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The Motives for Chinese and Western Countries' Sovereign Lending to Africa

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ABSTRACT

THE MOTIVES FOR CHINESE AND WESTERN COUNTRIES' SOVEREIGN LENDING TO AFRICA*

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This paper is one of the first to show systematically that the motives for sovereign lending to African countries differed considerably between China and Western countries during the last two decades. While Chinese lending mainly served its own economic or geopolitical objectives, which is well-known from the existing literature, Western countries' lending also pursued objectives that appear to be at odds with their self-interests but whose precise nature is not yet well-understood. While China lent to African countries with richer resources, lower risk of default and higher willingness to pay for credit, Western countries lent preferably to less resource-rich and more indebted African countries. Using a new, dataset on loans from China, Western countries and multilateral organizations to African countries, I empirically examine a broad variety of potential motives, aim at separating the motives pursued by the national governments from those pursued by their lending agencies, and employ an estimation strategy with increasingly complex fixed effects that yields additional interesting insights into the specificities of the motives.

Keywords: Sovereign lending, Economic motives, Geopolitical motives, Africa, China, Western countries

JEL classification: F21, F34, F35, F55, H63

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1   Introduction

This paper addresses a blind spot in the current public and scientific debate on China's role in sovereign lending to Africa: the similarities and differences between China and Western countries in their motives for bilateral sovereign lending. China has become a major player in sovereign lending towards Africa during the past two decades. Its contribution exceeds that by the World Bank or the Western countries in the meanwhile (see Table A1 and Figure A1 in the Appendix). Various empirical studies have investigated China's motives for sovereign lending to developing and emerging economies in isolation. Most of these studies find that China pursues self-centered economic or political goals that benefit its own economy or serve the geopolitical ambitions of its government. These findings lack an explicit benchmark, however. While anecdotal and qualitative evidence suggests that there are some differences between China's and the Western countries' motives for lending to low- and middle-income countries, systematic empirical evidence is almost non-existent. The present paper closes this gap.

I take a fresh look at China's motives for lending to African countries between 2000 and 2019 and compare them systematically with those of six major Western countries (France, Germany, Italy, Spain, Japan, USA). Using a new, comprehensive dataset on almost 7,000 loans from China, Western countries and multilateral organizations to African countries, the Africa Debt Database (ADD; Mihalyi and Trebesch 2023), I empirically examine a broad variety of motives for sovereign lending to African countries in direct comparison between China and Western countries. In contrast to earlier studies, I use an estimation strategy that yields deeper insights into the specificities of the motives. Instead of focusing on the results of a single regression with a pre-selected set of fixed effects, I examine the results of a series of regressions with increasingly extensive sets of fixed effects to learn more about the sources of the variation that identifies the estimated parameters. I also deviate from most of the literature in that I infer the motives for lending from the creditor countries' choices among the African countries to lend to (extensive margin) rather than from the annual number or amount of loans (intensive margins). I assume that the decision to lend to an African country is an inherently political decision in pursuit of national objectives while the detailed design of the lending also involves secondary considerations, including commercial considerations of the agencies of the creditor countries that ultimately extend and administer the loans. By using only the information on whether or not China or one of the Western countries extended loans to a specific African country in a specific year, I focus on the national objectives but exclude the secondary considerations as far as possible. For example, I exclude as far as possible that the Chinese state-owned commercial banks who extend the bulk of the Chinese loans to African countries on their own account commit higher loans to African debtors who provide more valuable collateral.

My results show that China's motives for lending to African countries during the 2000s differed considerably from those of Western countries. China's lending was more strongly driven by economic interests. In line with earlier studies, I find that China lent more likely to African countries with richer resources, lower risk of default and higher willingness to pay for credit. By contrast, the Western countries lent more likely to resource-poor and highly indebted African countries. This hints at development assistance but may also reflect other motives that are not yet well-understood. I additionally find evidence for geopolitical motives for lending, which differ as well between China and the Western countries. China's lending supported its One China principle and rewarded its supporters in the UN General Assembly while the Western countries' lending favored African countries with better institutions.

In what follows, Section 2 summarizes the insights from previous studies on the motives for Chinese lending to developing and emerging economies in general, and to Africa in particular. Sections 3 introduces my empirical methodology, Section 4 discusses my main empirical results, and Section 5 concludes.

2   Literature

The vast majority of the empirical literature on motives for China's lending to Africa, or to developing and emerging economies more generally, since the early 2000s focuses on China's motives in isolation.[1] In what follows, I will first give an overview of the insights from these studies before I turn in more detail to the few studies that explicitly take a comparative perspective.

The literature distinguishes between two broad groups of motives, political and economic motives.[2] Among the political motives, most empirical studies focus on China's ambition to gain leadership of a larger coalition of countries from the Global South as an antipole to the US-led Global North. While this motive is difficult to quantify, several of its facets have been investigated. One facet is China's striving to win support for its **One China principle**. Various studies, including Dreher et al. (2021), show that China lent more to countries that do not acknowledge Taiwan. Another facet is the attempt to win countries' **support in international organizations** such as the United Nations General Assembly (UNGA) or United Nations Security Council (UNSC). Several studies find that China allocated more development projects or higher amounts of loans to countries that voted more in alignment with China in the UNGA (Fuchs and Rudyak 2019, Dreher et al. 2021), and that China tended to punish non-permanent members of the UNSC by granting them less official development aid (ODA, i.e., grants and highly concessional loans) during their UNSC membership, especially if they voted with the US (e.g., Dreher et al. 2018). Other studies find no significant association between UNGA voting and lending, however (e.g., Broich 2017, Landry and Portelance 2021, Hoeffler and Sterck 2022). Dreher et al. (2018, 2022) argue that one reason for studies' failure to identify China's political motives is that they do not distinguish carefully enough between ODA and less concessional loans (other official finance, OOF). They argue that China pursued its political goals primarily by ODA but its economic goals primarily by OOF. My results indicate that China pursued its political goals also by OOF, though.

Economic motives for China' development finance in Africa arguably include promoting China's own economic growth and its "going global" strategy by promoting trade (exports or imports), access to natural resources and foreign direct investments by Chinese firms as well as by investing its vast foreign exchange reserves abroad and stimulating global demand for goods that are domestically in oversupply. In addition to this, economic motives include aspects related to investment security, i.e., the risk of credit default.

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[1] See, among others, Fuchs and Rudyak (2019) and Dreher et al. (2022) for surveys of this literature.

[2] Even though the distinction between political and economic motives can be helpful for the sake of clarity, they cannot be separated unambiguously from each other. A classic example of the interdependence between the two is the Rare Earth Crisis of 2010 when China used its—politically promoted—global economic dominance as a producer of Rare Earths to exert political pressure on Japan in a geopolitical dispute by temporarily halting exports of Rare Earths to Japan (e.g., Bradsher 2010, Schmid 2019). Likewise, focusing on the motives of only one party to a loan agreement is incomplete because it ignores the motives of the other party. For example, Kleinman et al. (forthcoming) suggest that closer political alignment with China may be in the African countries' own economic interest. To the extent that political support for a trading partner increases its economic growth, it may also increase the supporter's own economic growth through the gains from more intensive trade with the partner.

The **trade facilitation** motive appears to be empirically fairly well-established. Using measures of aggregate bilateral trade with China like total exports, total imports or the sum of the two, several studies find that China allocated more projects or larger amounts of lending to its more important trade partners (e.g., Yushi et al. 2020, Dreher et al. 2021, Landry 2021).[3] My results corroborate these studies for imports but are ambiguous for exports. The **resources access** motive is also supported by most studies. Using a range of different indicators, which include a dummy for oil producers, the quantity or value of oil production or oil exports or the share of rents from resources in GDP, several studies find a positive association with lending (e.g., Broich 2017, Guillon and Mathonnat 2020, Yushi et al. 2020, Landry 2021, Meister et al. 2023). Exceptions are Dreher and Fuchs (2015) and Dreher et al. (2021) who find that China allocated less projects to petroleum exporters. My results qualify these findings. I find that Chinese lending aimed at gaining access to additional suppliers of resources rather than at supporting its important actual suppliers. The motive of fostering Chinese **FDI** in African countries, which is less frequently investigated because data is more limited, is supported by Yushi et al. (2020). My test regressions for a reduced sample corroborate this finding.

Dreher et al. (2021) show that China funded more projects in years after a disproportionate increase in its **foreign exchange reserves**, suggesting that China used development finance to invest these reserves profitably, and to reduce pressure on its foreign exchange rate in times of high capital account surpluses. My results corroborate these findings. Dreher et al. (2021) also find China funded more projects in years after it had high **domestic oversupply** of products and production capacities in manufacturing industries (including construction, aluminum and steel industries), suggesting that China also used development finance to reduce domestic oversupply by giving an extra stimulus to global demand for domestic industries and by incentivizing offshoring of excess production capacities (see also Dreher et al. 2022: 286–287). Li et al. (2022) corroborate the importance of domestic oversupply as a motive for Chinese overseas lending for investments in electric power plants. Using Dreher et al.'s data, my results do not support this finding for the extensive margin of lending. China may have committed more loans or higher amounts of lending but did not lend to more African countries to reduce its domestic oversupply.

The **investment security** motive suggests that China lent preferably to more creditworthy countries. Several studies find evidence in favor of this hypothesis by showing that China committed more projects or higher funding to more countries with lower debt-to-GDP ratio (Dreher et al. 2018, 2021) or a better OECD risk index (Landry and Portelance 2021). I show that this motive was quantitatively secondary and varied in importance over time, depending on China's own economic (or political) situation.

Several studies additionally test the association of lending with **institutional quality** of the debtor country. This association cannot be clearly attributed to economic or political motives. Even the direction of this association does not help much in inferring the underlying motives. A positive association between institutional quality and lending may reflect political or economic motives. One political motive that has arguably been pursued by Western countries is to strengthen incentives for institutional or policy reform in the debtor countries. Another political motive could be to support more effective and politically more stable governments because they are considered more reliable political partners on the global political stage. An economic motive could be that lenders consider less corrupt, more effective and politically more stable governments more reliable debtors with a lower likelihood of default (Dreher et al.

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[3] *By contrast, Broich (2017) finds a negative association between Chinese exports and the value of its development finance allocated to African countries. His estimate turns insignificant when time-invariant characteristics of the African countries are eliminated by fixed effects, though, which indicates that the negative association between exports and lending may be driven by some unobserved specifics of African countries.*

2022). Likewise, a negative association of lending with institutional quality may point at political or economic motives. On the one hand, especially China may have lent more to countries with poorer institutions because more autocratic or corrupt governments are more easily persuaded to grant political (or economic) favors.[4] On the other hand, China may also have lent preferably to more autocratic or corrupt countries because its lending practices are better suited to hedge against default. China charged a higher interest than other bilateral or multilateral lenders (Mihalyi and Trebesch 2023), which compensates for higher risk of default, and also frequently demanded collateral in terms of resources or control over infrastructure facilities, which helps satisfy China's hunger for resources or its geopolitical ambitions, respectively. A related argument is that China's own institutional and political system is more similar to those of many African countries than the institutional and political systems of Western democratic countries (e.g., Dreher et al. 2018). Chinese stakeholders, be it politicians, bureaucrats or managers of state-owned banks, may be more experienced in dealing with autocratic or corrupt governments of borrowing countries.

Using a variety of different measures of institutional quality, many empirical studies suggest that China allocated more loans or larger amounts of lending to countries with more autocratic regimes or weaker institutions (e.g., Dreher et al. 2018, Guillon and Mathonnat 2020, Landry 2021, Cormier 2023, Meister et al. 2023). Cormier (2023) hypothesizes that this was in the mutual political interests of China and the recipient countries. He argues that China's lending agencies preferred lending to opaque borrowers because they did not want to reveal the detailed terms of lending while opaque borrowers preferred borrowing from China to conceal their true indebtedness and escape Western pressure for more transparency. Guillon and Mathonnat (2020) additionally find sectoral differences that may hint at economic motives for lending. They find that the allocation of Chinese ODA in social services projects was unrelated with recipient countries' institutional quality while that in agriculture, manufacturing or business services was higher in institutionally weaker countries. Some studies find no systematic relationship of lending with the institutional or political system, however (e.g., Broich 2017, Landry and Portelance 2021, Dreher et al. 2021), which is in line with China's commitment to not interfere with its partners' domestic affairs. My results corroborate the latter studies.

Turning to the few studies that, like the present one, compare the determinants of Chinese lending to African countries directly to those of Western countries' lending, Landry (2021) uses four Western countries as a benchmark (France, Germany, UK, US) for China during the period 2000–2015.[5] Like the

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[4] *The fact that the Chinese government has officially committed not to interfere in domestic affairs of its debtor countries (e.g., Mattlin and Nojonen 2015) does not imply that China abstains from using the prevailing institutional and political regime as a means for pursuing its own economic or political goals. A less draconian version of this argument would be that China just satisfies the credit demands of those autocratic or corrupt regimes that Western lenders are not willing or allowed to meet for political or ethical reasons.*

[5] *Several additional studies focus on the motives of aid projects in a comparative perspective. Dreher and Fuchs (2015) compare China's aid to developing countries worldwide 1996–2005 to that of several Western countries, including the USA, Japan, Korea and the average of Germany, France and the UK. They conclude that the accusation of China being a "rough" donor is largely unjustified. Compared to the Western countries, Chinese aid did not disproportionately favor less democratic countries, closer trade partners, more resource-rich countries or greater supporters in the UNGA, according to their estimates. China allocated significantly less aid to countries that recognize Taiwan, however. In an earlier study, Dreher et al. (2011) compare the aid allocation by a group of "old" donor countries (Germany, Japan, USA) to that by a group of 16 "new" donors (including Brazil, Korea, Saudi Arabia and several Eastern European countries). The new donors do not include China due to a lack of data, though. Hoeffler and Sterck (2022) also find that, compared to Western countries, China tended to concentrate aid more on African countries that supported the One China principle and tolerated more corruption while it granted less aid to United Nations Security Council (UNSC) members.*

present paper, he estimates the relevance of lending motives for the benchmark countries on average, and the deviation of the relevance for China from this Western benchmark, using interactions of the indicators of lending motives with a dummy for China. His results indicate that both Chinese and the Western countries' lending was motivated by supporting access to resources. Chinese lending put greater emphasis on this motive, though. I confirm these findings but show that Chinese lending aimed at gaining access to additional suppliers while Western countries' lending aimed at supporting important actual suppliers. Landry also finds significant differences for several other motives. In contrast to the Western countries, China lent more to its more important trade partners, which I confirm for imports but not for exports. China also lent more to its closer supporters in the UNGA, which I also confirm. Finally, Landry finds significant differences for several institutional indicators, which suggest that China tended to lend more to African countries with weaker institutions. My results rather suggest that the Western countries lend more likely to African countries with better institutions.

In addition to investigating a broader variety of motives, my analysis substantiates Landry's findings in several respects. First, I show that the differences in motives between the Western countries and China complement each other. While Landry analyzes the differences between China and Western countries separately for each motive, which may result in omitted variable biases, I analyze them for all motives simultaneously, which avoids these biases. Second, by focusing on the extensive margin of lending, I show that these differences in motives affect the selection of African recipient countries and not just the amount of lending. Third, my specific regression strategy yields additional insights into the specificities of individual motives. While Landry employs the traditional strategy of estimating a single specification of his model with three-way fixed effects, I estimate a battery of specifications with different combinations of fixed effects. This allows me to show, for example, that Western countries did not only lend more likely to African countries whose importance as suppliers of resources was increasing but also to resource-poor African countries. And fourth, I use more comprehensive data that cover more loans over a longer time period (2000–2019). Landry combines data on Chinese lending from the China Africa Research Initiative (CARI) database with data on Western countries' lending from the OECD. The ADD I use additionally covers data on Chinese lending from AidData,[6] which is more comprehensive than the CARI database, and on Western countries' lending from various sources, including the OECD and the US Treasury's Foreign Credit Reporting System (see Mihalyi and Trebesch 2023).[7]

Finally, Cormier (2023) complements the literature on the relative motives of development finance by adopting the perspective of the borrowing countries. He investigates China's share in total lending of 55 developing and emerging economies worldwide between 2000 and 2017. In addition to the loans from China, the total lending includes loans from a variety of bilateral and multilateral sources, including OECD countries, the World Bank and the IMF. He finds that China was a more important lender for

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[6] See https://www.aiddata.org/ (last access: June 12, 2023).

[7] A recent study by Meister et al. (2023) reports results of separate panel OLS regressions of total lending to African countries from (i) China, (ii) other bilateral creditors, and (iii) multilateral organizations, using the same data base, ADD, as I use in this paper. These results also indicate some differences between Chinese and other bilateral creditors' motives for lending. They indicate, for example, that China lent more to African countries that are more corrupt and support the One China principle. However, the documentation of the empirical approach in this paper is too coarse to assess the reliability of these results. For example, the regressions use only about 80% of the entire sample of African countries and years in the ADD without the criteria for this sample selection being documented in the paper. Moreover, the regression for other bilateral creditors apparently includes loans from Middle Eastern creditors, which may not share Western countries' lending motives.

countries that exported more to China or had weaker institutions[8] while it was a less important lender for countries that produced oil, recognized Taiwan or issued sovereign bonds in international capital markets. Even though these results are not informative about the relative motives of the lenders, they yield interesting insights into the motives of the borrowing countries. Combining the perspectives of borrowers and lenders, preferably guided a theoretical model on supply of and demand for development finance, will be a promising venture for future research.

