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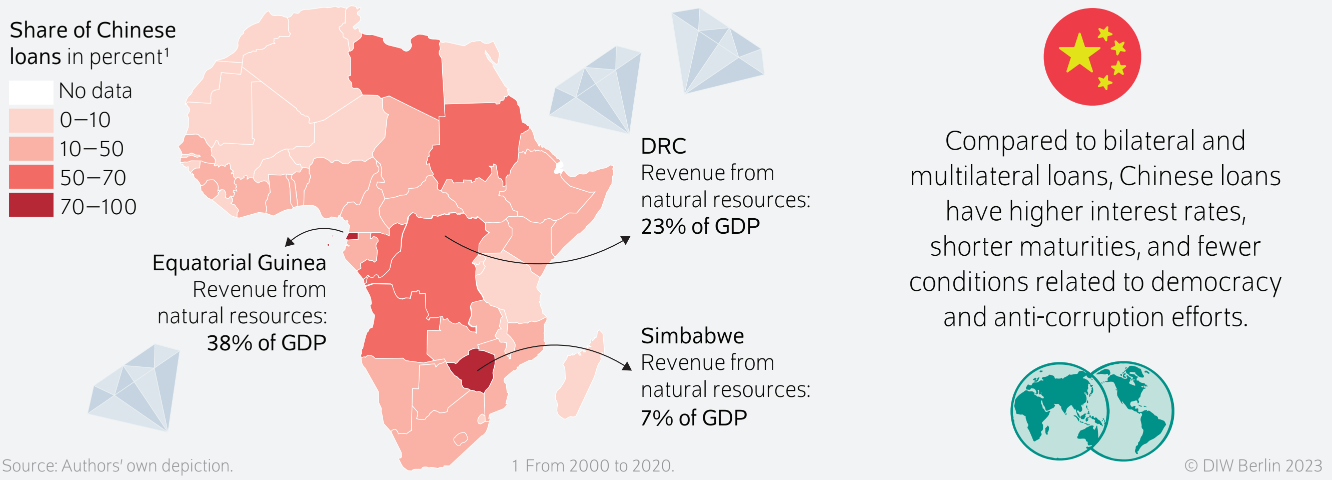
AT A GLANCE

Chinese loans to African countries differ from Western development loans

By Lorenz Meister, Lukas Menkhoff, and Annika Westen

- Regressions are used to identify determinants for Chinese and other bilateral and multilateral loans to Africa
- Chinese loans have higher interest rates, shorter maturities, are more volatile, and are granted to relatively resource-rich countries with more corruption
- China's lending to African countries creates competition with Western development policy
- Western lenders have good economic arguments in favor of their loans
- Loan conditionality could be used even more selectively to convince politicians in borrowing countries

China preferentially lends to resource-rich African countries and makes no democracy-related demands



Source: Authors' own depiction.

1 From 2000 to 2020.

FROM THE AUTHORS

"Over the past years, China has significantly contributed to the credit boom in Africa. China's loans to African countries have higher interest rates than those of the World Bank, but they come without economic policy conditions."

— Lorenz Meister —

MEDIA

Audio Interview with Lorenz Meister (in German)
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Chinese loans to African countries differ from Western development loans

By Lorenz Meister, Lukas Menkhoff, and Annika Westen

ABSTRACT

Over the past 20 years, China has granted a conspicuous amount of loans to African countries. New loan data show that compared to Western multilateral loans, Chinese loans have relatively high interest rates and shorter maturities, tend to be highly collateralized, and are volatile over time. Thus, Western loans are generally more likely to be in the economic interest of the borrowing country. Furthermore, Chinese loans are focused on resource-rich countries that undertake fewer anti-corruption efforts, so local policymakers have more opportunities to feather their own nest. Finally, unlike Western loans, Chinese loans are not tied to any economic policy conditions. It seems worth considering for Western lenders to reduce the number and intensity of loan conditions to respect the sovereignty of the borrowing countries.

Over the past 20 years, China has granted a large number of loans to Africa. These loans are the first step in China's international expansion, which goes beyond exports and occurred long before the Belt and Road Initiative adopted in 2013. This 20-year history offers insights into the *modus operandi* and possible motives of Chinese actions, making it an informative study of international economic policy.

