Belt and Road Reboot

Beijing's Bid to De-Risk Its Global Infrastructure Initiative

Full Report

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Executive Summary

The *Belt and Road Reboot* report provides myth-busting evidence about the changing nature, scale, and scope of China's overseas development program. It also reveals new insights about Beijing's ongoing bid to de-risk its flagship global infrastructure initiative—and outflank its competitors. The report draws upon AidData's uniquely comprehensive and granular dataset of international development finance from China, which captures 20,985 projects across 165 low- and middle-income countries financed with grants and loans worth $1.34 trillion over a 22-year period.[1]

Is China still the single largest official source of aid and credit to the developing world?

Four key takeaways

1. Contrary to the conventional wisdom, Beijing's annual international development finance commitments have not plummeted to nearly zero.[2] It remains the world's single largest official source of international development finance. China's aid and credit (ODA and OOF) commitments to low- and middle-income countries are now hovering around $80 billion a year.[3]

2. Washington is beginning to close the spending gap with Beijing. Due in large part to the U.S. International Development Finance Corporation (DFC)'s financing of private sector projects, which has led to a fifteen-fold expansion in U.S. OOF, Washington now provides approximately $60 billion of development finance each year to low- and middle-income countries.

3. In the short-run, the G7 is also stepping up its efforts to compete with Beijing through the Partnership for Global Infrastructure and Investment, the India-Middle East-Europe Economic Corridor, and other initiatives. After failing to match China's annual ODA and OOF commitments during the early years of the Belt and Road Initiative (BRI), the G7 outspent China by $84 billion in 2021.

4. However, in the long-run, it is not clear that the U.S. and its allies have the financial firepower to compete dollar-for-dollar with Beijing. The G7 has a history of over-promising and under-delivering net increases in international development spending. Beijing, by contrast, has a real source of financial strength that allows it to avoid making promises that it cannot keep: foreign exchange reserves that are vastly larger than the official, foreign currency reserve holdings of its central bank.[4]

How has the risk profile of China's international development finance portfolio changed?

Three key takeaways

1. Repayment risk: Beijing is navigating an unfamiliar and uncomfortable role—as the world's largest official debt collector. 55% of its loans to low- and middle-income countries have already entered their principal repayment periods and this figure will increase to 75% by 2030. Total outstanding debt—including principal but excluding interest—from borrowers in the developing world to China is at least $1.1 trillion and potentially even as high as $1.5 trillion (in nominal USD).[5] Beijing is finding its footing as an international debt collector at a time when many of its biggest borrowers are illiquid or insolvent. AidData estimates that 80% of China's

[1] The latest (3.0) version of AidData's Global Chinese Development Finance (GCDF) dataset captures projects over 22 commitment years (2000-2021) and provides details on the timing of project implementation over a 24-year period (2000-2023). It can be accessed via aiddata.org/china.

[2] For example, the latest version of the China's Overseas Development Finance (CODF) database produced by Boston University's Global Development Policy Center suggests that overseas development finance commitments from China have plummeted by 96% since 2016, reaching an all-time low of $3.7 billion in 2021.

[3] Based upon OECD-DAC definitions and measurement criteria, AidData categorizes each project/activity in its dataset as Official Development Assistance (ODA) or Other Official Flows (OOF). ODA mostly consists of grants and highly concessional loans for development projects and activities that are financed by official sector institutions. OOF mostly consists of non-concessional loans that are issued by official sector institutions. More than 90% of China's annual international development finance commitments consist of OOF.

[4] As of 2023, the official, foreign currency reserve holdings of China's central bank (the PBOC) amounted to $3.1 trillion. However, this figure excludes foreign currency reserves that the PBOC has moved off of its balance sheet by, among other things, entrusting them to the country's state-owned policy banks, state-owned commercial banks, and state-owned funds. Brad Setser of the Council on Foreign Relations argues that these "hidden reserves" may be worth an additional $3 trillion.

[5] Total outstanding debt from borrowers in developed and developing countries to China exceeds $2.6 trillion (in nominal USD).

overseas lending portfolio in the developing world is currently supporting countries in financial distress. Overdue repayments to China are also soaring—in absolute terms and as a proportion of total overdue loan repayments to official (i.e., bilateral and multilateral) creditors.

2. Project performance risk: The cumulative number of Chinese grant- and loan-financed infrastructure projects in the developing world with significant environmental, social, or governance (ESG) risk exposure skyrocketed from 17 projects worth $420 million in 2000 to 1,693 projects worth $470 billion in 2021. The cumulative percentage of China's grant- and loan-financed infrastructure project portfolio in the developing world with significant ESG risk exposure increased from 12% to 53% over the same 22-year period. Infrastructure project suspensions and cancellations have also mounted—from nearly zero at the turn of the century to 94 projects worth $56 billion in 49 countries. However, Beijing is stepping up ESG risk mitigation efforts to shield its overseas infrastructure portfolio from the types of problems that have previously plagued the BRI.

3. Reputational risk: Beijing's public approval rating in the developing world plunged from 56% in 2019 to 40% in 2021. Washington, on the other hand, has seen its public approval rating rise and opened up a 14 percentage point advantage over Beijing. Across the developing world, China has also struggled to maintain a razor-thin lead over the U.S. in media coverage favorability. Yet it has proven very capable of winning and retaining the foreign policy support of governing elites. Across all U.N. General Assembly votes cast between 2000 and 2021, the governments of low- and middle-income countries aligned their foreign policy positions with China 75% of the time—as compared to 23% with the U.S. Those who vote with China are richly rewarded: on average, if a foreign government chooses to increase the alignment of its U.N. General Assembly voting with China by 10%, it can expect to see a 276% increase in aid and credit from Beijing.[6]

[6] This finding is derived from a statistical model in Dreher, A., Fuchs, A., Parks, B. C., Strange, A., & Tierney, M.J. 2022. *Banking on Beijing: The Aims and Impacts of China's Overseas Development Program*. Cambridge, UK: Cambridge University Press.

Does the G7 understand the difference between BRI 1.0 and BRI 2.0—or how Beijing's reboot of its "project of the century" has altered the competitive landscape?

Three key takeaways

1. Beijing has launched a far-reaching effort to de-risk the BRI by refocusing its time, money, and attention on distressed borrowers, troubled projects, and sources of public backlash in the Global South. It is learning from its mistakes and becoming an increasingly adept international crisis manager.

2. Neither the U.S. nor its G7 allies seem to have a good understanding of how China is recalibrating its lending and grant-giving practices in response to changing conditions on the ground. Consequently, those who make and shape policy in Washington, London, Paris, Berlin, Tokyo, Rome, and Ottawa increasingly run the risk of competing with a version of the BRI that no longer exists—BRI 1.0 rather than BRI 2.0.

3. The G7 should not underestimate the ambition of China's ongoing effort to future-proof its flagship, global infrastructure initiative. Beijing is focused on giving leaders in the developing world exactly what they want: rapid delivery of large-scale infrastructure projects without unreasonably high levels of ESG risk. If the G7 cannot compete on this basis, its Partnership for Global Infrastructure and Investment may face a crisis of relevance.

What measures has Beijing taken to reduce its exposure to distressed debt in the developing world?

Seven key takeaways

1. In recognition of the fact that BRI 1.0 did not have sufficiently robust risk management guardrails in place, Beijing is fundamentally altering the composition of its overseas lending portfolio. It is ramping down dollar-denominated infrastructure project lending, while ramping up RMB-denominated emergency rescue lending to financially distressed

borrowers.[7] Beijing's strategic objective is to ensure that its largest borrowers have enough cash on hand to service their outstanding infrastructure project debts.

2. Beijing's policy banks (China Eximbank and China Development Bank) have particularly high levels of exposure to non-performing loans in low- and middle-income countries. Instead of reforming these institutions from within, Beijing is ratcheting down its use of the policy banks, while ratcheting up its use of state-owned commercial banks, such as ICBC and Bank of China. In previous years, approximately three-quarters of China's lending to low- and middle-income countries was channeled through the policy banks. However, this figure has now plummeted to less than one-quarter (22%). The annual lending commitments of China's state-owned commercial banks to low- and middle-income countries are now on par with those of its policy banks.[8]

3. Rather than relying on its own banks to vet borrowing institutions and proposed transactions, Beijing is increasingly outsourcing risk management to lending institutions—such as the International Finance Corporation, the European Bank for Reconstruction and Development, Standard Chartered Bank, and BNP Paribas—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. 50% of China's non-emergency lending portfolio in low- and middle-income countries is now provided via syndicated loan arrangements—and more than 80% of these arrangements involve Western commercial banks and multilateral institutions.

