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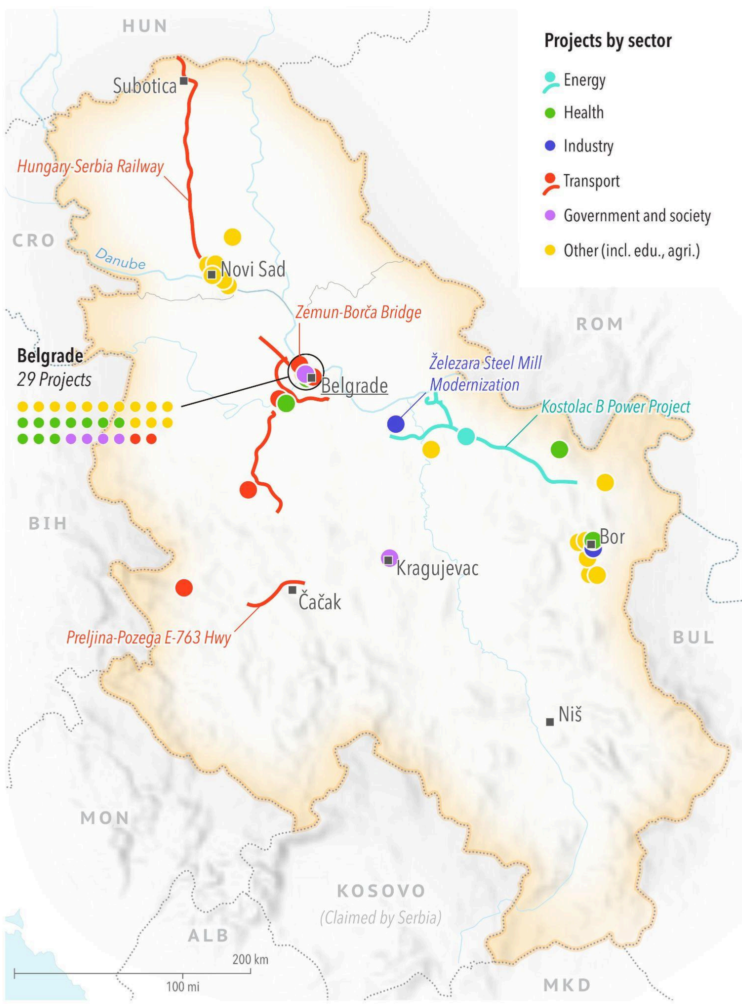
The Scale, Scope, and Composition of Chinese Development Finance

October 2025



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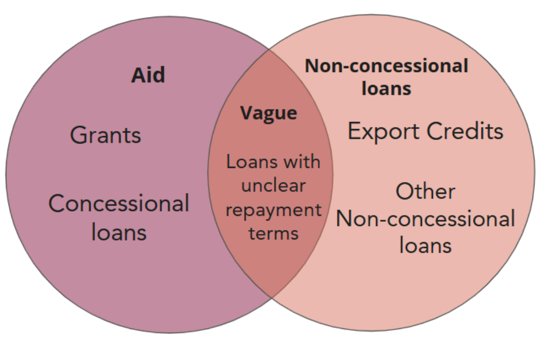
Key concepts: aid, non-concessional loans, and vague flows

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.

Serbia and China's Belt and Road

Serbia is a landlocked country in the Balkans that used to be a part of Yugoslavia prior to its dissolution in 1992.

In 2015, Serbia and China signed the "Memorandum of Understanding on Jointly Formulating a Plan for Cooperation to Promote the Construction of the Belt and Road," officially marking Serbia's entry into the BRI.

Historic relationship

The Republic of Serbia and the People's Republic of China (PRC) have maintained a diplomatic bilateral relationship since 1995, when Serbia was still a part of the Socialist Federal Republic of Yugoslavia. But even before Serbia's independence, China established relationships with Yugoslavia in 1955. Serbia became an independent state following the dissolution of the Union of Serbia and Montenegro in 2006, after which its bilateral relationship with China continued.

Present-day relationship

China and Serbia have forged an increasingly close partnership both economically and politically, making the country a focal point of Chinese investment and diplomacy in the Balkans. Although Serbia has been a candidate for European Union membership since 2012, it has simultaneously deepened ties with Beijing through high-profile infrastructure and security cooperation. Flagship projects include the construction of a pedestrian bridge in Novi Sad, the E-763 Miloš Veliki highway, and the renovation of Novi Sad's main railway station. Yet this partnership came under strain in November 2024 when a canopy at the newly renovated station collapsed killing fifteen people—just months after Chinese contractors had completed work on other parts of the site.[1] The disaster triggered a wave of public scrutiny. Investigations into the financing and construction deal revealed the absence of competitive bidding and raised concerns about corruption, fueling criticism of both the Serbian government and its ties to Chinese partners.[2]

Still, political leaders in both countries have worked to reaffirm the relationship. During a May 2024 visit to Belgrade, President Xi Jinping hailed China and Serbia's "ironclad friendship" as a model of cooperation. In July 2025, the partnership expanded into defense with the first joint

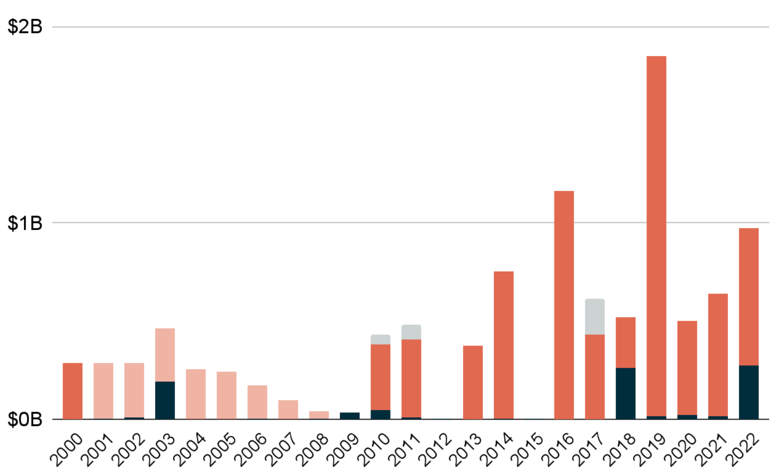
[1]For more information on the Novi Sad main station incident in November 2024, see BBC (2024): https://www.bbc.com/news/articles/c0qdyg8yn5yo.
[2]See China Observers EU (2025): https://chinaobservers.eu/the-novi-sad-railway-station-collapse-the-cost-of-sino-serbian-infrastructure-deals/

Peace Defenders-2025 military exercise, highlighting ties that now span infrastructure, diplomacy, and security.

