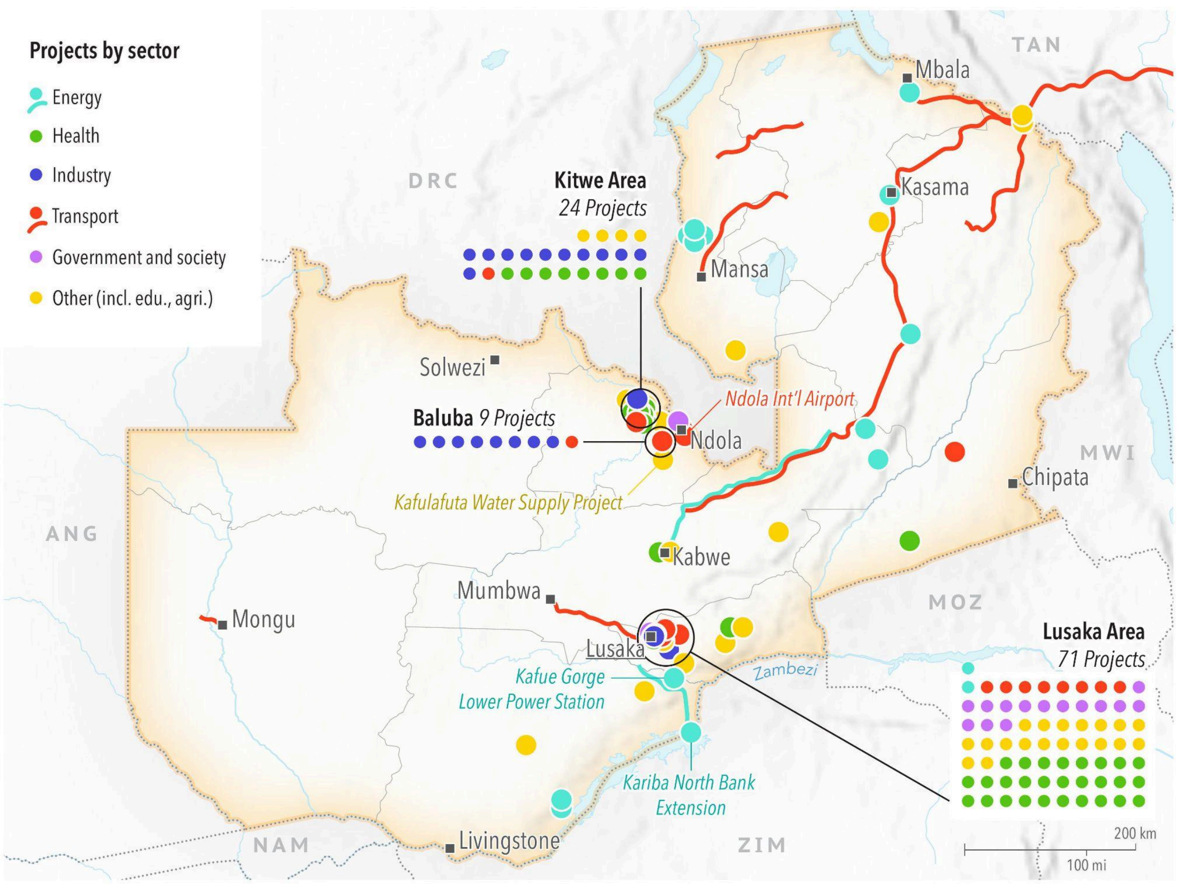
Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Swiss Agency for Development and Cooperation SDC

Zambia

The Scale, Scope, and Composition of Chinese Development Finance

October 2025

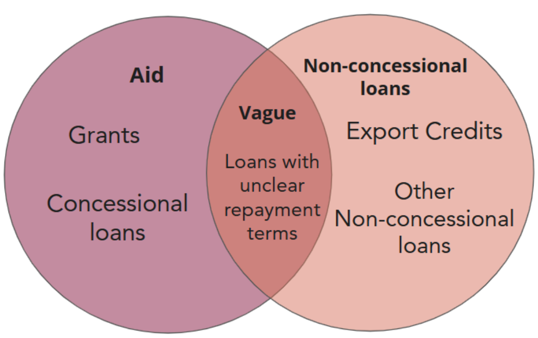


Lea Thome, Brooke Escobar

Table of contents

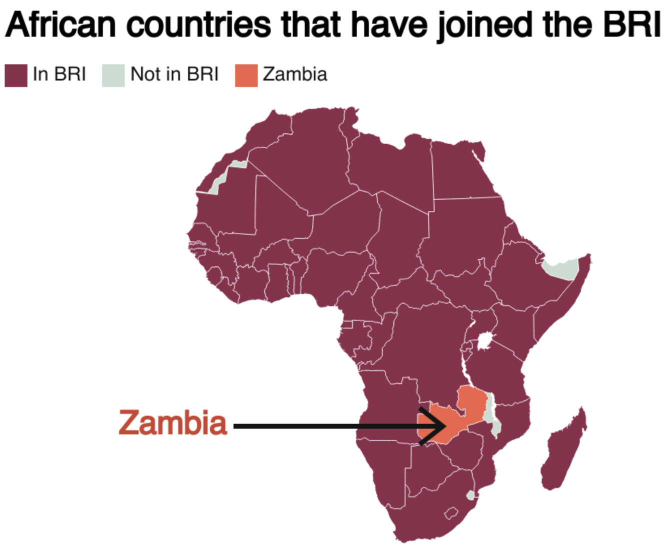
Key concepts: aid, non-concessional loans, and vague flows

In this profile, China's official development finance portfolio is represented across three main categories: aid, non-concessional loans, and vague. Loans from Chinese state-owned entities can either qualify as aid or non-concessional loans, based on how their borrowing terms compare to regular market terms (i.e., the level of financial concessionality) and whether or not they have development intent (i.e., if the primary purpose of the financed project/activity is to improve economic development and welfare in the recipient country). Aid from Chinese state-owned entities includes grants, in-kind donations, and concessional loans with development intent. The "non-concessional loans" category captures loans from Chinese state-owned entities that are provided at or near market rates and those that primarily seek to promote the commercial interests of the country from which the financial transfer originated. An export credit is a specific type of loan issued by a Chinese state-owned bank or company that requires an overseas borrower to use the proceeds of a loan to acquire goods or services from a Chinese supplier. Export credits are not considered aid since they have a commercial rather than a development purpose. See Appendix B for more details.



Key concept: What is concessionality?

Concessionality is a measure of the generosity of a loan or the extent to which it is priced below-market rates. It varies from 0% to 100%, with higher values representing more concessional loans. Non-concessional loans are those provided at or near market rates. The Organisation for Economic Co-operation and Development (OECD) determines which official sector financial flows constitute "aid" based on a grant element threshold for concessionality. Given that China does not report its loans or lending terms to the OECD, some of its official sector financial flows cannot be classified as "aid" or "non-concessional." In this report, such loans are assigned to the "vague" category.



Zambia and China's Belt and Road

During the 2018 Forum on China-Africa Cooperation, "Zambia signed the Memorandum of Understanding on jointly building the Belt and Road Initiative (BRI) together with more than 30 other African countries," officially marking its entry into the BRI.[1]

Historic relationship

The Republic of Zambia and the People's Republic of China have maintained a diplomatic bilateral relationship since Zambia gained independence in 1964. While Zambia only joined BRI officially in 2018, cooperation between China and Zambia has a long and well-known history. Zambia hosts part of one of the most iconic Chinese foreign aid projects of the 20th century—the Tanzania-Zambia Railway Authority (TAZARA) Railway—linking land-locked Zambia and its copper exports to Tanzania's Port of Dar es Salaam. Cooperation areas between the two countries have also included mining, agriculture, manufacturing, and infrastructure development.[2]

Present-day relationship

China's present-day relationship with Zambia is primarily defined by moving from a primary infrastructure financier to a lender-of-last-resort to address Zambia's debt distress in recent years. In 2023, the two countries signed a memorandum to establish a comprehensive strategic and cooperative partnership.[3]

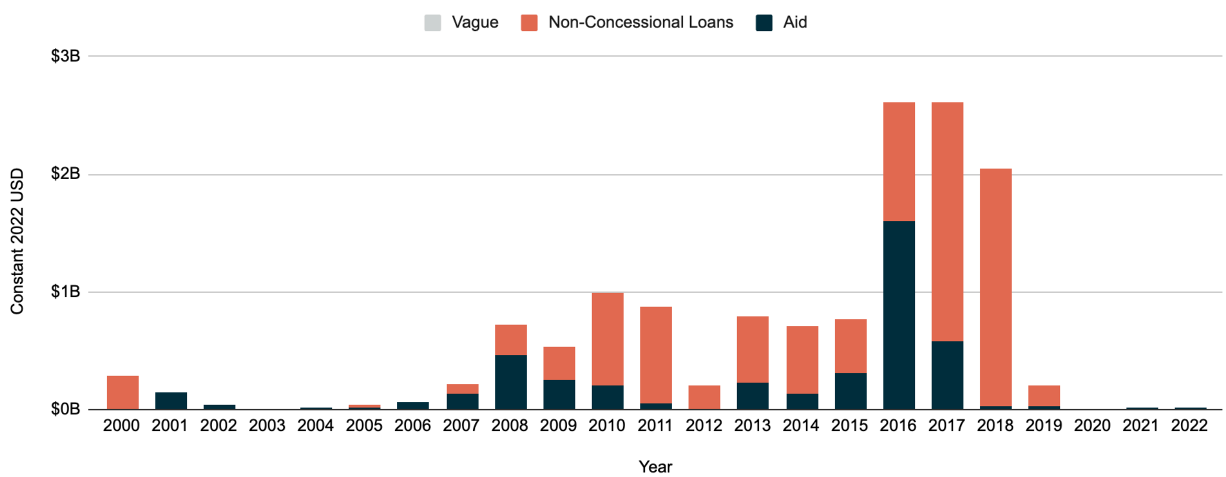
While relations have historically been steady, their relationship skyrocketed under president Edgar Lungu (2015-2021) with China providing billions in financing for highly visible infrastructure projects—helping Lungu's political ambitions. When Zambia began to express symptoms of financial distress, China halted new lending, though the pressure of the COVID-19 pandemic still pushed Zambia into default. Complex negotiations amongst China and other foreign creditors over restructuring Zambia's foreign debt have taken years, but have seen some successes.