Africa was invaded and colonized by Western imperial powers already during the 19th century and now, in the 21st century, remains caught in the geopolitical and economic interests of countries outside the continent. Around one quarter of all countries on Earth are in Africa (and thus the continent has weight, for example at UN votes) and in 20 years, one quarter of the global population will live in Africa. Poverty is widespread on the continent. However, it also has a large supply of raw materials. All this contributes why the most dynamic markets in the middle of the 21st century are perhaps in Africa. Overall, other countries may view action in Africa as a way to gain international influence with little effort and to provide advantages to the domestic economy—at least, this has been the Western interpretation of China's extensive lending to African countries over the past 20 years.

High volume of Chinese lending to Africa

In 2000, Chinese lending to African countries was almost negligible. While there are no complete statistics on Chinese lending to foreign countries, the available sources are considered sufficiently reliable enough for evaluating trends and orders of magnitude. This Weekly Report uses the Africa Debt Database, which covers Chinese loans to African countries as well as loans from other lenders.[1] This is supplemented by data on World Bank loan conditionality (Box).[2]

Africa clearly experienced a credit boom from 2000 to 2020. By 2006, newly committed loans to all African countries

1 David Mihalyi and Christoph Trebesch, "Who Lends to Africa and How? Introducing the Africa Debt Database," *Kiel Working Paper* no. 2217 (2023).

2 World Bank, *Development Policy Operations: Prior Actions. Development Policy Financing* (available online; accessed on June 15, 2023. This applies to all other online sources in this report unless stated otherwise).

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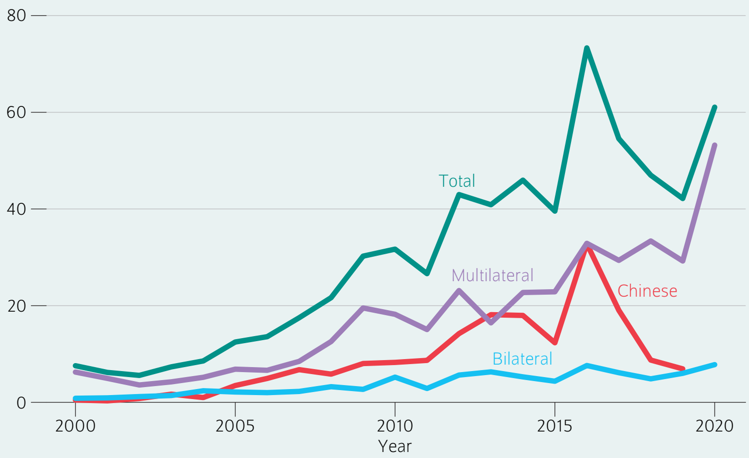
Box

Data

The data in this study are primarily from the Africa Debt Database, which has compiled data from various sources in a consistent manner. The database contains data on over 7,400 loans and bonds from 2000 to 2020. The most frequent lenders are individual states (bilateral loans) with a share of around 47 percent. The World Bank, which dominates multilateral loans, has a share of one third, while China has a good 15 percent. The database captures states as borrowers (no public enterprises; no grants), no domestic borrowing, maturities of at least one year, and includes loans from public enterprises (especially from China). The database includes a good number of Chinese and multilateral loans compared to the World Bank figures, but significant undercoverage of other lenders. In addition to this database, information on conditionalities was added for World Bank loans. Furthermore, economic and political indices at the country-year level were added that come from the World Bank and the V-Dem dataset.

Figure 1

Loan volume by lender type
In billions of USD



Sources: Africa Debt Database and Development Policy Financing/World Bank.

Relative to multilateral loans, Chinese loans have decreased since 2016.

totaled around 10 billion USD per year; in 2008, this figure jumped to over 20 billion USD. By 2010, it was over 40 billion USD and in 2016, it had reached over 80 billion USD (Figure 1).[3] These totals are comprised of three loan sources: bilateral lenders (primarily Western countries), multilateral lenders (in particular the World Bank, which is dominated by Western countries), and Chinese lenders. The multilateral lenders dominate throughout.

Nevertheless, it was Chinese loans that fueled the boom, accounting for nearly 40 percent of the total from 2007 to 2017. However, Chinese loans have been strongly declining since 2016 and yet the credit boom continues, making Chinese loans more volatile than those of other lenders. No figures are available for China in 2020. The large increase in multilateral lenders in that year is due to the coronavirus pandemic.