Overview: Chinese development finance in Serbia from 2000-2022

$7.7 billion in loans and grants provided by official sector donors from China.	96% of Chinese development finance is provided via loans.	79 grants, technical assistance, and training activities offered.	4th largest recipient of Chinese aid and credit in Europe.	69% of China's infrastructure portfolio has significant exposure to ESG risks.

Official sector financial commitments from China to Serbia, 2000-2022[3]



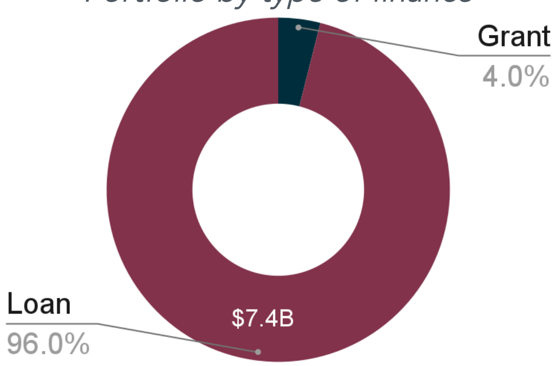
Aid: any grants, concessional loans, or in-kind donations.

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

Non-concessional loans - rollover: emergency short-term rollover loans used to repay earlier debt.

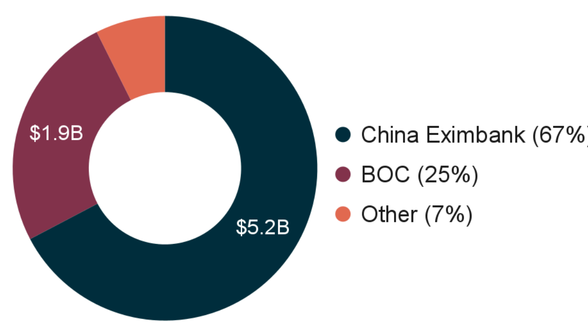
Vague: funding that cannot be easily classified—usually loans with unknown borrowing terms.

Portfolio by type of finance



Loans include concessional and

Portfolio by funder



China Eximbank: Export-Import Bank of China; BOC: Bank of China

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

non-concessional loans

Section 1: China's development finance portfolio

Serbia joined China's BRI in 2015. However, even before the agreement was signed, China had established itself as a major lender to Serbia (see Figure 1.1). China and Serbia have maintained a bilateral relationship throughout Serbia's various changes in statehood—from Serbia's time as a part of the Socialist Federal Republic of Yugoslavia to Serbia's separation from Montenegro in 2006. The two nations share a comprehensive strategic partnership. The use of the word "comprehensive" demonstrates that both parties have a higher level of mutual relations compared to a regular strategic partnership.[4] For a list of bilateral diplomatic visits between China and Serbia in the BRI era, see Appendix A.

How much development finance has China provided Serbia since 2000?

Between 2000 and 2022, China's official sector lenders and donors provided grant and loan commitments worth $7.7 billion across 121 projects and activities in Serbia. As shown in Figure 1.1, Serbia's portfolio is overwhelmingly dominated by non-concessional loan commitments, with very little aid—such as grants, concessional loans, or in-kind donations—committed from China over this period.

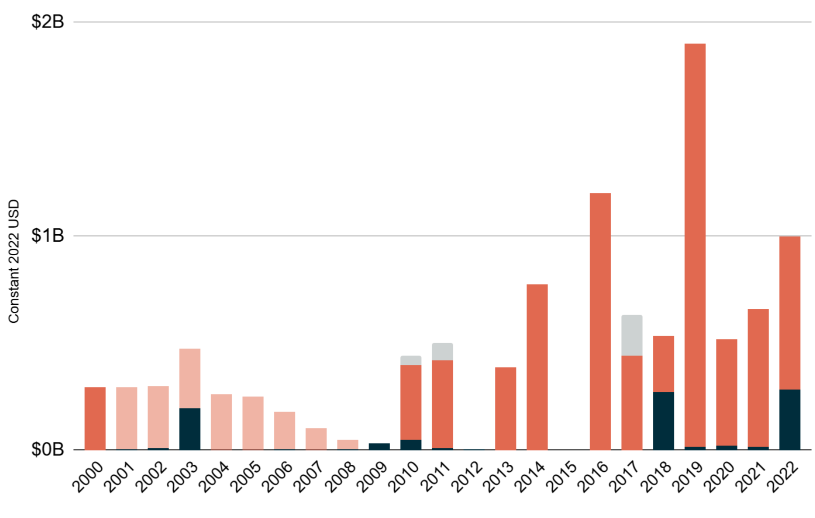
The peak of Chinese financing to Serbia occurred in 2019, when the country received $1.6 billion in new aid and non-concessional loans. A significant portion of this total—$1.1 billion—came from China Eximbank in the form of a preferential buyer's credit for the Novi Sad–Subotica–State Border (Kelebija) section of the Hungarian-Serbian Railway Project.[5]

Figure 1.1 also disaggregates China's non-concessional lending into two categories: net increases in emergency lending, which raise Serbia's overall debt burden, and rollover emergency lending, which refinances existing debt but does not add to the net stock of debt.

[4] Xiang, H. (2023). What "partnerships" does China have?

[5] 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.

Figure 1.1: Official sector financial commitments from China to Serbia



Types of funding:

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

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

Non-concessional loans - rollover: emergency short-term rollover loans used to repay earlier debt.

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

A notable component of China's financial relationship with Serbia is its **emergency rescue lending**, though this takes a very specific form. Chinese emergency rescue loans are typically extended to support **repayment of existing debts, general public spending**, or **foreign exchange reserves**. These loans can take several forms, such as currency swaps, liquidity support, deposit loans, and commodity prepayment arrangements.[6]

In Serbia's case, however, China only provided rescue loans in the form of deposit loans aimed at bolstering foreign exchange reserves. On December 20, 2000, Bank of China and the National Bank of Yugoslavia (which became the National Bank of Serbia in early 2003) signed a $100 million short-term deposit loan agreement for this purpose. The original loan agreement specified that the loan would be paid back within 12 months. However, the Bank of China granted annual maturity extensions until it was fully repaid in 2008. From 2000 to 2008, the majority of China's official sector financial commitments to Serbia took the form of these deposit loans.