[1]For more information on Zambia's accession to the BRI, please see the PRC's Embassy in Zambia: http://zm.china-embassy.gov.cn/eng/dsxxx/dsjh_132022/202210/t20221008_10779054.htm.
[2]For more information on the China-Zambia relationship, see China's Ministry of Foreign Affairs: https://www.fmprc.gov.cn/mfa_eng/gjhdq_665435/2913_665441/3114_664254/.
[3]China's MFA. "China and Zambia" (2024). https://www.fmprc.gov.cn/mfa_eng/gjhdq_665435/2913_665441/3114_664254/.

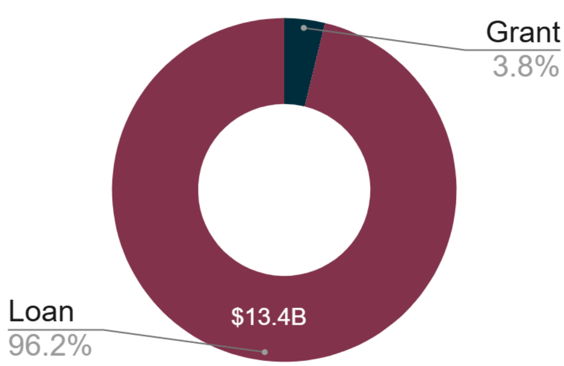
Overview: Chinese development finance in Zambia from 2000-2022

$13.9 billion	96%	126	8th	59%
in loans and grants provided by official sector donors from China.	of Chinese development finance is provided via loans.	grants, technical assistance, and training activities offered.	largest recipient of Chinese aid and credit in Africa.	of China's infrastructure portfolio has significant ESG risk exposure.

Official sector financial commitments from China to Zambia, 2000-2022[4]

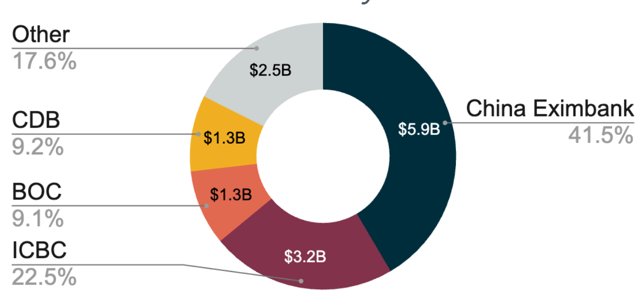


Portfolio by type of finance



Loans include concessional and non-concessional loans.

Portfolio by funder



CDB: China Development Bank; BOC: Bank of China; ICBC: Industrial and Commercial Bank of China; China Eximbank: Export-Import Bank of China

[4]For definitions of the categories of *aid*, *non-concessional loans*, and *vague*, please see Key Concepts on page 2 or Appendix B.

Section 1: China's development finance portfolio

Zambia joined China's BRI in 2018, though China was an active partner before the agreement was signed (see Figure 1.1). China is Zambia's second largest trading partner, with China responsible for buying over 75% of its main export, copper. For a list of bilateral diplomatic visits between China and Zambia in the BRI era, see Appendix A.

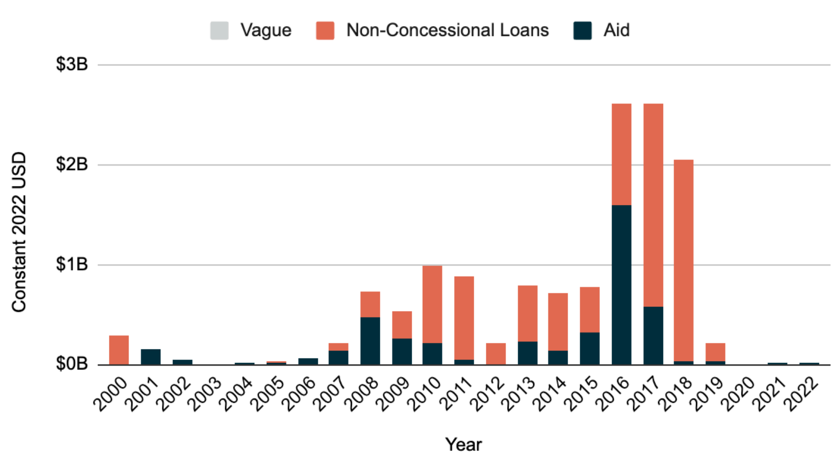
Zambia has undergone significant financial distress; it was the first country to default on its debt during the COVID-19 pandemic in 2020, essentially halting all new commitments. To help alleviate its distress, China and other countries participated in three instances of the G20-initiated Debt-Service Suspension Initiative (DSSI) between May 2020 and December 2021, offering Zambia temporary relief from its debt repayments.

However, Zambia continued to face sovereign insolvency—in 2023, China Eximbank agreed to wider debt rescheduling involving $6.3 billion in outstanding debt. The scale and relatively generous terms of the debt rescheduling was previously unprecedented for China Eximbank, signaling a potential change on how China views debt rescheduling. While negotiations are still ongoing, CDB and ICBC agreed to reschedule debts worth $1.9 billion in September 2024.

How much development finance has China provided Zambia since 2000?

Between 2000 and 2022, official sector lenders and donors from China provided grant and loan commitments worth $13.9 billion for 245 projects and activities in Zambia. Breaking with previous administrations, the strong pro-China stance that President Lungu took when he ascended to office in 2015 led to a sharp increase in new commitments from China, with at least $2 billion in commitments every year between 2016 and 2018 (see Figure 1.1). While Zambia enthusiastically pursued Chinese loan-financed infrastructure projects to increase economic development, the IMF became increasingly concerned about Zambia's ability to repay these large debts. Since 2019, development finance from China to Zambia has dramatically declined, with Zambia receiving only $18 million of aid from China in 2022.

Figure 1.1: Official sector financial commitments from China to Zambia



Types of funding:[5]

Aid: any grants, concessional loans, or in-kind donations.

Non-concessional loans: commercial lending, export credits, and non-concessional loans.

Vague: funding that cannot be easily classified—usually loans with unknown borrowing terms.

[5]For more information on these categories, please see Appendix B.

How does China compare to other development partners?

China is Zambia's largest development partner (see Figure 1.2), providing twice as much aid and credit than any other bilateral source. Unlike other donors, China's portfolio is dominated by non-concessional loans (including export credits and others). The United States is the country's second-largest bilateral development partner and its largest aid provider, and it had previously been actively working to build stronger ties with Zambia. In 2024, the U.S. signed a $458 million grant agreement with Zambia to support economic growth in the agricultural sector. In the coming years, delivery of development assistance to Zambia is projected to shift:

- ➔ United States: The U.S. has slashed its foreign assistance budget and drastically downsized USAID, in February 2025, and is restructuring the Millennium Challenge Corporation (MCC), the organization responsible for the landmark grant agreement. The fate of MCC compacts like the $458 million one in Zambia is unclear, but much of MCC's funding has been cancelled or halted.
- ➔ United Kingdom: The UK has announced plans to cut its aid budget to 0.3% of gross national income starting in 2027, which is expected to impact aid delivery to Zambia.
- ➔ Switzerland: Switzerland's development agency plans to reduce its aid budget by $487.7 million over the next four years, following a parliamentary directive. As part of this scale-back, it will end its partnership with Zambia by 2028.