4. Beijing is putting in place increasingly stringent safeguards to shield itself from the risk of not being repaid. At the turn of the century, only 19% of China's overseas lending to low- and middle-income countries was collateralized. This figure now stands at 72%.[9] The ability to access cash collateral without borrower consent has become a particularly important safeguard in China's bilateral lending portfolio. When illiquid or insolvent borrowers fall behind on their repayments, the policy banks are "paying themselves" overdue principal and interest by unilaterally sweeping foreign currency out of the escrow accounts of their borrowers. These cash seizures are mostly being executed in secret and outside the immediate reach of domestic oversight institutions—such as the auditor general and the public accounts committee within parliament—in low- and middle-income countries. After making withdrawals that substantially deplete the balance of a borrower's escrow account, an increasingly common practice is to require that the borrower replenish the account as a condition for any short-term cash flow relief. Escrow account replenishment has become a major sticking point in debt rescheduling negotiations with the policy banks, yet it is shrouded in secrecy because of strict confidentiality requirements.[10]

5. As the number of borrowers facing liquidity and solvency crises has soared, Chinese state-owned creditors have introduced stronger penalties for late repayments. The average penalty interest rate doubled between the early BRI period (2014-2017) and the late BRI period (2018-2021). The maximum penalty interest rate also increased from 3% to 8.7% between these two time periods. These findings contradict those of a previous study, which claimed that there is no evidence of penalty interest rates in China's overseas lending to developing countries.

[7] In the first full year of BRI implementation (2014), 65% of Beijing's lending to low- and middle-income countries supported infrastructure projects. By 2021, this figure plummeted to 31%. Emergency rescue lending represented only 13% of Beijing's loan portfolio in low- and middle-income countries in 2014. However, this figure soared to 58% by 2021.

[8] On average, during the pre-BRI period (2000-2013), Beijing channeled 15% of its annual lending commitments to low- and middle-income countries through its state-owned commercial banks. This figure increased to 18% during the early BRI (2014-2017) period and 22% during the late BRI period (2018-2021).

[9] Beijing is taking special precautions with high-risk borrowers. At the turn of the century, 0% of its collateralized lending commitments to low- and middle-income countries were directed to developing countries in financial distress. By 2021, this figure increased to 74%.

[10] When a sovereign borrower signs an escrow account agreement or debt rescheduling agreement with a Chinese lender, it is not unusual for the parties to agree upon an expansive set of confidentiality obligations that go beyond those in its original loan agreement. The implementation of AidData's Tracking Underreported Financial Flows (TUFF) methodology has facilitated the retrieval and publication of a significant number of unredacted escrow account and debt rescheduling agreements. The 3.0 version of AidData's GCDF dataset makes these agreements available via stable URLs.

6. The repayment risk mitigation measures that Beijing is putting in place present new challenges for borrowers in the developing world. Those who seek to refinance their maturing debts to China by accepting emergency rescue loans with high interest rates and short repayment periods must be mindful of the danger of swapping less expensive debt for more expensive debt. Those who seek to reschedule their debts to China must be prepared to ring-fence foreign currency for some creditors but not others. Those who contract new debt from Beijing must be aware of the danger of compounding arrears due to penalty interest.

7. Beijing's go-it-alone efforts to mitigate repayment risk may undermine the international community's efforts to provide coordinated debt relief to sovereign borrowers in financial distress. In November 2020, China agreed to participate in the G-20 Common Framework for Debt Treatments and abide by the so-called "comparable treatment" principle (i.e., reasonable burden-sharing in the way that financial losses are distributed across creditors). However, Beijing's latest actions suggest that it is muscling its way to the front of the repayment line by demanding that borrowers provide recourse to cash collateral that others lack. Paris Club, multilateral, and commercial creditors fear—with some justification—that they are becoming junior creditors whose loans will be repaid on a lower-priority basis. If Beijing insists upon being treated as a senior creditor whose debts should be given first priority, then coordinated debt reschedulings with non-Chinese creditors will likely become more difficult to negotiate. The biggest losers in this scenario will be ordinary people in the developing world who are denied basic public services because of a collective action failure among foreign creditors.

What measures has Beijing taken to reduce its exposure to ESG risk? How are its infrastructure projects with strong ESG safeguards faring during implementation?

Seven key takeaways

1. Beijing has earned a reputation for implementing brick-and-mortar projects with lightning speed. Irrespective of ESG safeguard stringency, the average infrastructure project financed with Chinese aid or credit takes approximately three years to complete.

2. Beijing's rivals and critics claim that it has not taken meaningful steps to subject its overseas infrastructure project portfolio to more stringent ESG safeguards. This claim is false. By 2021, 57% of China's grant- and loan-financed infrastructure project portfolio in low- and middle-income countries had strong de jure environmental, social, and governance safeguards in place. This represents a major departure from past practice: at the turn of the century, China's entire grant- and loan-financed infrastructure project portfolio in low- and middle-income countries had weak de jure environmental, social, and governance safeguards in place.

3. The pace of ESG safeguard reform accelerated during the BRI 2.0 era—from 2018 to 2021.[11] Over the same four-year period, the annual ESG risk prevalence rate in China's grant- and loan-financed infrastructure project portfolio sharply declined from 63% to 33%.

4. Beijing has de-risked the country's overseas infrastructure project portfolio by reining in the activities of development finance institutions that lack strong ESG risk management guardrails, increasing the provision of infrastructure financing via institutions that have strong ESG safeguards in place, unwinding aid and credit relationships with countries that present high levels of ESG risk, and redirecting new infrastructure financing to countries that present low levels of ESG risk.

5. Chinese grant- and loan-financed infrastructure projects with strong de jure ESG safeguards have substantially lower levels of ESG risk exposure in a de facto sense than those without such safeguards. They are also less vulnerable to suspension and cancellation.

6. A particularly important finding is that Chinese grant- and loan-financed infrastructure projects subjected to strong de jure ESG safeguards do not face

[11] In 2018, 26% of China's grant- and loan-financed infrastructure project portfolio in low- and middle-income countries had strong de jure environmental, social, and governance safeguards in place. By 2021, this figure had increased by 31 percentage points (to 57%).

substantially longer implementation delays than those subjected to weak de jure ESG safeguards.[12] Squaring the circle between speed and safety is at the center of Beijing's BRI 2.0 strategy.

7. Beijing enjoys a stronger position in the global infrastructure financing market than its bilateral and multilateral competitors realize. The fact that China has put in place increasingly stringent ESG safeguards—without damaging its reputation for speed—could undermine G7 efforts to outcompete it on quality or safety grounds. Developing countries prefer to work with lenders and donors that bankroll big-ticket, high-impact infrastructure projects with reasonably robust ESG safeguards but without excessive implementation delays. Beijing is taking measures to meet this challenge. Whether the G7—and the multilateral development banks—will do the same is an open question.

What measures has Beijing taken to reduce its exposure to reputational risk?

Six key takeaways

1. In a tally of the annual number of soft power "gains" and "losses" that China has experienced vis-à-vis the U.S. in low- and middle-income countries since the first full year of BRI implementation (2014), Beijing's losses outnumbered its gains—by a substantial margin.[13] It experienced more losses than gains vis-à-vis Washington on three different measures of soft power: public opinion, media sentiment, and elite support.

2. Across all three measures of soft power, Beijing devoted nearly two-thirds of its entire international development finance portfolio to "toss-up" countries—i.e., competitive jurisdictions where neither China nor the U.S. opened up an insurmountable lead vis-à-vis its principal rival.

3. Beijing seeks to maintain and build upon momentum. In jurisdictions where it recently made reputational gains at the expense of the U.S., it doubled down by providing more aid and credit.

4. China has a relatively low level of tolerance for risk in its pursuit of soft power. It devoted only 16% of its international development finance portfolio to "moonshot" countries—those where its principal rival had momentum on its side.[14] A separate, but related, finding is that when reputational assets become reputational liabilities, Beijing tends to disengage from discussions about new projects and financial commitments and refocus on managing risks within its existing portfolio of grant- and loan-financed projects.

5. Political transitions in host countries are critical junctures when the nature, level and pace of China's engagement can change significantly. If a new leader comes to power and takes a less adversarial posture toward China, Beijing typically springs into action and seeks to cement bilateral relations by helping incumbents take credit for high-profile infrastructure projects.

6. Given that Beijing tends to disengage rather than double down in countries where there are strong indications of BRI backlash, Beijing's competitors may be able to lure such countries back into the West's orbit. However, doing so would require that the G7 act quickly when these windows of opportunities arise and adapt their programming to address the unmet needs of partner countries.