Because these were short-term facilities that were continuously renewed rather than replaced with new loans, they did not contribute to a net increase in Serbia's level of public debt exposure to China. As such, the annual maturity extensions are excluded from the cumulative aid and credit totals reported in this profile. For further details, see Appendix B.

[6] Parks, B. C., Malik, A. A., Escobar, B., Zhang, S., Fedorochko, R., Solomon, K., Wang, F., Vlasto, L., Walsh, K. & Goodman, S. 2023. Belt and Road Reboot: Beijing's Bid to De-Risk Its Global Infrastructure Initiative. Williamsburg, VA: AidData at William & Mary.

How does China compare to other development partners?

China is Serbia's largest bilateral development partner. The European Union is Serbia's largest multilateral development partner (see Figure 1.2). Most funding from EU institutions to Serbia comes from the Instrument for Pre-accession Assistance (IPA). The IPA is a unique EU funding instrument that supports reforms through financial and technical assistance across Europe.[7] Most of this funding from the EU in Serbia went towards governance reforms and capacity building, combating corruption, the institutionalization of environmental frameworks, and others. Among all of Serbia's bilateral and multilateral donors, China ranks last in terms of aid, with only $791 million provided between 2000 and 2022. However, China provides significant amounts of non-concessional lending including export credits.

The World Bank is also a significant development partner for Serbia. Serbia and the World Bank approved the Country Partnership Framework (CPF) for FY 2022-2026 in May 2022. The document outlines macroeconomic and financial sector stability, government effectiveness, efficiency, accountability, and environmental sustainability as some priority areas for Serbia. The World Bank followed up on this plan with $350 million in new funding to Serbia in 2022 for institutional development and promotion of clean energy.

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

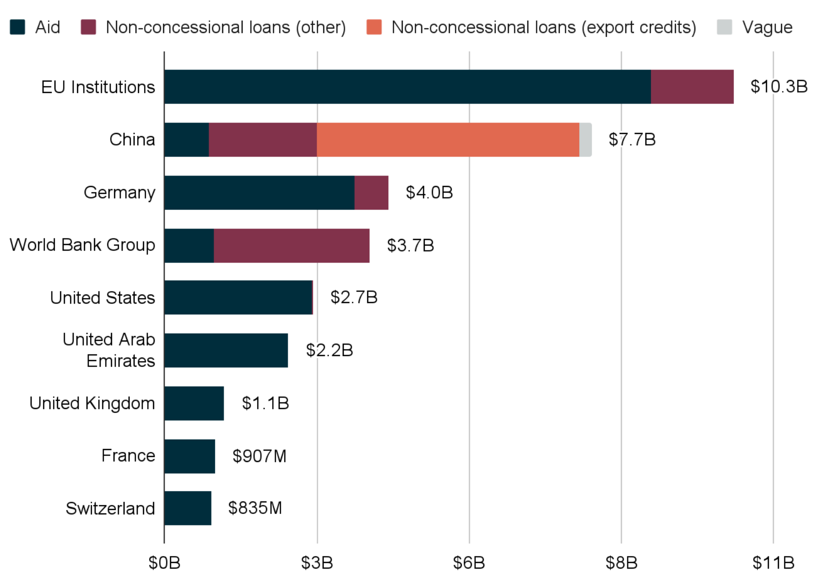


Figure 1.2 contains the top nine development partners providing aid and other financing to Serbia. However, only China has detailed bilateral export credit flows to Serbia. This level of granularity is not available for other development partners as the OECD does not provide export credit data for bilateral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

Total export credits from G7: $714 million.

Total export credits from DAC member countries (including G7): $2.1 billion.

How does China use export credits?

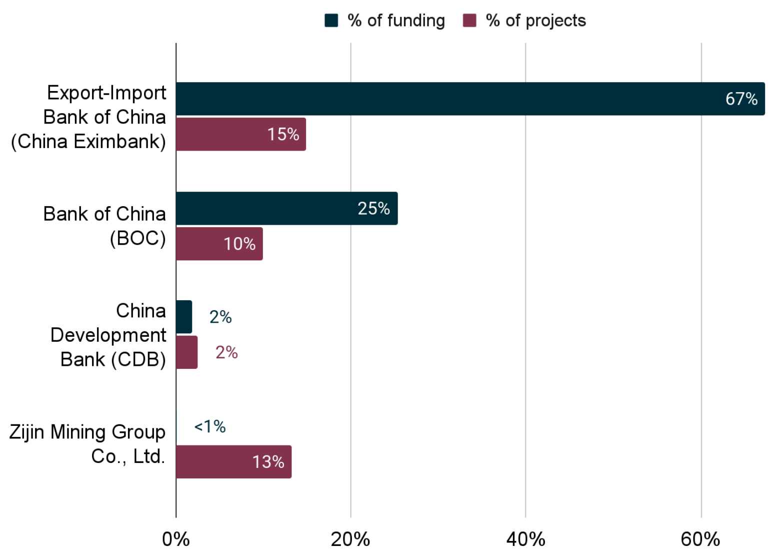
The central role that export credits play in China's overseas lending portfolio sets it apart from other official sector creditors: Under a so-called "Gentlemen's Agreement" on Officially Supported Export Credits, OECD member countries agreed in 1978 to "tie their own hands" and voluntarily abide by 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.

[7] *Overview—Instrument for Pre-accession Assistance—European Commission.* (2021, October 8). https://neighbourhood-enlargement.ec.europa.eu/enlargement-policy/overview-instrument-pre-accession-assistance_en

Which donors and lenders from China are active in Serbia?

Between 2000 and 2022, 23 official sector donors and lenders from China provided aid and non-concessional loans to Serbia. 97% of China's development finance portfolio is provided through 4 main donors and lenders (see Figure 1.3). The other 3% is provided by a diverse array of government agencies (including central, regional, or municipal government agencies), state-owned commercial banks, and state-owned companies.

Figure 1.3: Top Chinese donors and lenders



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

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

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

Zijin Mining Group Co., Ltd.: a multinational mining group where the Chinese government owns the controlling share.

The top funding agency, the Export-Import Bank of China, is a state-owned policy bank that issued 18 loans worth $5.2 billion for projects and activities in Serbia. These activities accounted for over three-quarters of the total official sector financial flows from China to Serbia between 2000 and 2022. China Eximbank's lending focused on infrastructure projects, such as two loans worth a total of $1.45 billion for the Hungarian-Serbian Railway. In 2022, China Eximbank provided a $608 million PBC loan to Serbia for the Fruškogorski Corridor.