Figure 1.2: Top bilateral and multilateral development partners, 2000-2022

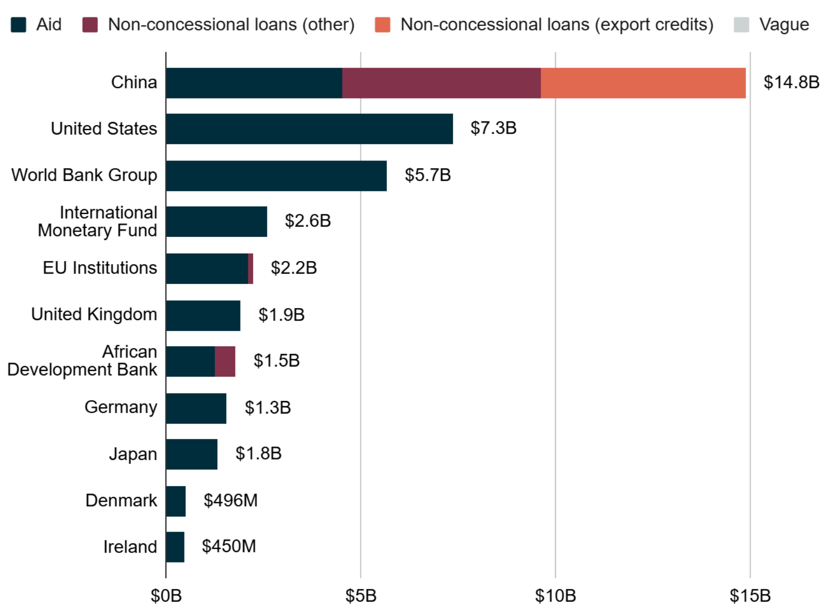


Figure 1.2 contains the top 11 development partners providing aid and other financing to Zambia. However, only China has detailed bilateral export credit flows to Zambia. This level of granularity is not available for other development partners as the OECD does not provide export credit data for bilateral relationships, it only provides data on total export credit flows by two aggregate donor groupings, G7 and DAC Countries.

Total export credits from G7 Countries: $305 million.

Total export credits from DAC member countries (including G7): $937 million.

How does China use export credits?

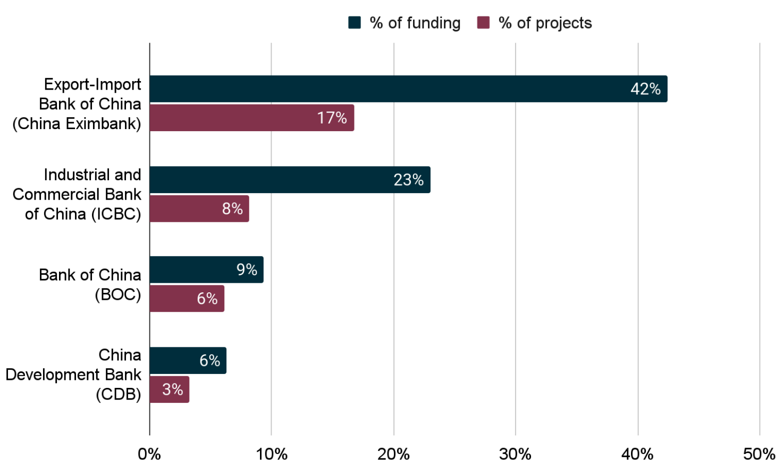
The central role that export credits play in China's overseas lending portfolio sets it apart from other official sector creditors: Under a so-called "Gentlemen's Agreement" on Officially Supported Export Credits, OECD member countries agreed in 1978 to "tie their own hands" and voluntarily abide by a set of international rules that limit the provision of *subsidized* export credits to domestic companies with overseas operations. However, China never agreed to participate in the "Gentlemen's Agreement" and it has consistently used concessional export credit to help its firms gain a competitive edge in overseas markets.

Which donors and lenders from China are active in Zambia?

Between 2000 and 2022, 36 official sector donors and lenders from China provided aid and non-concessional loans to Zambia. 81% of China's development finance portfolio is provided through four main donors and lenders (see Figure 1.3), including two state-owned policy banks and two state-owned commercial banks. The other 16% is provided by a diverse array of government agencies (including central, regional, or municipal government agencies), state-owned commercial banks, and state-owned companies.

During the BRI era (2014-2022), commitments from Chinese state-owned commercial banks surged in Zambia. Before 2014, only a small percentage of new commitments came from such banks, but this increased to 35.7% between 2014 and 2022. The increasing share of the portfolio from these types of Chinese creditors is part of a larger shift in China's overseas portfolio across the developing world. In response to increasing risk in its overall portfolio, China has increased its provision of credit through state-owned commercial banks (such as the Industrial and Commercial Bank of China, the second largest lender active in Zambia).

Figure 1.3: Top Chinese donors and lenders



China Eximbank: state-owned policy bank that primarily provides concessional loans and export credits.

ICBC: state-owned commercial bank that provides non-concessional loans.

BOC: state-owned commercial bank that provides non-concessional loans.

CDB: state-owned policy bank that provides less concessional lending than China Eximbank.

The top funding agency, the Export-Import Bank of China, is a state-owned policy bank. China Eximbank issued 41 loans worth \$5.9 billion for projects and activities, accounting for almost half of all total official sector financial flows from China to Zambia between 2000 and 2022. China Eximbank's last two commitments—in 2020 and 2021—represent temporary debt suspension agreements with the Government of Zambia. In 2019, China Eximbank provided a \$88 million loan to support the construction of substations for the Kafue Bulk Water Supply project.

The Industrial and Commercial Bank of China (ICBC), a state-owned commercial bank, issued multiple loans in Zambia for projects such as the 750MW Kafue Gorge Lower Hydropower Plant construction project and the Pensulo-Msoro-Chipata West 330 KV. In total, it extended 20 loans worth \$3.2 billion (23% of total lending). ICBC has made no new commitments to Zambia since 2019.

Bank of China, a state-owned commercial bank, issued 15 loans worth $1.3 billion (9% of total lending). BOC only became active in Zambia in 2009, with its most recent loan extended in 2019. Its largest loan to date represents a $382 million loan supporting a syndicated loan tranche for the Kafulafuta Water Supply System Project, involving the construction of a dam.

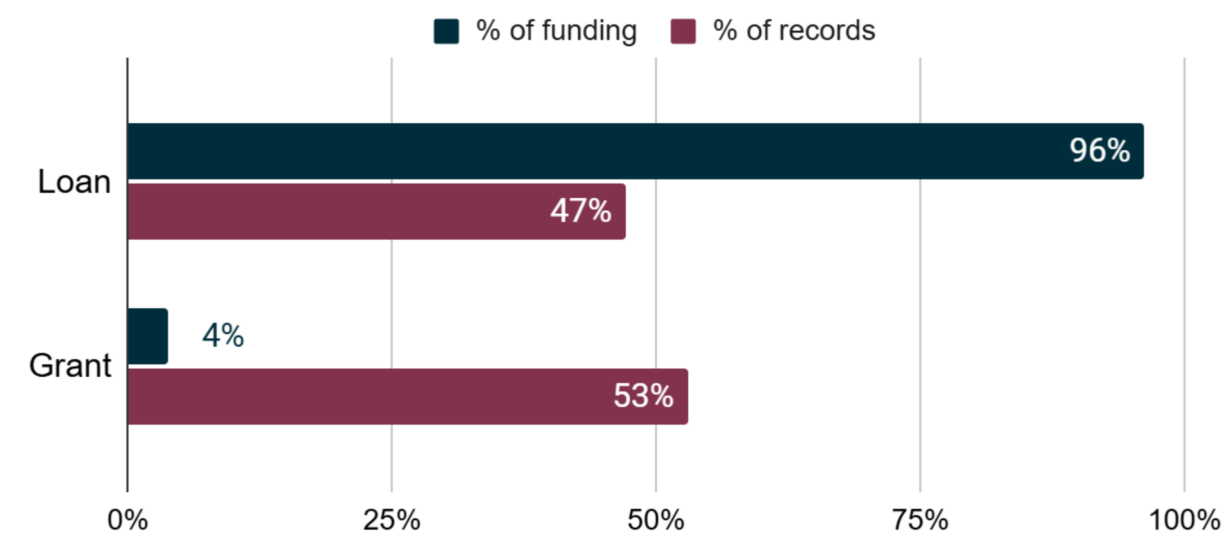
China Development Bank (CDB) issued 8 loans worth $878 million to Zambia between 2000 and 2022, accounting for 6% of total official financial flows from China during that period. Although both CDB and China Eximbank are state-owned policy banks, CDB's loans are typically less concessional because it operates independently, maintaining its own balance sheets and lending without state subsidies. CDB's last activity in Zambia was in October 2020, when it granted a deferral of principal and interest payments. In 2016, CDB committed a $206 million loan for Zambia's Safe City Project, which would see the construction and installation of command centers and communication towers, in addition to radio communication and video surveillance systems. Otherwise, CDB has provided financing for a solar-powered milling plant, road upgrades, and the development of industrial parks.

What kinds of financial and in-kind support does China offer Zambia?

96% of China's official sector financial commitments to Zambia take the form of loans (totaling $13.4 billion), while 4% ($529 million) comes in the form of grants and in-kind donations. In-kind donations are difficult to monetize, so the monetary values of these activities are likely underrepresented.

