-
China * Governance (Index)	-0.308*** (0.0627)	-	-	-	-
Political Alignment (Index)	-	-0.239 (0.280)	-	-	-
China * Political Alignment (Index)	-	0.646*** (0.181)	-	-	-
Trade (Log)	-	-	0.365* (0.191)	-	-
China * Trade (Log)	-	-	0.281*** (0.0472)	-	-
GDP per Capita, PPP (Log)	-	-	-	0.00491 (0.0121)	-
China * GDP per Capita, PPP (Log)	-	-	-	0.0248*** (0.00455)	-
Resources (% of GDP)	-	-	-	-	0.274 (0.559)
China * Resources (% of GDP)	-	-	-	-	0.315*** (0.0767)
Observations R-squared	4,045 0.228	3,789 0.237	3,845 0.260	3,660 0.224	4,088 0.225

Notes:
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

Table 3: Overall Governance Indicator's Impact on African Countries' Development Finance Inflows

VARIABLES	(1)	(2)	(3)	(4)	(5)
Governance (Index)	0.217 (0.170)	-	-	-	-
China * Governance (Index)	-0.216*** (0.0533)	-	-	-	-
Political Alignment (Index)	-	-0.184 (0.279)	-	-	-
China * Political Alignment (Index)	-	0.246 (0.234)	-	-	-
Trade (Log)	-	-	0.376** (0.184)	-	-
China * Trade (Log)	-	-	0.138*** (0.0321)	-	-
GDP per Capita, PPP (Log)	-	-	-	0.0161* (0.00923)	-
China * GDP per Capita, PPP (Log)	-	-	-	0.00791 (0.00486)	-
Resources (% of GDP)	-	-	-	-	0.137 (0.581)
China * Resources (% of GDP)	-	-	-	-	0.149** (0.0689)
Observations R-squared	3,965 0.227	3,714 0.228	3,770 0.231	3,590 0.213	4,008 0.222

Notes:
*** p<0.01, ** p<0.05, * p<0.1
Models include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

Table 4: Specific Governance Indicators' Impact on African Countries' Development Finance Inflows

VARIABLES	(1)	(2)	(3)	(4)
Corruption (Index)	0.293 (0.386)	-	-	-
China * Corruption (Index)	-0.421*** (0.0804)	-	-	-
Stability (Index)	-	0.271*** (0.102)	-	-
China * Stability (Index)	-	0.0676 (0.0720)	-	-
Democracy (Index)	-	-	0.0510 (0.116)	-
China * Democracy (Index)	-	-	-0.262*** (0.0419)	-
Human Rights (Index)	-	-	-	0.00451 (0.0822)
China * Human Rights (Index)	-	-	-	-0.324*** (0.0525)
Observations R-squared	4,125 0.234	4,125 0.230	4,125 0.229	4,045 0.233

Notes:
*** p<0.01, ** p<0.05, * p<0.1 Models
include home country, host country, and year fixed effects
Robust standard errors clustered by home country in parantheses

Table 5: Specific Governance Indicators' Impact on African Countries' Development Finance Inflows (Excluding Angola)

VARIABLES	(1)	(2)	(3)	(4)
Corruption (Index)	0.204 (0.325)	-	-	-
China * Corruption (Index)	-0.221*** (0.0707)	-	-	-
Stability (Index)	-	0.272** (0.112)	-	-
China * Stability (Index)	-	-0.0332 (0.0745)	-	-
Democracy (Index)	-	-	0.00504 (0.0864)	-
China * Democracy (Index)	-	-	-0.124*** (0.0360)	-
Human Rights (Index)	-	-	-	-0.00228 (0.0817)
China * Human Rights (Index)	-	-	-	-0.249*** (0.0462)
Observations R-squared	4,045 0.226	4,045 0.230	4,045 0.226	3,965 0.231

Notes:
** p<0.05, * p<0.1
country, host country, and year fixed effects
errors clustered by home country in parantheses