[12] As a point of comparison, World Bank projects subjected to the organization's most stringent environmental and social safeguards take more than 7 years, on average, to move from the proposal stage to the commencement stage. On average, it takes World Bank projects another 6 years to move from the commencement stage to the completion stage.

[13] We measure the *relative* gains and losses experienced by China on a country-by-country basis between 2014 and 2021 on three different measures of soft power (public approval, media sentiment, and elite support). For example, to measure the relative gains or losses in public approval, we (1) calculate the difference between the public approval rating for China in a given year and the prior year; (2) calculate the difference between the public approval rating for the U.S. in a given year and the prior year; and (3) calculate the "double difference" between (1) and (2) to determine if China experienced a greater gain or loss in public support than the U.S. in the same country-year.

[14] Similarly, Beijing has assigned a lower level of priority to "toss-up" countries where momentum recently shifted in favor of the U.S.

Acronyms

AEs	Advanced Economies
AfDB	African Development Bank
AGTF	Africa Growing Together Fund
AI	Artificial Intelligence
AIIB	Asian Infrastructure Investment Bank
AL	Awami League
AsDB	Asian Development Bank
AVIC	Aviation Industry Corporation of China
B3W	Build Back Better World
BCRA	Central Bank of Argentina (Banco Central de la República Argentina)
BCS	Bilateral Currency Swap
BIS	Bank of International Settlements
BNP	Bangladesh Nationalist Party
BOP	Balance of payments
BPC	Botswana Power Corporation
BRI	Belt and Road Initiative
BRT	Bus Rapid Transit
BU	Boston University
BUILD	Better Utilization of Investment Leading to Development Act
CBRC	China Banking Regulatory Commission
CCDI	Central Commission for Discipline Inspection
CCTV	Closed-Circuit Television
CDB	China Development Bank
CFK	Cristina Fernández de Kirchner
CGD	Center for Global Development
CGSP	China-Global South Project
CGT	Common Ground Taxonomy
CHICO	China Henan International Cooperation Group Company
China Eximbank	Export-Import Bank of China
CIC	China Investment Corporation
CIDCA	China International Development Cooperation Agency
CLA	Chinese Loans to Africa
CMEC	China Machinery Engineering Corporation
CNPC	China National Petroleum Corporation
CODF	China's Overseas Development Finance
CPC	Communist Party of China
CPEC	China-Pakistan Economic Corridor
CR	China State Railway Group Co. Ltd.
CRS	Creditor Reporting System
CSIS	Center for Strategic and International Studies
DAC	Development Assistance Committee
DBZ	Development Bank of Zambia
DFC	U.S. International Development Finance Corporation
DLP	Debt Limits Policy
DRS	Debtor Reporting System
DSF	Debt Sustainability Framework
DSRA	Debt Service Reserve Account
DSSI	Debt Service Suspension Initiative
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EMDEs	Emerging Market and Developing Economies
EMP	Environmental Management Plan
EPC	Engineering, Procurement, and Construction
EPCF	Engineering, Procurement, Construction and Financing
ESG	Environmental, Social, and Governance

ESIA	Environmental and Social Impact Assessment
EU	European Union
EUR	Euros
EURIBOR	Euro Interbank Offered Rate
FASB	Financial Accounting Standards Board
FOCAC	Forum on China–Africa Cooperation
FPIC	Free, Prior, and Informed Consent
G-24	The Group of 24
G7	The Group of 7
GAAP	Generally Accepted Accounting Principles
GBP	Pound Sterling
GCDF	Global Chinese Development Finance Dataset
GCL	Government Concessional Loan
GDELT	Global Database of Events, Language, and Tone
GDP	Gross Domestic Product
GWP	Gallup World Poll
HIA	Heritage Impact Assessment
HICs	High-Income Countries
HSBC	Hongkong and Shanghai Banking Corporation Limited
IADB	Inter-American Development Bank
ICBC	Industrial and Commercial Bank of China
ICT	Information and Communications Technology
IDS	International Debt Statistics
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFI	International Financial Institution
IFRS	International Financial Reporting Standards
IMEC	India-Middle East-Europe Economic Corridor
IMF	International Monetary Fund
IPSF	International Platform on Sustainable Finance
JPY	Japanese Yen
JV	Joint Venture
KCHP	Néstor Kirchner and Jorge Cepernic Hydroelectric Power Plant Project
KHPC	Kariba Hydro Power Company (Private) Limited
KRC	Kenya Railways Corporation
LAC	Latin America and the Caribbean
LBS	Locational Banking Statistics
LHC	Lahore High Court
LIBOR	London Inter-Bank Offered Rate
LICs	Low-Income Countries
LMICs	Lower-Middle Income countries
LPR	China Loan Prime Rate
LSF	Liquidity Support Facility
M&A	Mergers And Acquisitions
MCDF	Multilateral Cooperation Center for Development Finance
MCPP	Managed Co-Lending Portfolio Program
MDB	Multilateral Development Bank
MICs	Middle-Income Countries
MMD	Movement for Multi-Party Democracy
MOF	Ministry of Finance
MOFCOM	Ministry of Commerce
MOU	Memorandum of Understanding
MUFG	Mitsubishi UFJ Financial Group
NATO	North Atlantic Treaty Organization
NDRC	National Development and Reform Commission
NGO	Non-Governmental Organizations
NOC	No Objection Certificate

NORINCO	China North Industries Group Corporation Limited
NPV	Net Present Value
ODA	Official Development Assistance
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
OFC	Offshore Financial Center
OOF	Other Official Flows
P4I	Partnerships for Infrastructure
PAP	Project-Affected Persons
PBC	Preferential Buyer's Credit
PBOC	People's Bank of China
PF	Patriotic Front
PGII	Partnership for Global Infrastructure and Investment
PIIE	Peterson Institute for International Economics
PIMCO	Pacific Investment Management Company
PLAD	Political Leaders' Affiliation Database
PPG	Public and Publicly Guaranteed Debt
PxF	Pre-Export Financing
Quad	Quadrilateral Security Dialogue
RAP	Resettlement Action Plan
RMB	Renminbi
S&P	Standard & Poor
SAFE	State Administration of Foreign Exchange
SAIS-CARI	China-Africa Research Initiative at the Johns Hopkins School of Advanced International Studies
SCP	Supreme Court of Pakistan
SDR	Special Drawing Rights
SHIBOR	Shanghai Interbank Offered Rate
SIA	Structural Impact Assessment
Sinosure	China Export & Credit Insurance Corporation
SPV	Special Purpose Vehicle
TAZARA	Tanzania-Zambia Railway Authority
TPDC	Tanzania Petroleum Development Corporation
TUFF	Tracking Underreported Financial Flows
U.S.	United States
UMICs	Upper Middle-Income Countries
UN	United Nations
UNDRIP	UN Declaration on the Rights of Indigenous Peoples
UNGA	United Nations General Assembly
USD	United States Dollars
WDPA	World Database on Protected Areas
YoY	Year-on-Year

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Chapter 1: Belt and Road Reconstruction—From Fire-Fighting to Future-Proofing

Section 1: Has Beijing's global infrastructure initiative become an asset or a liability?

Two competing narratives about China's overseas development program are gaining traction. The first is that Beijing sits atop a mountain of foreign exchange reserves and has gained the upper hand in a zero-sum, great power competition by using its flagship infrastructure program—the Belt and Road Initiative (BRI)—to win the loyalty of foreign leaders and generate favorable international public sentiment. According to this narrative, China is an international lender of first resort that developing countries cannot afford to alienate or antagonize. It bankrolls big-ticket infrastructure projects—such as roads, railways, bridges, tunnels, power plants, and telecommunication systems—that neither the U.S. nor its allies will support. It plies foreign leaders with lavish spending on vanity projects like statues, theaters, museums, convention centers, stadiums, presidential palaces, and parliamentary buildings. It is also a deep-pocketed lender of last resort that is willing and able to bail out borrowers when they are underwater or sailing into strong macroeconomic headwinds. Strategists and decision-makers in Western capitals often invoke this argument—about Chinese strength—to make the case that Beijing is "outmaneuvering us in overseas theaters," "eating our lunch," or "winning the global battle for hearts and minds."[1]

But a second narrative—a counter-narrative about Chinese weakness—is gaining currency in Washington, London, and Brussels. The BRI, in this alternative reading, is more of a liability than an asset, and Beijing is on a perilous path, in danger of spending its way into international disrepute. Developing countries

[1] The 2018 National Defense Strategy of the U.S. asserted that "[t]he central challenge to U.S. prosperity and security is the reemergence of long-term, strategic competition…[with] revisionist powers" (U.S. Department of Defense 2018). It called upon the U.S. government to "out-think, out-maneuver, out-partner, and out-innovate revisionist powers" (U.S. Department of Defense 2018). In October 2018, the U.S. Congress passed the Better Utilization of Investment Leading to Development (BUILD) Act, establishing a "full service" development finance institution to help the U.S. government compete with China around the globe. Then, in September 2019, it authorized the creation of a "Countering Chinese Influence" fund.

that borrowed extensively from China are now saddled with debts for oversized infrastructure projects that generate insufficient revenue. The grace periods on these loans are expiring, forcing Beijing into an unfamiliar and uncomfortable role as the developing world's largest official debt collector. On one hand, it wants to position itself at the front of the repayment line by requiring that borrowers grant it sources of leverage—such as cash collateral in escrow accounts—that other official creditors do not possess. On the other hand, it wants to characterize itself as a global champion of "South-South cooperation" that privileges solidarity with low-income countries (LICs) and middle-income countries (MICs). Another source of vulnerability is that politicians in the Global South increasingly feel compelled to cancel or mothball high-profile BRI projects because rising levels of public antipathy toward China are making it difficult to maintain close relations with Beijing. International media outlets are also training their sights on an array of problems in the BRI project portfolio, such as overpricing, corruption, habitat destruction, and involuntary displacement of vulnerable and marginalized populations.