3   Empirical approach

The aim of this paper is investigating to what extent the motives for Chinese official lending to African countries differ from those of major Western countries' official lending. Like that of earlier studies, my empirical approach starts from the premise that the creditor countries use lending to African countries to pursue their own national objectives. These objectives may include economic, geopolitical or other (e.g., humanitarian) objectives. To identify these objectives, resp. motives, for lending, which are unobserved by the econometrician, most earlier empirical studies regress the observed amounts of lending to debtor countries on these countries' economic, social or political characteristics that are likely to be pivotal for achieving the creditor country's objectives. One problem with this approach is that the amounts of lending may reflect not only national objectives that are defined by the national government but also secondary objectives like those pursued by the agencies who actually extend the loans.[9] For example, Chinese state-owned banks, which extend the bulk of the Chinese loans to African countries on own account according to commercial criteria (Brautigam and Huang 2023), might condition the amounts of their loans to the solvency of the African debtors, or to the quality of the collateral provided by these debtors. The creditor agencies of Western countries might have less discretionary power when structuring their loans, by contrast. They do not collateralize their loans, for example. If these secondary objectives are correlated with the primary, national objectives, the use of the amounts of lending may yield biased estimates on the differences in the motives for lending between the Chinese and the Western countries' governments. For example, higher loans extended by Chinese banks for more valuable collateral may exaggerate these differences. To avoid the secondary motives to affect my inferences as far as possible, I use only the information on whether or not China or a Western country extended loans to an African country in a specific year (extensive margin) but not the information on the number of loans or the amount of lending in my regressions.

For theoretical motivation of this approach, think of a model where a creditor country's decision on lending to an African country is made in two stages. In the first stage, the government selects the African countries to lend to. Pursuing a given national objective, the government maximizes national welfare by selecting the African country or countries to lend to subject to economic, social or political characteristics of the African countries that are relevant to the objective. Among all African countries, it selects those countries whose characteristics are most likely to achieve the objective. For example, to secure

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access to a specific natural resource in Africa, the government will select those African countries that have deposits of that resource and are likely to be willing and able to export it. The government may also define some general guidelines for the lending that ensure the objective of the lending to be met but remain vague with respect to the detailed terms of lending. In the second stage, the agencies commissioned by the government with the administration of the lending decide on the details of the loans, using their discretionary power to pursue their own objectives. Subject to the government's guidelines on the set of countries to lend to and the general terms of the lending, they select suitable contract partners in the African country and agree with them on the precise amounts and terms of the loans.

My empirical approach focuses on the first stage of this two stage lending decision procedure, the selection of the African countries to lend to. Formally, the regression model reads

$$y_{cdt} = \alpha + \boldsymbol{x}_{cdt}\boldsymbol{\beta}^0 + (\boldsymbol{x}_{cdt} * \iota_{CHN})\boldsymbol{\beta}^{CHN} + \boldsymbol{z}_{cdt}\boldsymbol{\gamma} + \iota_{CHN} + \boldsymbol{FE} + \varepsilon_{cdt} \tag{1}$$

where c, d and t index creditor countries, debtor countries, and years, respectively. Bold characters represent vectors. My analysis covers seven creditor countries (China and six Western countries: France, Germany, Italy, Spain, Japan, USA), 50 African countries,[10] and annual data from 2000 to 2019. y_{cdt}, the dependent variable, is the probability that creditor country c committed at least one loan to African country d in year t. $\boldsymbol{x}_{cdt}$ is a vector of variables that reflect potential motives of lending (to be detailed below), $\boldsymbol{x}_{cdt} * \iota_{CHN}$ an interaction of these motives with a dummy for China (ι_{CHN}), $\boldsymbol{z}_{cdt}$ a vector of control variables, $\boldsymbol{FE}$ a set of fixed effects (dummy variables) that varies across specifications, and ε_{cdt} the error term.[11]

My empirical approach differs from those of earlier studies in three respects: the choice of the dependent variable, the fact that all determinants of lending are interacted simultaneously with the dummy for China in each regression, and the estimation of multiple specifications of the model with different sets of fixed effects (henceforth: FE). Table 1 reports descriptive statistics for all variables, and Table A2 in the Appendix reports the correlation matrix. The Data Appendix provides a more detailed description of the data and their sources.

Dependent variable

Following the reasons outlined at the beginning of this section, I use the probability of lending as my dependent variable, represented by a binary indicator that is one if creditor country c committed at least one bilateral sovereign loan to African country d in year t, as documented by the ADD,[12] and zero else.

Motives for lending

The vector of core explanatory variables, $\boldsymbol{x}_{cdt}$, comprises 10 variables in six groups of motives for lending discussed in the literature on Chinese sovereign lending. Based on intuition, these groups have frequently been categorized as economic or geopolitical motives (see Section 2). Economic motives pursue national economic interests. They potentially grant the creditor country economic advantages such as better access of domestic firms to African resources or sales markets. Geopolitical motives are those

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[10] *I cannot include the UK among the Western creditor countries due to a lack of data. Among the African countries, I exclude Eritrea, West Sahara, Libya and Somalia due to a lack of data, and South Sudan because it was founded only in 2011.*

[11] *With a few exceptions, detailed below, all variables in $\boldsymbol{x}_{cdt}$ and $\boldsymbol{z}_{cdt}$ are lagged by one year to mitigate endogeneity problems.*

[12] *See Table A1 in the Appendix for a brief description of the coverage of loan commitments by creditor in the ADD.*

that potentially grant the creditor country geopolitical advantages such as political support in international organizations. I add a third, residual category of unobserved "other" motives to cover those motives that are pursued by the Western countries but not by China, and that are still underresearched. For example, I find that the Western countries lent more likely to resource-poor or highly indebted African countries. These findings are obviously at odds with the economic motives the respective explanatory variables are meant to reflect. They rather hint at unobserved motives that happen to be correlated with these explanatory variables. They might reflect charitable motives such as mitigating social hardship or promoting economic development in the African countries. But they might also reflect national economic or political motives such as reducing immigration to the creditor countries (e.g., Fuchs et al. 2023). Identifying these unobserved motives is beyond the scope of the present study. However, my results will hopefully help future research to identify them.

Table 1: **Descriptive Statistics**

	N	Mean	Std.dev.	Min	Max
Variables in main regressions					
Probability of lending	7,000	0.148	0.355	0.000	1.000
Share in energy imports (lagged)	7,000	0.003	0.013	0.000	0.172
Share in other imports (lagged)	7,000	0.000	0.001	0.000	0.028
Share in exports (lagged)	7,000	0.001	0.002	0.000	0.029
Indebtedness (debt/GNI) (lagged)	6,559	0.596	0.641	0.026	6.105
Quality of institutions (WGI) (lagged)	7,000	-0.604	0.581	-1.905	0.876
No of loans from multilateral organizations	7,000	4.091	3.932	0.000	21.000
No of bonds issued	7,000	0.140	0.552	0.000	8.000
Taiwan recognition	7,000	0.093	0.290	0.000	1.000
UNGA voting	6,909	0.000	1.000	-3.211	1.921
Creditor's currency reserves (lagged)	7,000	30.063	110.185	-443.625	479.553
GDP (ln) (lagged)	7,000	10.073	1.587	5.596	14.005
Population (ln) (lagged)	7,000	2.013	1.626	-2.527	5.277
No of disasters	7,000	3.300	4.334	0.000	54.000
Colony	7,000	0.071	0.258	0.000	1.000
Common language	7,000	0.134	0.341	0.000	1.000
Free trade agreement	7,000	0.069	0.253	0.000	1.000
Distance	7,000	8.023	3.630	0.726	16.375
Additional variables					
Oil rents/GDP (lagged)	6,916	0.041	0.103	0.000	0.828
FDI flows (lagged)	3,683	0.001	0.008	-0.113	0.211
Control of corruption (WGI) (lagged)	7,000	-0.590	0.601	-1.628	1.245
Govt. effectiveness (WGI) (lagged)	6,979	-0.698	0.591	-1.887	1.161
Political stability (WGI) (lagged)	7,000	-0.502	0.868	-2.699	1.283
Regulatory quality (WGI) (lagged)	7,000	-0.626	0.571	-2.202	1.197
Rule of law (WGI) (lagged)	7,000	-0.643	0.615	-1.881	1.024
Voice & accountability (WGI) (lagged)	7,000	-0.572	0.692	-1.999	0.995
China's overproduction (Dreher et al. 2021)	4,851	-0.022	0.349	-1.642	1.260
Average interest rate of loans (%)	829	1.667	1.459	0.000	9.285

Source: **See Data Appendix.**

The first group of motives comprises three variables that address three different facets of the economic motive of market access: access to resources, to other merchandize imports, and to sales markets. My preferred indicator for the motive of securing or gaining access to resources from an African country is the share of the African country in China's resp. the Western country's total imports of energy.[13] As an alternative indicator, I use the share of the African' country's oil rents in their GDP, which has been used in most of the earlier studies. The results of the regressions with this alternative indicator are reported in the Appendix. Being calculated from the difference between revenues and average extraction costs, normalized by GDP (see Data Appendix), the oil rents serve as a proxy of a country's resource abundance. Unlike the bilateral import shares, this alternative indicator does not vary across creditor countries and is correlated only moderately with the bilateral import shares (r=0.32, see Table A2).

The use of the alternative indicator, oil rents, does not only serve as a robustness check. Comparing the results for both indicators additionally investigate the motive of access to resources in more detail by distinguishing between lending that aims at *securing* access to actual suppliers and lending that aims at *gaining* access to additional suppliers of resources. To see this, consider the following inferences from possible estimation results: A positive association between the actual import shares and lending implies that the creditor country lends more likely to its more important actual African suppliers of resources. This hints at the motive of *securing* supply of resources from their already important African suppliers. By contrast, a negative association between the import shares and lending may indicate that the creditor country uses lending to either *gain* access to additional suppliers of resources or to pursue some other, unobserved objectives that are not directly related to resources. The former requires that the African countries in question produce these resources while the latter requires that they do not (to a notable extent). A positive association between the oil rents and lending does not allow for an unambiguous inference either. It may indicate that the creditor country uses lending to either secure existing access or gain additional access to resource imports from major African producers. The former requires that the African countries in question are already important suppliers while the latter requires that they are not. By contrast, a negative association hints at other, unobserved motives. Taken together, the combination of both indicators suggests the following inferences:

- A positive association of lending with both import shares and oil rents hints at the motive of *securing* supply of resources from their major actual African suppliers.
- If lending is positively associated with oil rents but negatively with the import shares, this hints at the motive of *gaining* access to additional suppliers.
- A negative association of lending with both import shares and oil rents hints at other, unobserved motives.

Another economic motive, investment security or profitability, may be relevant for lending in association with resources as well but cannot be identified here. A significant fraction of the Chinese loans is resource-backed, i.e., collateralized by future exports of resources to China (e.g., Acker and Brautigam 2021). China may thus lend more likely to African countries who offer more valuable resources as collateral. Unfortunately, information on collateral is not available. Chinese or the Western countries' lending may also be targeted at financing foreign direct investment (FDI) in resource extraction in African countries. They may lend more likely to those African countries that are more important destinations of their outward FDI in resource extraction. Unfortunately, I have no information about sectoral FDI. I do

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[13] *The results are very similar for a broader measure of resource imports that additionally includes raw materials.*

test to what extent the association between lending and total outward FDI flows rivals that between lending and access to resources, however.

My preferred indicator for the lenders' motive of securing or gaining access to other products from an African country is the share of the African country in China's resp. the Western country's total imports of other merchandize (excluding energy and raw materials). And my preferred indicator for the motive of access to African sales markets is correspondingly the share of the African country in the creditor country's total exports.[14]

In addition to the trade-related market access motives, I also investigate motives related to market access through foreign direct investment (FDI) in Africa. China's or Western countries' investments in infrastructure, resource extraction or refinery as well as production of intermediates or final goods (including export platform FDI) may have created, or substituted for, trade, and may have deepened the economic integration between creditor and debtor country. A well-known example is China's Belt and Road Initiative (BRI), which channeled large investment funds to Africa. I use the share of an African country in a creditor country' total outward FDI flows as indicator for the importance of the African country as host for FDI. Unfortunately, the available data on FDI towards African countries by Western countries and by China is rather patchy. The number of observations available for estimation decreases by about 50%. This is why I include FDI flows only in test regressions.

The second group of explanatory variables addresses the economic motive of investment security. Both China and the Western countries may have lent more likely to more creditworthy African countries to limit the risk of credit default. Following earlier studies, I use the indebtedness of the African country as an indicator of creditworthiness, measured by the country's stock of external debt in percent of gross national income (GNI). A negative association between indebtedness and the likelihood of lending hints at an economic motive for lending while a positive association may hint at other, unobserved motives. Since higher (lower) risk of default can be compensated by a higher (lower) interest rate, I additionally evaluate the terms of lending in this context by estimating a model similar to (1) but with the average interest rate of the loans instead of the probability of lending as dependent variable. The results of these additional regressions should be interpreted with cation, however, because interest rates are available for only small fraction of the loans in the ADD (about 800 of the up to 7,000 observations in my three-dimensional panel).

The third group addresses the quality of the African countries' institutions. As noted in Section 2, the association between lending and institutional quality cannot be unambiguously attributed to economic or political motives. I use as an indicator the average of the six dimensions of governance covered by the Worldwide Governance Indicators (WGI) of the World Bank.[15] The WGI provide the most comprehensive worldwide rating of institutional quality and political stability. They summarize governance indicators from more than 30 sources, including research institutes, think tanks, non-governmental organizations, international organizations and private firms.[16] They cover virtually all the indicators of

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[14] *Similar to the motives for lending in support of access to resources, the motives of lending in support of other imports from or exports to African countries could also be disentangled into the motives of securing or gaining access. However, I leave this to future research to not overload the present paper.*

[15] *More precisely, I use the (unweighted) average of the six z-standardized (mean=0, standard deviation=1) dimensions of institutional quality covered by the WGI (e.g., Kaufmann et al. 2011): (i) Voice and Accountability, (ii) Political Stability and Absence of Violence/Terrorism, (iii) Government Effectiveness, (iv) Regulatory Quality, (v) Rule of Law and (vi) Control of Corruption. Higher scores of the average WGI indicate better institutional quality.*

[16] *See https://info.worldbank.org/governance/wgi/Home/Documents, last accessed: May 22, 2023.*

institutional quality used in the studies discussed in Section 2. Importantly, the WGI are not just averages of these indicators. The World Bank uses a latent-variables approach to compile these indicators. This approach serves not only as an aggregation scheme but also as a means of quality control. It aims at eliminating measurement errors in and inconsistencies between the underlying ratings.

One might be tempted to associate each of the six dimensions of the WGI with separate motives for lending. For example, one might assume that a closer association between lending and control of corruption hints at an economic motive because better control of corruption reduces credit risks by decreasing the likelihood of fraudulent misuse. However, the six WGI dimensions are too highly correlated with each other to distinguish them meaningfully from each other (r=0.63–0.89; see Table A2 in the Appendix).[17] I nonetheless report regression results for each of the six dimensions in the Appendix.

The fourth group addresses motives related to lending in parallel to two other groups of lenders: multilateral organizations and bondholders. I use two indicators: the number of loans from multilateral organizations to the African country in the same year,[18] and the number of sovereign bonds issued by the African country in the same year. Multilateral organizations typically extend concessional loans to provide development assistance while bondholders typically pursue the economic motive of making profit. A positive correlation of Chinese or the Western countries' lending with lending by multilateral organizations might thus hint at the motive of providing development assistance while a positive correlation with bonds might hint at an economic motive. To substantiate these inferences, I take a closer look at the available (though incomplete) information on average interest rates and maturities. I conclude that lending is motivated by providing development assistance if it is similarly concessional as that by the multilateral organization, and that it is motivated by economic considerations if it is not. Likewise, lending in parallel with sovereign bonds can be classified as being profit-oriented only if the terms of lending are similarly unfavorable for the debtors than those of sovereign bonds. Sovereign bonds are among the most expensive source of foreign money for the African countries. If the bilateral lending is more favorable, I will not classify it as being profit-oriented.

The fifth group of explanatory variables covers the classical geopolitical motives for lending. I use the two indicators used most frequently in the literature, the diplomatic recognition of Taiwan and voting alignment with the creditor country in the UNGA.

Finally, the sixth group covers the economic motive of investing domestic currency reserves in African countries. Dreher et al. (2021) suggest that this was an important motive for Chinese lending (see Section 2). I investigate if this is true for the Western countries as well.

I interact all indicators of the motives for lending simultaneously with the China dummy to avoid omitted variable biases that may result from correlation among the motives. The specification with interaction terms is a straightforward way to test if China's motives differ significantly from those of the Western countries on aggregate.[19] The parameters $\boldsymbol{\beta^0}$ inform about the relevance of the respective motive for the Western countries. They can be interpreted as marginal changes (in percentage points) of the probability of lending by the Western countries in response to marginal changes of the indicator for the

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[17] *A factor analysis corroborates this conclusion. All six dimensions load on a single factor with an Eigenvalue of 4.8 that explains 80% of the variation. All other factors have Eigenvalues far below one.*

[18] *See Table A1 in the Appendix for the list of multilateral organizations.*

[19] *Earlier comparative studies on the motives of aid like Dreher and Fuchs (2015) do find some differences between Western countries. In my analysis, these differences show up in changes of the parameters β^0 or their significance in response to adding creditor FE or creditor*year FE to the model (see below).*

respective motive. The corresponding parameters of the interaction terms with the dummy for China, $\boldsymbol{\beta}^{CHN}$, indicate if the probability of Chinese lending responds differently to a marginal change of the respective indicator. The sum of the two parameters, $\boldsymbol{\beta}^0 + \boldsymbol{\beta}^{CHN}$, which I term the "absolute" parameter for China, is the marginal change (in percentage points) of the probability of Chinese lending to an African country in response to a marginal change of the indicator of the respective motive. I will conclude that the respective motive is important for China if $\boldsymbol{\beta}^0 + \boldsymbol{\beta}^{CHN}$ differs significantly from zero, as indicated by an F test of joint significance, and that this motive is more (or less) important for China than for the Western countries if $\boldsymbol{\beta}^{CHN}$ differs significantly from zero.