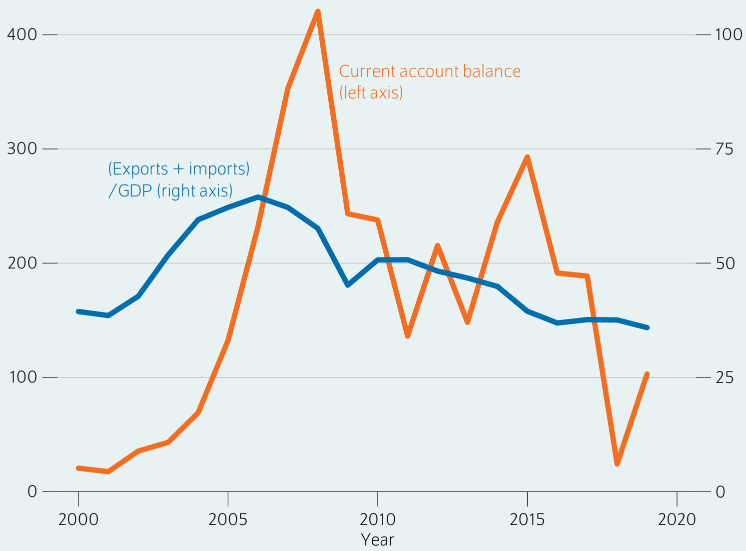
China's decline in lending and policy switch in Africa

The decline in Chinese lending to African countries has three presumable causes: One, the Chinese current account surplus in the observed years has decreased (Figure 2), so the pressure to invest capital abroad, for example in the form of loans to African countries, has lessened.

Two, Chinese economic policy strategy has recently switched from an external focus to a focus on domestic development. The total of exports and imports relative to GDP reached a maximum of over 60 percent from 2004 to 2007 and has since

Figure 2

China's current account balance and share of exports and imports of Chinese GDP
In billions of USD (left axis) and percent (right axis)



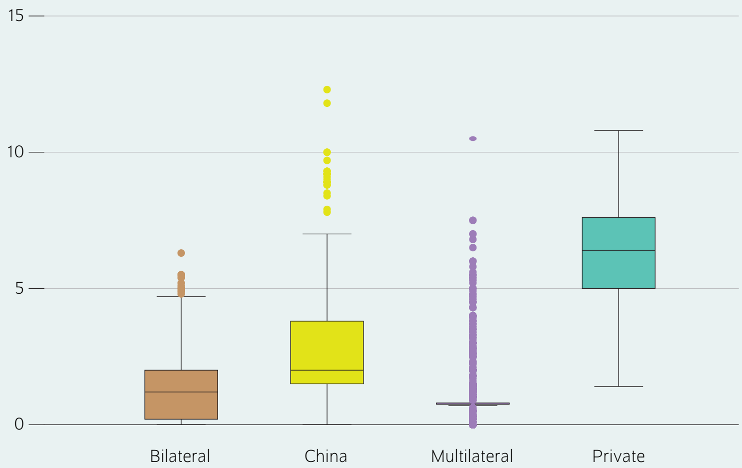
Sources: IMF, World Economic Outlook Database, World Bank National Accounts Data, and OECD National Accounts.

The Chinese current account surplus has been shrinking since 2008.

3 With this quadruple to eight-fold increase in loans, neither considering the average annual US inflation rate of two percent nor the average annual population growth in Africa of three percent makes any qualitative difference.

Figure 3

Distribution of interest rates for loans to African countries by lender type
In percent



Note: The middle dashes in the box plots indicate the middle interest rate (median). The boxes indicate all mean interest rates in the 50 percent interval. The T-shaped dashes indicate the 1.5-fold distances between the box and its ends. Dots indicate the outliers beyond that.

Sources: Africa Debt Database and Development Policy Financing/World Bank.

Compared to bilateral and multilateral loans, Chinese loans have higher interest rates.