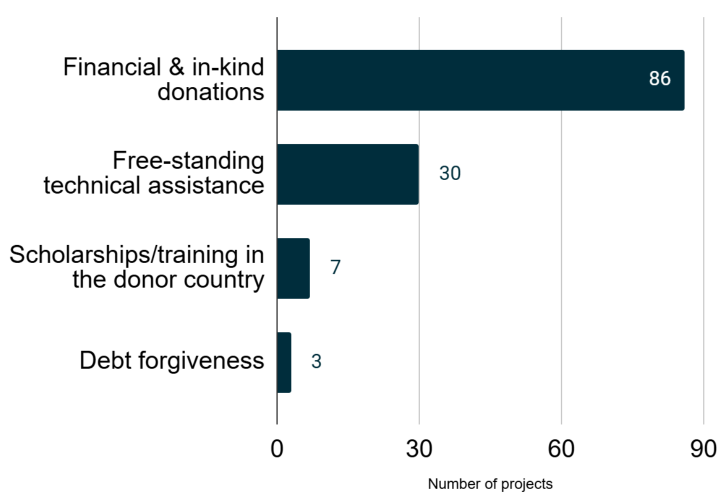
AidData captures each instance of a grant or in-kind donation as one record, so analyzing the record counts can help provide a better picture of China's activities in Zambia. When looking at record counts, grants account for 53% of all activity records in Zambia (representing 126 records capturing activities taking place between 2000 and 2022).

Figure 1.4: Top financial instruments used by China in Zambia



Note: Debt rescheduling and Vague records are excluded from this visual since they are neither loans or grants.

Figure 1.5: Breakdown of grants by project count



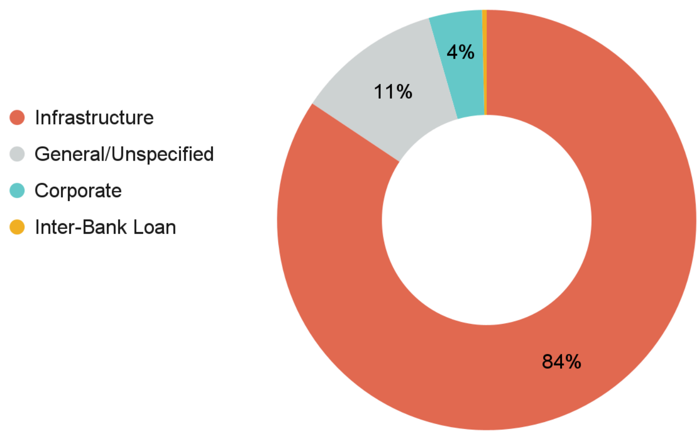
Between 2000 and 2022, China provided 126 grants to Zambia. 86 grants accounted for financial and in-kind donations, such as medical and school relations.

30 instances of free-standing technical assistance were recorded. The main activities included the dispatch of experts and medical teams.

China has provided roughly 405 scholarships to students in Zambia.

In three instances—2001, 2007, and 2011—Zambia received debt forgiveness worth a combined amount of $164 million.

Figure 1.6: Breakdown of lending by purpose



Infrastructure: loans to support the construction, rehabilitation, or maintenance of a physical structure.

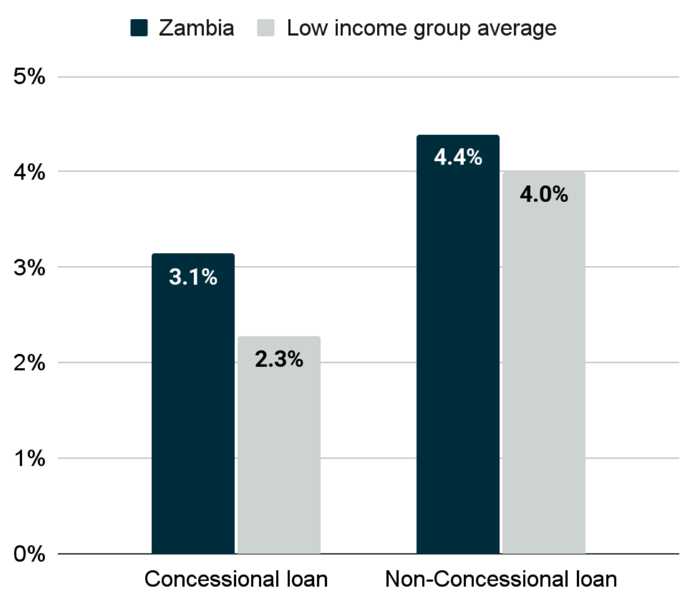
General/Unspecified: loans for equipment acquisition or unspecified purposes.

Corporate: loans for mergers and acquisitions, working capital loans.

Inter-Bank Loans: loans from a Chinese bank to a recipient country bank that can support on-lending or other bank needs.

84% of China's $13.4 billion in official sector lending to Zambia supports infrastructure projects. Nearly 84% of all infrastructure projects in Zambia are implemented by at least one Chinese entity, such as a Chinese state-owned company or a Chinese private sector company. In Zambia, infrastructure lending dominates—with large-scale financing committed to projects such as the construction of the Kafue Gorge Lower Hydropower plant (receiving at least $1.7 billion through a syndicated buyer's credit). 11% of loans fall into the "general and unspecified" category; this category primarily consists of lending for the acquisition of equipment and unspecified purposes. Another 4% supports corporate sector activities, such as refinancing old debt, loans for mergers and acquisitions, and working capital loans. Zambia received no emergency rescue loans from China between 2000 and 2022.

Figure 1.7: Borrowing terms



Between 2000 and 2022, China's concessional lending (which is considered to be aid) to Zambia carried a weighted average interest rate of 3.14% and a weighted average maturity of 16 years. By comparison, China's non-concessional lending to Zambia carried a higher weighted average interest rate (4.39%) and a shorter average maturity (12 years).

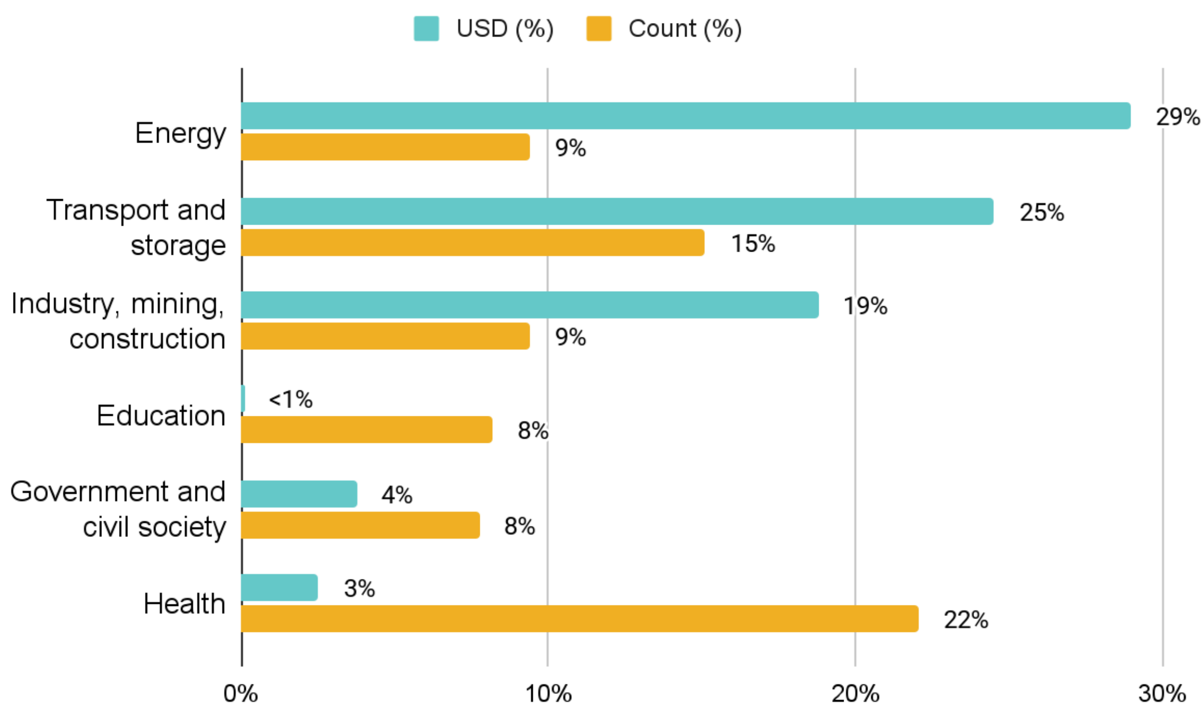
The borrowing terms that applied Zambia's concessional and non-concessional loans were less generous than those found in China's broader portfolio of official sector loans to other low-income countries.

In which sectors is China most active?

Top sectors for China's aid and credit in Zambia differ greatly when comparing monetary value and record count. Certain sectors, such as health and education, represent a large percentage of records but offer small or no transaction amounts. In Figure 1.8, AidData provides the top sectors by both monetary value and record count to demonstrate this dichotomy.

Figure 1.8: Selected top sectors

Sectors by monetary value and record count



In terms of monetary value, 60% of China's grant and loan commitments to Zambia supported three core infrastructure ("hardware") sectors: energy, transport and storage, and industry, mining, construction between 2000 and 2022.