Fixed effects

By estimating model (1) with different sets of fixed effects, I aim at gaining additional insights into the characteristics of the motives for lending and avoiding inadequate inferences. Most earlier studies use only a single, predetermined set of fixed effects. I rather estimate a battery of six regressions with successively more extensive FE that gradually eliminate specific sources of the variation of the data from which the parameter estimates are identified. Starting with (i) a baseline specification that includes only year FE and a dummy variable for China, I add (ii) FE for each creditor country ("creditor FE" henceforth) and (iii) FE for each African country ("debtor FE") to the model. I then (iv) replace these creditor FE and debtor FE by bilateral ("creditor*debtor") FE, which absorb any cross-section variation and leave only the variation over time (net of globally uniform fluctuations) for identification. The last two regressions successively add (v) "creditor*year" FE and (vi) "debtor*year" FE to model (iv), which additionally absorb any time-varying observed or unobserved differences between the creditor countries resp. the African debtor countries. My most restrictive model (vi) actually leaves only the variation over time in the specific bilateral relationships between the pairs of creditors and debtors as well as the differences between China and the Western countries in this variation for identifying the parameters.

Control variables

The control variables, z_{cdt} in (1), comprise (i) logged GDP and (ii) logged population size of the African country, (iii) a variable reflecting the number of disasters in each African country, which may have increased the probability of concessional humanitarian lending, as well as four gravity-type variables (Yotov 2022): dummy variables for (iv) historical bilateral colonial relations, (v) a common official language, (vi) a free trade agreement as well as (vii) bilateral geographical distance between most populated cities (weighted by population).

Endogeneity

My inferences should not interpreted causally. While the extensive sets of control variables and fixed effects account as far as possible for endogeneity from omitted variables in my regressions, reverse causation may be an issue. For example, lending may cause additional imports from or exports to the African countries if the loans are targeted at financing these transactions. They may also cause an increase of the debtor country's debt to GDP ratio by definition. And they may cause institutional reforms or voting in closer alignment with the creditor at the UNGA if these measures are a condition for the granting of the loans.

The fact that the data on lending reflect loan commitments rather than disbursements mitigates these endogeneity issues. Based on a closer inspection of about 200 Chinese development projects, Horn et al. (2021) conclude that the average delay between commitments and disbursement is about four years. To further reduce the likelihood of reverse causation, I use one-year lags of most of the explanatory

variables (see Table 1).[20] Nonetheless, there is still a possibility that African countries adopt specific measures such as institutional reforms or strategic voting at the UNGA ex ante to increase the likelihood of subsequently being granted a loan.

In addition to the baseline model with the explanatory variables just introduced, I estimate several variations of this model to assess the robustness of my main results and gain additional insights. The results of these regressions are documented in Tables A3–A11 in the Appendix. They will be discussed in the next section.

4   Results

Table 2 reports the main results of my OLS estimations of model (1) for lending by China and six Western creditor countries to 50 African countries from 2000 to 2019. Column (1) reports the baseline regression that controls only for year FE and the dummy for China. The remaining five columns report similar regression with increasingly extensive combinations of FE.[21] In what follows, I will briefly summarize the main insights on each indicator (in italics) before discussing the regression results in more detail.

Access to resources *was an economic motive for sovereign lending by both China and the Western countries. The Western countries lent more likely to secure imports from their actual African suppliers while China lent more likely to gain access to additional suppliers. The Western countries additionally lent more likely to less resource-rich African countries, which might reflect the additional motive of providing development assistance.*

The baseline model with only year FE (column 1) suggests that the Western countries lent significantly less—rather than more—likely to their more important African suppliers of energy (−1.839)[22] while China appears to have lent significantly more likely to its more important African suppliers of energy. The difference between China and the Western countries in column (1), 7.015, is highly significant, as is the absolute estimate for China (5.176=−1.839+7.015; p-value<0.01).[23]

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[20] *However, I do not use lags for the loans from the multilateral organizations and the global capital markets because I am specifically interested in the temporal simultaneity of the bi- and multilateral lending. I thus assume that the lending decisions of multilateral organizations are independent of contemporaneous bilateral lending. I also do not use lags for the geopolitical motives, recognition of Taiwan and voting alignment at the UNGA. For the Taiwan dummy, this makes no difference. For the voting alignment at the UNGA, it makes a big difference, by contrast. Chinese lending is positively and significantly associated with closer voting alignment in the same year but not in the previous year. If this could be interpreted causally, it implied that Chinese lending acknowledges current but not past voting behavior.*

[21] *The sets of FE are abbreviated as follows: t: year FE, c: creditor FE, d: debtor FE, c*d: creditor*debtor FE, c*t: creditor*year FE, d*t: debtor*year FE. Table A3 in the Appendix reports the average marginal effects of the corresponding Logit regressions.*

[22] *In the following, I will mention all three decimal places of the point estimates to facilitate their identification in the corresponding table.*

[23] *My point estimate suggests that the probability of being committed a loan from China was 5.2 percentage points higher for an African country with a one percentage point higher share in Chinese resources imports (5.176*0.01*100). This effect looks small when compared to the average import share, which is only 0.3% (see Table 1 above). However, Angola, China's most important African supplier of energy (12% in 2009), is estimated to have had a 62 percentage points higher probability of receiving a loan than countries like Cabo Verde or the Comoros that did not supply China with energy.*

Table 2: Main regression results

Fixed effects	t (1)	t, c (2)	t, c, d (3)	t, c*d (4)	t*c, c*d (5)	t*c, t*d, c*d (6)
Share in energy imports	−1.839*	−1.451*	0.628	2.492	2.639	2.516*
	(0.958)	(0.855)	(0.902)	(1.616)	(1.623)	(1.359)
x China	7.015***	6.837***	5.205***	−3.701	−4.046*	−2.598
	(1.110)	(1.027)	(1.099)	(2.426)	(2.347)	(2.224)
Share in other imports	9.724	14.653	9.284	−1.777	−1.289	−1.576
	(17.809)	(16.482)	(12.157)	(4.001)	(4.159)	(5.538)
x China	16.376	11.697	15.242	6.109	7.892	6.267
	(20.779)	(19.692)	(15.754)	(6.543)	(6.686)	(9.579)
Share in exports	−5.672	−10.699	−7.651	−31.982***	−22.830***	−12.284
	(12.831)	(12.198)	(9.670)	(8.203)	(8.020)	(9.872)
x China	−54.511**	−46.700*	−30.744	51.355	−2.575	−10.941
	(27.353)	(27.362)	(24.953)	(33.921)	(33.999)	(35.752)
Indebtedness	0.033***	0.031***	0.020**	0.023***	0.017**	
	(0.008)	(0.008)	(0.009)	(0.008)	(0.008)	
x China	−0.081***	−0.078***	−0.077***	−0.103**	−0.046	−0.047
	(0.025)	(0.024)	(0.022)	(0.042)	(0.036)	(0.036)
Quality of institutions (WGI)	0.027*	0.041**	0.053	0.025	0.018	
	(0.016)	(0.016)	(0.035)	(0.031)	(0.028)	
x China	−0.067	−0.075	−0.084	0.083	0.140	0.135
	(0.060)	(0.058)	(0.056)	(0.136)	(0.120)	(0.108)
Loans from multilateral organizations	0.011***	0.010***	0.006***	0.005***	0.006***	
	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	
x China	0.005	0.005	0.005	0.009*	0.006	0.006
	(0.007)	(0.007)	(0.006)	(0.005)	(0.007)	(0.006)
Bonds issued	0.015	0.016	0.000	−0.001	−0.002	
	(0.014)	(0.013)	(0.010)	(0.009)	(0.009)	
x China	0.088**	0.088**	0.076*	0.092***	0.103***	0.102***
	(0.040)	(0.040)	(0.041)	(0.021)	(0.024)	(0.025)
Taiwan recognition	−0.028*	−0.037**	−0.025	−0.032	−0.035	
	(0.017)	(0.019)	(0.034)	(0.034)	(0.032)	
x China	−0.320***	−0.306***	−0.298***	−0.212*	−0.176	−0.183*
	(0.059)	(0.058)	(0.053)	(0.112)	(0.118)	(0.110)
UNGA voting	0.012	−0.022	−0.044*	−0.043***	−0.040**	−0.033
	(0.010)	(0.019)	(0.024)	(0.015)	(0.016)	(0.051)
x China	0.061	0.100	0.116	0.212***	0.240***	0.206***
	(0.070)	(0.073)	(0.073)	(0.053)	(0.055)	(0.062)
Creditor's currency reserves	0.001***	−0.000	−0.000	−0.000		
	(0.000)	(0.000)	(0.000)	(0.000)		
x China	−0.001**	0.000	0.000	0.000		
	(0.000)	(0.000)	(0.000)	(0.000)		
GDP (ln)	0.057***	0.049***	0.016	0.022	0.023	
	(0.013)	(0.013)	(0.026)	(0.025)	(0.024)	
Population (ln)	−0.021*	−0.016	0.360***	0.296***	0.312***	
	(0.013)	(0.012)	(0.114)	(0.112)	(0.110)	
No of disasters	0.001	0.001	−0.002	−0.002	−0.002	
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	
Colony	0.213***	0.082	0.106**			
	(0.054)	(0.053)	(0.049)			
Common language	0.048	0.045	0.037			
	(0.035)	(0.032)	(0.032)			
Free trade agreement	0.147**	0.142**	0.147**	0.027	0.016	−0.071
	(0.069)	(0.060)	(0.059)	(0.039)	(0.036)	(0.055)
Distance	−0.006**	−0.015***	−0.018***	−0.580	1.286	0.031
	(0.003)	(0.005)	(0.006)	(0.474)	(1.119)	(2.215)
Dummy China	0.247*					
	(0.139)					
Constant	−0.462***	−0.261**	−0.705**	3.863	−11.060	−0.118
	(0.114)	(0.107)	(0.294)	(3.765)	(8.933)	(17.654)
Observations	6,489	6,489	6,489	6,489	6,489	6,489
Adj. R²	0.233	0.259	0.292	0.398	0.409	0.421

Notes: Fixed effects OLS regression for an (unbalanced) panel of 50 African countries (debtors) and seven creditor countries (China, France, Germany, Italy, Japan, Spain or the USA) 2000–2019 (annual). The dependent variable is one if the African country received a bilateral official loan from a creditor country in the respective year. All regressions include the fixed effects as indicated in the head row (t: time, c: creditor country, d: African debtor country). Clustered standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: **See Data Appendix.**

The apparent emphasis of Chinese lending on fostering access to resource imports is in line with most of the earlier literature (see Section 2) while the negative estimate for the Western countries comes at a surprise. Landry (2021) estimates a positive association also for the Western countries. However, these baseline estimates mask three interesting features that surface only when different sets of fixed effects are added to the model, and that have gone largely unnoticed in the earlier literature.

First, the negative estimate for the Western countries is at odds with securing access to important providers of resources but likely reflects other, unobserved motives such as that of providing development assistance. Moving along the columns in Table 2, the negative parameter for resources imports by the Western countries remains negative when I add creditor FE in column (2) (−1.451), implying that there is little heterogeneity across the Western countries. However, it turns positive (0.628), though insignificant, when I add debtor FE in column (3). The debtor FE remove any differences in observed or unobserved time-invariant characteristics between the African countries from the estimates. The negative estimates in columns (1) and (2) thus do not reflect primarily the association of lending with actual resources imports but rather that with some unobserved time-invariant characteristics of the African countries, including their resource endowments. The corresponding regressions for the second indicator of access to resources, oil rents, in Table A4 shows that this lending does also not reflect the motive of gaining access to additional African suppliers of resources. The Western countries lent less—rather than more—likely to African countries with higher oil rents (e.g., −0.177 in column 2), and, like that in Table 2, this parameter also drops in absolute magnitude and turns insignificant in the presence of debtor FE (−0.078 in column 3).

Figure 1 depicts this negative cross-sectional relationship graphically by plotting the time-averaged probability of lending from the Western countries to each African country against the time-averaged annual shares of oil rents in the African countries' GDP. It shows that larger African oil producers had a lower probability of being committed a loan from a Western country. This lower probability is inconsistent with the motives of gaining or securing access to resources. It reflects other motives such as that of providing development assistance. This is what Landry (2021) misses by estimating only the model in column (3).

Second, in addition to lending more likely to resource-poorer countries, the Western countries' lending also pursued the motive of securing access to resource imports but not that of gaining access to additional suppliers. In Table 2, this motive surfaces in columns (4)–(6). The bilateral (creditor*debtor) FE in these regressions absorb any long-term (time-invariant) characteristics of the bilateral lending and trade relationships, including the negative association depicted in Figure 1. They leave only the variation over time for identifying the parameters. The parameter for the Western countries turns positive in column (4) (2.492), and even significant at the 10% level in column (6). It suggests that a one percentage point increase of an African country's share in Western countries' resource imports over time is associated with a 2.5 percentage points higher probability of Western lending to this country. By contrast, the Western countries did not lend more likely to African countries in years when these countries' income from resources was higher. The parameter for the share of oil rents in the African countries' GDP, is insignificant in columns (4) and (5) of Table A4.

And third, in contrast to the Western countries' lending, Chinese lending focused on gaining access to additional African suppliers of resources in Africa rather than on securing actual resource imports. Moving along the columns in Table 2, the positive and significant parameter for Chinese energy imports

Figure 1: **Cross-sectional association between African countries' rents from oil production and probability of lending from the Western countries**
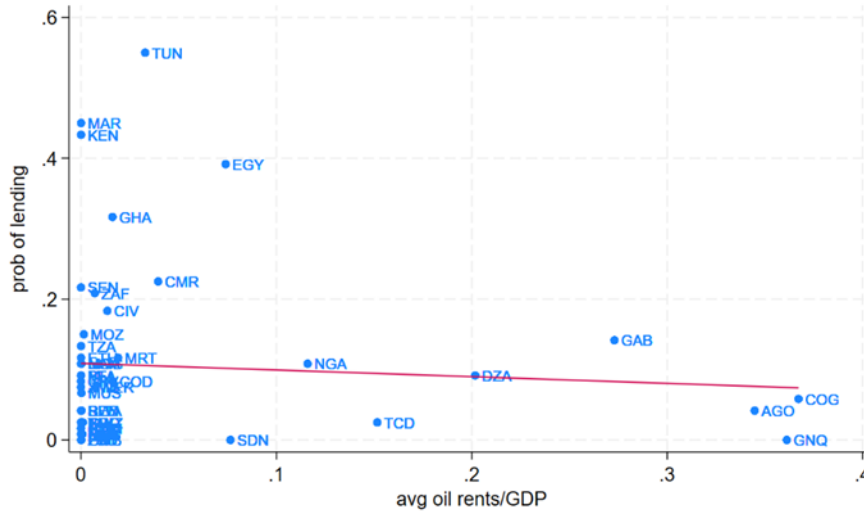
Notes: The horizontal axis shows the average of the annual shares of oil rents in the African countries' GDP 2000–2019 (lagged by one year), and the vertical axis the share of years during the period 2000–2019 when the African country was committed a loan from a Western country. The labels of the dots are the African countries' ISO 3166 alpha-3 codes.

Source: **See Data Appendix.**

becomes small and insignificant whenever bilateral FE eliminate the time-invariant characteristics (columns 4–6).[24] By contrast, the corresponding parameters of the oil rents in Table A4 are positive and significant in columns (4) and (5), suggesting that China lent more likely to African countries in years when these countries earned more from resource extraction. For example, the estimates in column (4) of Table A4 suggest that a one percentage point increase of the share of oil rents in GDP is associated with a 0.72 percentage points (–0.06+0.776) higher probability of lending from China (p-value: 0.03).[25]

Access to **supply of other merchandize** *from Africa was an economic motive for sovereign lending for China but not for the Western countries.*

The parameter of my preferred indicator of (gaining or securing) access to other imports from Africa, the African country's share in the creditor country's total imports excluding energy and raw materials, is estimated to be insignificant for the Western countries in all six models in Table 2, which suggests that the Western countries did not lend more likely to their more important suppliers of other merchandize. The deviation of Chinese lending is positive but also insignificant in all regressions. However, the absolute parameter for China is significantly positive in columns (1)–(3). The point estimate is about 25 and

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[24] *The parameter for the deviation of China from the Western countries turns negative (–3701 in column 4), and the absolute point estimate for China is small (–1.209) and highly insignificant. Since the interaction term for China is estimated rather imprecisely, I cannot formally reject the hypothesis that China's lending was as responsive to short-term fluctuations of import shares as that of the Western countries, though.*

[25] *The positive association between Chinese lending and oil rents might reflect lending in support of Chinese FDI in resource extraction. China might have lent more likely to African countries to support Chinese FDI in particularly profitable resource extraction in Africa. However, this explanation is not supported by the data. If this lending had been motivated by fostering FDI, the parameter of oil rents would decrease and become insignificant when FDI is added to the model. This is not the case. When I add the share of the African countries in Chinese outward FDI flows to the model, the parameters of oil rents do not change much (see Table A6). The parameter for the difference between China and the Western countries in the association between lending and oil rents is still positive and significant in columns (4) and (5) of Table A6. The absolute parameter for China also remains positive (e.g., 0.552=–0.277+0.829, p-value: 0.17, in column 4).*

the p-value below 0.03 in all three columns, suggesting that an African country with a 1 percentage point higher share in Chinese imports was 25 percentage points more likely to be committed a loan from China.