Table

Lending to African countries

	(1) Chinese loan volume	(2) Bilateral loan volume	(3) Multilateral loan volume
Population (log)	0.464***	0.834***	0.772***
GDP per capita (log)	0.655***	0.822***	−0.347***
National debt (percent of GDP)	0.000644	0.00200	0.00154
Share of Chinese imports	0.0622	−0.104	0.370**
Embassy in China	0.0599	−0.0921	−0.0560
Revenue from natural resources (percent of GDP)	0.0232*	−0.0145	−0.00259
Democracy	−0.124	−0.550	−0.197
Anti-corruption efforts	−53.86*	84.56***	93.60***
UN votes aligned with China	−0.336	0.478	−1.111
UNSC member	0.0484	−0.0431	−0.191
Recognition of Taiwan	−0.983**	−0.0408	0.125
Environment and natural resources conditionality	0.945**	0.644**	−0.234
Constants	−11.19***	−16.53***	−4.850***
Observations	819	819	819

Note: Multivariate regression model with fixed-effects estimation. Loan conditions in other areas and individual years are taken into account. Asterisks denote the significance level, which indicates the statistical precision of the estimate. The more asterisks, the lower the probability of error: ***, ** and * indicate significance at the one-, five- and ten-percent levels, respectively.

Legend: A one-percentage-point increase in population (row 1) is associated with a 0.46-percent increase in Chinese loan volume (column 1). A one-percentage-point increase in the share of Chinese imports (row 4) is associated with a 6.2-percent increase in Chinese loan volume (column 1). Maintaining an embassy in China (row 5) is associated with a six-percent increase in Chinese loan volume (column 1).

Source: Authors' depiction.

decreased to below 40 percent, around the 1990s level. Exports and imports have not decreased in absolute value, but relatively more goods and services are being produced domestically that were previously imported. This reflects the continued development of the Chinese economy. In addition, China has recently taken a targeted de-risking approach, making targeted efforts to become more independent from foreign countries.

Three, there is a specific aspect relating to Africa: Presumably, it has become clear that these loans are rather risky. There is evidence that Chinese calculations were at times significantly skewed, with microeconomic incentives stimulating loans (and corresponding exports) while ignoring risks.[4] This has since been corrected; China has moved more out of public financing and into project-based corporate financing (not only) in Africa.

China demands higher interest rates than other official lenders

A high volume of Chinese loans to African countries does not appear to have displaced other lenders, whose loan volumes have increased in parallel. This suggests there was unsatisfied demand for loans in Africa. Interestingly, the interest rates of Chinese loans, at an average of 2.7 percent, are significantly higher than the corresponding interest rates of multilateral (0.9 percent) or other bilateral lenders (1.4 percent). Germany as a lender is close to these figures, with an average interest rate of 1.6 percent. From a capital market perspective, however, all official lenders are favorable, as African government bonds are priced at an average of seven percent (Figure 3).

The differences between lenders are primarily due to differing motives. Official lenders provide capital not only in their own interest but also for development policy reasons; they want to support the recipient country in its development or in an emergency situation and therefore deliberately set very moderate interest rates.[5] Private lenders, in contrast, who purchase government bonds, have purely economic motives.

These different motives are also reflected in the maturities. Private loan maturities tend to be shorter and are positively correlated with the interest rates. Maturities of Chinese loans are shorter with higher interest rates than multilateral loans, but have longer maturities and are cheaper than private loans (Figure 4).

4 "Xi Jinping's Next Overseas Lending Revolution: Welcome to a New Era of Chinese Debt," *The Economist*, February 25, 2023 (available online).

5 All official lenders, such as China and also Germany, are following their scientifically well-documented interests, whether they be economic or political (geopolitics, targeted political influence). Cf. Axel Dreher, Jan-Egbert Sturm, and James Raymond Vreeland, "Development Aid and International Politics: Does Membership on the UN Security Council Influence World Bank Decisions?" *Journal of Development Economics* 88, no. 1 (2009): 1–18.

China lends a lot to resource-rich countries

Chinese lending is frequently presumed to be motivated by the desire to secure a supply of scare raw materials for the growing Chinese economy. In fact, the share of Chinese loans of total external public borrowing is spread across African countries very unevenly (Figure 5). Some countries stand out with relatively high levels of Chinese involvement, such as Libya, South Sudan, the Democratic Republic of the Congo, and the Republic of the Congo. As shares are calculated here, the corresponding situation for multilateral loans appears nearly complementary, with a focus on the Sahel and East Africa (Figure 5).

The bivariate correlation between the share of Chinese loans and the significance of raw materials in the respective country is emphasized by a corresponding linear regression (Figure 6).

The correlation between Chinese lending and the degree of democracy in the countries is exactly opposite: In this bivariate analysis, loans flow more strongly to less democratic countries (Figure 7), presumably because China, unlike Western lenders, has no reservations in this regard. What further motives behind Chinese lending may there be, and which ones are the main ones?