The fundamental difference between these narratives is that one assumes China is playing offense and the other assumes China is playing defense. Which one is a better characterization of reality? Or is it possible that both—or neither—are true? Beijing is clearly aware that it faces a BRI "buyer's remorse" problem.[2] But have Chinese lending and grant-giving institutions learned from their past mistakes and recalibrated their policies and practices? If so, how?

One of the first signs that Beijing was considering a major course correction came in October 2016 when an official with China's National Development and Reform Commission (NDRC) told a London-based newspaper that "these days we need viable projects and a good return. We don't want to back losers" (Financial Times 2016). Then, in May 2017, Xi Jinping announced that "[w]e will [...] strengthen international cooperation on anti-corruption in order to build the Belt and Road Initiative with integrity."[3] He delivered a similar message in September 2018: financing from China was "not to be spent on any vanity projects but in places where they count the most."[4]

[2] Euractiv 2023.
[3] Belt and Road Forum for International Cooperation 2017.
[4] Quoted in Shepherd and Blanchard 2018.

Calls for a major overhaul of the country's flagship global infrastructure initiative—dubbed "BRI 2.0"—grew louder over the course of the next two years. In April 2019, at the Second Belt and Road Forum for International Cooperation, Xi announced that the next phase of the BRI ("BRI 2.0") would be "open, green and clean" (Ministry of Foreign Affairs of the People's Republic of China 2019). He also said that China would "adopt widely accepted rules and standards and encourage participating companies to follow general international rules and standards in project development, operation, procurement and tendering and bidding" (Ministry of Foreign Affairs of the People's Republic of China 2019). Then, in 2020, Beijing signaled interest in "multilateralizing" the BRI and harmonizing some of its policies and practices with prevailing international development finance rules and standards.[5]

However, it is unclear if these rhetorical commitments have translated into significant changes in the way that Beijing administers its overseas development program. Some "China watchers" have expressed skepticism that Beijing is sincerely interested in financing, designing, and implementing infrastructure projects in coordination and collaboration with multilateral institutions and Western powers. One reason to question the credibility of Beijing's commitment to BRI 2.0 is that the country's comparative advantages (scale, speed, and near-term economic impact) vis-à-vis OECD-DAC donors and multilateral development banks may not be fully compatible with BRI multilateralization.[6] Another reason is that China has a long track record of engaging in strictly bilateral, "go-it-alone" efforts to manage overseas crises.[7] Intensifying competition in the global infrastructure finance market presents an additional challenge: the U.S., the U.K., and the other members of the G7 are now promoting a Partnership for Global Infrastructure and Investment

[5] Morris et al. 2020; Dreher et al. 2022. In 2020, Beijing teamed up with eight multilateral institutions to establish the Multilateral Cooperation Center for Development Finance (AIIB 2021).
[6] We address this issue at greater length in Chapter 3. Also see Parks 2019; Malik et al. 2021; and Dreher et al. 2022.
[7] For example, when China's biggest borrowers have experienced financial distress, it has not called for coordinated debt reschedulings with all major creditors (Gardner et al. 2021; Bon and Cheng 2021). Instead, it has discreetly provided emergency rescue loans to ensure that such borrowers are sufficiently liquid to continue servicing their existing BRI project debts (Horn et al. 2023a, 2023b). Beijing has also spurned multiple invitations to join the Paris Club (the main venue for sovereign debt restructurings) and insisted upon loan contracts with clauses that expressly exclude Chinese debts from the Paris Club and other collective restructuring initiatives, thereby granting its state-owned creditors sole discretion to decide if, when, and how they will grant debt relief (Dreher et al. 2022; Gelpern et al. 2022).

(PGII)—previously known as the Build Back Better World (B3W) initiative—that they characterize as an alternative, higher quality option for countries that want to undertake infrastructure projects based on the principles of sustainable and transparent financing, public sector mobilization of private capital, consultation and partnership with local communities, and strict adherence to environmental, social, and governance (ESG) safeguards.[8] Therefore, if Beijing wanted to protect the BRI brand by spreading reputational risk across a larger group of donors and lenders, it would have to secure the buy-in of a set of actors who do not seem to be particularly interested in collaboration (Parks 2019; Dreher et al. 2022).

Regardless of whether China can convince traditional donors and lenders to jump on the BRI bandwagon, there are indications that a reboot of the infrastructure initiative is underway. In November 2017, the country's top banking regulator—China Banking Regulatory Commission (CBRC)—introduced new rules that require China Development Bank (CDB) and China Eximbank to put in place more robust environmental and social risk management procedures (CBRC 2017a, 2017b). Then, in 2021, China's State Administration of Foreign Exchange (SAFE)—the ultimate source of funding for most of China's state-owned policy banks, commercial banks, and investment funds (see Box 2b in Chapter 2)—announced that it would prioritize "adopting MDB's ESG criteria" and "incorporating ESG principles into the whole project investment process from decision-making to post-investment management" (SAFE 2021: 54). At the same time, SAFE's parent organization (the PBOC) called for a reduction in collateralized lending to overseas borrowers that present high levels of repayment risk (Chen 2023: 1173).[9]

In this chapter, we document the evolving nature, scale, and composition of China's overseas development program. We also explain why China has pivoted into an international crisis manager role and how it is seeking to manage three

[8] The European Union, Japan, Australia, and India have also launched a set of complementary initiatives—called Global Gateway, Partnerships for Infrastructure (P4I), the Blue Dot Network, and the India-Middle East-Europe Economic Corridor (IMEC)—that are designed to increase choice and competition in the global infrastructure finance market.
[9] At the third Belt and Road symposium in November 2021, Xi Jinping also called for better risk management in overseas infrastructure projects and discouraged Chinese companies from going to "chaotic and dangerous" places (State Council of the People's Republic of China 2021).

different types of risk in its overseas project portfolio: (1) repayment risk, (2) ESG-related project performance risk, and (3) reputational risk.

In Chapters 2 and 3, we identify the specific measures that Beijing has taken to de-risk its overseas development finance portfolio, and evaluate whether these changes are consistent with its rhetorical commitments to multilateralization and harmonization with the prevailing international development finance rules and standards. Then, in Chapter 4, we explain how China has used aid and credit instruments to respond to the soft power gains and losses it has experienced in LICs and MICs. Our findings suggest that the ambition of Beijing's effort to "future-proof" its overseas development finance portfolio—and its flagship, global infrastructure initiative—should not be underestimated.