The Bank of China (BOC) issued 12 loans worth $1.9 billion. The value of these loans represents 25% of total official sector financial flows from China to Serbia between 2000 and 2022. In 2022, BOC provided a $214 million loan to assist Serbia with constructing 26 wastewater treatment facilities and close to 700 kilometers of new sewer systems in 14 towns and municipalities.

China Development Bank (CDB) provided 3 loans worth $138 million between 2000 and 2022. The value of these loans represents 2% of total official sector financial flows from China to Serbia between 2000 and 2022. The most recent loan was issued in 2019 to the Postal Savings Bank (Poštanska štedionica), a state-owned bank in Serbia, for $30.7 million for on-lending purposes.

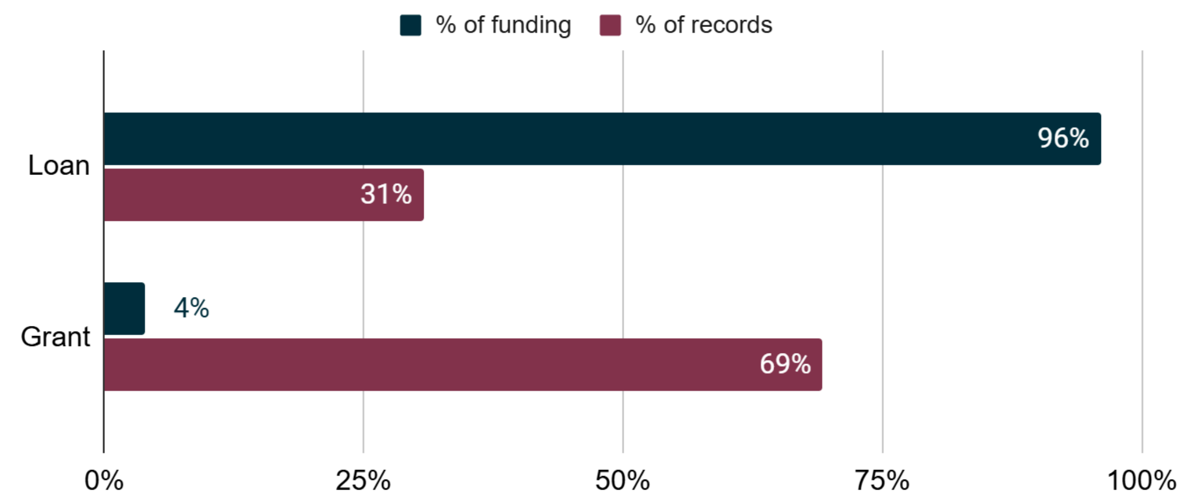
Zijin Mining Group Co., Ltd. is a Chinese state-owned company that owns two mines in Bor, Serbia. As a part of the company's Corporate Social Responsibility (CSR), it provided $3 million across 16 different grants (13% of records). In 2022 alone, the company provided 11 grants, including covering the cost of water for five years to 400 households in Metovnica and donating an ambulance to the province.

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

96% of China's official sector financing to Serbia takes the form of loans (totaling $7.4 billion), while 4% ($304 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.

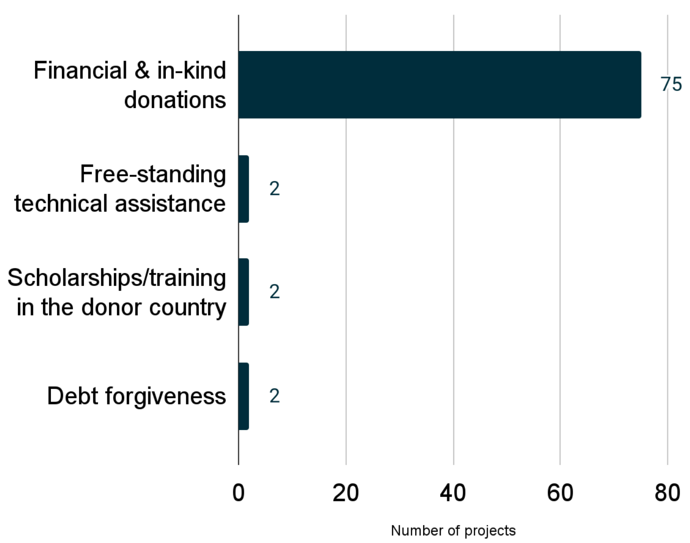
AidData captures each instance of a grant or in-kind donation as one record, so analyzing the record counts can help provide a better picture of China's activities in Serbia. When looking at record counts, grants account for 69% of all activity records in Serbia (representing 81 records capturing activities taking place between 2000 and 2022).

Figure 1.4: Top financial instruments used by China in Serbia



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



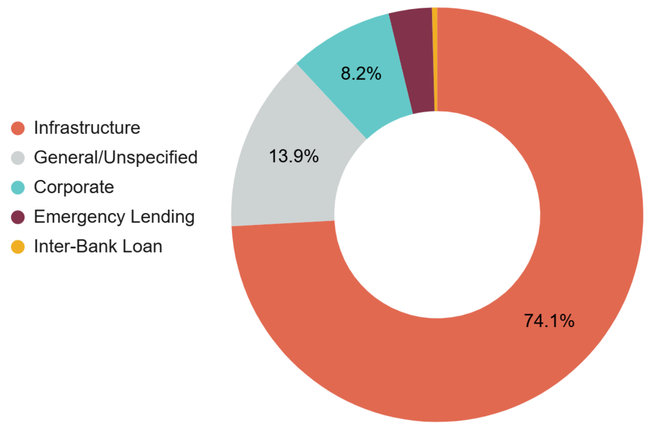
China provided 81 grants to Serbia between 2000 and 2022, 75 of which were financial and in-kind donations. Such donations included medical, school, and office equipment.

Serbia received almost $311 million in debt forgiveness from China in 2003 and 2009.

For training and free-standing technical assistance, China's Ministry of Commerce provided training to steel mill employees and the Chinese government held seminars for Serbian businessmen and officials.

Most 2022 grants are from Zijin Mining Group Co., Ltd. to give back to the community in Bor, Serbia.

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.