Chinese and World Bank loan determinants differ

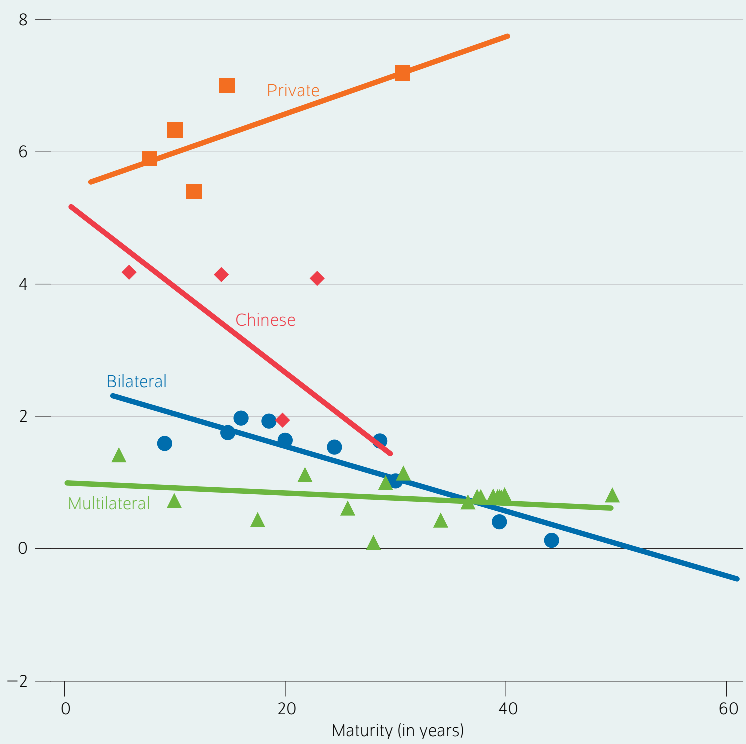
The literature often captures four groups of country loan determinants, which are briefly discussed below.[6] First, since these approaches seek to explain absolute lending, larger countries (as measured by population) are presumed to receive more loans. More ambiguous is the influence of per capita income, which may facilitate private loans but is likely to lead to relatively less development aid. Similarly, the ratio of government debt to GDP indicates either a higher risk and thus less lending, or poverty and thus more lending. A second group of determinants considers interdependence with China, here captured by a country's share of Chinese imports and if the country maintains an embassy in China. Interdependence tends to make lending easier. Third, anti-corruption efforts are considered in addition to the the above-mentioned motives, the ratio of revenue from raw materials to GDP as well as the degree of democracy. In addition, there are political motives for voting in international bodies such as the United Nations, which are captured by voting behavior aligning with China in the General Assembly, by the membership of a country in the relatively important UN Security Council, and by a country's recognition of Taiwan as a country. Fourth, there are two control variables whose coefficients are not mentioned here: English language use (which means better sources for data) and the number of disaster victims (to capture emergency assistance).

6 The approach mainly follows two studies: Axel Dreher et al., "Apples and Dragon Fruits: The Determinants of Aid and other Forms of State Financing from China to Africa," *International Studies Quarterly* 62 (2018): 182–194 as well as Anke Hoeffler and Olivier Sterck, "Is Chinese Aid Different?" *World Development* 156 (2022): 1–16.

Figure 4

Correlation between interest rate and maturity, weighted by loan volume

In percent



Note: Individual points represent the average of multiple loans of certain maturities

Sources: Africa Debt Database and Development Policy Financing/World Bank.