Section 2: Myth-busting evidence about the scale and composition of China's overseas development program—and how its rivals have responded

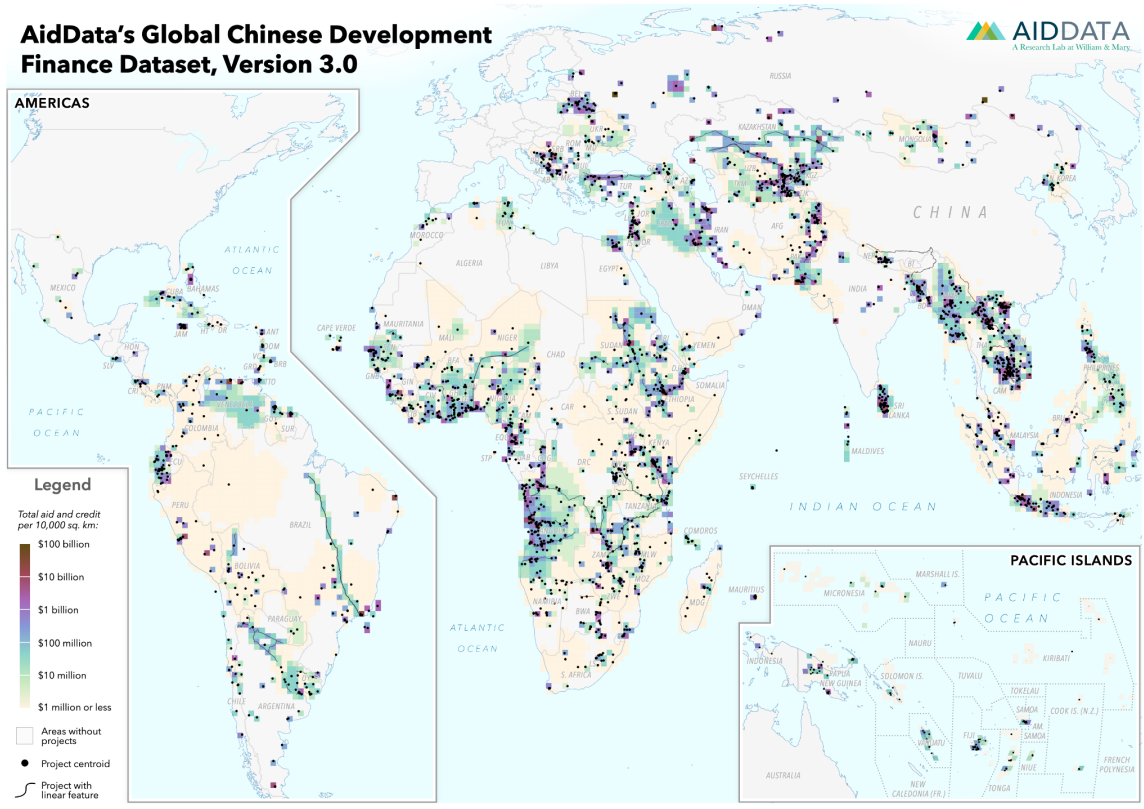
AidData maintains the world's most comprehensive dataset of international development finance commitments from China to the developing world. The latest (3.0) version of our Global Chinese Development Finance (GCDF) dataset captures 20,985 projects and activities in 146 countries supported by financial and in-kind transfers worth $1.34 trillion from official sector institutions in China.[10] It covers every low-income, lower-middle income, and upper-middle income country and territory across every major world region, including Africa, Asia, Oceania, the Middle East, Latin America and the Caribbean, and Central and Eastern Europe (including 19 additional countries or territories where systematic searches were undertaken but no Chinese government-financed projects and activities were identified). The dataset tracks projects and activities over 22 commitment years (2000-2021), and it includes details on the timing of project/activity implementation over a 24-year period (2000-2023). 17,957 records in the dataset represent formally approved, active, and completed projects and activities. The remaining 3,028 records in the 3.0 dataset represent (1) projects and activities that secured official financial or in-kind commitments

[10] The $1.34 trillion figure excludes the short-term "rollover" facilities described in Box 2c and Section A-3). It increases to $1.5 trillion when such facilities are included in the tally.

from China but were subsequently suspended or canceled; (2) projects and activities that secured pledges of financial or in-kind support from official sector institutions in China but never reached the formal approval (official commitment) stage; and (3) so-called "umbrella" records that are designed to support multiple subsidiary projects and activities. Figure 1.1 presents the global distribution of approved, active, and completed projects and activities that were financed with Official Development Assistance (ODA) and Other Official Flows (OOF) from China between 2000 and 2021.[11]

Figure 1.1

The global distribution of Chinese ODA- and OOF-financed projects in LICs and MICs



Notes: This map shows the geographic locations of projects supported by Chinese ODA and OOF commitments across all LICs and MICs between 2000 and 2021. Only projects from the 3.0 version of

[11] All projects and activities in AidData's GCDF dataset must qualify as official financial flows (ODA or OOF). For ease of exposition, in the remainder of this report, we refer to all such projects and activities as "projects." The definitions of and measurement standards for ODA and OOF are described in Section A-2 of the Appendix.

AidData's GCDF dataset that have physical footprints or involve specific locations are represented. Goodman et al. (2023) describes the process by which these point, polygon, and line vector data were generated.

When AidData released the 2.0 version of the GCDF dataset in September 2021, it provided evidence that China was outspending the U.S. in the developing world on at least a 2-to-1 basis.[12] The 3.0 version of the GCDF dataset demonstrates that China remains the single largest source of international development finance in the world. In 2021, official financial flows (ODA and OOF commitments) from China to LICs and MICs amounted to $79 billion (see Figure 1.2).[13] None of China's peers or rivals have overseas lending and grant-giving programs that are comparable in scale. In 2021, no single member of the G7 provided official financial flows to LICs and MICs in excess of $61 billion.[14] China also outspent all multilateral sources of international development finance. The single largest multilateral source of international development finance in 2021 was the World Bank, with international development finance commitments worth approximately $72 billion.

According to the conventional wisdom among think tanks and media outlets, Beijing made a concerted effort to rein in the BRI after 2017 (Lu 2023; Olander 2023; Do Rosario and Savage 2023) and its annual development finance commitments plummeted to *nearly zero* by 2021 (Gallagher and Ray 2020; Hwang et al. 2022; Ray 2023; Myers and Ray 2023; Moses et al. 2023).[15] However, the 3.0 version of AidData's GCDF dataset debunks the myth that Beijing's overseas development program has experienced a total collapse. With

[12] At the time, we estimated that China's average annual development finance commitments amounted to $85.4 billion between 2013 and 2017 and average annual development finance commitments from the U.S. amounted to $37 billion over the same five-year period (Malik et al. 2021). However, the latest (3.0) version of the GCDF dataset demonstrates that China was outspending its rivals by a wider margin than we previously understood: average annual development finance commitments from China amounted to $117 billion between 2013 and 2017 and average annual development finance commitments from the U.S. amounted to $40.6 billion over the same five-year period (in constant USD 2021 prices). These historical revisions imply that Beijing was outspending Washington on a nearly 3-to-1 basis during the early years of the BRI.

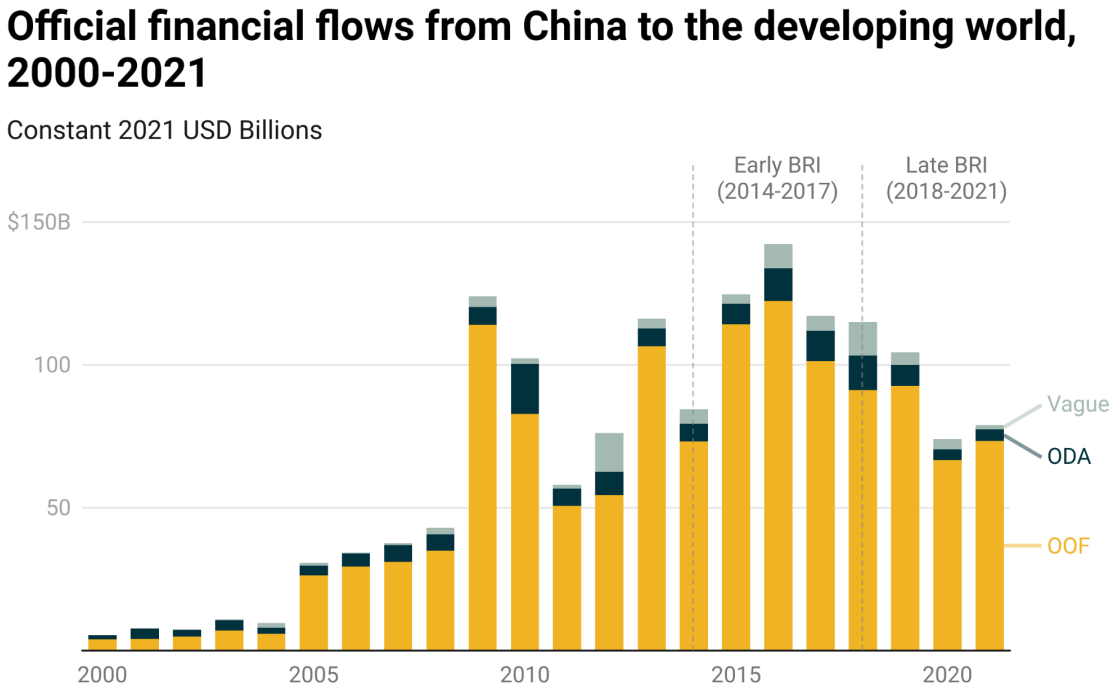
[13] To see the annual percentage of China's official financial flows to LICs and MICs provided via ODA and OOF, see Figure A1 in the Appendix.