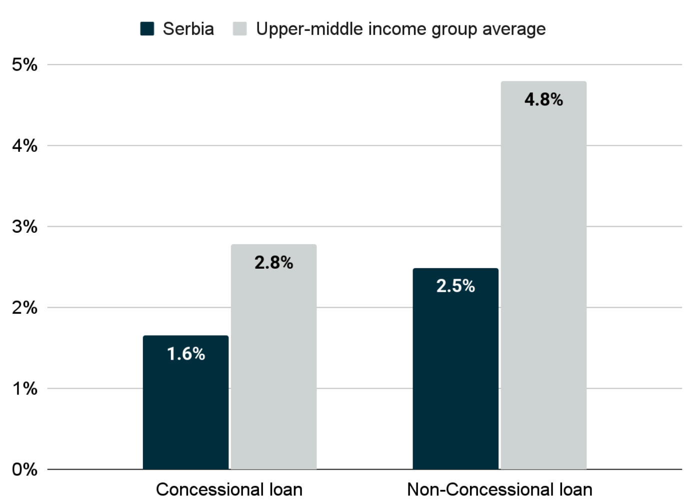
Corporate: loans for mergers and acquisitions, working capital loans.

Emergency Lending: emergency rescue loans and rollovers meant to support a country's liquidity.

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

74% of China's $7.7 billion in official sector lending to Serbia supports infrastructure projects. Nearly 100% of these infrastructure projects are implemented by at least one Chinese entity, such as a Chinese state-owned company or a Chinese private sector company. 14% of loan commitments fall into the "general/unspecified" category. The loans in this category primarily include equipment purchases in the telecommunication and mining sectors. Another 8% of loans supports corporate activities, including working capital loans to Serbia Zijin Copper Doo Bor and loans to the Hesteel Group for acquisition of the Zelezara Steel Mill.[8] 3% of loans to Serbia are emergency rescue loans issued to the National Bank of Yugoslavia, which became the National Bank of Serbia in early 2003, between 2000 and 2008 to bolster the country's foreign exchange reserves. Finally, 1% of loans are inter-bank loans to Serbian private banks, such as Canadia Bank and Acleda Bank, for on-lending to local small and medium enterprises (SMEs).

Figure 1.7: Borrowing terms



Between 2000 and 2022, China's concessional lending (which is considered to be aid) to Serbia carried a weighted average interest rate of 1.6% and a weighted average maturity of 17 years. By comparison, China's non-concessional lending to Serbia carried a weighted average interest rate of 2.5% and a weighted average maturity of 18 years. These borrowing terms were significantly more generous than those found in China's broader portfolio of official sector loans to other upper-middle income countries.

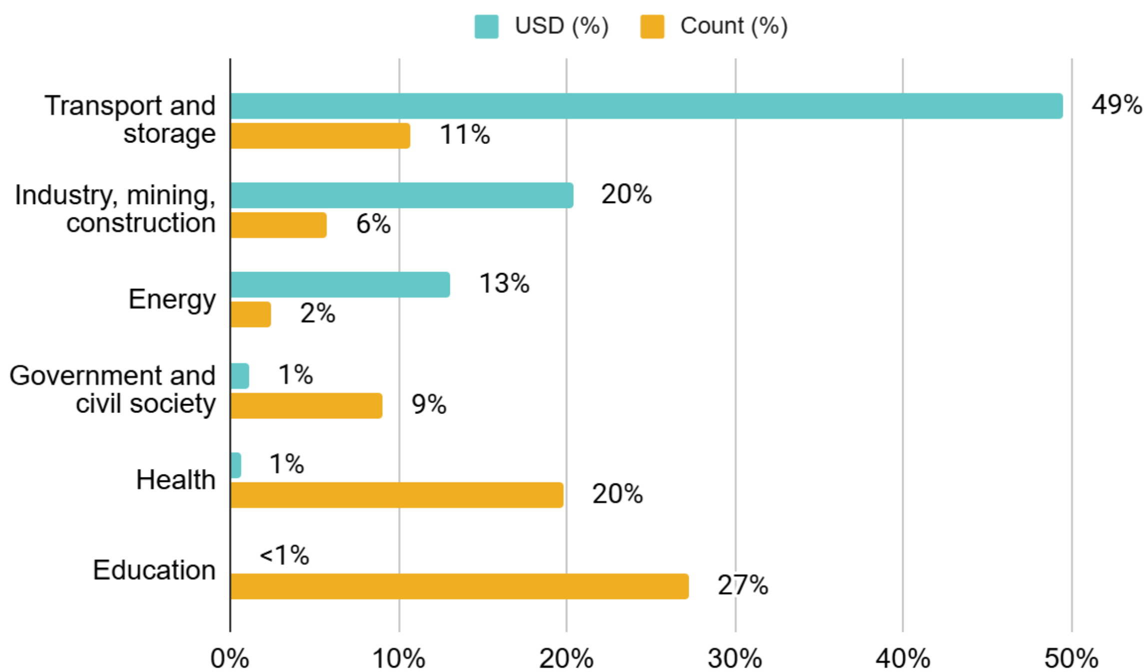
[8] A special purpose vehicle between Zijin Mining Group Co., Ltd. (63% ownership stake) and Rudarsko-Topioničarski Basen RTB Bor Doo (37% ownership stake).

In which sectors is China most active?

Top sectors for China's aid and credit in Serbia differ greatly when comparing monetary value and record count. Certain sectors, such as health and education, often represent a large percentage of records but offer small or no transaction amounts. In Figure 1.8, we have provided 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, 85% of China's grant and loan commitments to Serbia supported three core infrastructure ("hardware") sectors: transportation, energy, and industry, mining, construction between 2000 and 2022.

- Transportation 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. 49% of China's development finance portfolio in Serbia is specifically dedicated to this hardware sector, representing $3.8 billion in aid and non-concessional loans. The largest financial commitment from a single source is a $1.1 billion preferential buyer's credit provided by China Eximbank for the Novi Sad-Subotica-State Border (Kelebija) Section of the Hungarian-Serbian Railway Project. Another transport and storage project included a preferential buyer's credit worth almost $500 million by China Eximbank for the Preljina-Pozega Section of the Highway E-763 Construction Project. There were no 2022 commitments to this sector.
- Industry, mining, construction: This sector includes manufacturing fossil fuels, mining for coal, gas, metals, minerals, and construction. Projects in this sector account for $1.57 billion in funding (or 20% of China's development finance portfolio). While there were no new commitments to this sector in 2022, AidData uncovered three loans from the

Bank of China to Zijin Mining Group Co., Ltd. and the special purpose vehicle, Serbia Zijin Copper Doo Bor.[9] One loan was provided in 2018 for Zijin Mining Group Co., Ltd. to acquire a controlling stake in Rudarsko-Topioničarski Basen RTB Bor Doo (or 'RTB Bor'), a Serbian state-owned copper mining and smelting complex located in Bor, Serbia. After this acquisition, BOC provided two loans to Serbia Zijin Copper Doo Bor for working capital (2020) and technology upgrade of the mine (2021).