The comparatively small and insignificant estimates in columns (4)–(6) in Table 2 suggest that this positive association comes either primarily from the cross-section variation in the data, or from some unobserved time-varying specifics of the bilateral relations between China and the individual African countries.[26] Both is actually the case, according to complementary estimates. The positive association in the cross-section dimension is depicted in Figure 2. Similar to Figure 1, this figure plots the time-averaged annual probability of lending from China against the African countries' average shares in Chinese merchandize imports. It shows that China lent more likely to African countries with higher shares in its merchandize imports. The positive association in the time-series dimension becomes significant when the importance of African countries as destinations of Chinese outward FDI is additionally controlled for (see Tables A5 and A6). In column (6) of Table A5, for example, the parameter for the deviation of China from the Western countries is higher than the corresponding parameter in Table 2 (14.054, compared to 6.267), though still not significant, but the absolute parameter for China increases from an insignificant 4.691 to a highly significant 20.236 (p-value<0.01). An increase in the share of imports by 0.1 percentage points is associated by a two percentage points higher probability of lending, according to this estimate.

Figure 2: **Cross-sectional association between Chinese imports of merchandize from African countries and probability of Chinese lending to African countries**
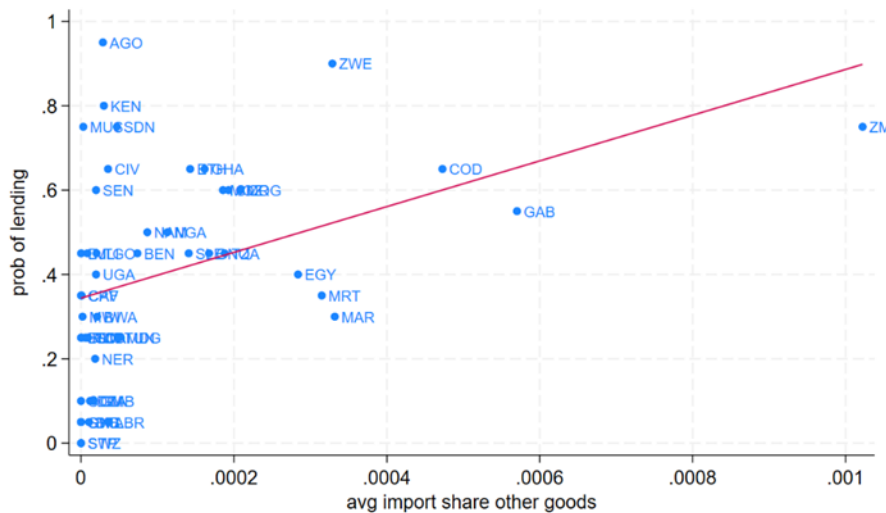
Notes: The horizontal axis shows the average of the annual shares of an African country in China's imports of other merchandize (excl. resources) 2000–2019 (lagged by one year), and the horizontal axis the share of years during the period 2000–2019 when the African country was committed a loan from China. South Africa (ZAF) was dropped from the graph as an outlier (average import share: 0.012, prob of lending: 0.65). The labels of the dots are the African countries' ISO 3166 alpha-3 codes.

Source: **See Data Appendix.**

In summary, while I cannot formally reject the hypothesis that Chinese lending was similarly invariant to the African countries' importance as suppliers as that of the Western countries, I can conclude that

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[26] *The parameter for the deviation of Chinese from the Western countries' lending drops in magnitude whenever the cross-section variation is eliminated from the data in columns (4)–(6). The absolute parameter for China remains positive but turns insignificant (e.g., 4.332, p-value 0.42 in column 4).*

access to merchandize imports from Africa did motivate Chinese lending, and that this lending responded to short-term variations in the imports.

Access to African sales markets *might have been an important economic motive for both Chinese and the Western countries' lending. Both might have been aimed at stimulating exports in years of declining export demand from African countries. However, the estimates do not facilitate clear-cut inferences about the motives for lending.*

My preferred indicator of the motive of access to sales markets, the share of the African country in a creditor country's total exports, yields estimates that are difficult to interpret in terms of the underlying motives of both the Western countries and Chinese lending.

For the Western countries, the parameter of the export share of is estimated to be negative rather than positive in all regressions in Table 2. The negative—though insignificant—association in the baseline regression (column 1, −5.672) is surprising at first glance because exports are positively correlated with lending in the data (r=0.18; see Table A2). This mismatch can be attributed to the gravity-type control variables, which absorb the positive cross-sectional correlation between lending and exports.[27] The Western countries thus tended to lend less (though not significantly less) likely to those African countries with which they did not maintain such special relationships. The negative association turns significant in columns (4) and (5) and insignificant again in column (6). The former might suggest that the Western countries extended loans more likely to African customers in years when these countries' demand for their products declined while the latter suggests that this strategy of stimulating declining export demand through more extensive lending was subject to some unobserved time-varying heterogeneity within the individual Western countries. Maybe the Western countries used lending to stimulate declining export demand but used this instrument with varying intensity over time, depending, e.g., on the domestic business cycle or varying availability of funds.

For China, the parameter of the export share of is also estimated to be negative in almost all regressions in Table 2. In contrast to that for the Western countries, it is significant only in the cross-section dimension (columns 1–3) but insignificant in the time-series dimension (columns 4–6).[28] This might indicate that Chinese lending aimed at gaining access to additional African sales markets, i.e., to those countries with still low shares in Chinese exports, rather than at stimulating declining export demand from already important African customers. However, the estimates for the subperiod 2000–2014 in columns (4)–(6) of Tables A8 and A9, which are negative and significant,[29] rather suggest that Chinese lending did aim at supporting declining export demand from African countries during the 2000s and early 2010s but not

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[27] *When I exclude these gravity-type controls, the parameter of exports is in fact positive in all regressions that include only unilateral FE (Table A7, columns 1–3). Another candidate for the mismatch might be GDP. While China or the Western countries do lend more likely to economically larger African countries, as the positive and significant parameter of GDP in Table 2 shows (0.49 in column 1 of Table 2), the parameters for exports do not change notably when GDP (and population size) are excluded from the set of control variables. Detailed results are available upon request.*

[28] *While the difference to the Western countries is estimated to be not significant at the 10% level in column (3), the corresponding absolute parameter for China (−38.395=−7.651−30.744) is significant at the 10% level. This negative association largely invariant to the gravity-type trade determinants (see Table A7). China is not linked to any African country by colonial ties, a common language or a free trade agreement.*

[29] *For example, the absolute parameter for China in column (6) of Table A8, −92.464 (=−9.63−82.834), is significant at the 1% level. It implies that a decrease of China's export share to an African country by one standard deviation (0.12 percentage points) was associated with an 11 percentage points higher probability of lending.*

any more in recent years. The motives of Chinese lending in association with its exports may have changed during the 2010s.

Investment security was an economic motive for Chinese but not for the Western countries' lending. The Western countries even lent more likely to more indebted African countries, which hints at other motives such as providing development assistance. The magnitudes of the associations between indebtedness and lending are small, however.

The parameter of the indicator of the African country's (lack of) creditworthiness, indebtedness (debt to GDP ratio), is positive and significant for the Western countries in all regressions in Table 2 (e.g., 0.031 in column 1), which implies that Western countries lent more likely to more heavily indebted African countries. The motives for these rather risky investments cannot be inferred from the available data. On the one hand, this lending could have served to provide development assistance in terms of of liquidity for financially troubled African countries. On the other hand, the positive parameters in all regressions of the average interest rates of the loans on the motives for lending in Table A11 suggest that economic interests could have played a role as well. The Western countries tended to demand higher interest rates from more indebted African countries, which could have served as a risk premium.[30] In any case, the estimated effect is quantitatively rather small, however. A doubling of the debt to GDP ratio from 60%, the sample average, to 120% is associated with an only about 2 percentage points (=0.031*0.6*100) higher probability of lending.

The interaction with China (column 1: –0.081) and the absolute estimate for China (–0.048) are negative and significant, by contrast. China thus lent less likely to more indebted African countries, which hints at an economic motive. The responsiveness of Chinese lending to changes of an African countries' indebtedness over time depended heavily on some time-varying characteristics of the Chinese economy (or politics), however. The absolute estimate for China drops in absolute magnitude and turns insignificant when creditor*year FE are controlled for in column (5) (–0.029=0.017–0.046, p-value: 0.42).[31] Maybe China attached less importance to investment security in certain economic (or political) situations in China.[32] The estimated effect is quantitatively rather small for China as well. A doubling of an African country's debt to GDP ratio over time from 60% to 120% is associated with a 4.8 percentage points ((0.023–0.103)*0.6*100) lower probability of lending, according to column (4).

Western countries lent more likely to African countries with better **institutions** while Chinese lending was invariant to the quality of institutions, which corroborates Chinese official policy of non-interference with internal affairs of the African countries.

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[30] *However, this positive association is small and insignificant (0.278, p-value: 0.38) when creditor*year FE are added to the model (column 5 of Table A11). The positive estimate for the association between interest rate and indebtedness could thus reflect some unobserved changes over time in the Western creditor countries such as time-varying refinancing costs or budgetary constraints, e.g., during the European financial crisis.*

[31] *Again, the regressions of interest rates on the determinants of lending (Table A11) appear to contradict this conclusion. The negative and significant parameter for China in column (1) of Table A11 (–0.798=0.434–1.232, p-value: 0.02) suggests that China demanded lower interest rates from more indebted African countries, which is inconsistent with an economic motive for lending. This negative association vanishes gradually when more extensive FE are added to the model, however. In column (5), the absolute parameter for China is virtually zero.*

[32] *One of these situations could have been domestic industrial overproduction in China, as suggested by Dreher et al. (2021). However, the parameter of indebtedness changes only marginally when the corresponding explanatory variable from Dreher et al. (2021) is added as another control variable in the regressions for the period 2000–2014 (see Table A9, compared to Table A8). In contrast to Dreher et al. (2021), I find no significant association between lending and domestic overproduction (Table A9).*

For the Western countries, the parameter of my indicator of institutional quality, the average of the six WGI, is positive and significant in the baseline model (1). The point estimate (0.027) is rather small, however. A one standard deviation higher index of institutional quality is associated with a 2.7 percentage points higher probability of lending. Evaluated over the entire range of the WGI scores, the African country with the poorest institutions, the Democratic Republic of Congo (2000: −1.91) had a just about 11 percentage points lower probability of being committed a Western loan than the African country with the best institutions, Mauritius (2016: 0.88). This positive association comes primarily from the cross-section variation across the African countries. The Western countries' lending did not respond sensitively to changes over time of the individual African countries' institutional quality, by contrast (columns 4–5).[33] Figure 3, which is constructed in the same way as Figures 1 and 2, depicts the positive cross-sectional correlation graphically.

Figure 3: **Cross-sectional association between the institutional quality of African countries and Western countries' lending**
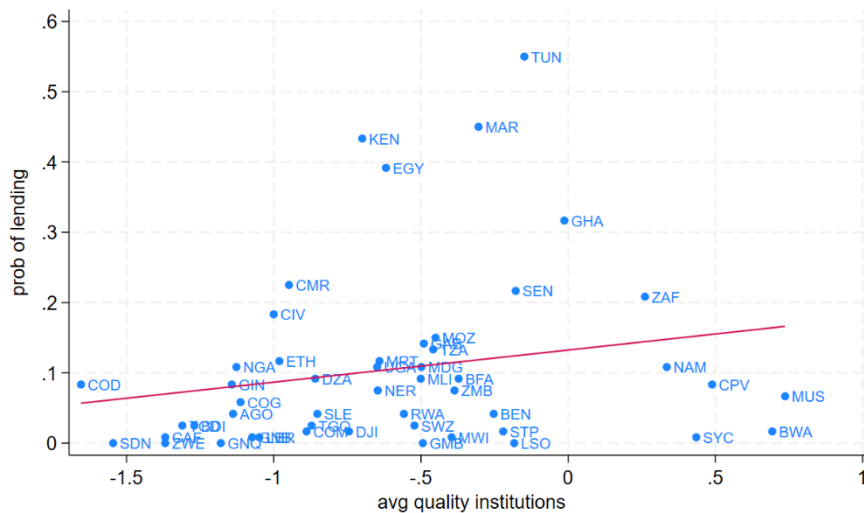
Notes: The horizontal axis shows the average of the WGI index of institutional quality 2000–2019 (lagged by one year), and the vertical axis the share of years during the period 2000–2019 when the African country was committed a loan from a Western country. The labels of the dots are the African countries' ISO 3166 alpha-3 codes.

Source: **See Data Appendix.**

The regressions for each of the six dimensions of institutional quality covered by the WGI indicate that the Western countries might have lent more likely to African countries with better regulatory quality, government effectiveness and/or rule of law (Table A10). These estimates should be interpreted with caution, however. The effects cannot be unambiguously attributed to individual WGI dimensions due to the high correlation between the WGI dimensions. As emphasized in Section 2, the positive association between institutional quality and lending can also not be attributed to a specific motive for lending. The lending may be motivated by economic considerations such as investment security or by the political aim of stimulating reforms by rewarding institutional quality.

The parameter of the interaction term with China is negative (−0.067 in column 1 of Table 2) and larger in absolute terms than the positive parameter for the Western countries, which tends to corroborate the findings of studies like Dreher et al. (2018), Guillon and Mathonnat (2020), Landry (2021) or Cormier

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[33] *The estimate in column (3), 0.053, is significant only at the 13% level, however.*

(2023) that China lent preferably to countries with weaker institutions. However, neither the difference to the Western countries nor the absolute estimate for China (–0.04) are significant at conventional levels in Table 2. Thus, while I cannot formally reject the hypothesis that China, like the Western countries, lent more likely to African countries with better institutions, I find no support for the hypothesis that China lent more likely to countries with weaker institutions.[34]

The regressions for the individual WGI dimensions in Table A10 suggest that China might have lent more likely to African countries with weaker control of corruption, though. According to these estimates, a one standard deviation higher index of control of corruption is associated with an about 10 percentage points higher probability of Chinese lending.

*Both China and the Western countries complemented loans from **multilateral organizations** to African countries by contemporaneous own loans. Most of the Chinese loans were more expensive for the debtors, which hints at a greater importance of economic motives for lending, while loans from the Western countries were, on average, similarly concessional as those from the multilateral organization.*

The Western countries lent significantly more likely to those African countries who were committed loans from multilateral organizations like the World Bank in the same year. The corresponding parameter of my indicator, the number of loans from multilateral organizations, is positive and highly significant in all regressions in Table 2. The estimate for the interaction with China is positive (0.005 in column 1) and insignificant in most regressions in Table 2, indicating that China also complemented multilateral by own loans.[35] The estimated magnitudes are small, however. Another loan from a multilateral organization is estimated to have increased the probability of a Western (Chinese) loan by only 1.1 (1.6) percentage points (column 1).