[14] Since the first full year of BRI implementation in 2014, no member of the G7 has outspent China. The individual members of the G7 spent between $2 billion and $61 billion a year on overseas development activities between 2014 and 2021. China spent between $74 billion and $142 billion a year between 2014 and 2021.

[15] In a recent stock-taking exercise, Nikkei Asia concluded that "initial optimism [for the BRI] has been replaced by disappointment over mismanagement, debt crises and corruption that have left many projects unfinished or incapable of fulfilling their promised potential (Aamir et al. 2022).

more complete data on the full range of China's lending and grant-giving activities in LICs and MICs, it shows a far less dramatic decline in overseas spending during the late BRI period: official financial flows (ODA and OOF commitments) from China to LICs and MICs declined from $115 billion in 2018 to $104 billion in 2019 and $74 billion in 2020, before increasing to $79 billion in 2021 (see Figure 1.2).[16]

Figure 1.2



Notes: AidData relies on OECD-DAC measurement criteria to make ODA and OOF determinations (see Section A-2 of the Appendix for details). The Vague (Official Finance) is a residual category for official financial commitments from China that could not be reliably categorized as ODA or OOF because of insufficiently detailed information.

In Chapter 2, we set the record straight by demonstrating that a sharp decline in dollar-denominated, bilateral lending for public investment projects did indeed take place between 2018 and 2021, but it was offset to a significant extent by

[16] In Chapter 2, we explain why AidData's estimates of official sector lending commitments from China to LICs and MICs are substantially different from those recorded in other publicly available databases, such as the China's Overseas Development Finance Database, the Chinese Loans to Latin America and the Caribbean Database, the Chinese Loans to Africa Database, the China's Global Energy Finance Database, the China Overseas Finance Inventory Database, and the World Bank's International Debt Statistics (IDS).

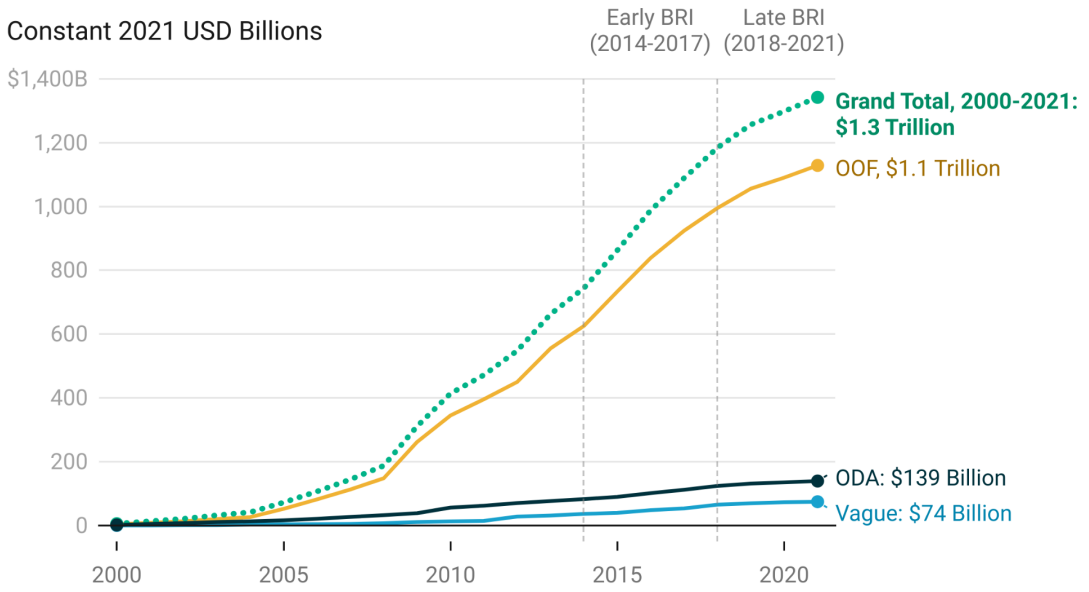
contemporaneous increases in RMB-denominated, bilateral emergency rescue lending and increases in non-emergency lending via syndication and multilateralization. We also provide evidence that, although Beijing is reducing its reliance on the policy banks, it is ratcheting up its use of the country's state-owned commercial banks and central bank.

The scale of China's ambition as a global development financier becomes even clearer in an analysis of "stocks" rather than "flows."[17] Figure 1.3 provides evidence that the inflation-adjusted value of Beijing's 21st-century overseas development finance portfolio reached the $745 billion mark by the first full year of BRI implementation (2014) and surpassed the $1 trillion mark by the fourth full year of BRI implementation (2017). The portfolio continued to expand in subsequent years—so much so that it exceeded $1.3 trillion in 2021.[18] Figure 1.4 presents the cumulative amount of Chinese ODA and OOF from 2014 to 2021 and compares it to cumulative amounts of ODA and OOF from each member of the G7 over the same time period. China's overseas development program is vastly larger than that of any G7 member, including the U.S. Beijing has outspent Washington in LICs and MICs on a more than two-to-one basis since the BRI was launched.[19] Between 2014 and 2021, official financial flows from China to the developing world amounted to $680 billion, while those from the U.S. amounted to $319 billion.[20] Over the same time period, China also outspent the single largest source of multilateral development finance—the World Bank—by a considerable margin.[21]

[17] The rationale for evaluating "stocks" (cumulative financial commitments) rather than "flows" (annual financial commitments) is that grants and loans are issued at specific points in time, but they disburse over many years and support projects implemented over many years.
[18] Section A-3 in the Appendix provides guidance for those who wish to use the 3.0 version of AidData's GCDF dataset to estimate cumulative stocks of official financial flows from China to LICs and MICs.
[19] China's average annual international development finance (ODA/OOF) commitments amounted to $85 billion between 2014 and 2021 (excluding the short-term "rollover" facilities described in Box 2c and Section A-3). This figure rises to $105 billion if one includes short-term "rollover" facilities. Average annual international development finance (ODA/OOF) commitments from the U.S. amounted to $40 billion between 2014 and 2021.
[20] The $680 billion figure excludes the short-term "rollover" facilities described in Box 2c and Section A-3. It increases to $841 billion when such facilities are included in the tally.
[21] Total international development finance (ODA and OOF) commitments from the World Bank amounted to $493 billion from 2014-2021.

Figure 1.3

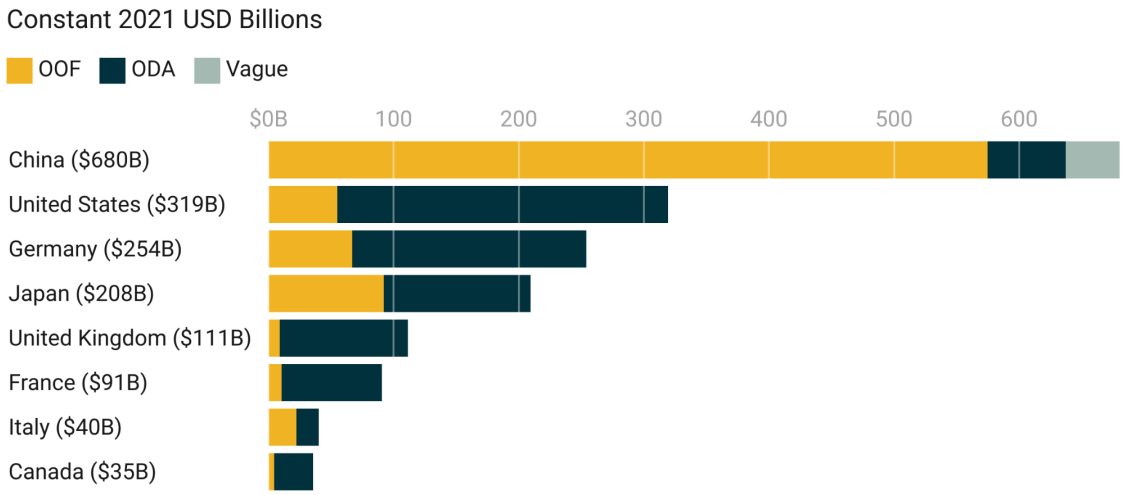
Cumulative official financial flows from China to the developing world, 2000-2021



Notes: AidData relies on OECD-DAC measurement criteria to make ODA and OOF determinations (as described in Section A-2 of the Appendix). The Vague (Official Finance) is a residual category for official financial commitments from China that could not be reliably categorized as ODA or OOF because of insufficiently detailed information. This figure excludes short-term "rollover" facilities from the tally of official financial commitments (see Box 2c and Section A-3 in the Appendix).