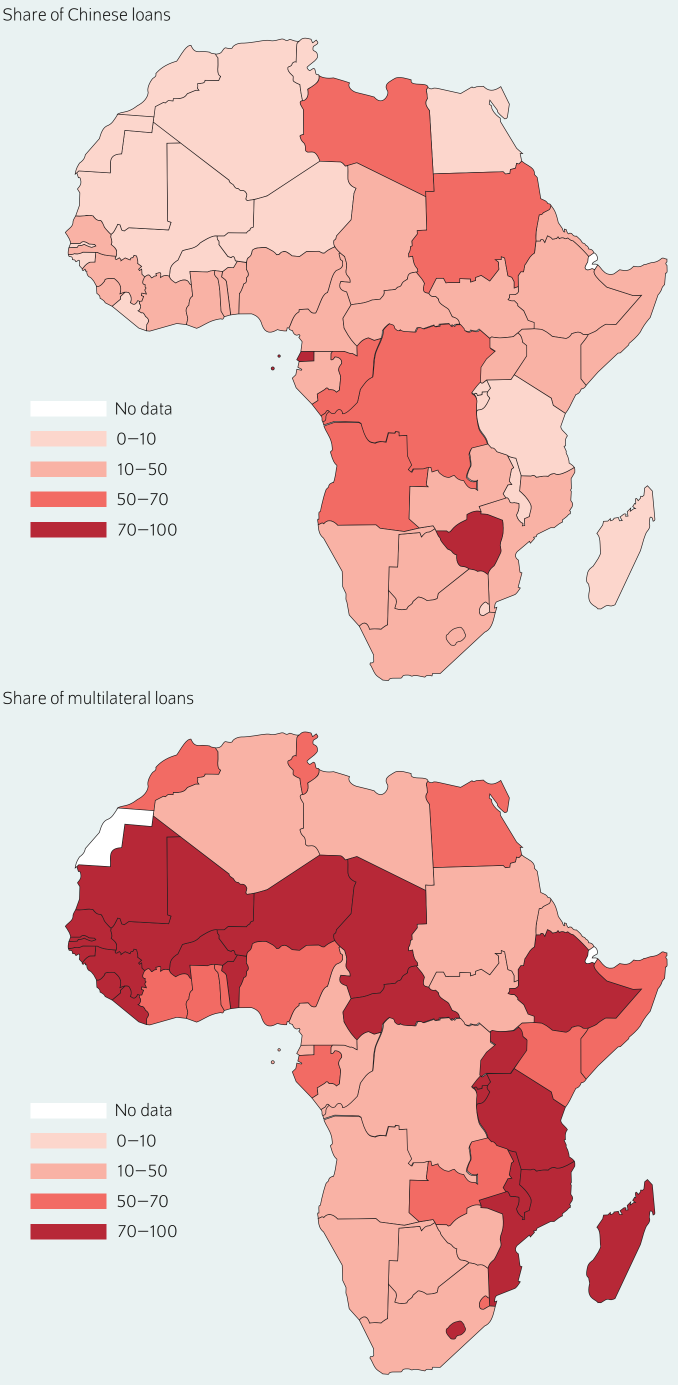
Chinese loans have higher interest rates and shorter maturities compared to multilateral loans, but have lower interest rates and longer maturities than private loans.

These possible determinants are estimated in a pooled OLS regression with year fixed effects (Table). The result of this standard approach shows that five coefficients are statistically significant for China: Chinese loan volume is higher for larger and wealthier countries, for resource-rich countries, for countries undertaking fewer anti-corruption efforts, and for countries that do not recognize Taiwan (Table, column 1). Moreover, the two coefficients for interdependence, which capture the share of Chinese imports of all imports and whether the respective country maintains an embassy in Beijing, are positive as expected. Overall, the expectations from the literature are thus essentially confirmed for the present data set.

The regression result with the same determinants for other bilateral and multilateral lenders can be seen in columns 2 and 3, respectively, of Table. Again, population size is a dominant variable in both cases. Furthermore, higher income is relevant for bilateral loans, whereas lower income is relevant for multilateral loans, which underscores their supportive nature. Western loans are associated with more anti-corruption efforts, while neither raw materials nor political reasons

Figure 5

Share of Chinese and multilateral loans at the country level from 2000 to 2020
In percent



Sources: Africa Debt Database and Development Policy Financing/World Bank.

Chinese and multilateral loans are distributed in a complementary manner; geographical clusters can be recognized.

play a statistically significant role. This results in clear differences from Chinese loan determinants.

Loan conditionality is controversial

In addition to the usual determinants, the analysis investigates whether any previous conditionality on World Bank loans may have helped motivate borrowing from China. Loan conditionality means a prospective recipient country must meet certain conditions to receive the loan. Policymakers usually perceive this as a restriction and react accordingly.[7] They can try to evade the terms by implementing them ostensibly or temporarily or by compensating with countermeasures elsewhere. Another alternative is switching to Chinese loans in the future, which are usually granted without such conditionality.

To examine the alternative of switching to Chinese loans, the conditions reported by the World Bank for its loans (which by far dominate multilateral loans) are co-estimated as dummy variables for eight policy areas in the regression.[8] For conditionality in the area of raw materials management, there is a slightly significant correlation that is understandable. World Bank conditions in this area encourage Chinese borrowing in the following year (Table).[9] The coefficients for conditions in other areas are considered in the regression, but not listed in the table as they are mostly not significant.