Since loans from multilateral organizations are typically classified as development assistance, one might assume that contemporaneous loans from the Western countries or China served a similar purpose. This assumption is not true for all loans and especially not for Chinese loans, however, as Figure 4 indicates. The figure compares the average interest rates (upper graphs) and the average maturities (lower graphs) of loan commitments from multilateral organizations to those of contemporaneous bilateral loan commitments from China (left graphs) and the Western countries (right graphs). Each dot represents lending to one African country in one year.[36] The terms of the loans from multilateral organizations are depicted on the horizontal axis of each graph while those of the loans from China resp. the Western countries are depicted on the vertical axis. The solid lines, the main diagonals, characterize similar terms of lending. The two graphs for China confirm Mihalyi and Trebesch (2023) in that lending from China was, on aggregate, less concessional that that from multilateral organizations for most African countries and years. The distribution of the interest rates and the maturities of Western loans is more similar to that of multilateral organizations, by contrast. Thus, the positive association of lending by the Western countries with that by multilateral organizations found in the regressions in Table 2 may, at least partly,

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[34] *The Logit estimates reject the former but not the latter hypothesis (see Table A3).*

[35] *These positive associations also hold when multilateral lending is measured by a binary variable rather than the number of loans, though some estimates are less precise. Detailed results are available from the author upon request.*

[36] *To reduce the heterogeneity of lending conditions across the African countries and years, the figure reports only those country-year cases when the same African country was committed loans from both a multilateral organization and China resp. a Western country. The figure also reports only those cases with known interest rate or maturity, respectively.*

Figure 4: **Average interest rates and maturities of lending to African countries: Chinese and Western countries versus multilateral organizations**

Interest rate
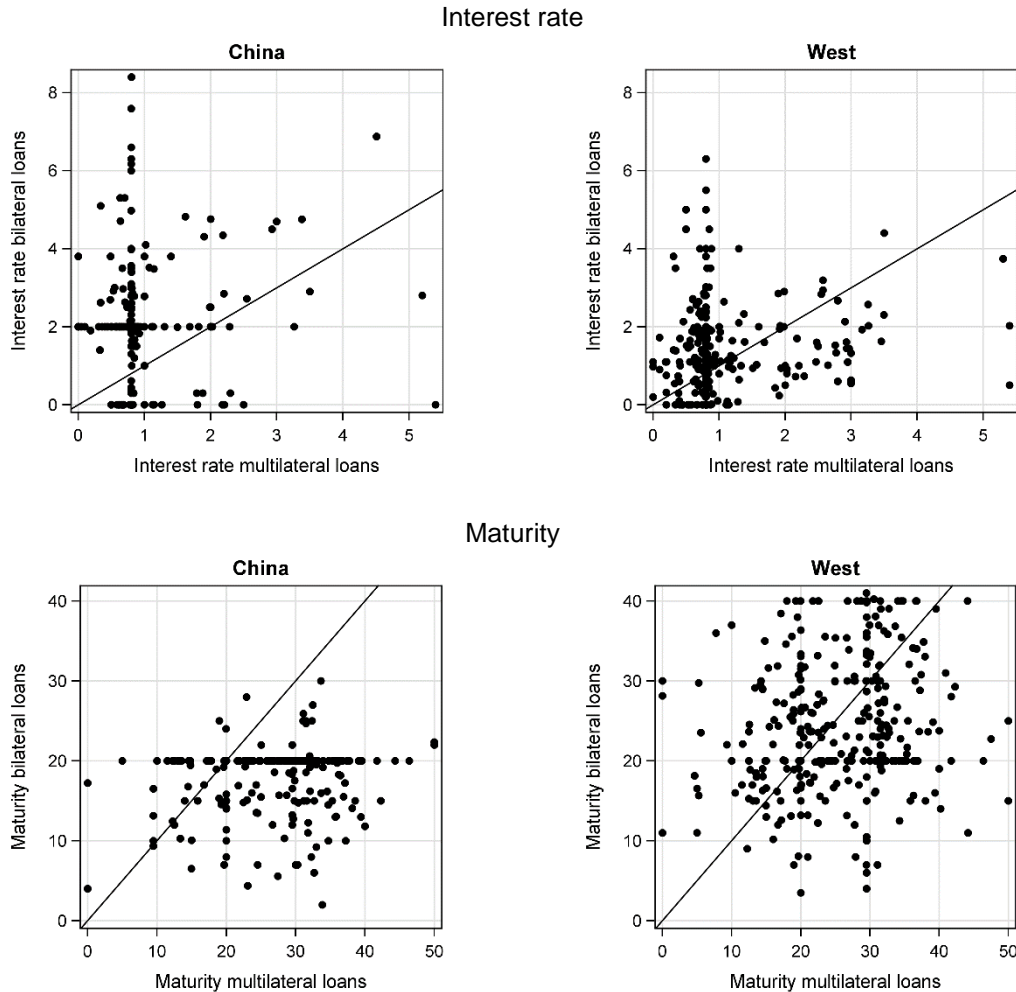
Maturity

Notes: The graphs plot the average interest rate (upper panel), resp. the average maturity (lower panel) of Chinese (left) and Western countries' (right) loan commitments against those of contemporaneous loan commitments from multilateral organizations by African country and year. The conditions of the multilateral loans are depicted on the horizontal axis, those of the "bilateral" Chinese resp. Western loans are depicted on the vertical axis of each graph. Each dot represents loans to one African country in one year. Loan commitments with unknown interest rate or maturity are omitted. The solid lines are the main diagonals.

Source: **See Data Appendix.**

be motivated by development assistance while the positive association of lending by China, which was even more pronounced, was more likely motivated primarily by economic considerations.[37]

In contrast to the Western countries, China also lent more likely to African countries that issued more **sovereign bonds** *at international capital markets and charged them a higher interest, which hints at economic motives.*

While the parameter of the number of bonds issued by African countries is small and insignificant for the Western countries in all regressions in Table 2, the deviation of Chinese lending is positive and

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[37] *The regressions of the average annual interest rates of the bilateral loans on the determinants of lending in Table A11 tend to corroborate this inference. According to column (4) of Table A11, China charged its African debtor countries an average 73 basis points (−0.121+0.846; p-value<0.01) higher interest rate when complementing a loan from a multilateral organization. By contrast, the Western countries are estimated to have charged an even lower interest rate on average, though the point estimates are not statistically significant.*

significant in all regressions.[38] The point estimates for the absolute parameter for China suggest that another bond issued in international capital markets was associated with an about 10 percentage points ((0.015+0.088)*100 in column 1) higher probability of lending from China. The fact that this association "survives" all the FE added to the model points at a direct association between the two sources of finance: When African countries borrowed more frequently from international capital markets, they also borrowed more likely from China.[39]

Bondholders' investments in sovereign bonds are typically motivated by the economic objective of earning a return on their investment. The Chinese loans committed to the same African countries in the same year likely pursued a similar objective. Sovereign bonds are among the most expensive source of fresh money for the African countries (Mihalyi and Trebesch 2023). Chinese lenders apparently exploited bond-issuing African countries' higher willingness to pay for fresh money to earn higher returns. The regression of the interest rates on the motives for lending in Table A11 supports this conclusion. It suggests that China charged some 80–100 basis points (–0.04+0.873 in column 1) more for loans committed in parallel to bonds than for other loans.

*China's lending discriminated strongly against African countries that did not support the **One China principle** by acknowledging Taiwan. The Western countries also tended to discriminate against these countries, though to a much lesser extent.*

The estimates for the binary variable that is one for those African countries that maintain a diplomatic relationship to Taiwan, are weakly negative for the Western countries but highly negative and highly significant for China in column (1) of Table 2. These estimates suggest that African countries who acknowledged Taiwan had an about 3 percentage points lower probability of lending from a Western country and a 35 percentage points ((–0.028–0.32)*100) lower probability of lending from China. The result for China corroborates the many earlier studies that find China's lending to have enforced the One China principle (see Section 2) while the result for the Western countries is new. The Western countries may have tried to accommodate the Chinese government by selectively respecting the One China principle.

Political support in the UNGA *was an important geopolitical motive for Chinese but not for Western countries' lending.*

The estimate for my indicator on the contemporaneous alignment of UNGA voting between the creditor and the debtor country is weakly negative for the Western countries but positive for China. Interestingly, the parameter for China is significant only in columns (4)–(6) that exploit the variations in the bilateral relationships over time but not in columns(1)–(3) that additionally include the cross-section dimension. Over the years, Chinese lending did not reward a fixed set of African supporters but responded flexibly to changing intensity of support over time.[40] The point estimates in column (4), for example, suggest that the probability of Chinese lending to a specific African country increased by 17 percentage points

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[38] *A similar result obtains when African countries' borrowing from capital markets is measured in terms of a binary variable rather than the number of bonds issued.*

[39] *This finding is in line with IMF (2023) who also observes a positive correlation between lending by Sub-Saharan countries from China and issuance of Eurobonds. The IMF argues that while aid budgets declined, "Increased integration in international debt markets and deepening of domestic financial markets […] made it easier to contract more private domestic and external debt on non-concessional terms" (IMF 2023: 3).*

[40] *Test regressions (not reported here) show insignificant associations between Chinese lending and alignment of UNGA voting in the previous year. China's loan commitments therefore rewarded current but not past political support.*

((−0.043+0.212)*100) when this country's voting alignment with China increased by one standard deviation.[41] This corroborates those earlier studies that suggest that China used lending to win political support by African countries in international organizations (e.g., Fuchs and Rudyak 2019, Dreher et al. 2021, Landry 2021).

*As suggested by Dreher et al. (2021), China lent more likely to African countries when its **foreign currency reserves** were higher, which hints at an economic motive for lending. It pursued this strategy only until the mid-2010s, however. The Western countries' lending was invariant to their currency reserves.*

For the entire period under study, 2000–2019, the parameter of the net change in the creditor countries' holdings of international reserves (in bn USD) is insignificant for both the Western countries and China in all regressions in Table 2 that eliminate the heterogeneity between the Western countries (columns 2–4). For the period 2000–2014, the parameter for China is positive and highly significant in all regressions, by contrast (Table A8), which corroborates Dreher et al. (2021). This suggests that China abandoned its strategy of investing the excessive earnings from its export surpluses in Africa sometime in the 2010s. The absolute parameter for China in column (4) of Table A8, 0.00037 (p-value<0.01), suggests that an increase of China's currency reserves by USD 246 bn (one standard deviation of the annual changes in Chinese reserves) was associated with a 9 percentage points higher probability of Chinese lending to an African country before 2014.

5   Conclusions

In this paper, I systematically compare the motives for Chinese sovereign lending to African countries to those of six major Western creditor countries (France, Germany, Italy, Japan, Spain, USA) between 2000 and 2019. I focus on the motives pursued by the national government, abstracting as far as possible from motives pursued by their creditor agencies. My empirical estimation strategy offers a plethora of additional insights and is less prone to omitted variable biases than earlier studies. My results, summarized in Table 3, corroborate earlier empirical studies in that Chinese sovereign lending to Africa is primarily driven by China's own economic or geopolitical interests. I complement these studies by substantiating earlier, primarily qualitative or anecdotal evidence suggesting that these economic and geopolitical motives played a lesser role for Western countries' lending.

I find several significant differences in the motives for lending between China and the Western countries. First, while Western countries did, like China, lend in support of access to African markets, especially to resources, they simultaneously also lent, unlike China, more likely to less resource-rich African countries. This lending could be motivated by the provision of development aid for resource-poor African countries. However, further research is required to determine the actual motives. The Western countries also pursued a different lending strategy in association with resources. Their lending supported their actual resource imports from their important African suppliers while Chinese lending focused on gaining access to additional African suppliers. Second, Chinese lending was sensitive to credit default risks whereas Western countries' lending was not. On the contrary, Western countries lent even more likely to more highly indebted African countries, which could also reflect development assistance but requires further research. And third, unlike the Western countries, China exploited African

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[41] *Year-on-year changes of African countries' voting alignment with China by one standard deviation were not exceptional. They happened in about 100 of the 1.000 country-year observations for China in my dataset.*

Table 3: **Summary of results**

Motive	Correlation (likely category of motive for lending)	
	China	Western countries
Securing access to important African suppliers of resources	0	+ (economic)
Gaining access to additional African suppliers of resources	+ (economic)	0
Access to supply of other merchandize from Africa	+ (economic)	0
Access to African sales markets (stimulate declining export demand)	– (economic?)	– (economic?)
African countries' resource endowments	0	– (other)
Investment security	+ (economic)	– (other)
Quality of African countries' institutions	– (economic or geopolitical)	+ (economic or geopolitical)
Alignment with lending from multilateral organizations	++ (possibly economic)	+ (possibly development assistance)
Alignment with sovereign bonds issued by African countries	+ (possibly economic)	0
Investment of foreign currency reserves (only until mid-2010s)	+ (economic)	0
African countries' support of One China principle	++ (geopolitical)	+ (?)
African countries' support in UN General Assembly	+ (geopolitical)	0

Notes: Plus ("+") and minus ("–") refer to the signs of the corresponding parameters in the regressions of the probability of lending on the respective indicators for the motives ("++", "–": Motive is more important for China) while "0" indicates no systematic association. "Other" motives may include unobserved economic or geopolitical motives, or development assistance.

Source: **See Data Appendix.**

countries' higher willingness to pay for credit. It charged disproportionately high interest rates in years when its debtors issued sovereign bonds, one of the most expensive source of money.

The geopolitical motives for lending also differ between China and the Western countries. In line with several earlier studies, I find that China lent more likely to African countries that supported the One China principle and voted more in alignment with China's positions in the United Nations General Assembly. Western countries did not share these motives, although they also appear to have lend somewhat less likely to countries that acknowledge Taiwan. They rather lent more likely to African countries with better institutions, which may reflect economic motives or the aim to encourage institutional reforms in African countries.

Future research is needed on several aspects not addressed in sufficient detail in the present paper. First, it should check the results obtained here for a broader set of creditor and debtor countries. I had to exclude the UK, another important Western creditor country, and debtor countries outside Africa due to insufficient data. Second, more research is needed to better identify the Western countries' motives for lending. Focusing on those motives that earlier studies found relevant for Chinese lending, my study identifies to what extent Western countries share these motives but does not identify the motives of Western countries that China does not share. For example, my analysis does not reveal precisely why the Western countries lent more likely to resource-poor or highly indebted African countries. Third, a more comprehensive picture of the differences in the motives for lending between China and the Western countries could be drawn by investigating the specific objectives of the creditor countries' lending agencies in addition to those of their national governments. As noted in Section 3, especially the Chinese state-owned banks that extend the majority of loans arguably have considerable discretionary power when granting loans. Under the assumption that loan commitments are decided in a two-

stage procedure (i: choice of country, ii: choice of terms; see Section 3), one suitable econometric framework for this analysis could be the two-stage Heckman correction approach (Heckman 1976), which accounts for the fact that the creditor countries select debtor countries purposefully rather than at random. While my paper can be interpreted as focusing on the first stage of this approach, the selection equation, the second stage, which explains the (expected) amount of lending to a debtor country conditional on this country being selected as a debtor, requires finding a suitable selection variable. Another econometric framework, used by Landry and Portelance (2021) and Landry (2021), could be the Poisson Pseudo Maximum Likelihood (PPML) approach (Santos Silva and Tenreyro 2006), the workhorse approach for the estimation of gravity models. PPML accounts for the facts that (i) the association between the amount of bilateral lending and its determinants is likely nonlinear, and (ii) most of the observations of annual bilateral lending relationships are zero (85% in my sample). Finally, the borrowers' perspective should be taken into account. Most studies so far investigate the lenders' motives but largely ignore the borrowers' motives. Cormier (2023) who suggests that less transparent developing countries prefer lending from China over lending from Western countries while China prefers more than Western countries to lend to less transparent developing countries is a notable exception. Investigating the motives for borrowers and lenders simultaneously is a promising though complicated future research topic.

From a political perspective, a better understanding of China's and the Western countries' motives for lending may improving global default management by helping to find compromises between the parties involved. The significant differences in these motives currently constitute an obstacle to a rapid and sustainable resolution of sovereign defaults, which is bad news for financially distressed African countries (Bode 2024). As a result of multiple global crises since the mid-2010s, including a commodity price crash, the Covid-19 pandemic and Russia's invasion of Ukraine, Africa is currently at risk of being trapped in a vicious cycle in which increasing macroeconomic imbalances, rising financing costs, and dwindling financing opportunities may reinforce each other.[42] A significant portion of the Chinese loans to Africa are meanwhile non-performing, and further loans are at risk of becoming non-performing in the near future (Horn et al. 2023a, Brautigam and Huang 2023, AfDB 2023). Several African countries who borrowed heavily from China, including Chad, Ethiopia, Ghana and Zambia, are currently in financial distress. After China sought to assert its national interests by dealing with non-performing loans in an ad hoc and uncoordinated manner below the radar of the global public, it agreed to collaborate with Western countries in dealing with sovereign defaults under the Common Framework for Debt Treatment (CF) in 2020. While this is considered an important step forward, China is obviously not (yet) prepared to put its national economic interests aside and grant insolvent African countries significant debt relief, as the recent restructuring agreement under the CF with Zambia indicates.[43] Due to the still unresolved conflicts of interests and the deep distrust between China and the Western countries, debt settlements under the CF has been less generous than past settlements with the Paris Club of Western creditor countries alone. As a consequence, financially distressed African countries will likely remain heavily indebted and face greater obstacles to restoring their economic prosperity until China and the Western countries find a way to overcome their conflicts of interest.

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[42] See Mihalyi and Trebesch (2023), AfDB (2023), IMF (2023), Hurley et al. (2019), Acker et al. (2020), Horn et al. (2023a, 2023b) and Berensmann (2023), among others.

[43] See MoFNP (2023), Paris Club (2023), Cotterill et al. (2023), Do Rosario and Savage (2023), Fitch (2023) and Tran (2023) for more details.

APPENDIX

Data

I use a panel of seven creditor countries (China and six Western countries: France, Germany, Italy, Spain, Japan, USA), 50 African debtor countries[44] and 20 years (2000–2019). The panel is unbalanced due to occasionally missing values for explanatory variables and countries.[45]

The dependent variable is from the ADD (see Mihalyi and Trebesch 2023 for a detailed description). The ADD provides information on more than 7,400 sovereign loan commitments or bonds, totaling USD 790 billion (bn), to all African countries by more than 50 public lenders as well as private bondholders between 2000 and 2020. These include 1,147 official bilateral loan commitments by the Chinese government, state-owned banks or companies to African sovereigns with a total amount of USD 180 bn (Table A1). Importantly, the ADD also reports information on about the same number (1,140, USD 56 bn) of similar bilateral loan commitments by several large Western countries' governments (incl. state-owned banks or companies) to African sovereigns, which serve as a benchmark for China's motives in my empirical analysis. The Western countries are France, Germany, Italy, Japan, Spain and the USA.[46] The ADD additionally reports information on 4,133 loan commitments (USD 323 bn) by a variety of multinational organizations to African countries as well as on 140 sovereign bonds (USD 131 bn) issued by African governments at the international capital markets, which I use to identify complementarities between bilateral loans from China or the Western countries with other sources of external lending to Africa. Figure A1 shows the distribution of lending by African debtor country and creditor group.

My preferred indicator for the lenders' motive of access to energy from an African country is calculated as the share of the African country in China's resp. the Western country's total energy imports.[47] In robustness checks I alternatively use the share of oil rents, estimated by the World Bank as the difference between revenues and average extraction costs, in the African country' GDP (Table A4).[48] My indicator for the lenders' motive of access to imports of other goods from the African countries is calculated as the share of the African country in China's resp. the Western country's total imports of merchandize excluding energy and raw materials (source: UN Comtrade), and my indicator for the lenders' motive of access to African sales markets is accordingly the share of the African country in China's resp. the Western country's total merchandize exports (UN Comtrade). The indicator of the African country's creditworthiness, the debt to GNI ratio, is from WDI database. The two indicators on cooperation with the African countries' other creditors are from the ADD. I use the number of annual loan commitments from multilateral organizations and the annual number of sovereign bonds issued by the African country ("bondholders" in Table A1).