*** p<0.01,
Models include home
Robust standard

ENDNOTES

1. "Democracy, Human Rights, and Governance," USAID, 2016, https://www.usaid.gov/what-we-do/democracy-human-rights-and-governance.
2. "China in Africa: investment or exploitation?" *Al Jazeera*, May 4, 2014, https://www.aljazeera.com/programmes/insidestory/2014/05/china-africa-investment-exploitation-201454154158396626.html; Alexis Okeowo, "China in Africa: the New Imperialists?" *The New Yorker*, Jun. 12, 2013, https://www.newyorker.com/news/news-desk/china-in-africa-the-new-imperialists.
3. Moises Naím, "Rogue Aid," *Foreign Policy* 159, (2007): 95-96.
4. Naím, "Rogue Aid."
5. Howard W. French, "Into Africa: China's Wild Rush," *New York Times*, May 16, 2014, http://www.nytimes.com/2014/05/17/opinion/into-africa-chinas-wild-rush.html?_r=0.
6. Lum, T., Fischer, H., Gomez-Granger, J., and Leland, A, "China's Foreign Aid Activities in Africa, Latin America, and Southeast Asia," Congressional Research Service, Report for Congress, 2009.
7. Simon Chadwick, "How China Is Fuelling the African Cup of Nations through Stadium Diplomacy," *South China Morning Post* (Football blog), January 11, 2017 (1:28 p.m.), http://www.scmp.com/sport/soccer/article/2061186/how-china-fuelling-african-cup-nations-through-stadium-diplomacy
8. French, "Into Africa: China's Wild Rush."
9. *Ibid.*
10. *Ibid.*
11. J.M.C. Santos Silva and Silvana Tenreyro, "The Log of Gravity," *Review of Economics and Statistics* 88, (2006): 641–58.
12. David Halloran Lumsdaine, *Moral Vision in International Politics* (Princeton, NJ: Princeton University Press, 1993).
13. McKinlay, R. and Little, R., "A Foreign Policy Model of U.S. Bilateral Aid Allocation," *World Politics* 30, no. 1 (1977): 58-86; McKinlay R.D., and Little, R., "A Foreign Policy Model of the Distribution of UK Bilateral Aid 1960–1970," *British Journal of Political Science* 8, (1978): 313-332; McKinlay, R.D., and Little, R., "The French Aid Relationship," *Development and Change* 9, no. 3 (1978): 459-478; McKinlay, R.D., and Little, R., "The German Aid Relationship: A Test of the Recipient Need and the Donor Interest Models of the Distribution of German Bilateral Aid 1961-70," *European Journal of Political Research* 6, (1978): 235-257; McKinlay, R.D., and Little, R., "The U.S. Aid Relationship: A Test of the Recipient Need and Donor Interest Models," *Political Studies* 27, no. 2 (1979): 236-250.
14. Alfred Maizels, Machiko K. Nissanke, "Motivations for Aid to Developing Countries," *World Development* 12, no. 9 (1984): 879-900.
15. Peter J. Schraeder, Steven W. Hook, and Bruce Taylor, "Clarifying the Foreign Aid Puzzle: A Comparison of American, Japanese, French and Swedish Aid Flows," *World Politics* 50, no. 2 (1998): 294-323.
16. Ilyana Kuziemko and Eric Werker, "How Much Is a Seat on the Security Council Worth? Foreign Aid and Bribery at the United Nations," *Journal of Political Economy* 114, no. 5 (2006): 905-930.
17. *Ibid.*
18. Craig Burnside and David Dollar, "Aid, Policies, and Growth," *American Economic Review* 90, no. 4 (2000): 847-868.
19. Alberto Alesina and David Dollar, "Who Gives Foreign Aid to Whom and Why?" *Journal of Economic Growth* 5, no. 1 (2000): 33-63.
20. Jean-Claude Berthélemy, "Bilateral Donors' Interest vs. Recipients' Development Motives in Aid Allocation: Do all Donors Behave the Same?" *Review of Development Economics* 10, no. 2 (2006): 192.
21. *Ibid.*
22. Alberto Alesina and Beatrice Weder, "Do Corrupt Governments Receive Less Foreign Aid?" *The American Economic Review* 92, no. 4 (2002): 1126-1137.