- ➔ Energy: This sector is the largest sector by financial value with $4 billion in funding (or 29% of China's entire portfolio). It encompasses the generation and distribution of renewable and non-renewable sources, as well as hybrid and nuclear power plants. Noteworthy activities in the energy sector include a $861 million export buyer's credit provided by China Eximbank and ICBC each for the 750MW Kafue Gorge Lower Hydropower Plant construction project and a $469 million loan from China Eximbank for the 360MW Kariba North Bank Hydropower Plant expansion project. Since 2018, no new projects have been committed in the energy sector.
- ➔ Transport and storage: This sector refers to the construction and maintenance of road, rail, air, and water transit infrastructure and is characterized by high-value infrastructure projects. 25% of China's development finance portfolio in Zambia is specifically dedicated to this sector, representing $3.4 billion in aid and non-concessional loans.

However, no new financial commitments that represent the transport and storage sector have been made since 2019. The largest project by financial commitment is China Eximbank's provision of a $389 million preferential buyer's credit for the Ndola International Airport construction project.[6] Other projects include a loan worth $360 million from China Eximbank for the Phase 2 of the Lusaka Urban Road (L400) Upgrade project and a $330 million preferential buyer's credit issued by China Eximbank for the Kenneth Kaunda International Airport expansion project.

- Industry, mining, construction: This sector includes manufacturing fossil fuels, mining for coal, gas, metals, minerals, and construction. Projects in the industry, mining, and construction sector account for $2.6 billion in funding (or 19% of China's development finance portfolio). Activities in this sector include a $434 million loan by CBMI Construction Co. for the Ndola Cement plant, and a $275 million loan by China Eximbank for the reconstruction of the Chambishi Main Mine.

China is also heavily engaged in the "software" sectors, such as health, education, and governance. China's footprint in these sectors is difficult to represent, however, because the activities in these sectors usually attract smaller grant and loan commitments, or represent some form of in-kind donation, technical assistance, etc.

- Health: This sector includes medical care, infrastructure, equipment, and control activities. In total, activities in the health sector represent 54 records in China's portfolio in Zambia (or 22% of records). Notable activities include a $148 million loan from ICBC for hospital construction as well as several grants provided by the Chinese government for the expansion of the Levy Mwanawasa Hospital. In response to the COVID-19 pandemic, China donated more than $38 million in COVID-19 aid to Zambia, including over 1.2 million doses of Sinopharm vaccines. In 2022, China committed donations and grants on six different occasions related to the COVID-19 pandemic in Zambia.

- Government and Civil Society: This sector encompasses activities that address public procurement, subnational government support, elections, democratic participation, and human rights. This sector represents a total of 19 records (or 8% of the total record count). China's activities in this sector include grants from the Chinese government for the construction of a conference hall at the Ministry of Foreign Affairs, the provision of equipment to Zambia's National Assembly, and the supply of election materials. China's latest activity in this sector was the donation of $340,000 to construct a conference hall at Zambia's Ministry of Foreign Affairs in 2018.

- Education: This sector encompasses schooling at the primary, secondary, and post-secondary levels, as well as technical and advanced training activities. Education activities represent $14 million in funding and 8% of China's total record count, with 20 records. Notable activities in the education sector include grants from the Chinese government for the construction of a Confucius Institute building and from PowerChina to build a Sinohydro Training Institute in Chikankata. In 2021, China Electronics Technology Group Corporation donated ten computers to the University of Zambia, marking its most recent activity in the education sector.

[6] Preferential Buyer's Credit (PBC) is a lending instrument unique to China Eximbank. PBC's are USD-denominated loans that are granted to foreign government institutions. The recipient government then uses the loan to purchase goods and services from a Chinese supplier.

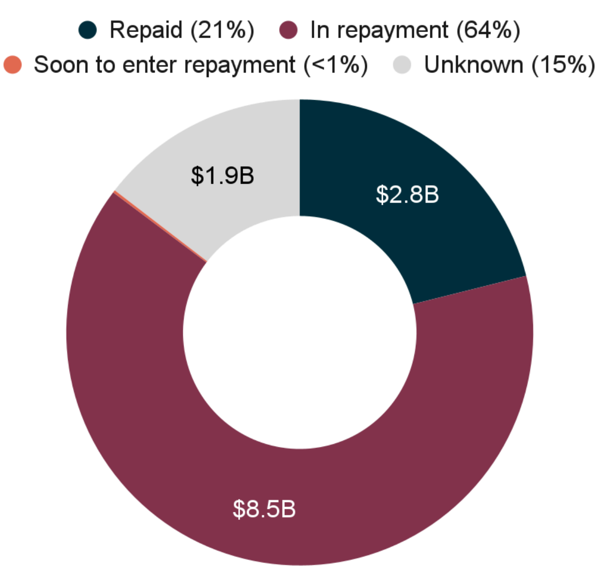
Section 2: Zambia's debts to China

112	$13.4 billion	80%	68%
loans issued	cumulative value of loan commitments (46% of GDP)	of total debt was rescheduled, cancelled, or suspended[7]	public debt

What is "public debt"?		
Public debt Loans issued directly to public institutions, loans that have sovereign repayment guarantees, or loans extended to special purpose vehicles or joint ventures that are majority-owned by one or more public sector institutions.	Potential public debt Loans to special purpose vehicles or joint ventures in which recipient governments hold minority equity stakes.	Private or opaque debt Loans to private sector borrowers and entities with opaque ownership structures.

In this section, AidData examines Zambia's debts to China based upon their repayment profiles and levels of public liability. A loan's repayment period begins when the grace period—the time after the issuance of a loan when a borrower is not expected to make repayments—has ended. This information, in conjunction with information about the extent to which the recipient government may eventually be liable for the repayment of a given loan, makes it easier to understand the nature of Zambia's debt exposure to China.

Figure 2.1: Repayment status for all loans from China



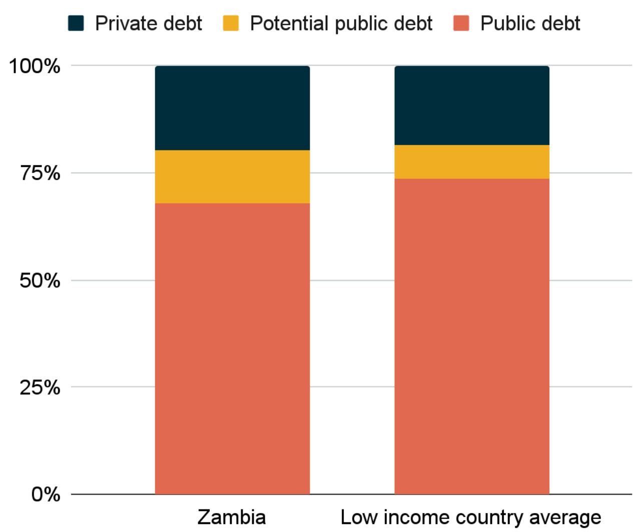
There are currently 96 loans for which AidData has access to repayment details. 58 loans (worth $8.5 billion) are currently in their repayment periods. 37 loans (worth $2.8 billion) have entered and exited their repayment period—meaning they should have been fully repaid based on their original maturity dates outlined at the time of signing. One additional loan, worth $200 million, is expected to enter repayment soon. The large number of active repayments underscores the significant debt distress Zambia is facing.

However, the amount in repayment may be higher since there are 16 loans (worth $1.9 billion) for which AidData has insufficient repayment details.

[7] This figure includes DSSI rescheduling, China Eximbank's comprehensive debt rescheduling, projects cancelled by the Zambian Government unilaterally as well as CDB and ICBC's pledge to reschedule all loans in late 2024.

Figure 2.2: Composition of debt from China by public liability

Total debt, 2000-2022—Zambia: $13.4 billion. Low income country average: $6 billion.



By 2022, Zambia's composition of lending by public liability has started to align more closely with the average for low income group countries—with public debt accounting for 68% of lending, whereas the group average is at 74%.

Private or opaque debt in Zambia accounts for 20% of the lending portfolio, whereas on average, low income group countries had 18% of other debt. Potential public sector debt in Zambia (13%) was above average (8%) for the group.

Potential public sector debt is significantly higher, driven by $1.1 billion in loans for industry, mining, construction, and energy projects such as the Ndola cement plant (2018) and the Chambishi main mine reconstruction project (2000). All potential public sector debts were directed to SPV/JVs where the Zambian government has a minority equity stake. Of these loans, five out of the seven loans were directed to SPV/JVs that involved majority Chinese-government owned projects.

Zambia's overall high levels of lending, coupled with its large proportion of public and potential public debt, helped tip Zambia into its current debt crisis when the COVID-19 pandemic hit. However, low levels of new commitments reflect Chinese creditors moving away from lending to Zambia's government due to its high financial distress.

Given the high level of public debt to China (and other creditors), Zambia has struggled with debt distress for the last five years. After the COVID-19 pandemic hit, the government of Zambia requested that its external debt repayment obligations be temporarily suspended under the Debt Service Suspension Initiative (DSSI) in August 2020.[8] Shortly thereafter, Zambia went into sovereign default after missing a payment on one of its international bonds. China Eximbank granted debt service suspensions for all three periods of DSSI from May 2020 to December 2021. In total, China rescheduled $600 million worth of debt ($533 million in principal payments, $66 million in interest payments) between May 2020 and December 2021. China Development Bank also granted a limited suspension for a project in 2020.