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[44] *I exclude Eritrea, West Sahara, Libya and Somalia due to a lack of data, and South Sudan, which was founded only in 2011.*

[45] *Tables 1 and A2 report the descriptive statistics and the correlation matrix, respectively.*

[46] *The ADD does not (yet) cover loans from the United Kingdom, unfortunately.*

[47] *The data on annual imports by the seven creditor countries are from the UN Comtrade database (https://comtradeplus.un.org/, last access: May 19, 2023). Energy comprises oil (16 Comtrade HS items), coal (18), gas (7) and uranium (9).*

[48] *This indicator is from the World Bank's World Development indicators (WDI) database (https://databank.worldbank.org/source/world-development-indicators, last access: June 15, 2023). Using a slightly broader indicator, the share of resource rents in GDP, does not affect the results notably.*

Figure A1: **Lending to African countries 2000-2019 by creditor group**
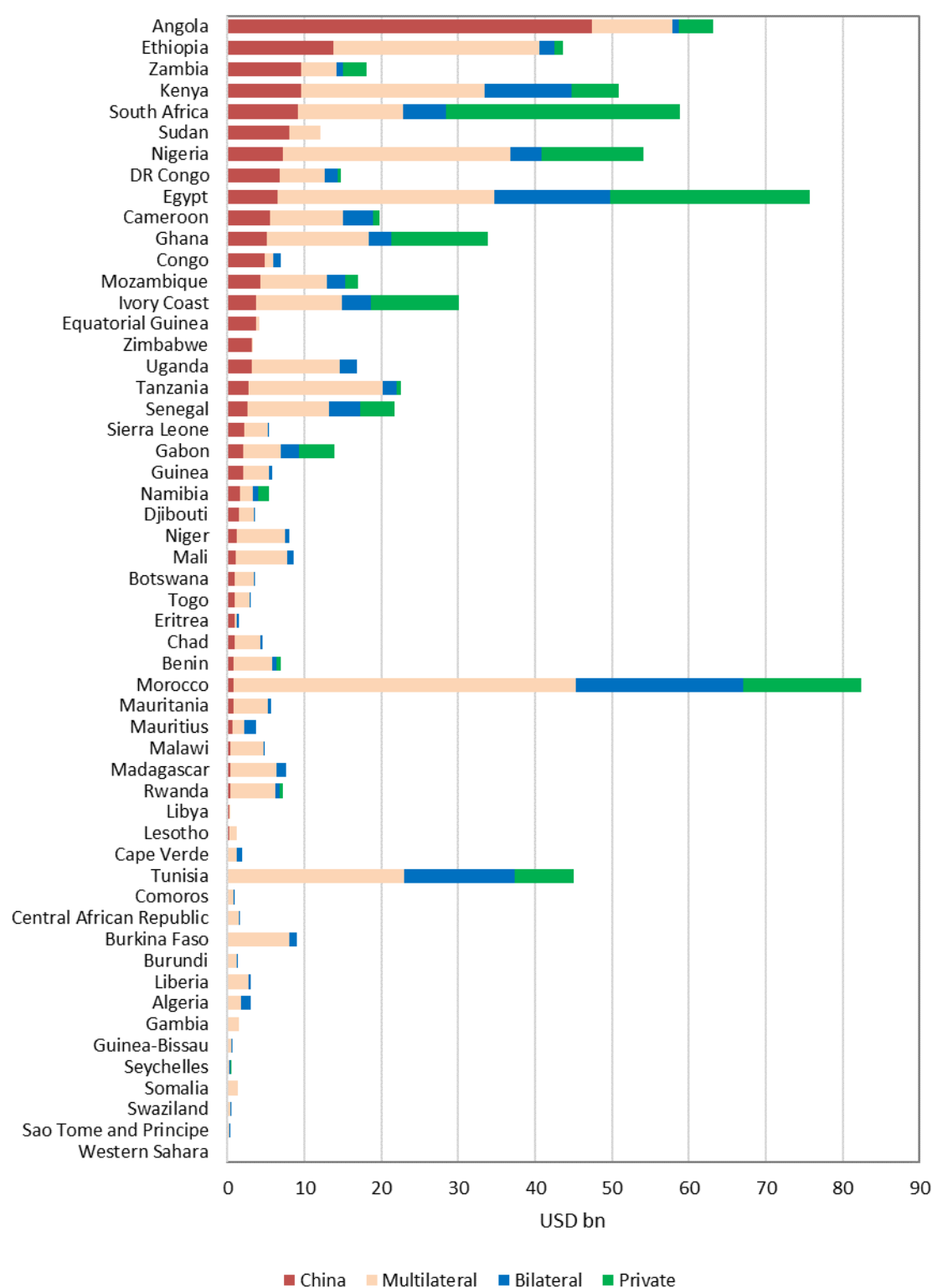
Source: **Africa Debt Database (Mihalyi and Trebesch 2023).**

Table A1: Creditors in the Africa Debt Database 2000–2019

Creditor	No of African debtor countries	No of loans	Amount (USD mill)
China	**48**	**1,127**	**176,411**
Western countries included in the analysis		**1,134**	**56,270**
France	40	518	27,129
Germany	17	242	10,138
Italy	19	56	1,575
Japan	32	191	15,509
Spain	24	82	1,388
United States	10	45	531
Countries not included		**359**	**16,452**
Belgium	26	83	531
Finland	1	1	0
Korea	19	63	4,227
Kuwait	36	101	3,516
Netherlands	1	1	0
Norway	2	2	0
Poland	3	4	95
Portugal	5	19	1,050
Saudi Arabia	27	42	3,362
Sweden	1	1	1
United Arab Emirates	23	42	3,670
Multilateral lenders		**4,112**	**322,589**
African Development Bank	49	676	60,410
Arab Bank for Economic Development in Africa	33	81	877
Arab Fund (AFESD)	6	73	10,208
European Bank for Reconstruction and Development	3	22	3,352
Green Climate Fund	2	3	190
International Finance Corporation	31	67	4,945
International Fund for Agricultural Development	46	229	4,937
International Monetary Fund	39	139	52,697
Islamic Development Bank	27	347	29,959
Nordic Development Fund	1	1	4
OPEC Fund for International Development	42	295	5,787
World Bank (IBRD)	17	192	25,617
World Bank (IDA)	38	1,987	123,606
Bondholders	**21**	**140**	**131,277**

Source: **Africa Debt Database (Mihalyi and Trebesch 2023).**

My main indicator of institutional quality is the (unweighted) average of the World Bank's six Worldwide Governance Indicators: control of corruption, government effectiveness, political stability, regulatory quality, rule of law and voice and accountability.[49] In additional regressions (Table A10), I also use each of the six indicators instead of this average. Diplomatic relations of African countries to Taiwan are

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[49] *This data is available at https://databank.worldbank.org/source/worldwide-governance-indicators (last access: May 19, 2023. See https://info.worldbank.org/governance/wgi/ for a detailed data description. The indices for 1999 and 2001, which are not available, are linearly interpolated from the indices of the neighboring years.*

covered by a binary variable, which I borrowed from Dreher et al. (2021; up to 2014) and extended to 2019 using the information from World Population Review (2023). To measure voting alignment of the African country with China or each of the Western countries, I follow the earlier literature in using the "idealpoint" estimates by Voeten et al. (2009). This annual indicator measures voting alignment of countries on a one-dimensional scale as the distance of countries' votes at the UNGA to those of the liberal group of UN members led by USA (Bailey et al. 2017). Using the September 2023 version of the data, my indicator is calculated as the z-standardized negative absolute distance in Voeten et al.'s idealpoints between each pair of creditor and debtor countries. A higher value of this variable consequently indicates closer alignment. To measure foreign currency reserves of each creditor country, I follow Dreher et al. (2021) in using "the net change in a country's holdings of international reserves resulting from transactions on the current, capital, and financial accounts", provided by the World Bank.[50] This data is in billions of current USD. FDI flows are measured as the African country's share in total Chinese resp. Western countries' outward FDI flows. The data on outward FDI flows by creditor country to the African countries are from two sources. The data on FDI by the Western countries are from the OECD[51] while those on FDI by China are from SAIS-CARI.[52]

The control variables (z_{cdt-1} in equation 1), which are not interacted with the dummy for China, are

- Logged GDP (output-side real GDP at chained PPPs, variable rgdpo, in mil. 2017 USD) and logged population (in mill. persons), which are from the Penn World Table 10.01 (Feenstra et al. 2015);

- The number of natural and technological disasters in the African country, which is from EM-DAT (CRED 2023);[53]

- dummy variables for historical bilateral colonial relations, a common official language and a free trade agreement between creditor and debtor country, which are from CEPII's gravity database, (Conte et al. 2022);[54] and

- bilateral population-weighted geographical distance between most populated cities (arithmetic mean), which is also from CEPII's gravity database.

In Table A9 I additionally use Dreher et al.'s (2021) estimate of Chinese industrial overproduction for the years 2000–2013, which "measures the (logged and detrended) first factor of the Chinese production of six physical project inputs—namely aluminum, cement, glass, iron, steel, and timber" (Dreher et al. 2021: 141).

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[50] *The citation and the data is from https://databank.worldbank.org/source/world-development-indicators# (last access: August 26, 2023). Unlike Dreher et al., I do not detrend the time series, though.*

[51] *FDI flows by partner country (BMD3: 2003–2013, BMD4: 2005–2019), available at https://stats.oecd.org/index.aspx?DataSetCode=FDI_FLOW_PARTNER# (last access: May 13, 2023). I use the data from the BMD3 classification for all years until 2012 and from the BMD4 classification for all years from 2013. I assume that the conceptual differences between the two classifications will be neutralized by the time fixed effects, which enter all regressions reported in this paper.*

[52] *Chinese FDI Flow to African Countries 2003-2020, available at https://www.sais-cari.org/chinese-investment-in-africa (last access: June 16, 2023).*

[53] *While this data is provided freely for scientific purposes, it is protected by copyright and cannot be included in the additional materials of this paper.*

[54] *I use the 202211 version, which is available from http://www.cepii.fr/CEPII/en/bdd_modele/bdd_modele_item.asp (last access: May 26, 2023), file Gravity_csv_V202211.zip (updated February 1, 2023).*

Table A2: Correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
1 Prob. of lending	1.00																										
2 Energy imports	0.06	1.00																									
3 Other imports	0.16	0.06	1.00																								
4 Exports	0.18	0.39	0.72	1.00																							
5 Indebtedness	−0.06	−0.09	−0.06	−0.12	1.00																						
6 Institutions	0.05	−0.12	0.13	0.07	−0.15	1.00																					
7 Multilateral loans	0.15	−0.05	0.02	0.04	−0.16	0.02	1.00																				
8 Bonds	0.13	0.05	0.23	0.23	−0.08	0.11	0.15	1.00																			
9 Creditor's reserves	−0.10	−0.07	−0.06	−0.09	0.17	0.07	−0.06	−0.08	1.00																		
10 Taiwan recognition	0.21	−0.05	0.01	−0.05	−0.03	0.06	0.04	0.00	0.00	1.00																	
11 UNGA voting	0.16	0.00	−0.01	−0.02	−0.03	0.00	−0.07	−0.03	0.01	0.35	1.00																
12 Disasters	0.23	0.31	0.29	0.44	−0.36	−0.06	0.30	0.35	−0.27	−0.06	−0.01	1.00															
13 GDP (ln)	0.18	0.20	0.17	0.28	−0.23	−0.34	0.42	0.21	−0.21	−0.05	−0.01	0.83	1.00														
14 Population (ln)	0.07	0.23	0.09	0.16	−0.08	−0.23	0.10	0.06	−0.11	−0.03	0.01	0.44	0.55	1.00													
15 Colony	0.13	0.02	0.04	0.12	0.00	−0.02	−0.02	−0.02	−0.02	−0.09	−0.07	−0.06	−0.08	−0.08	1.00												
16 Common language	0.04	0.02	0.06	0.11	−0.04	0.03	0.00	−0.01	−0.02	−0.37	−0.10	0.00	−0.02	−0.02	0.54	1.00											
17 FTA	0.16	0.26	0.48	0.65	−0.11	0.09	0.05	0.27	−0.09	−0.07	−0.07	0.39	0.22	0.08	0.05	0.03	1.00										
18 Distance	−0.01	−0.16	−0.16	−0.27	0.02	0.10	−0.08	−0.03	0.00	0.06	0.23	−0.09	−0.09	−0.02	−0.23	0.04	−0.33	1.00									
19 Oil rents/GDP	0.00	0.32	−0.01	0.09	−0.01	−0.28	−0.20	−0.01	−0.09	−0.02	0.03	0.21	0.02	0.07	0.04	0.00	0.03	−0.05	1.00								
20 FDI flows	0.01	0.25	0.09	0.25	−0.04	0.00	−0.05	0.04	−0.03	−0.02	0.01	0.16	0.10	0.05	−0.01	−0.02	0.20	−0.10	0.06	1.00							
21 Ctrl of corruption	0.02	−0.12	0.11	0.07	−0.10	0.91	−0.03	0.09	0.11	0.06	0.00	−0.14	−0.39	−0.26	−0.02	0.02	0.10	0.09	−0.32	0.01	1.00						
22 Govt. effectiveness	0.11	−0.03	0.20	0.19	−0.16	0.90	0.02	0.18	0.01	0.02	0.00	0.17	−0.17	−0.11	−0.02	0.04	0.21	0.06	−0.20	0.05	0.83	1.00					
23 Political stability	−0.02	−0.15	0.02	−0.06	−0.09	0.84	−0.11	−0.01	0.11	0.06	0.01	−0.29	−0.55	−0.37	0.00	0.02	−0.04	0.12	−0.11	−0.05	0.68	0.63	1.00				
24 Regulatory quality	0.11	−0.09	0.19	0.13	−0.22	0.90	0.11	0.16	0.05	0.06	0.00	0.14	−0.13	−0.09	−0.01	0.03	0.15	0.08	−0.27	0.01	0.79	0.87	0.63	1.00			
25 Rule of law	0.07	−0.11	0.14	0.10	−0.19	0.96	0.07	0.13	0.05	0.05	−0.01	0.03	−0.26	−0.20	−0.02	0.03	0.12	0.07	−0.27	0.02	0.87	0.89	0.75	0.87	1.00		
26 Voice/accountability	0.04	−0.11	0.08	0.01	−0.05	0.83	0.11	0.11	0.02	0.09	−0.01	−0.09	−0.21	−0.11	−0.03	0.00	0.01	0.12	−0.34	−0.01	0.70	0.64	0.63	0.69	0.76	1.00	
27 Overproduction CHN	0.02	0.01	0.00	0.01	−0.08	0.00	−0.01	−0.01	−0.02	−0.09	0.35	0.03	0.01	−0.01	0.02	0.02	0.02	−0.05	0.01	0.01	−0.01	−0.01	0.00	−0.01	0.00	0.01	1.00
28 Average interest rate		0.07	0.18	0.13	−0.08	−0.02	−0.14	0.06	0.00	0.08	0.02	0.09	0.05	0.11	0.06	0.08	0.03	0.03	0.06	0.05	−0.03	0.00	0.00	−0.01	−0.04	−0.02	0.12

Source: **See Data Appendix.**

Additional regression results

Table A3: **Logit regression results (average marginal effects)**

Fixed effects	t	t, c	t, c, d	t, c*d	t*c, c*d	t*c, t*d, c*d
	(1)	(2)	(3)	(4)	(5)	(6)
Share in energy imports	−15.019	−9.400	11.888	32.954	35.319	Not
	(11.192)	(10.154)	(9.107)	(20.830)	(22.194)	converged
x China	48.424***	46.102***	34.731**	−26.831	−28.707	
	(14.177)	(13.445)	(14.056)	(38.042)	(37.730)	
Share in other imports	30.723	93.109	62.126	−91.613	−4.020	
	(82.994)	(79.345)	(72.539)	(142.354)	(100.144)	
x China	153.370	88.643	57.112	122.356	62.818	
	(108.766)	(106.534)	(88.582)	(143.169)	(102.075)	
Share in exports	−60.015	−103.359	−61.770	−225.298**	1.964	
	(68.055)	(68.524)	(59.171)	(114.916)	(139.786)	
x China	−582.204***	−485.648***	−321.631**	239.652	−201.263	
	(164.767)	(164.517)	(150.133)	(210.266)	(211.730)	
Indebtedness	0.485***	0.485***	0.396**	0.369	0.393*	
	(0.099)	(0.110)	(0.172)	(0.230)	(0.235)	
x China	−0.878***	−0.856***	−1.041***	−1.259***	−0.763**	
	(0.215)	(0.207)	(0.224)	(0.352)	(0.342)	
Quality of institutions (WGI)	0.611***	0.805***	0.919**	0.654	0.760	
	(0.189)	(0.196)	(0.442)	(0.562)	(0.522)	
x China	−0.788**	−0.939***	−0.969***	−0.079	0.223	
	(0.324)	(0.311)	(0.291)	(0.980)	(0.949)	
Loans from multilateral organizations	0.112***	0.121***	0.076***	0.070***	0.116***	
	(0.019)	(0.018)	(0.018)	(0.022)	(0.024)	
x China	−0.055	−0.063*	−0.071**	0.010	−0.063	
	(0.037)	(0.036)	(0.031)	(0.036)	(0.048)	
Bonds issued	0.044	0.079	0.021	0.014	0.001	
	(0.080)	(0.081)	(0.068)	(0.082)	(0.108)	
x China	0.422	0.408	0.273	0.534***	0.564**	
	(0.303)	(0.308)	(0.257)	(0.204)	(0.220)	
Taiwan recognition	−0.957**	−1.030***	−0.745	−0.944	−1.123	
	(0.377)	(0.376)	(0.778)	(1.068)	(1.043)	
x China	−1.936**	−1.817**	−1.919*	−1.714	−1.136	
	(0.863)	(0.855)	(0.984)	(1.728)	(1.788)	
UNGA voting	0.246*	−0.256	−0.638***	−0.636**	−0.509	
	(0.148)	(0.214)	(0.247)	(0.274)	(0.319)	
x China	0.453	0.957**	1.413***	1.838***	1.877***	
	(0.385)	(0.408)	(0.401)	(0.436)	(0.489)	
Creditor's currency reserves	0.007***	0.000	−0.000	−0.000	−0.008	
	(0.002)	(0.002)	(0.002)	(0.002)	(0.016)	
x China	−0.007***	0.000	0.000	0.001		
	(0.002)	(0.002)	(0.002)	(0.002)		
Observations	6,489	6,489	6,363	3,394	3,107	
Log likelihood	−2031	−1909	−1771	−1454	−1325	