Figure 1.4

Official financial flows from China and the G7 to the developing world during the BRI era, 2014-2021



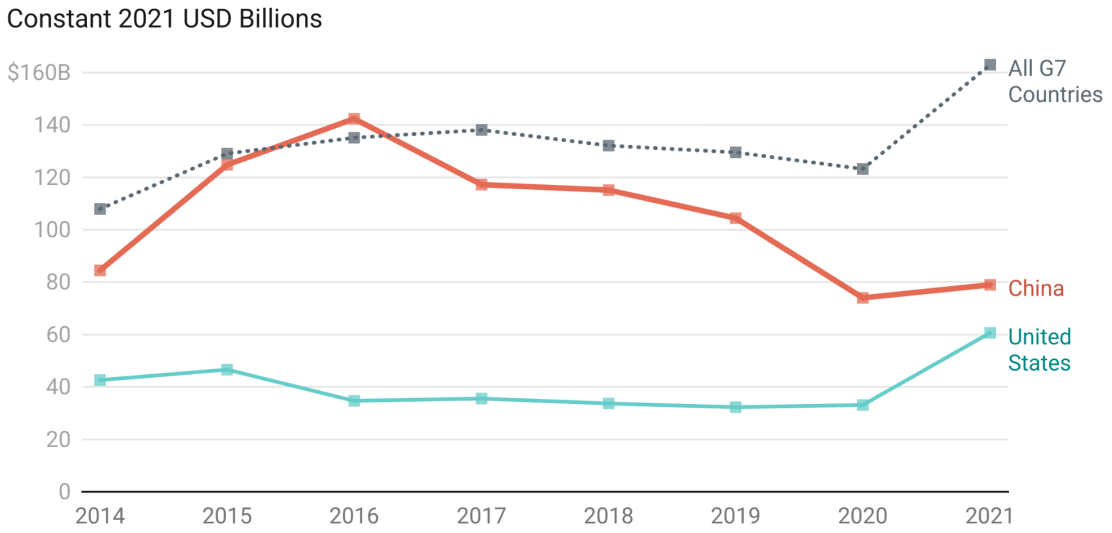
Notes: AidData relies on OECD-DAC measurement criteria to make ODA and OOF determinations (as described in Section A-2 of the Appendix). The Vague (Official Finance) is a residual category for official financial commitments from China that could not be reliably categorized as ODA or OOF because of insufficiently detailed information. G7 ODA and OOF data represent gross disbursements from the OECD-DAC. This figure excludes short-term "rollover" facilities from the tally of official financial commitments (see Box 2c and Section A-3 in the Appendix).

At the same time, there is evidence that the U.S. is beginning to close the overseas development spending gap with China (see Figure 1.5). During the early BRI period (2014-2017), China outspent the U.S. on a nearly three-to-one basis. However, during the late BRI period (2018-2021), Beijing spent $2.33 for every overseas development dollar spent by Washington. The gap narrowed even more during the last year for which reliable data are available: Beijing only spent $1.30 for every overseas development dollar spent by Washington in 2021.[22]

[22] While official financial flows (ODA and OOF) from the U.S. to LICs and MICs amounted to $61 billion in 2021, official financial flows from China to LICs and MICs amounted to $79 billion during the same year.

Figure 1.5

Official financial flows from China, the U.S., and G7 countries to the developing world during the BRI era, 2014-2021



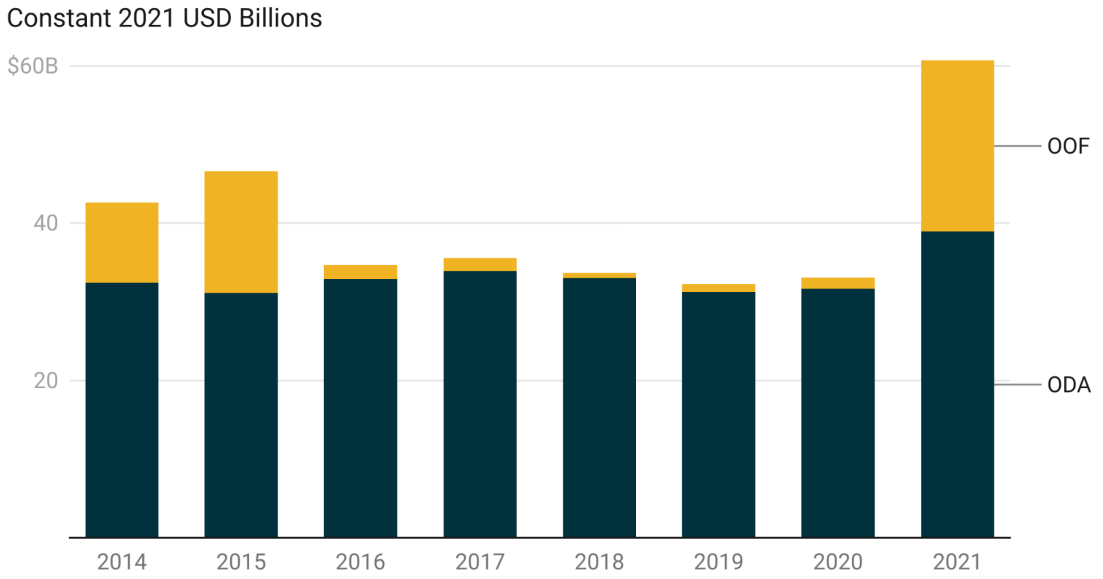
Notes: This figure measures official financial flows (ODA and OOF commitments) from China, the U.S. and G7 countries to LICs and MICs from 2014 to 2021. AidData relies on OECD-DAC measurement criteria to make ODA and OOF determinations (as described in Section A-2 of the Appendix). The U.S. and G7 ODA and OOF data represent gross disbursements from the OECD-DAC.

Figure 1.6 demonstrates that the U.S. gained ground on China in 2021 due to a fifteen-fold (1,423%) increase in OOF expenditure.[23] In 2020, OOF represented just 4% of the U.S. international development finance portfolio; the remaining 96% consisted of ODA. However, one year later, the percentage of U.S. international development finance provided via OOF soared to 36%. This major compositional change in U.S. development expenditure suggests that Washington is seeking to compete with Beijing via emulation rather than differentiation.[24]

[23] U.S. OOF amounted to $1.4 billion in 2020 and $21.8 billion in 2021.
[24] Relatedly, Zeitz (2021) provides evidence that the World Bank is seeking to compete with China via emulation rather than differentiation.

Figure 1.6

Official financial flows from the U.S. to the developing world, 2000-2021



Notes: U.S. ODA and OOF flows reflect gross disbursements (as OOF commitment data are not published by the OECD-DAC for individual DAC members).

The $20.3 billion increase in OOF that took place in 2021 was the result of an expansion in the overseas activities of the U.S. International Development Finance Corporation (DFC).[25] In October 2018, the U.S. Congress passed the Better Utilization of Investment Leading to Development (BUILD) Act, which established the DFC as a "full service" development finance institution to help the U.S. "outcompete" China around the globe.[26] However, the DFC did not become fully operational until 2021. One of its earliest (attempted) transactions was a $2.8 billion loan in January 2021 to help the Government of Ecuador repay some of its outstanding debts to China ahead of schedule, in exchange for a commitment to exclude Chinese companies from its telecommunications networks.[27] The proposed borrowing terms of the DFC loan were

[25] In July 2023 correspondence with AidData, the USAID office responsible for ODA and OOF reporting to the OECD-DAC confirmed that the full operation of the DFC in 2021 led to the major increase in U.S. OOF in 2021. See also DFC 2021a and DFC 2022. The DFC's transaction-level data, which is organized by fiscal year rather than calendar year, can be accessed via https://www.dfc.gov/our-impact/transaction-data.
[26] Akhtar and Brown (2021); Dreher et al. (2022).
[27] Sevastopulo and Long (2021); Landers et al. (2021).

non-concessional in nature: an 8-year maturity, a 1-year grace period, and an interest rate of LIBOR plus a 2.25% margin.[28] At the time, DFC CEO Adam Boehler said that the loan would "refinance predatory Chinese debt and help Ecuador improve the value of its strategic assets."[29]

But U.S. spending patterns do not provide the full picture because Washington is seeking to outcompete China by partnering with its allies in London, Paris, Berlin, Tokyo, Rome, and Ottawa. G7 efforts to compete with China are gathering steam. During the early BRI period (2014-2017), China and the G7 were effectively matching each other dollar-for-dollar: for every overseas development dollar that China spent, the G7 spent $1.09.[30] However, during the late BRI period (2018-2021), the G7 stepped up its efforts, spending $1.47 for every overseas development dollar spent by China (see Figure A2 in the Appendix).[31] By 2021, the G7 was outspending China on a nearly two-to-one basis (see Figure 1.5).[32]