To address unsustainable debt problems, Zambia unilaterally decided to cancel or reduce commitments for over 15 Chinese loans and other external loans in 2022. Zambia has also failed to service its debt to Chinese state-owned banks such as Bank of China and China National Aero-technology Import & Export Corporation (CATIC) from 2022 to 2023, increasing its arrears significantly.

Zambia and China have reached multiple, separate debt suspension and restructuring agreements outside of the DSSI framework. By June 2023, the government of Zambia

[8]Debt Service Suspension Initiative (DSSI) is a G20-initiated initiative to help alleviate debt burdens during the pandemic. For more information, see https://www.worldbank.org/en/topic/debt/brief/covid-19-debt-service-suspension-initiative

announced that its official creditors had agreed to restructure \$6.3 billion worth of outstanding debt (including \$4.1 billion worth of outstanding debt to China Eximbank), with principal payments to be suspended between July 2023 and June 2026. All remaining debt was to be repaid between 2026 and 2046. Interest rates for these loans are reduced to 1% for the first 14 years and will “not exceed 2.5%” for the remainder of the rescheduling period. The debt deal features a back-loaded non-linear repayment schedule where Zambia is expected to pay only a small percentage of debt at the beginning but significantly more in the latter stage of debt repayment. The negotiations for this restructuring took over three years, but ultimately provided exceptionally generous repayment terms for outstanding debts to China Eximbank.

In March 2024, Zambia began separate debt restructuring negotiations with other Chinese state-owned banks (such as CDB and ICBC) for loans worth \$1.9 billion. By September 2024, Zambian officials announced that CDB and ICBC had agreed in principle to restructure the \$1.5 billion debts.

In total, 80% of China's cumulative loan commitments to Zambia display evidence of financial distress at the loan level. Evidence of financial distress at the loan level includes, among other things, borrowers accruing principal or interest arrears, defaulting on their repayment obligations, filing for bankruptcy, or seeking to reschedule the loan repayment schedule. As such, the high proportion of loans in financial distress reflects the extensive debt restructuring and suspension efforts undertaken in Zambia between 2020 and 2024.

Section 3: ESG risk profile of China's grant- and loan-financed infrastructure portfolio

Chinese infrastructure in Zambia with ESG risk exposure:		
52 infrastructure projects supported by grants and loans from China	$7.2 billion in loan commitments supporting infrastructure projects	59% of infrastructure lending with ESG risk exposure

Examples of global ESG risks

Environmental: increase in air or water pollution, biodiversity loss, deforestation, increased carbon footprint, or natural resource depletion.

Social: poor labor law compliance, human rights abuses, displacement of local residents, or archaeological or cultural heritage site degradation.

Governance: corruption, money laundering, lack of transparency, and non-competitive bidding processes.

Figure 3.1: Distribution of China's infrastructure projects with significant ESG risk exposure

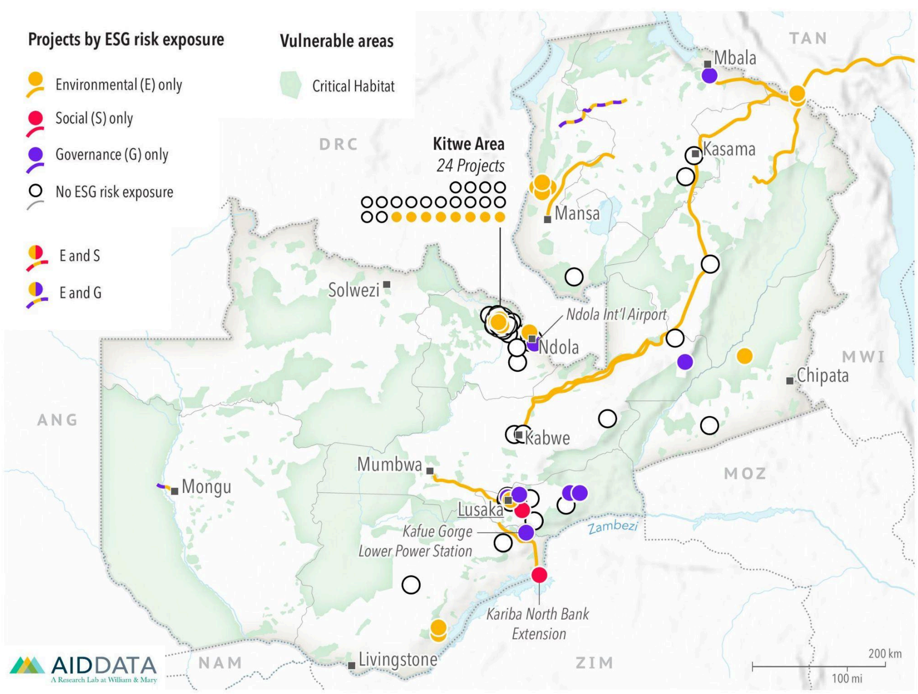


Figure 3.1 presents the geographic locations of all Chinese-financed infrastructure projects in Zambia according to their environmental, social, or governance risk exposure. While many infrastructure projects that face significant ESG risk exposure are clustered in Zambia's urban centers, such as Lukasa and Ndola, some ESG risk exposure also takes place across the country, such as China's involvement in Mansa's highway and airport expansion.

In the *Belt and Road Reboot* report, AidData developed a set of metrics that identify the environmental, social, and governance (ESG) risk exposure of Chinese-financed infrastructure projects overseas, as well as the steps it has taken to build safeguards into its programs to combat these risks (see Appendix B for details on the ESG risk exposure methodology).[9]

[9] For more information, see AidData's 2023 "Belt and Road Reboot: Beijing's Bid to De-Risk Its Global Infrastructure Initiative" report. https://www.aiddata.org/publications/belt-and-road-reboot.

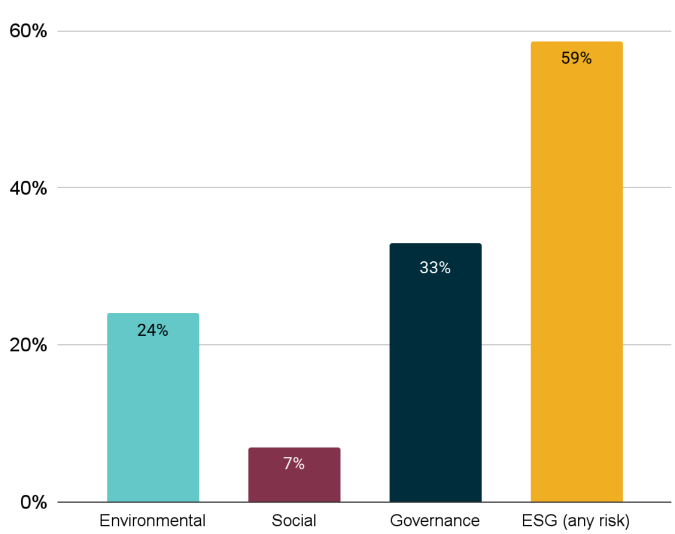
What is the level of ESG risk exposure in China's grant- and loan-financed infrastructure portfolio?

In China's broader grant- and loan-financed infrastructure project portfolio in the developing world, the cumulative percentage of financing with significant ESG risk exposure increased from 12% to 54% over the same 22-year period—showing China's signature infrastructure initiative is facing major implementation challenges. With additional data available for 2022, 59% of China's grant- and loan-financed infrastructure project portfolio in Zambia has significant ESG risk exposure. This part of the portfolio consists of 52 infrastructure projects supported by Chinese grant and loan commitments worth $7.2 billion (see Figure 3.2).

Governance risks—such as corruption and inflated contract prices—are most prevalent in Zambia's infrastructure projects, affecting 33% of its infrastructure financing. For example, the rehabilitation of the 14.8MW Luanza Hydropower featured overpricing and a single-source bid rather than a competitive bidding process. In other cases, corruption allegations surfaced during project implementation. For example, in the Kenneth Kaunda International Airport expansion, the contract price fell from $385 million to $360 million, prompting media claims that officials and the contractor pocketed the $25 million difference. Environmental risks are also prevalent in Zambia, with pollution and the destruction of natural habitats occurring. Social risks, such as involuntary resettlement to local populations occur at a lower percentage in Zambia.

Environmental risks posed by Chinese-financed infrastructure projects faced further scrutiny in March 2025, when a tailings dam that was holding acidic waste from a mine operated by Sino-Metals Leach Zambia Limited collapsed. This led to large-scale environmental pollution of the Kafue River, Zambia's largest river.[10] Since this incident, Sino-Metals has pledged to remediate environmental impacts caused by the spill.

Figure 3.2: Percentage of infrastructure project portfolio with ESG risk exposure



ESG issues observed in Zambia

Environmental: air, water, and land pollution; habitat damage.[11]

Social: safety challenges, involuntary displacement and resettlement, privacy and freedom of speech violations (e.g. Sinoma Zambia Building Materials Industrial Park Project).

Governance: embezzlement, misappropriation of funds, mismanagement, lack of transparency, and bribery (e.g. 321 km Lusaka-Ndola Dual Carriageway Project).