Chinese loans ended up being expensive

It must be distinguished between the short and long term when looking at the history of Chinese loans to African countries over the previous two decades. In the short term, meaning in the first years of comprehensive lending, Chinese loans clearly satisfied the demand and also created measurable growth effects.[10] In the long term, however, when looking at the boom about ten years ago from today, significant issues are visible. The shift in Chinese lending policy presumably reflects, at least partially, the emerging problems affecting it. The pressure to restructure debt that has become apparent makes it clear that many loans were not granted or used with sufficient prudence.[11] Seen in this light, Chinese loans appeared cheap to the recipient countries, but were often, in fact, more expensive.

7 In other cases, it may also be opportune to blame lenders for necessary adaptation measures.

8 The results for the rest of the coefficients are qualitatively unchanged as long as the dummy variables are not considered.

9 The situation is similar for bilateral loans from other countries (column 2). The correlation with conditions on environmental and natural resource management is also positive and significant here, albeit less pronounced.

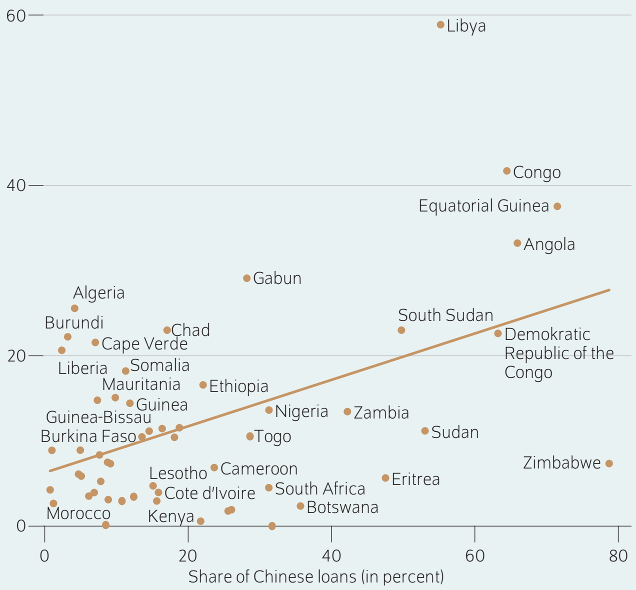
10 For more on the growth effects, see Axel Dreher et al., "Aid, China, and Growth: Evidence from a New Global Development Finance Dataset," *American Economic Journal: Economic Policy* 13, no. 2 (2021): 135–174.

11 "Xi Jinping's Next Overseas Lending Revolution;" Sebastian Horn et al., "Debt Distress on China's Belt and Road," *AEA Papers and Proceedings* 113 (2023): 131–134.

Figure 6

Correlation between Chinese loans and natural resources in the borrowing countries

Revenue from natural resources as percent of GDP



Note: The scatter plot depicts the correlation between revenue from natural resources and the share of Chinese loans at the country level.

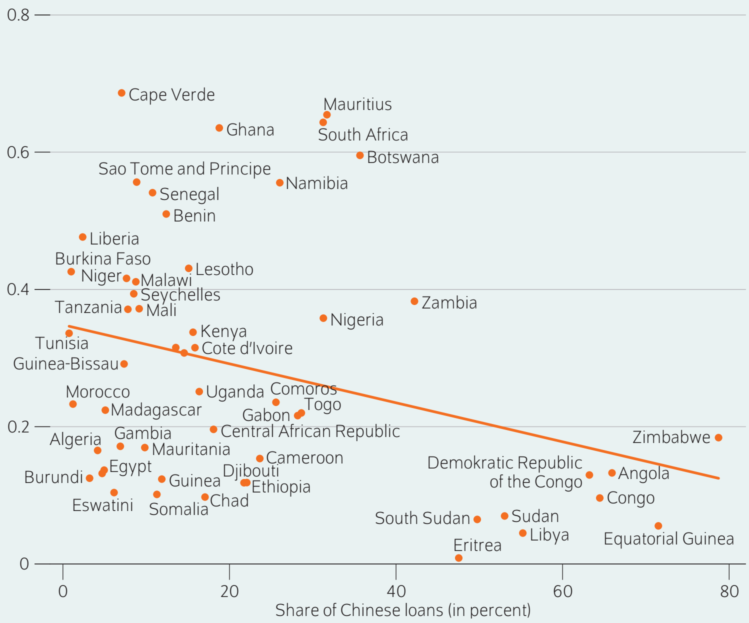
Source: Africa Debt Database and the World Bank.