➔ Energy: This sector is the third largest sector by financial value, with $1 billion in funding (or 13% 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 $673 million preferential buyer's credit for the second phase of Serbia's Kostolac B Power Plant Project and a $360 million preferential buyer's credit by China Eximbank for the first phase of the same project. There have been no new commitments to this sector since 2014.

China is also heavily engaged in the "software" sectors, such as education, health, 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.

➔ Education: This sector encompasses schooling at the primary, secondary, and post-secondary levels, as well as technical and advanced training activities. Education activities represent $6.5 million in funding and 27% of China's total record count, with 33 records. Notable activities in the education sector include multiple grants, totaling roughly $730,000, provided by Hanban to the Faculty of Philosophy at the University of Novi Sad. The Faculty of Philosophy at the University of Novi Sad has been Hanban's main partner since the establishment of the Confucius institute at the university in 2014. Separately, Zijin Mining Group Co., Ltd. provided four new grants to this sector in 2022. Two grants ($875,000) were for the company's "For A Better Future" initiative, which involved donating textbooks and school bags and providing scholarships for outstanding students. The other two grants were for a food supply truck to a preschool and furniture for a kindergarten.

➔ Health: This sector includes medical care, infrastructure, equipment, and control activities. In total, activities in the health sector represent 24 records in China's portfolio in Serbia (or 20% of records). Notable activities include Chinese government grants of medical equipment, ambulances and ultrasound devices to Serbian hospitals. In response to the COVID-19 pandemic, China delivered a total of $31.7 million in COVID-19 aid. China donated over 700,000 doses of Sinovac and Sinopharm vaccines. In 2022, Zijin Mining donated two ambulances to Bor province.

➔ Government and Civil Society: This sector encompasses activities that address public procurement, subnational government support, elections, democratic participation, and human rights. Activities in this sector represent 11 records in China's portfolio in Serbia (or 9% of records). The single largest commitment in this sector was a $41.7 million loan from CDB for the Belgrade Chinese Cultural Center Construction Project. Separately, Zijin Mining provided two grants in this sector in 2022: the donation of 40 park benches and $315,789 to Serbia's women's volleyball team to congratulate their victory in the FIVB Women's Volleyball World Championship.

[9] Special purpose vehicles/joint ventures (SPV/JV) are project companies (independent legal entities) that are established to manage the financing and implementation of a particular project. Serbia Zijin Copper Doo Bor is an SPV/JV of Zijin Mining Group Co., Ltd. (63% ownership stake) and Rudarsko-Topioničarski Basen RTB Bor Doo (37% ownership stake).

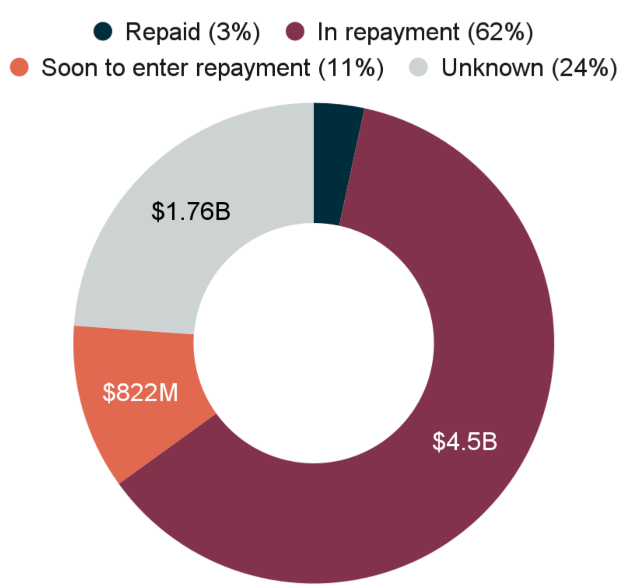
Section 2: Serbia’s debts to China

36	$7.4 billion	0%	77%
loans issued	cumulative value of loan commitments (9.1% of GDP)	of total debt shows signs of financial distress	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, we examine Serbia’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 Serbia’s debt exposure to China.

Figure 2.1: Repayment status for all loans from China

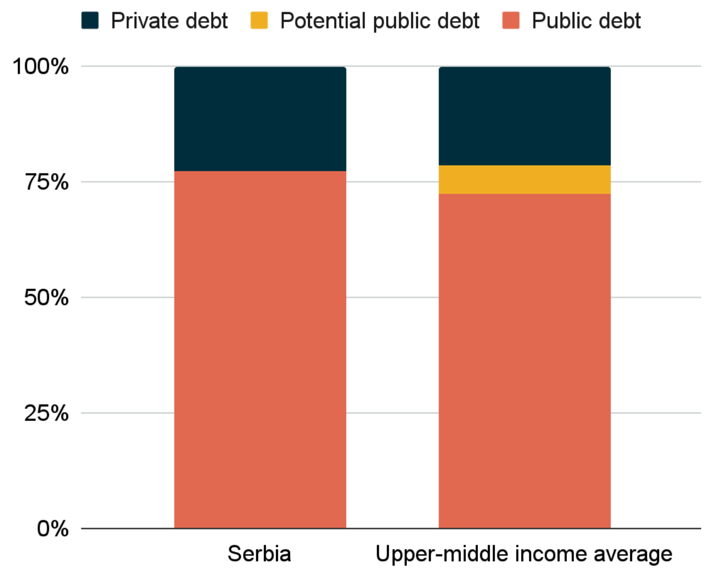


There are currently 25 loans for which AidData has access to repayment details. 14 of those loans (worth $4.56 billion) are currently in their repayment periods. Nine loans (worth $250 million) have exited their repayment periods—meaning they should have been fully repaid based on their original maturity dates outlined at the time of signing. Two loans (worth $822 million) will enter their repayment periods in the coming years.

However, the amount in repayment may be higher since there are 11 loans (worth $1.76 billion) for which AidData has insufficient repayment details.

Figure 2.2: Composition of debt from China by public liability

Total debt, 2000-2022—Serbia: $7.4 billion. Upper-middle income country average: $9.9 billion.



The composition of Serbia's debt by level of public liability is largely in line with the average across China's development finance portfolio.

Serbia's public debt (77%) is 5% higher than the average (72%) among other upper-middle income countries receiving funding from China. Private or opaque debt for Serbia (23%) is only slightly higher than the upper-middle income average (21%).