[10]For more information on the acidic waste spill in March 2025, see AP News (2025): https://apnews.com/article/mining-pollution-china-zambia-environment-93ee91d1156471aaf9a7ebd6f51333c1
[11]For more information on Zambia's environmental risks, see The China Story: https://www.thechinastory.org/yearbooks/yearbook-2016/forum-diasporic-dilemmas/chinas-environmental-footprint-the-zambian-example/.

Figure 3.3: Cumulative proportion of Chinese infrastructure financing with ESG risk exposure

Zambia (2022): 59%. Low income country average (2022): 55%.

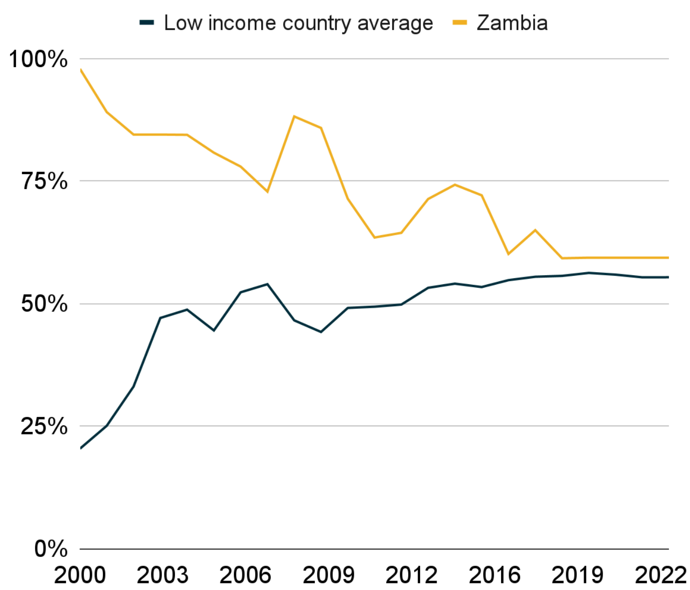


Figure 3.3 shows the increase in ESG risk exposure of Chinese-financed infrastructure projects in Zambia over time compared to the average exposure for low income group countries. In the early 2000s, almost all infrastructure financing in Zambia was exposed to ESG risk, as new infrastructure has been committed over the years that experienced less ESG risk exposure, this cumulative proportion has subsequently decreased. By 2018, Zambia's ESG risk exposure had more closely aligned itself with the low income country average. Since 2018, no new high-ESG-risk infrastructure projects have been launched—largely due to Zambia's escalating financial distress.

Section 4: New ESG safeguards in China's infrastructure project portfolio

Percent of infrastructure portfolio with strong ESG safeguards	What are ESG safeguards?
44% 2000-2022	ESG safeguards are formal provisions written into financing contracts (grant or loan) to mitigate environmental, social, and governance risks during an infrastructure project's implementation and operation.

Chinese lenders and donors have responded to rising levels of ESG risk in their portfolio across the developing world by putting in place increasingly stringent safeguards via changes to their contractual provisions on infrastructure funding. These safeguards can include, among others, contractual provisions that mandate Environmental and Social Impact Assessments (ESIA), Environmental Management Plans (EMP), Resettlement Action Plans (RAPs), Open Competitive Bidding (OCB) processes, and the preparation and submission of financial statements that meet International Financial Reporting Standards (IFRS).

To implement these safeguards, Beijing is increasingly outsourcing risk management to other lending institutions with stronger due diligence standards and safeguard policies. It is dialing down its use of bilateral lending instruments and dialing up the provision of credit through collaborative lending arrangements with Western commercial banks and multilateral institutions (called syndicated lending).

Through this pivot in financing strategy, China's overseas infrastructure portfolio has gone from having no ESG safeguards in place in 2000 to 57% of its infrastructure project portfolio having strong ESG safeguards in place by 2021. Chinese grant and loan-financed infrastructure projects that are subjected to strong ESG safeguards present fewer ESG risks during implementation. They are also less likely to be suspended or canceled. Perhaps most importantly, Chinese grant- and loan-financed infrastructure projects with strong ESG safeguards do not face substantially longer delays than those with weak ESG safeguards, showing that China has succeeded in pairing speed and safety when it has implemented ESG safeguards in its infrastructure portfolio.

Key aspects of infrastructure projects with strong ESG safeguards
Present fewer ESG risks during implementation
Less likely to be suspended or canceled
Speed of implementation is not delayed compared to projects with weak ESG safeguards

Has China increased ESG safeguard stringency in its infrastructure portfolio in Zambia over time?

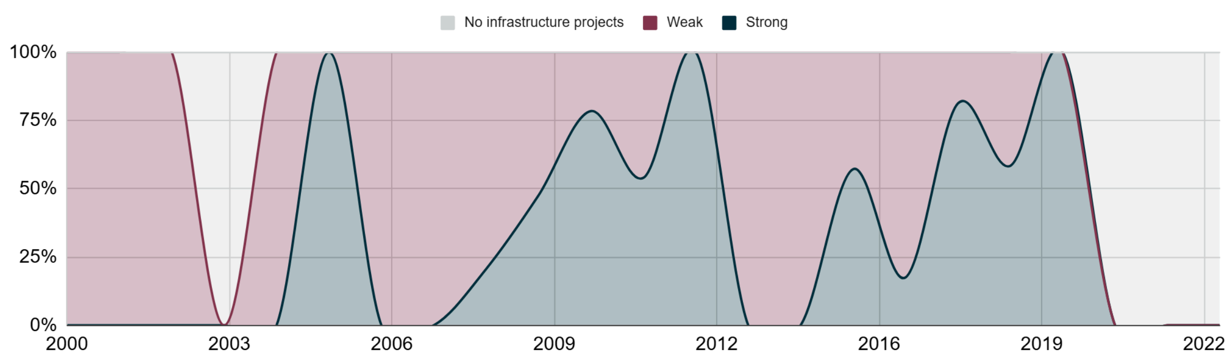
Between 2000 and 2022, 23% of China's grant- and loan-financed infrastructure project portfolio had strong contractual ESG safeguards in place across all developing countries, which places Zambia above the global trend. 44% of China's grant and loan-financed infrastructure project portfolio in Zambia had strong contractual ESG safeguards in place between 2000 and 2019.[12] However, no data was captured after 2019, with no new infrastructure projects committed between 2020 and 2022. In the 2000s, many years featured high percentages of weak contractual safeguards, but by the 2010s, this trend appears to have changed.

ESG safeguards were most prevalent in China's portfolio in Zambia between 2015 and 2018, which coincides with the highest amount of infrastructure financing—with $7.7 billion committed across 60 infrastructure projects in this four-year period.

While contractual safeguard trends have fluctuated between 2000 and 2022, overall, Zambia features a high percentage of strong contractual safeguards (44%), more than twice the global average. Trends across China's global infrastructure portfolio suggest the increase in strong ESG safeguards is likely to continue—if and when Zambia were to take on Chinese grant or loan financing for new infrastructure projects in the future.

Figure 4.1: Infrastructure project portfolio with strong contractual ESG safeguards[13]

Percent of infrastructure project portfolio committed each year



[12]During the same 22-year period, 23% of China's grant- and loan-financed infrastructure project portfolio across all low- and middle-income countries had strong *de jure* (contractual) environmental, social, and governance safeguards in place.

[13] This graph shows all years of Chinese funding regardless of if there was an infrastructure project in that year. Those years are represented by the gray or "no infrastructure projects" area.

Appendix A: Public opinion and bilateral diplomatic visits between China and Zambia in the BRI era

According to polling conducted by Gallup, Zambians held an average approval rate of 70.6% between 2006 and 2021.[14] Compared to the global average approval rate of 60.1%, Zambians have a more favorable view of China. Approval rates in Zambia hit a low of 60.5% in 2012, which can be explained by multiple mining incidents and Zambia's growing debt. In 2022, approval rates increased again after the COVID-19 pandemic to 78.8%.

Figure A.1: Zambia's approval of Chinese leadership, 2006-2022[15]

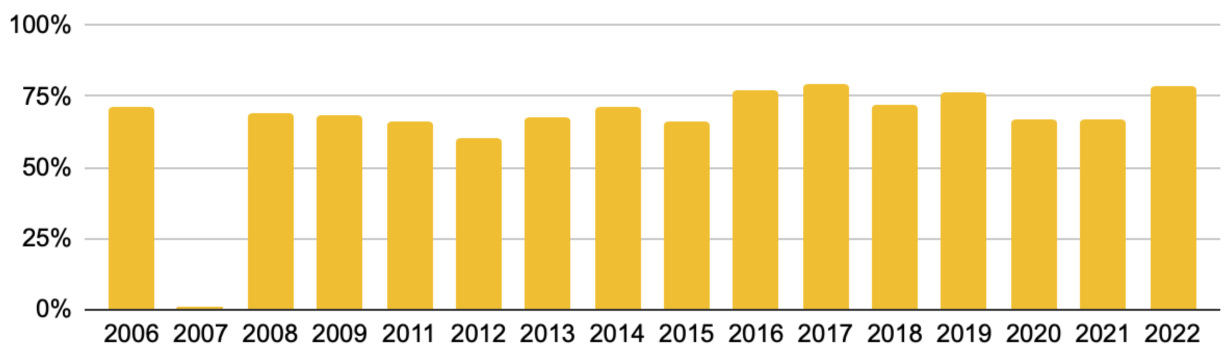


Figure A.2: Bilateral diplomatic visits between China and Zambia

2015 MAR	Zambian President Edgar Lungu visited China to meet with President Xi Jinping and hold diplomatic talks.
2017 JUN	Chinese Foreign Minister Wang Yi visited Zambia to hold diplomatic talks with President Lungu.
2018 AUG	Zambian Minister of Foreign Affairs Joseph Malanji visited China and met with Chinese Foreign Minister Wang Yi to hold diplomatic talks ahead of the Forum for China-Africa Cooperation (FOCAC).
2023 SEP	New Zambian President Hakainde Hichilema visited China and met with President Xi Jinping where their diplomatic relationship was elevated to a comprehensive strategic and cooperative partnership.
2024 AUG	President Hichilema visited China and met with President Xi to hold diplomatic talks ahead of FOCAC.
2025 APR	Chinese Assistant Minister of Commerce Tang Wenhong met with government officials in Zambia to discuss trade and investment as a follow-up to FOCAC.