23. Mark McGillivray, "The Allocation of Aid among Developing Countries: A Multi-Donor Analysis Using a Per Capita Aid Index," *World Development* 17, no. 4 (April 1989): 561-568.
24. David Dollar and Victoria Levin, "The Increasing Selectivity of Foreign Aid, 1984–2002," World Bank, Working Paper No. 3299, 2004.
25. *Ibid.,* 14.
26. Craig Burnside and David Dollar, "Aid, Policies, and Growth: Revisiting the Evidence," World Bank, Working Paper No. 2834, 2004; Burnside and Dollar, "Aid, Policies, and Growth", 2000.
27. *Ibid*.
28. Axel Dreher and Andreas Fuchs, "Rogue Aid? An Empirical Analysis of China's Aid Allocation," *Canadian Journal of Economics* 48, no. 3 (2015): 988-1023.
29. *Ibid.*
30. *Ibid.*
31. Axel Dreher, Andreas Fuchs, Brad Parks, Austin M. Strange, and Michael J Tierney, "Apples and Dragon Fruits: The Determinants of Aid and Other Forms of State Financing from China to Africa," *International Studies Quarterly* 62, no. 1 (March 2018): 182-194.
32. Deborah Brautigam, *The Dragon's Gift: The Real Story of China in Africa* (Oxford, UK: Oxford University Press, 2009) p. 25.
33. Burnside and Dollar, "Revisiting the Evidence," 2004.
34. Dreher and Fuchs, "Rogue Aid? An Empirical Analysis of China's Aid Allocation."
35. Brautigam, *The Dragon's Gift: The Real Story of China in Africa.*
36. *Ibid.*
37. As the logarithm of zero in undefined, adding one to the values of ODA and OOF allows the dataset to retain the zero values. Therefore, by adding one to the yearly values of ODA and OOF, the models can still account for the country-years that have a value of zero. That said, doing so can reduce the models' efficiency, and can lead to biased estimates due to the omission of data or mistaken reporting of data as zeros; Estrella Gomez-Herrera, "Comparing Alternative Methods to Estimate Gravity Models of Bilateral Trade," *Empirical Economics* 44, no.2 (June 2013): 1087-1111.
38. Sergey Mityakov, Heiwai Tang, and Kevin K. Tsui, "International Politics and Import Diversification," *Journal of Law and Economics* 56, no. 4 (2013): 1091-1121.
39. See Appendix B for a discussion of the limitations of this data.
40. France, Germany, the UK and the US are used to reflect western countries because they are the west's largest economies and account for most of the west's development finance to Africa. Including more western countries in the models would have resulted in a dramatic increase in the number of zeros in the data, which may have reduced the efficiency of the OLS models. Using aggregate OECD figures in the models could have been a valid alternative but was decided against because many OECD countries are not in the west.
41. The China Africa Research Initiative has been collecting data on Chinese loans to African countries since 2007. It has found that, between 2000 and 2015, the Chinese government, banks and contractors have granted the equivalent of USD 94.4 billion in loans to African government and state-owned enterprises. No reliable database on Chinese grants—which make up a very small share of its development finance—exists, and they are therefore left out of the present analysis.
42. For instance, according to the China Africa Research Initiative, Angola received more than USD 19 billion in development finance from China in 2016 alone, which represents 63 percent of the USD 30.5 billion total in Chinese development finance to Africa that year.
43. "World Investment Report 2014: Annex Tables," United Nations Conference on Trade and Development, 2016, http://unctad.org/en/pages/DIAE/World Investment Report/Annex-Tables.aspx.
44. See Appendix A for an in-depth discussion of the governance indicators used and a description of how they are produced.
45. David L. Cingranelli, David L. Richards, and K. Chad Clay, *CIRI Human Rights Data Project*, 2016.

46. Wooldridge's (2002) serial autocorrelation test for panel data models was run for each model. The null hypothesis of no serial autocorrelation failed to be rejected in all the models.
47. Reduced form equation results are presented in Appendix D.
48. The implied response to changes in governance outcomes is computed as $e(\beta) - 1$
49. The implied Chinese response to changes in governance outcomes is computed as $e(\beta Governance - \beta Governance^{*} China) - 1$
50. The reduced form equations presented in Appendix D present roughly the same results, which suggests that this unexpected coefficient is not due to the impact of confounding variables.
51. Brautigam, *The Dragon's Gift: The Real Story of China in Africa.*
52. Dreher and Fuchs, "Rogue Aid?" 2015; Dreher et al, "Apples and Dragon Fruits," 2018.
53. "Development Resource Flows," Organization for Economic Cooperation and Development, 2016, https://data.oecd.org/drf/total-official-and-private-flows.htm.
54. *Ibid.*
55. *Ibid*.; Daniel Kaufmann, Aart Kraay, and Pablo Zoido-Lobatón, "Governance Matters II: Updated Indicators for 2000-01," World Bank, Working Paper No. 2772, 2002.
56. *Ibid*.
57. "Polity IV Project," Center for Systemic Peace, 2016, http://www.systemicpeace.org/polity/polity4.htm.
58. "Freedom in the World Reports," Freedom House, 2016, https://freedomhouse.org/sites/default/files/FH_FITW_Report_2016.pdf
59. Cingranelli and Richards, *CIRI Human Rights Data Projec*t.

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Support for this working paper series was provided by a grant from Carnegie Corporation of New York. Carnegie Corporation of New York is a philanthropic foundation created by Andrew Carnegie in 1911 to do "real and permanent good in this world."

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