Resource-rich countries take-up relatively more Chinese loans.

Figure 7

Correlation between Chinese loans and democracy in the borrowing countries

Democracy index



Note: The scatter plot depicts the correlation between the democracy index and the share of Chinese loans at the country level.

Source: Africa Debt Database and Michael Coppedge et al., V-Dem Dataset v12 (2023).

Less democratic countries take-up relatively more Chinese loans.

Conclusion: Highlight arguments for attractive Western development loans

The analysis in this Weekly Report offers approaches for Western lenders, approximated here by bilateral and multilateral lenders, to make their ideas more appealing. Three arguments for Western loans in particular are conceivable: First, the significant price difference between standard bilateral or multilateral loans and Chinese loans can be emphasized. The relatively high interest rate of Chinese loans immediately stands out (with the limitation of some Chinese loans not constituting development aid). In addition, there is the maturity: At 40 years, as is often the case with Western lenders, the debt burden is devalued by growth and inflation to a much greater extent than at 20 years (which is preferred by China). For example, a one billion USD loan, assuming average inflation of two percent and annual growth of three percent, devalues to 368 million USD after 20 years, compared to only 142 million USD after 40 years.

Second, in addition to the price difference, other loan costs vary. Western or multilateral loans may not be always in the full interest of the African countries in question, but three things stand out: The projects tend to be less likely to be oversized prestige projects and thus are more likely to pay off,[12] losses due to corruption appear to be lower,[13] and Chinese loans are often linked to the provision of substantial collateral, which burden creditors.[14]

A third argument in favor of Western lenders is their willingness to restructure debt. Developing and emerging economies frequently experience crisis situations in which they can no longer pay off their loans as planned. The Paris Club was established to find solutions for debt restructuring, possibly even granting partial debt forgiveness, debt extension and, if necessary, new loans. China does not follow this approach. Rather, it seems to be following two main strategies: Poorer countries tend to be excluded from new loans and better-performing countries receive new loans (so that debt burdens

12 One element of the distortion is preferential Chinese lending to the home regions of African heads of state, unlike the World Bank. Cf. Axel Dreher et al., "African Leaders and the Geography of China's Foreign Assistance," *Journal of Development Economics* 140 (2019): 44–71.

13 There is much to suggest that World Bank loans also end up benefiting policymakers, as the subsequent rise in deposits in tax havens suggests. Cf. Jørgen Juel Andersen, Niels Johannesen, and Bob Rijkers, "Elite capture of foreign aid: Evidence from offshore bank accounts," *Journal of Political Economy* 130, no. 2 (2022): 388–425.

14 Systematic evidence on these points is limited. However, a recent example from Nepal may be illustrative. There, the airport is completely oversized, overpriced, and, in the (expected) case of failure, collateralized with the revenues of another project. Cf. Christoph Hein, "Ausbeutung in Asien: Wie China seine Nachbarn schröpft," *Frankfurter Allgemeine Zeitung*, May 23, 2023 (in German).

increase). So far, debt restructuring that reduces burdens seems to be rather atypical.[15]

This leaves two major disadvantages of Western loans compared to Chinese loans: one, the reduced opportunities for local policymakers to feather their own nest, and two, loan conditionality. With regard to conditionality, lender countries could consider waiving some individual conditions to counteract the impression of paternalism.[16] From the perspective of the borrowing countries, such conditions encroach on their sovereignty.

Overall, there are many arguments in favor of Western loans, whether bilateral or multilateral, so that countries in Africa can decide what is important to them. Some diversification of lenders is often likely to be rational from the borrowing country's perspective, but the favoring of Chinese versus Western loans suggests a revealing self-selection.

15 Horn et al., "Debt Distress on China's Belt and Road;" Christoph Hein, "Länder in der Schuldenfalle: Aufräumen ohne China," *Frankfurter Allgemeine Zeitung*, May 14, 2023 (in German).

16 This is to be discussed in detail, but surely does not mean not fighting corruption, because Western loans should not end up in bank accounts in tax havens.

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LEGAL AND EDITORIAL DETAILS

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