[14] This data comes from Gallup's World Poll which started in 2005. Gallup conducts the survey in various frequencies on a country-by-country basis; therefore, the years AidData has data for vary and there are gaps pre-2006 and, in some cases, between 2006-2022. For Zambia, there is no Gallup data for 2007, 2010, and 2023. For more information on the Gallup methodology see https://www.gallup.com/178667/gallup-world-poll-work.aspx

[15] The data for the graph and approval rate is based upon Gallup's Rating World Leaders' report and dataset.

Appendix B: Methodology & definitions

Capturing Chinese development finance methodology:

The insights in this profile are derived from AidData's preliminary 2000-2022 Global Chinese Development Finance (GCDF) dataset, which has not yet been published. By nature of AidData's data collection process, AidData uncovered new sources and information related to projects across all commitment years, and as such there may be movements in the underlying data since the previous version of the profile. For this profile, a syndicated buyer's credit from ICBC for the 7th Regiment Barracks Project in 2018 was not included in data analysis and the total loan count. For more details regarding the methodology used to assemble the data, please refer to the Tracking Underreported Financial Flows (TUFF) 3.0 Methodology. All financial values reported in this profile represent USD Constant 2022 prices, unless otherwise stated.

Definitions of finance types:

- Aid: Includes any grant, in-kind donation, or concessional loan (i.e., loans provided at below-market rates and categorized as ODA-like in GCDF 3.0).
- Non-concessional loans: Captures export credits and loans that are priced at or near market rates (i.e., non-concessional and semi-concessional debt categorized as OOF-like in GCDF 3.0).
- Vague: Any official financial flows that could not be reliably categorized as "aid" or "non-concessional loans" because of insufficient information in the underlying source material.

Definitions of instrument types:

- Grant: The donation of money or an in-kind donation of goods from an official sector institution in China (e.g. donations of supplies or equipment, humanitarian aid or disaster relief, or financing for the construction of a government building, school, hospital, or sports stadium).
- Free-standing technical assistance: Skills training, instruction, consulting services, and information sharing by official sector entities and experts from China. Training provided by Chinese entities outside of China is classified as technical assistance.
- Scholarships/training in the donor country: Funding from an official sector institution in China that allows a citizen from the host country to study at a Chinese university or other educational institution. This includes training programs and activities that are sponsored by an official sector institution in China and held for host country citizens in China.
- Debt forgiveness: The total or partial cancellation of debt owed by a borrowing institution in the host country to a Chinese government or state-owned entity.

Development finance to Zambia from other donors

All data on development finance from other donors came from the Organisation for Economic Co-operation and Development's Development Assistance Committee (OECD DAC) Creditor

Reporting System (CRS). The CRS is the OECD's aid activity database, which compiles activity-level statistics from all providers who report to the OECD. For the analysis in Figure 1.2, 'Aid' represents Official Development Assistance (ODA) grants and loans. Non-concessional loans represent the Other Official Flows (OOF) measure. However, the flows captured in CRS (which are project-level records) specifically exclude export credit flows (due to their potentially sensitive nature). Data on export credits is available in OECD's DAC2B database in aggregate form. DAC2B provides data on OOF loans and grants and gross export credits. However, consistent and comprehensive data on export credits from one development partner to a specific country are not available. Gross export credits to a specific country are available at an aggregate level, such as G7 or all DAC Members. AidData determined that these additional financial flows would not substantially change Figure 1.2.

Calculating loans from China within repayment periods

Figure 2.1 shows the percentage of official sector lending from China to Zambia that represents loans within their repayment periods as of 01/01/2025 date. To determine when each loan will enter repayment, each loan's grace period is added to its commitment date. This figure represents when loans will reach their repayment period according to their original borrowing terms, although many loans have been rescheduled (often involving an extension of the loan's grace period and/or maturity). When the grace period is not available, AidData assumes the grace period is 0.

ESG risk exposure methodology:

AidData's ESG risk exposure metric is a composite, project-level score based on five criteria. First, AidData identifies whether a given infrastructure project is located in an environmentally sensitive area. Second, AidData analyzes whether the project is located in a socially sensitive area—specifically, in an area where Indigenous populations are often denied free, prior, and informed consent (FPIC). AidData assesses whether the project is located in a geographical area that is vulnerable to political capture and manipulation by governing elites in host countries. Fourth, AidData evaluates if the Chinese lender/donor relied on a contractor sanctioned for fraudulent and corrupt behavior to implement the project. Fifth, AidData identifies whether a significant environmental, social, or governance challenge arose before, during, or after the implementation of the project. 2022 data on ESG risk exposure at the global level is currently only available through 2021.

Common ESG Risks in Infrastructure Projects:

➔ Environmental: Negative effects on the environment due to building, rehabilitating, or maintaining a physical structure. These include an increase in air or water pollution, biodiversity loss, deforestation, increased carbon footprint, or natural resource depletion.
➔ Social: Negative effects on different groups of people due to the infrastructure project, such as employees, nearby residents, Indigenous populations, or community members. Such negative effects include poor labor law compliance, human rights abuses, displacement of local residents, or archaeological or cultural heritage site degradation.
➔ Governance: Negative effects related to the infrastructure project's financial, legal, and ethical management during the design and implementation of the project. These can

include corruption, money laundering, lack of transparency, and non-competitive bidding processes that lead to higher project costs and/or poor project quality.

ESG safeguard methodology:

In addition to metrics of ESG risk exposure, the *Belt and Road Reboot* report introduced a measure of China's responses to ESG risks through its own grant and loan financing agreements. AidData obtained a large cache of unredacted infrastructure financing agreements that provide detailed information about whether financiers, at the time that they signed the agreements with their host country counterparts, identified behavioral expectations related to ESG risk management and mechanisms to monitor and enforce compliance with those expectations. AidData used these agreements to create indicators that measure the formal stringency of China's ESG safeguards built into its infrastructure grant and lending instruments. It then applied these metrics to the full GCDF 3.0 dataset.

We thank Julie Sickell for her thoughtful review of this profile and data quality assurance; Sailor Miao for his detailed comments and suggestions; Sheng Zhang for providing data analysis support; John Custer for supporting the formatting and data visualization design; Sasha Trubetskoy for providing cartographic support; and William Olichney for the final copy-edit of this profile.

AidData gratefully acknowledges financial support from the Swiss Agency for Development and Cooperation (SDC), the United States Agency for International Development (USAID), and the Ford Foundation. The findings and interpretations in this profile are entirely those of the authors. AidData's research is guided by the principles of independence, integrity, transparency, and rigor. A diverse group of funders support AidData's work, but they do not determine its research findings or recommendations.

The insights in this profile are primarily derived from AidData's preliminary 2000-2022 Global Chinese Development Finance (GCDF) dataset, although it also draws upon ancillary data from other sources. This preliminary dataset has not yet been published. It builds upon AidData's publicly available GCDF 3.0 dataset, incorporating an additional commitment year of data and new information across all commitment years based on sources uncovered during the data collection process. GCDF 3.0 is a uniquely comprehensive and granular dataset that captures 20,985 projects across 165 low- and middle-income countries supported by loans and grants from official sector institutions in China worth $1.34 trillion. It tracks projects over 22 commitment years (2000-2021) and provides details on the timing of project implementation over a 24-year period (2000-2023). An accompanying report, *Belt and Road Reboot: Beijing's Bid to De-Risk Its Global Infrastructure Initiative*, analyzes the dataset and provides myth-busting evidence about the changing nature, scale, and scope of China's overseas development program.

For the subset of grant- and loan-financed projects and activities in the dataset that have physical footprints or involve specific locations, AidData has extracted point, polygon, and line vector data via OpenStreetMap URLs and produced a corresponding set of GeoJSON files and geographic precision codes. The GCDF 3.0 geospatial data and precision codes are provided in AidData's Geospatial Global Chinese Development Finance Dataset, Version 3.0 (Goodman et al, 2024).

For any questions or feedback on this profile, please email china@aiddata.org.

AIDDATA
A Research Lab at William & Mary

AidData & William & Mary,
PO Box 8795, Williamsburg, VA 23185.
www.aiddata.org | @AidData