Notes: Fixed effects logit regression for an (unbalanced) panel of 50 African countries (debtors) and seven creditor countries (China, France, Germany, Italy, Japan, Spain or the USA) 2000–2019 (annual). The dependent variable is one if the African country received a bilateral official loan from a creditor country in the respective year. All regressions include logged GDP and population, number of disasters, dummies for historical bilateral colonial relations, common official language, a free trade agreement and bilateral distance as well as the fixed effects as indicated in the head row (t: time, c: creditor country, d: African debtor country). Clustered standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: **See Data Appendix.**

Table A4: **Regression results for alternative indicator of access to resources**

Fixed effects	t	t, c	t, c, d	t, c*d	t*c, c*d
	(1)	(2)	(3)	(4)	(5)
Oil rents/GDP	−0.210***	−0.177**	−0.078	−0.060	−0.088
	(0.075)	(0.082)	(0.116)	(0.105)	(0.096)
x China	0.670**	0.681**	0.718***	0.776**	0.774**
	(0.322)	(0.326)	(0.262)	(0.375)	(0.349)
Share in other imports	19.325	22.019	5.891	−5.896*	−5.588*
	(15.891)	(14.380)	(11.277)	(3.379)	(3.213)
x China	6.440	4.062	19.658	8.678	11.089*
	(19.021)	(17.846)	(14.928)	(6.232)	(6.250)
Share in exports	−14.562	−17.398*	−4.525	−29.413***	−19.990**
	(10.295)	(9.875)	(8.281)	(8.323)	(7.889)
x China	−42.760	−37.246	−34.238	57.911*	−0.563
	(26.448)	(26.627)	(23.943)	(34.804)	(35.148)
Indebtedness	0.036***	0.033***	0.019**	0.023***	0.017**
	(0.008)	(0.009)	(0.009)	(0.008)	(0.008)
x China	−0.082***	−0.078***	−0.074***	−0.103**	−0.045
	(0.026)	(0.026)	(0.023)	(0.043)	(0.036)
Quality of institutions (WGI)	0.018	0.033*	0.052	0.026	0.018
	(0.018)	(0.018)	(0.035)	(0.031)	(0.029)
x China	−0.068	−0.075	−0.080	0.081	0.134
	(0.063)	(0.062)	(0.058)	(0.135)	(0.118)
Loans from multilateral organizations	0.011***	0.010***	0.005***	0.005***	0.006***
	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
x China	0.005	0.006	0.006	0.009*	0.006
	(0.007)	(0.007)	(0.006)	(0.005)	(0.007)
Bonds issued	0.014	0.015	0.000	−0.001	−0.003
	(0.014)	(0.013)	(0.010)	(0.009)	(0.009)
x China	0.085**	0.085**	0.076*	0.093***	0.104***
	(0.041)	(0.041)	(0.041)	(0.021)	(0.023)
Taiwan recognition	−0.031*	−0.040**	−0.027	−0.034	−0.038
	(0.017)	(0.019)	(0.035)	(0.034)	(0.032)
x China	−0.316***	−0.302***	−0.291***	−0.201*	−0.159
	(0.058)	(0.057)	(0.051)	(0.117)	(0.125)
UNGA voting	0.013	−0.022	−0.051**	−0.043***	−0.040**
	(0.010)	(0.020)	(0.025)	(0.015)	(0.017)
x China	0.068	0.106	0.121	0.197***	0.227***
	(0.070)	(0.074)	(0.073)	(0.052)	(0.055)
Creditor's currency reserves	0.001***	−0.000	−0.000	−0.000	
	(0.000)	(0.000)	(0.000)	(0.000)	
x China	−0.001**	0.000	0.000	0.000	
	(0.000)	(0.000)	(0.000)	(0.000)	
Observations	6,454	6,454	6,454	6,454	6,454
Log likelihood	0.230	0.255	0.290	0.398	0.409

Notes: Fixed effects OLS regression for an (unbalanced) panel of 50 African countries (debtors) and seven creditor countries (China, France, Germany, Italy, Japan, Spain or the USA) 2000–2019 (annual). The dependent variable is one if the African country received a bilateral official loan from a creditor country in the respective year. All regressions include logged GDP and population, number of disasters, dummies for historical bilateral colonial relations, common official language, a free trade agreement and bilateral distance as well as the fixed effects as indicated in the head row (t: time, c: creditor country, d: African debtor country). Clustered standard errors in parentheses; *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Source: **See Data Appendix.**

Table A5: Regression results including FDI flows from creditor to debtor country 2006–2019

Fixed effects	t	t, c	t, c, d	t, c*d	t*c, c*d	t*c, t*d, c*d
	(1)	(2)	(3)	(4)	(5)	(6)
FDI flows	−0.906	−0.521	−0.917	0.029	0.112	−0.028
	(0.825)	(0.717)	(0.714)	(0.462)	(0.526)	(0.819)
x China	9.923***	9.699**	10.211**	4.338**	4.096*	5.322*
	(3.747)	(3.795)	(3.980)	(1.735)	(2.274)	(2.969)
Share in energy imports	−2.569*	−2.106*	1.099	3.405	3.115	3.436*
	(1.422)	(1.143)	(1.298)	(2.416)	(2.241)	(1.966)
x China	7.470***	7.308***	4.408***	−7.783	−8.000*	−8.421*
	(1.508)	(1.266)	(1.375)	(4.803)	(4.524)	(4.401)
Share in other imports	11.137	16.665	19.244	3.755	3.125	6.182
	(20.271)	(19.212)	(15.625)	(7.344)	(7.376)	(8.753)
x China	13.093	7.514	3.901	12.106	13.676	14.054
	(22.484)	(21.483)	(17.602)	(9.003)	(9.524)	(10.969)
Share in exports	−5.024	−11.969	−12.551	−36.530***	−24.154	−9.272
	(16.929)	(16.450)	(13.815)	(11.785)	(14.771)	(18.798)
x China	−67.310**	−54.373*	−41.157	−18.825	−34.123	−66.747
	(31.631)	(31.453)	(26.711)	(51.986)	(55.967)	(66.721)
Indebtedness	0.025**	0.022**	0.020	0.018*	0.020*	
	(0.010)	(0.011)	(0.013)	(0.011)	(0.011)	
x China	−0.027	−0.028	−0.047	−0.154**	−0.128*	−0.121**
	(0.055)	(0.055)	(0.050)	(0.076)	(0.077)	(0.059)
Quality of institutions (WGI)	0.027	0.050**	0.049	−0.021	−0.019	
	(0.022)	(0.020)	(0.049)	(0.050)	(0.043)	
x China	−0.081	−0.093	−0.095	0.011	−0.006	−0.121
	(0.073)	(0.072)	(0.066)	(0.167)	(0.171)	(0.155)
Loans from multilateral organizations	0.013***	0.013***	0.006**	0.007***	0.006***	
	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	
x China	0.007	0.007	0.007	−0.001	0.003	0.004
	(0.008)	(0.008)	(0.007)	(0.007)	(0.008)	(0.007)
Bonds issued	0.022	0.022*	0.004	0.007	0.004	
	(0.014)	(0.013)	(0.011)	(0.011)	(0.010)	
x China	0.081**	0.083***	0.077***	0.065***	0.081***	0.091***
	(0.032)	(0.032)	(0.028)	(0.021)	(0.026)	(0.029)
Taiwan recognition	−0.030	−0.049*	−0.057	−0.072*	−0.062	
	(0.024)	(0.025)	(0.037)	(0.041)	(0.038)	
x China	−0.411***	−0.391***	−0.384***	−0.283*	−0.336**	−0.399***
	(0.081)	(0.080)	(0.076)	(0.156)	(0.163)	(0.141)
UNGA voting	0.023*	−0.031	−0.035	−0.024	−0.029	0.007
	(0.013)	(0.023)	(0.032)	(0.021)	(0.023)	(0.079)
x China	0.018	0.075	0.083	0.216***	0.234***	0.207***
	(0.084)	(0.089)	(0.074)	(0.060)	(0.059)	(0.076)
Creditor's currency reserves	0.001**	−0.000	−0.000	0.000		
	(0.000)	(0.000)	(0.000)	(0.000)		
x China	−0.001*	0.000	0.000	0.000		
	(0.000)	(0.000)	(0.000)	(0.000)		
Observations	3,468	3,468	3,468	3,457	3,457	3,457
Adj. R²	0.300	0.334	0.366	0.482	0.494	0.486

Notes: Fixed effects OLS regression for an (unbalanced) panel of 50 African countries (debtors) and seven creditor countries (China, France, Germany, Italy, Japan, Spain or the USA) 2000–2019 (annual). The dependent variable is one if the African country received a bilateral official loan from a creditor country in the respective year. All regressions include logged GDP and population, number of disasters, dummies for historical bilateral colonial relations, common official language, a free trade agreement and bilateral distance as well as the fixed effects as indicated in the head row (t: time, c: creditor country, d: African debtor country). Clustered standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: **See Data Appendix.**

Table A6: **Regression results including FDI flows from creditor to debtor country, alternative indicator for access to resources**

Fixed effects	t	t, c	t, c, d	t, c*d	t*c, c*d
	(1)	(2)	(3)	(4)	(5)
FDI flows	−1.240	−0.793	−0.765	0.106	0.168
	(0.786)	(0.661)	(0.792)	(0.480)	(0.525)
x China	9.944***	9.656**	9.822**	4.209**	4.049*
	(3.711)	(3.743)	(3.805)	(1.625)	(2.117)
Oil rents/GDP	−0.262**	−0.231*	−0.238	−0.277	−0.317*
	(0.114)	(0.124)	(0.185)	(0.189)	(0.179)
x China	0.611	0.664*	0.666**	0.829*	0.912**
	(0.395)	(0.399)	(0.315)	(0.428)	(0.458)
Share in other imports	21.566	25.100	15.708	−3.766	−3.558
	(18.295)	(17.136)	(13.653)	(3.601)	(4.352)
x China	1.316	−2.149	8.070	19.120***	19.952***
	(20.592)	(19.575)	(15.763)	(5.901)	(7.051)
Share in exports	−15.660	−20.298	−8.848	−31.708***	−19.652
	(14.451)	(14.291)	(11.859)	(11.101)	(13.844)
x China	−50.732*	−40.230	−43.088*	−26.047	−44.802
	(29.927)	(29.956)	(24.850)	(51.622)	(54.684)
Indebtedness	0.026**	0.022**	0.018	0.017	0.019*
	(0.011)	(0.011)	(0.013)	(0.011)	(0.011)
x China	−0.013	−0.012	−0.029	−0.142*	−0.115
	(0.060)	(0.061)	(0.057)	(0.077)	(0.078)
Quality of institutions (WGI)	0.012	0.035	0.047	−0.024	−0.022
	(0.025)	(0.024)	(0.049)	(0.050)	(0.043)
x China	−0.082	−0.092	−0.091	0.030	0.016
	(0.076)	(0.075)	(0.067)	(0.164)	(0.165)
Loans from multilateral organizations	0.013***	0.013***	0.006**	0.007***	0.007***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)
x China	0.007	0.007	0.008	−0.001	0.003
	(0.008)	(0.008)	(0.007)	(0.007)	(0.008)
Bonds issued	0.021	0.021*	0.004	0.005	0.003
	(0.014)	(0.013)	(0.011)	(0.010)	(0.010)
x China	0.077**	0.078**	0.074***	0.068***	0.084***
	(0.032)	(0.032)	(0.028)	(0.021)	(0.025)
Taiwan recognition	−0.032	−0.050**	−0.058	−0.074*	−0.065*
	(0.024)	(0.025)	(0.038)	(0.042)	(0.039)
x China	−0.406***	−0.386***	−0.378***	−0.274*	−0.322*
	(0.081)	(0.080)	(0.077)	(0.157)	(0.165)
UNGA voting	0.025*	−0.030	−0.039	−0.025	−0.029
	(0.013)	(0.024)	(0.033)	(0.021)	(0.023)
x China	0.040	0.095	0.099	0.202***	0.221***
	(0.085)	(0.091)	(0.075)	(0.059)	(0.057)
Creditor's currency reserves	0.001**	−0.000	−0.000	−0.000	
	(0.000)	(0.000)	(0.000)	(0.000)	
x China	−0.001*	0.000	0.000	−0.000	
	(0.000)	(0.000)	(0.000)	(0.000)	
Observations	3,464	3,464	3,464	3,453	3,453
Adj. R²	0.295	0.329	0.363	0.482	0.494

Notes: Fixed effects OLS regression for an (unbalanced) panel of 50 African countries (debtors) and seven creditor countries (China, France, Germany, Italy, Japan, Spain or the USA) 2000–2019 (annual). The dependent variable is one if the African country received a bilateral official loan from a creditor country in the respective year. All regressions include logged GDP and population, number of disasters, dummies for historical bilateral colonial relations, common official language, a free trade agreement and bilateral distance as well as the fixed effects as indicated in the head row (t: time, c: creditor country, d: African debtor country). Clustered standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: **See Data Appendix.**

Table A7: **Regression results excluding the gravity-type controls**

Fixed effects	t	t, c	t, c, d	t, c*d	t*c, c*d	t*c, t*d, c*d
	(1)	(2)	(3)	(4)	(5)	(6)
Share in energy imports	−2.076**	−1.225	0.982	2.562	2.648	2.544*
	(0.999)	(0.901)	(0.911)	(1.600)	(1.627)	(1.365)
x China	7.144***	6.320***	5.131***	−3.716	−4.201*	−2.621
	(1.154)	(1.069)	(1.153)	(2.417)	(2.359)	(2.231)
Share in other imports	4.642	15.630	9.411	−1.772	−1.126	−1.305
	(19.961)	(17.566)	(12.732)	(3.987)	(4.169)	(5.476)
x China	21.082	9.781	16.435	6.729	6.350	5.911
	(22.760)	(20.563)	(16.381)	(6.622)	(6.748)	(9.557)
Share in exports	19.751	6.383	4.370	−31.456***	−23.526***	−12.239
	(12.325)	(11.651)	(9.707)	(8.125)	(7.930)	(9.743)
x China	−75.803***	−61.641**	−46.194*	52.025	−0.026	−11.635
	(27.043)	(26.669)	(26.983)	(34.042)	(33.968)	(36.066)
Indebtedness	0.029***	0.029***	0.020**	0.024***	0.016**	
	(0.008)	(0.008)	(0.009)	(0.008)	(0.008)	
x China	−0.082***	−0.080***	−0.080***	−0.104**	−0.048	−0.047
	(0.025)	(0.025)	(0.022)	(0.042)	(0.037)	(0.036)
Quality of institutions (WGI)	0.011	0.022	0.051	0.025	0.018	
	(0.019)	(0.017)	(0.035)	(0.031)	(0.028)	
x China	−0.062	−0.070	−0.078	0.084	0.134	0.134
	(0.062)	(0.062)	(0.063)	(0.136)	(0.122)	(0.110)
Loans from multilateral organizations	0.012***	0.013***	0.006***	0.005***	0.006***	
	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)	
x China	0.004	0.004	0.003	0.009*	0.006	0.006
	(0.007)	(0.007)	(0.006)	(0.005)	(0.007)	(0.006)
Bonds issued	0.019	0.022	0.004	−0.001	−0.002	
	(0.015)	(0.014)	(0.011)	(0.009)	(0.009)	
x China	0.082**	0.080**	0.066	0.091***	0.103***	0.104***
	(0.040)	(0.040)	(0.045)	(0.021)	(0.024)	(0.025)
Taiwan recognition	−0.033	−0.036*	−0.020	−0.031	−0.034	
	(0.021)	(0.020)	(0.034)	(0.034)	(0.032)	
x China	−0.322***	−0.318***	−0.309***	−0.215*	−0.180	−0.180
	(0.060)	(0.060)	(0.057)	(0.111)	(0.119)	(0.110)
UNGA voting	0.016*	−0.025	−0.041	−0.046***	−0.038**	−0.034
	(0.009)	(0.022)	(0.025)	(0.015)	(0.016)	(0.052)
x China	0.051	0.092	0.111	0.213***	0.239***	0.209***
	(0.070)	(0.074)	(0.079)	(0.053)	(0.056)	(0.061)
Creditor's currency reserves	0.000	−0.000	−0.000	−0.000		
	(0.000)	(0.000)	(0.000)	(0.000)		
x China	0.000	0.000	0.000	0.000		
	(0.000)	(0.000)	(0.000)	(0.000)		
Observations	6,489	6,489	6,489	6,489	6,489	6,489
Adj. R²	0.195	0.243	0.279	0.398	0.409	0.421