Serbia has no potential public sector debt.

To date, there is no evidence that China's cumulative loan commitments to Serbia, publicly guaranteed or not, are in financial distress. AidData systematically identifies all official sector loans from China that showed signs of financial distress between 2000 and 2022. Evidence of financial distress includes, among other things, borrowers accruing principal or interest arrears, defaulting on their repayment obligations, or filing for bankruptcy. The World Bank and IMF have not conducted a Debt Sustainability Analysis for Serbia; however, in the IMF's latest country report on Serbia, it classified the government of Serbia as having a medium risk for debt distress.[10] Serbia is also not eligible for the Debt Service Suspension Initiative (DSSI), a G20-initiated initiative to help alleviate debt burdens during the pandemic.

[10]For more information on the IMF's evaluation of Serbia's economy, see https://doi.org/10.5089/9798400278365.002

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

Chinese infrastructure in Serbia with ESG risk exposure:

10	$3.6 billion	69%
infrastructure projects supported by grants and loans from China	in loan commitments supporting infrastructure projects	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

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).[11]

Figure 3.1 presents the geographic locations of all Chinese-financed infrastructure projects in Serbia according to their environmental, social, or governance risk exposure. Environmental risk is dominant in Serbia's infrastructure portfolio, with the Hungarian-Serbian railway, Kostolac B power project, and the Preljina Pozega E-763 highway all having environmental risk exposure.

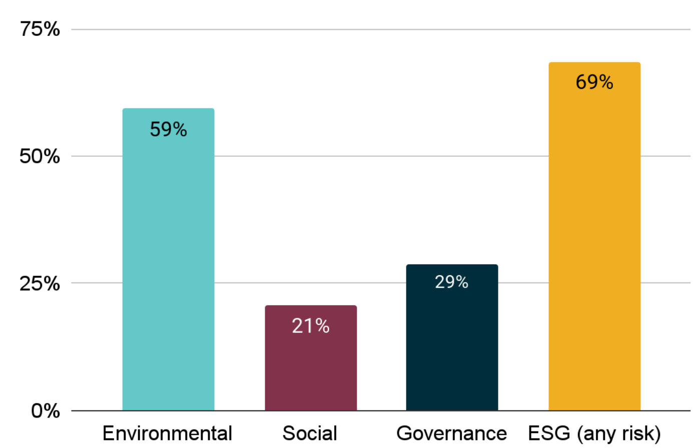
[11]For more information, see AidData's 2023 "Belt and Road Reboot: Beijing's Bid to De-Risk Its Global Infrastructure Initiative" report. https://www.aiddata.org/publications/belt-and-road-reboot.

In China's 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% from 2000 to 2021, showing China's infrastructure initiative is facing major challenges. With the addition of data from commitment year 2022, Serbia's total ESG risk exposure decreased from 73% to 69% as new infrastructure commitments had no ESG risk exposure.

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

69% of China's grant- and loan-financed infrastructure project portfolio in Serbia has significant ESG risk exposure. This part of the portfolio consists of 10 infrastructure projects supported by Chinese grant and loan commitments worth $3.6 billion (see Figure 3.2). Environmental risk exposure is dominant among these projects, while social and governance risk exposure remain less common. Most environmental risk is associated with projects being located in sensitive environmental areas. The Belgrade underground parking lot construction project, which built over 30,000 public parking spaces across 4 garages in Serbia's capital, featured both environmental risks (through the destruction of a park) and social risks (through the garages infringing upon protected sites).

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



ESG issues observed in Serbia

Environmental: destruction of a park during the Belgrade Underground Parking Lot Construction Project.

Social: infringement upon protected buildings, monuments, and archeological sites in proximity to the Belgrade Underground Parking Lot Construction Project.

Governance: no competitive bidding process, and debarred organization (China Road & Bridge Corporation) worked on Zemun-Borča Bridge and the Accompanying Roads Project.

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

Serbia (2022): 69%. Middle income country average (2022): 51%.

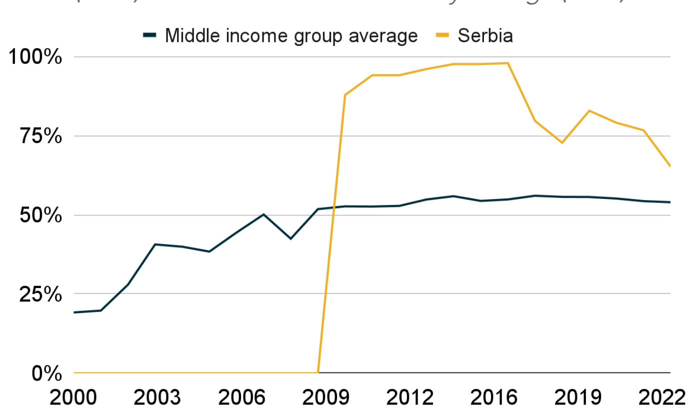


Figure 3.3 shows the increase in the proportional ESG risk exposure over time compared to other middle income countries. Serbia did not receive any financing from China for infrastructure projects until the 2010 Zemun-Borča Bridge and the Accompanying Roads Project. After which ESG risk exposure rose sharply, peaking in 2016 at 98%. Since then, the proportion has moved closer to the average among other middle income countries (51%).

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

Percent of infrastructure portfolio with strong ESG safeguards	What are ESG safeguards?
7.9% 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

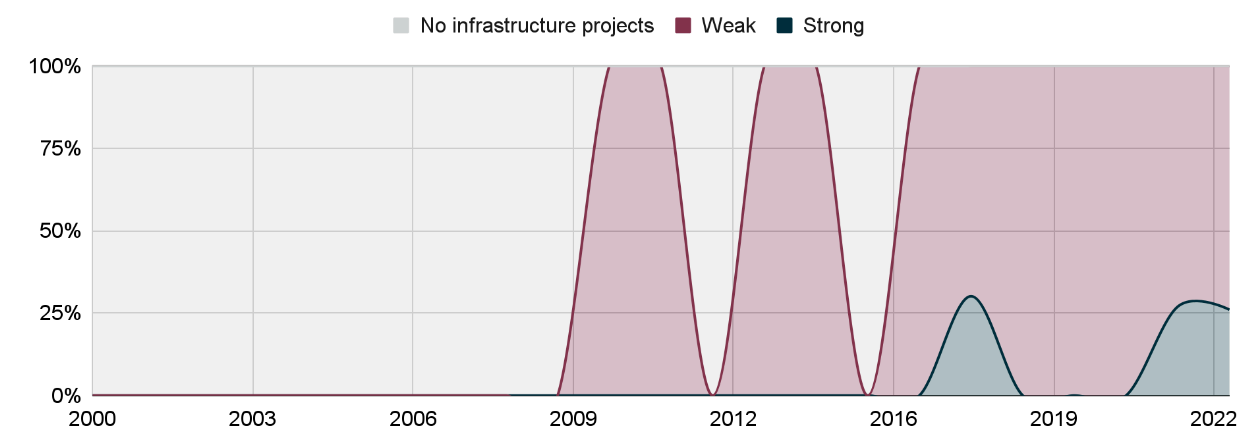
Has China increased ESG safeguard stringency in its infrastructure portfolio in Serbia over time?

Between 2000 and 2022, 23% of China's grant- and loan-financed infrastructure project portfolio had strong contractual ESG safeguards in place. Serbia is below the global average with 7.9% of its infrastructure portfolio containing strong contractual ESG safeguards between 2000 and 2022. New data in 2022 shows that Serbia has maintained low contractual ESG safeguards, with 26% of 2022 infrastructure commitments featuring strong ESG safeguards.

Most years featured exclusively weak ESG safeguards. However, in 2017 and 2021, respectively, Serbia's infrastructure projects featured 33% and 27% strong ESG safeguards. The projects with these strong ESG safeguards are funded via state-owned commercial banks (2021 Belgrade Underground Parking Lot Construction Project and 2022 Municipal (Sewage) Infrastructure Project) as well as syndicated loans involving both Chinese state-owned policy and state-owned commercial banks (2017 Telekom Srbija for Fixed Network Modernization and Upgrading Project). Trends across China's global infrastructure portfolio suggest the increase in strong ESG safeguards is likely to continue in future years.

Figure 4.1: Infrastructure project portfolio with strong contractual ESG safeguards[12]

Percent of infrastructure project portfolio committed each year



[12]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 Serbia in the BRI era

Serbia holds slightly favorable views towards China. According to data captured by Gallup, the Serbian population held an average approval rate of 69.6% toward China and its leadership between 2007 and 2022.[13] Serbia's approval rate is slightly higher than the global average, which was 60.1% between 2001 and 2022. Opinion toward China in Serbia was least favorable in 2014, with only 62.1% approving of China's leadership, due to the risks China's close relationship with Serbia posed to Serbia's EU membership talks. Since 2014, views have become more favorable than ever before, with a peak of 82% approval in 2018, although the COVID-19 pandemic caused a decrease in favorability in 2020.

Figure A.1: Serbian approval of Chinese leadership, 2006-2022[14]

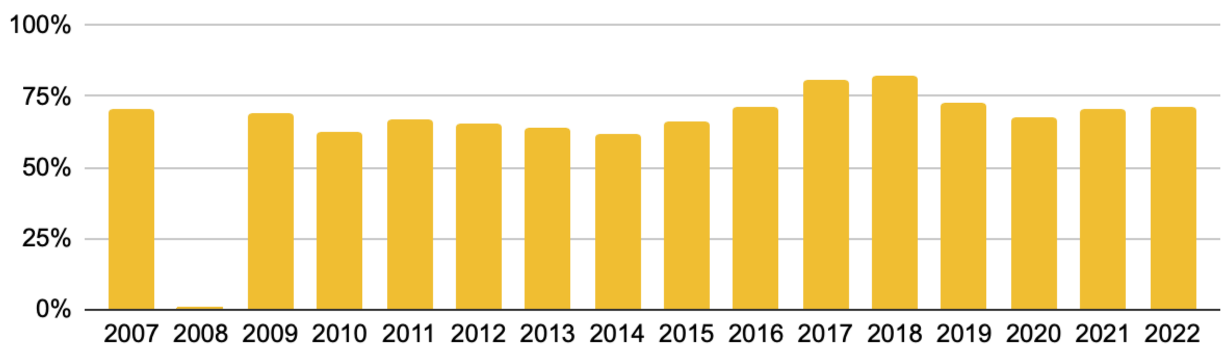


Figure A.2: Bilateral diplomatic visits between China and Serbia

2015 AUG	Serbian President Tomislav Nikolić visited Beijing and held diplomatic talks with President Xi Jinping.
2016 JUN	President Xi visited Serbia and met with Prime Minister Vučić, the first visit from a Chinese head of state in 32 years. Diplomatic relations were elevated to a comprehensive strategic partnership.
2018 SEP	New Serbian President Aleksandar Vučić visited Tianjin, China and met with President Xi ahead of the Summer Davos Forum annual meeting.
2023 OCT	President Vučić visited Beijing and met with President Xi. Eighteen cooperation agreements (including the Serbia-China Free Trade Agreement) were signed.
2024 MAY	President Xi visited Serbia for the first time since 2016 to meet with President Vučić and signed 28 cooperation agreements.

[13] 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 we have data for vary and there are gaps pre-2006 and, in some cases, between 2006-2024. For Serbia, there is no Gallup data prior to 2007 and no data for 2008. For more information on the Gallup methodology see https://www.gallup.com/178667/gallup-world-poll-work.aspx

[14] 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 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.

Emergency rescue lending & rollover facilities:

Emergency rescue loans are loans from Chinese state-owned entities to government borrowing institutions in low-income and middle-income countries that are used for at least one of three purposes: (1) repaying existing debts, (2) financing general public expenditures, or (3) shoring up foreign exchange reserves. Such loans include borrowings via currency swap agreements, liquidity support facilities, foreign currency term financing facility agreements, deposit loans, commodity prepayment facilities, and so-called "sovereign loans"[15].

Short-term emergency rescue loans represent an increasingly important part of China's overseas portfolio of loans to LICs and MICs. Nearly all of these borrowings, which are typically used to refinance maturing debts, carry de jure maturities of one year or less (i.e., they are initially scheduled for repayment in 12 months or less). However, it is not unusual for financially-distressed LICs and MICs to receive short-term emergency rescue loans from the same Chinese creditor in a series of consecutive years. This relatively new feature of China's overseas lending program raises an important question about how to accurately estimate the cumulative stock of official financial flows—or lending commitments—from China to the developing world. In countries that receive roll-over emergency rescue loans, this profile reports the full transaction amount (including short-term roll-over facilities) for Figure 1.1. All other visuals exclude these short-term rollover facilities.

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

[15] Parks et al. (2023)

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 Serbia 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 Serbia that represent 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.

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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).

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