Notes: Fixed effects OLS regression for an (unbalanced) panel of 50 African countries (debtors) and seven creditor countries (China, France, Germany, Italy, Japan, Spain or the USA) 2000–2014 (annual). The dependent variable is one if the African country received a bilateral official loan from a creditor country in the respective year. All regressions include logged GDP and population, number of disasters as well as the fixed effects as indicated in the head row (t: time, c: creditor country, d: African debtor country). Clustered standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: **See Data Appendix.**

Table A8: **Regression results for period 2000–2014**

Fixed effects	t	t, c	t, c, d	t, c*d	t*c, c*d	t*c, t*d, c*d
	(1)	(2)	(3)	(4)	(5)	(6)
Share in energy imports	−2.224**	−1.927**	0.271	3.199*	3.366*	3.056*
	(0.980)	(0.885)	(0.955)	(1.903)	(2.025)	(1.713)
x China	7.295***	7.155***	5.450***	−3.326	−3.481	−1.532
	(1.163)	(1.089)	(1.234)	(2.478)	(2.544)	(2.355)
Share in other imports	3.476	8.203	2.643	−3.079	−2.167	−1.909
	(17.843)	(16.628)	(11.534)	(4.499)	(4.743)	(7.002)
x China	23.728	19.073	23.430	7.263	7.658	3.908
	(23.342)	(22.613)	(19.523)	(8.793)	(9.139)	(10.186)
Share in exports	1.354	−2.883	−1.328	−29.309***	−22.932**	−9.630
	(13.039)	(12.202)	(9.382)	(10.548)	(10.595)	(13.764)
x China	−90.410***	−83.993***	−64.823**	−38.804	−71.278*	−82.834**
	(30.526)	(30.778)	(30.263)	(34.395)	(36.366)	(36.912)
Indebtedness	0.037***	0.035***	0.025**	0.027***	0.022**	
	(0.010)	(0.010)	(0.010)	(0.009)	(0.009)	
x China	−0.071**	−0.067**	−0.068***	−0.084*	−0.041	−0.039
	(0.031)	(0.031)	(0.026)	(0.049)	(0.044)	(0.047)
Quality of institutions (WGI)	0.023	0.032*	0.051	0.021	0.017	
	(0.017)	(0.018)	(0.037)	(0.032)	(0.031)	
x China	−0.061	−0.067	−0.076	0.107	0.166	0.155
	(0.058)	(0.056)	(0.055)	(0.157)	(0.155)	(0.140)
Loans from multilateral organizations	0.012***	0.011***	0.006***	0.005**	0.005**	
	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	
x China	0.002	0.003	0.002	0.014*	0.011	0.011
	(0.009)	(0.008)	(0.008)	(0.008)	(0.009)	(0.008)
Bonds issued	0.023	0.026	−0.002	−0.002	−0.002	
	(0.028)	(0.026)	(0.020)	(0.018)	(0.017)	
x China	0.039	0.038	0.018	0.056	0.046	0.047
	(0.070)	(0.071)	(0.077)	(0.052)	(0.052)	(0.051)
Taiwan recognition	−0.029*	−0.036**	−0.005	−0.018	−0.021	
	(0.016)	(0.018)	(0.050)	(0.051)	(0.049)	
x China	−0.319***	−0.307***	−0.301***	−0.174	−0.146	−0.149
	(0.056)	(0.056)	(0.054)	(0.171)	(0.166)	(0.153)
UNGA voting	0.012	−0.008	−0.026	−0.044**	−0.031	−0.068
	(0.011)	(0.021)	(0.030)	(0.019)	(0.020)	(0.064)
x China	0.084	0.110	0.122	0.221***	0.213**	0.222**
	(0.087)	(0.091)	(0.099)	(0.083)	(0.083)	(0.098)
Creditor's currency reserves	0.001**	−0.000	−0.000	−0.000		
	(0.000)	(0.000)	(0.000)	(0.000)		
x China	−0.000	0.000**	0.000*	0.000*		
	(0.000)	(0.000)	(0.000)	(0.000)		
Observations	4,844	4,844	4,844	4,844	4,844	4,844
Adj. R²	0.222	0.242	0.283	0.389	0.396	0.402

Notes: Fixed effects OLS regression for an (unbalanced) panel of 50 African countries (debtors) and seven creditor countries (China, France, Germany, Italy, Japan, Spain or the USA) 2000–2014 (annual). The dependent variable is one if the African country received a bilateral official loan from a creditor country in the respective year. All regressions include logged GDP and population, number of disasters, dummies for historical bilateral colonial relations, common official language, a free trade agreement and bilateral distance as well as the fixed effects as indicated in the head row (t: time, c: creditor country, d: African debtor country). Clustered standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: **See Data Appendix.**

Table A9: Regression results including Chinese overproduction (Dreher et al. 2021), 2000-2014

Fixed effects	t	t, c	t, c, d	t, c*d	t*c, c*d	t*c, t*d, c*d
	(1)	(2)	(3)	(4)	(5)	(6)
Share in energy imports	−2.340**	−2.085**	0.286	3.240	3.333	2.859
	(0.983)	(0.890)	(0.961)	(2.057)	(2.142)	(1.810)
x China	7.383***	7.285***	5.361***	−3.545	−3.527	−1.487
	(1.161)	(1.087)	(1.220)	(2.592)	(2.672)	(2.494)
Share in other imports	1.239	6.076	1.798	−2.676	−2.179	−2.202
	(17.659)	(16.445)	(11.461)	(4.337)	(4.593)	(6.988)
x China	39.651*	34.999	37.206*	21.167**	19.074*	12.202
	(23.663)	(23.026)	(20.481)	(9.483)	(10.138)	(10.861)
Share in exports	4.890	0.272	1.014	−28.435**	−22.095*	−4.541
	(13.350)	(12.414)	(9.604)	(13.153)	(12.998)	(16.669)
x China	−93.995***	−87.507***	−65.713**	−37.801	−71.469*	−73.691*
	(29.822)	(30.165)	(31.433)	(43.464)	(43.269)	(41.955)
Indebtedness	0.036***	0.034***	0.024**	0.025***	0.020**	
	(0.010)	(0.010)	(0.010)	(0.009)	(0.009)	
x China	−0.077**	−0.072**	−0.074***	−0.086*	−0.038	−0.034
	(0.030)	(0.030)	(0.026)	(0.051)	(0.048)	(0.051)
Quality of institutions (WGI)	0.022	0.032*	0.066*	0.037	0.032	
	(0.018)	(0.019)	(0.037)	(0.032)	(0.032)	
x China	−0.055	−0.061	−0.071	0.104	0.165	0.148
	(0.056)	(0.054)	(0.053)	(0.158)	(0.152)	(0.136)
Loans from multilateral organizations	0.012***	0.011***	0.006**	0.004*	0.005**	
	(0.003)	(0.003)	(0.002)	(0.002)	(0.002)	
x China	0.000	0.001	0.001	0.014	0.009	0.009
	(0.009)	(0.009)	(0.008)	(0.009)	(0.009)	(0.009)
Bonds issued	0.032	0.035	0.016	0.014	0.015	
	(0.033)	(0.031)	(0.021)	(0.019)	(0.019)	
x China	0.011	0.011	−0.009	0.032	0.013	0.009
	(0.089)	(0.090)	(0.098)	(0.071)	(0.066)	(0.065)
Taiwan recognition	−0.032**	−0.039**	−0.024	−0.025	−0.030	
	(0.016)	(0.018)	(0.054)	(0.056)	(0.054)	
x China	−0.314***	−0.302***	−0.296***	−0.244	−0.208	−0.209
	(0.055)	(0.055)	(0.054)	(0.174)	(0.173)	(0.163)
UNGA voting	0.012	−0.006	−0.023	−0.038*	−0.024	−0.088
	(0.011)	(0.022)	(0.031)	(0.021)	(0.022)	(0.069)
x China	0.070	0.096	0.107	0.190**	0.186**	0.220**
	(0.084)	(0.087)	(0.097)	(0.082)	(0.085)	(0.106)
Creditor's currency reserves	0.001**	−0.000	−0.000	−0.000		
	(0.000)	(0.000)	(0.000)	(0.000)		
x China	−0.000	0.000*	0.000*	0.000		
	(0.000)	(0.000)	(0.000)	(0.000)		
Overproduction China	−0.000	0.001	−0.000	0.014		
	(0.030)	(0.030)	(0.030)	(0.031)		
Observations	4,515	4,515	4,515	4,515	4,515	4,515
Adj. R²	0.219	0.237	0.280	0.383	0.389	0.395

Notes: Fixed effects OLS regression for an (unbalanced) panel of 50 African countries (debtors) and seven creditor countries (China, France, Germany, Italy, Japan, Spain or the USA) 2000–2014 (annual). The dependent variable is one if the African country received a bilateral official loan from a creditor country in the respective year. All regressions include logged GDP and population, number of disasters, dummies for historical bilateral colonial relations, common official language, a free trade agreement and bilateral distance as well as the fixed effects as indicated in the head row (t: time, c: creditor country, d: African debtor country). Clustered standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: **See Data Appendix.**

Table A10: **Regression results for different World Governance indicators**

Fixed effects	t	t, c	t, c, d	t, c*d	t*c, c*d	t*c, t*d, c*d
	(1)	(2)	(3)	(4)	(5)	(6)
Institutions (WGI)	0.027*	0.041**	0.053	0.025	0.018	
	(0.016)	(0.016)	(0.035)	(0.031)	(0.028)	
x China	−0.067	−0.075	−0.084	0.083	0.140	0.135
	(0.060)	(0.058)	(0.056)	(0.136)	(0.120)	(0.108)
Observations	6,489	6,489	6,489	6,489	6,489	6,489
Adj. R²	0.233	0.259	0.292	0.398	0.409	0.421
Control of corruption	0.014	0.022	0.042	0.029	0.019	
	(0.017)	(0.016)	(0.027)	(0.024)	(0.024)	
x China	−0.101**	−0.107**	−0.114**	−0.058	−0.035	−0.038
	(0.048)	(0.048)	(0.044)	(0.110)	(0.106)	(0.096)
Observations	6,489	6,489	6,489	6,489	6,489	6,489
Adj. R²	0.234	0.259	0.293	0.398	0.408	0.420
Government effectiveness	0.034*	0.045***	0.048*	0.027	0.018	
	(0.018)	(0.017)	(0.027)	(0.023)	(0.021)	
x China	−0.062	−0.069	−0.075	0.076	0.119	0.118
	(0.062)	(0.061)	(0.061)	(0.105)	(0.096)	(0.086)
Observations	6,468	6,468	6,468	6,468	6,468	6,468
Adj. R²	0.233	0.259	0.292	0.399	0.409	0.420
Political stability	0.015	0.021**	0.014	0.007	0.005	
	(0.010)	(0.010)	(0.015)	(0.014)	(0.012)	
x China	−0.029	−0.032	−0.037	0.010	0.039	0.036
	(0.032)	(0.031)	(0.029)	(0.054)	(0.049)	(0.042)
Observations	6,489	6,489	6,489	6,489	6,489	6,489
Adj. R²	0.233	0.258	0.291	0.398	0.408	0.420
Regulatory quality	0.033*	0.050***	0.068***	0.033	0.029	
	(0.017)	(0.017)	(0.026)	(0.023)	(0.023)	
x China	−0.082	−0.093	−0.104	0.108	0.139*	0.133
	(0.072)	(0.070)	(0.067)	(0.093)	(0.084)	(0.083)
Observations	6,489	6,489	6,489	6,489	6,489	6,489
Adj. R²	0.234	0.260	0.293	0.399	0.409	0.421
Rule of law	0.024*	0.031**	0.029	0.002	0.004	
	(0.014)	(0.014)	(0.029)	(0.026)	(0.024)	
x China	−0.065	−0.071	−0.079	0.084	0.101	0.099
	(0.060)	(0.059)	(0.056)	(0.110)	(0.104)	(0.094)
Observations	6,489	6,489	6,489	6,489	6,489	6,489
Adj. R²	0.233	0.258	0.292	0.398	0.408	0.420
Voice & accountability	0.010	0.019	0.011	−0.008	−0.008	
	(0.013)	(0.012)	(0.025)	(0.024)	(0.022)	
x China	−0.006	−0.011	−0.020	0.086	0.084	0.088
	(0.044)	(0.042)	(0.039)	(0.100)	(0.105)	(0.087)
Observations	6,489	6,489	6,489	6,489	6,489	6,489
Adj. R²	0.232	0.257	0.290	0.398	0.408	0.420

Notes: Each panel reports the results of six fixed effects OLS regressions similar to those in Table 2, measuring institutional quality by one of the six World Governance indicators, as indicated in the head column. The estimates for the other explanatory variables, which are very similar to those in Table 2, are omitted to save space. The estimates in the upper panel, labelled "Institutions (WGI)" are the same as in Table 2. Clustered standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1.

Source: **See Data Appendix.**

Table A11: **Lending motives and interest rates**

Fixed effects	t	t, c	t, c, d	t, c*d	t*c, c*d	t*c, t*d, c*d
	(1)	(2)	(3)	(4)	(5)	(6)
Share in energy imports	0.025	0.518	7.726	37.391	30.897	130.107***
	(4.789)	(3.766)	(4.797)	(24.185)	(28.172)	(43.547)
x China	11.316*	9.445	3.369	11.310	7.434	−208.487
	(6.472)	(6.099)	(10.783)	(26.513)	(31.400)	(172.432)
Share in other imports	65.737	73.739	−1.001	−108.925	−47.235	43.019
	(79.215)	(65.845)	(75.674)	(123.215)	(120.751)	(174.808)
x China	162.011*	146.560**	182.076**	354.006**	293.188**	64.446
	(82.768)	(71.952)	(84.587)	(141.409)	(136.296)	(185.891)
Share in exports	−103.546	−74.662	−38.715	44.917	21.042	−225.572
	(71.661)	(60.452)	(58.890)	(89.467)	(97.088)	(243.302)
x China	21.541	24.522	88.148	−69.600	−327.691	−126.844
	(121.635)	(120.437)	(136.009)	(385.303)	(372.717)	(613.250)
Indebtedness	0.434	0.473**	0.489	0.482	0.278	
	(0.263)	(0.223)	(0.302)	(0.348)	(0.318)	
x China	−1.232***	−1.299***	−1.037***	−0.815*	−0.273	1.396
	(0.406)	(0.397)	(0.389)	(0.425)	(0.440)	(1.478)
Quality of institutions (WGI)	0.378**	0.231	0.419	−0.364	−0.731**	
	(0.184)	(0.181)	(0.346)	(0.354)	(0.311)	
x China	−0.495*	−0.426*	−0.483**	0.934	1.382	−0.314
	(0.256)	(0.255)	(0.227)	(1.105)	(1.080)	(1.556)
Loans from multilateral organizations	−0.361	−0.196	−0.030	−0.121	0.163	
	(0.282)	(0.273)	(0.298)	(0.340)	(0.356)	
x China	0.932**	0.781*	0.891**	0.846**	0.425	1.051
	(0.424)	(0.420)	(0.347)	(0.407)	(0.436)	(0.989)
Bonds issued	−0.040	−0.047	0.027	0.070	0.028	
	(0.141)	(0.129)	(0.144)	(0.143)	(0.148)	
x China	0.873**	0.818**	0.932**	0.969**	0.997**	0.835
	(0.340)	(0.340)	(0.375)	(0.378)	(0.441)	(0.888)
Taiwan recognition	0.086	0.205	0.701*	0.736	0.140	
	(0.212)	(0.201)	(0.383)	(0.464)	(0.391)	
x China	−1.035***	−1.301***	−1.444***	−1.798***	−0.841	
	(0.380)	(0.389)	(0.459)	(0.512)	(0.646)	
UNGA voting	−0.541***	−0.212	−0.353*	−0.397*	−0.075	−0.795
	(0.142)	(0.153)	(0.187)	(0.203)	(0.231)	(1.359)
x China	−0.006	−0.313	−0.073	−0.104	−0.429	0.446
	(0.359)	(0.369)	(0.436)	(0.433)	(0.440)	(1.532)
Creditor's currency reserves	−0.005***	−0.000	−0.001	−0.001		
	(0.002)	(0.001)	(0.001)	(0.001)		
x China	0.004**	−0.001	−0.000	−0.000		
	(0.002)	(0.001)	(0.001)	(0.001)		
Observations	797	797	795	758	742	442
Adj. R²	0.249	0.280	0.325	0.351	0.368	0.225

Notes: Fixed effects OLS regression for an (unbalanced) panel of 50 African countries (debtors) and seven creditor countries (China, France, Germany, Italy, Japan, Spain or the USA) 2000–2014 (annual). The dependent variable is the average interest rate of bilateral loans by creditor-debtor country pair and year. All regressions include logged GDP and population, number of disasters, dummies for historical bilateral colonial relations, common official language, a free trade agreement and bilateral distance as well as the fixed effects as indicated in the head row (t: time, c: creditor country, d: African debtor country). Clustered standard errors in parentheses; *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Source: **See Data Appendix.**

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