As the U.S. and its allies seek to compete with China by rolling out flagship infrastructure programs (like the Partnership for Global Infrastructure and Investment and the India-Middle East-Europe Economic Corridor Initiative) and ramping up non-concessional lending (OOF), a strategic pivot is underway in Beijing. Figure 1.7 provides evidence of major changes in the sectoral composition of China's overseas development finance portfolio between 2014 and 2021.[33] Beijing was for the most part focused on providing credit for

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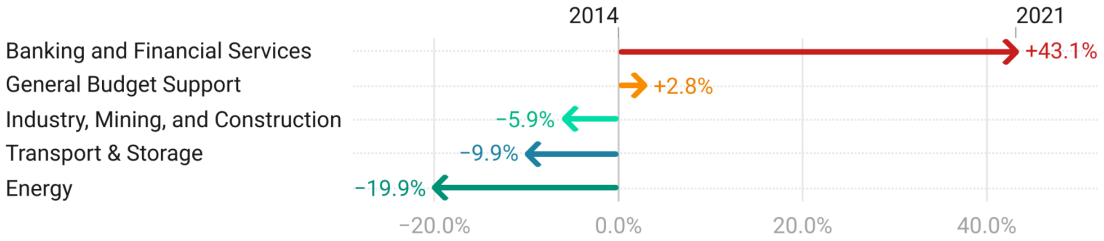
[28] Bruni (2021). The January 2021 framework agreement between the DFC and Government of Ecuador can be accessed in its entirety via https://www.dropbox.com/s/oy377uc6wz8u9oe/Ecuador%20DFC%20January%202021%20Framework%20Agreement.pdf?dl=0.
[29] DFC (2021b).
[30] The G7 failed to match China's ODA and OOF commitments in 2014 and 2016 (see Figure 1.5).
[31] While China spent $93 billion a year on average between 2018 and 2021, the G7 spent $137 billion a year on average.
[32] In 2021, official financial flows (ODA and OOF) from all members of the G7 (combined) to LICs and MICs reached $163 billion, while official financial flows from China to LICs and MICs amounted to $79 billion.
[33] According to Figure A3, the percentage of China's overseas development finance portfolio that supported three "hardware" sectors (Energy; Industry, Mining, and Construction; and Transport and Storage) declined from 68.3% in 2014 (the first full year of the early BRI period) to 30.6% in 2021 (the last year of the late BRI period for which we have complete data). The percentage of China's overseas development finance portfolio that supported the "Banking and Financial Services" sector and "General Budget Support" sector increased from 13.0% to 58.9% between 2014 and 2021. These two sectors capture emergency lending from China's central bank (PBOC) to LIC and MIC central banks via currency swap arrangements, as well as emergency lending to finance LIC and MIC finance ministries via China's State Administration of Foreign Exchange (SAFE), state-owned policy banks, state-owned commercial banks, and state-owned energy companies

large-scale infrastructure projects during the early BRI (or BRI 1.0) era. Yet, as we explain at greater length in Chapter 2, it ramped down infrastructure project lending and ramped up emergency rescue lending during the late BRI (or BRI 2.0) period. Beijing made this course correction in order to adapt to a new reality: the fact that many of its largest borrowers were having serious difficulty repaying their infrastructure project debts.[34]

Figure 1.7

Change in sectoral composition of official financial flows from China to the developing world, 2014-2021

Percentage change in ODA/OOF (in constant 2021 USD), selected sectors



Notes: This figure, which relies on 3-digit OECD sector codes from the 3.0 version of AidData's GCDF dataset, presents proportional changes in the sectoral composition of Chinese ODA and OOF commitments (measured in constant 2021 USD) to LICs and MICs between 2014 and 2021. Figure A3 in the Appendix provides supplementary evidence on sectoral changes over the same time period.

There are glass-half-full and glass-half-empty ways of interpreting G7 efforts to compete with China. The glass-half-full view is that Beijing is ceding its leadership in the global infrastructure space and the G7 is seeking to fill the vacuum, which may help address the large, unmet infrastructure financing needs of developing countries. The glass-half-empty view is that the G7 is misreading the demand signal from the Global South and seeking to compete with a version of the BRI (BRI 1.0) that no longer exists. After recently going on a borrowing spree for big-ticket infrastructure projects, low-income and middle-income countries may have less appetite for expensive infrastructure and more appetite for balance of payments support that will keep them afloat during

[34] Beijing effectively created a backstop for highly exposed Chinese creditors by channeling emergency rescue loans to the subset of BRI participant countries that present major balance sheet risks (see Horn et al. 2023a, 2023b as well as the replication exercise that we conduct in Chapter 2).

a time when global economic conditions are highly unfavorable (as interest rates rise, the dollar strengthens, local currencies weaken, and economic growth slows).

Section 3: Repayment risk from Beijing's perspective

Beijing's pivot away from infrastructure project lending and toward emergency rescue lending is as much about supply-side pressures as it is about demand-side pressures. After the Belt and Road Initiative was launched, Chinese state-owned creditors went on a lending spree, issuing thousands of loans for big-ticket infrastructure projects spread across 129 countries in the developing world. However, they did so without strong risk management guardrails in place. They lent to borrowers with bad credit ratings or no credit ratings (like Laos, Tajikistan, Zambia, South Sudan, Suriname, Zimbabwe, Pakistan, and Argentina); banked on borrowers being able to repay loans with the cash proceeds from natural resource exports (like Angola, Equatorial Guinea, Ecuador, Venezuela, Congo-Brazzaville, and Turkmenistan); and issued dollar- and euro-denominated loans to countries (like Russia, Belarus, Myanmar, Sudan, Iran, and Cuba) that would later be unable to transact in those currencies due to international sanctions.

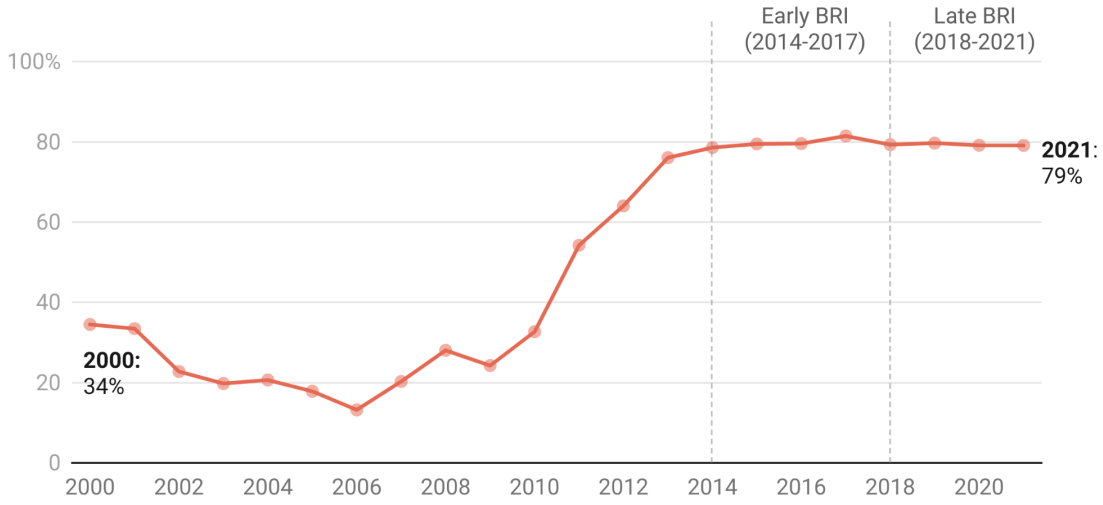
Now, Chinese state-owned creditors are saddled with many underperforming loans and want to ensure that their overseas borrowers are sufficiently liquid to continue servicing their existing infrastructure project debts.[35] They are responding to this challenge in two ways, which we document in greater detail in Chapter 2: debt reschedulings that provide short-term cash flow relief to borrowers and emergency rescue loans that help borrowers shore up their foreign exchange reserves and repay existing (infrastructure project) debts.

[35] Chinese state-owned creditors have for the most part responded to this challenge via cash flow relief (emergency rescue loans, grace period extensions, and/or maturity extensions), which suggests that they think their borrowers are illiquid but not insolvent (Horn et al. 2023a, 2023b). In a recent interview with Muyang Chen of Peking University, one policy bank official characterized the rising tide of debt distress in the developing world as "essentially a problem of liquidity" (Chen 2023: 1772).

Figure 1.8

Percentage of China's portfolio of loan commitments supporting countries in financial distress, 2000-2021

Proportion of cumulative loan commitments (in constant 2021 USD) from official sector institutions in China to low- and middle-income countries

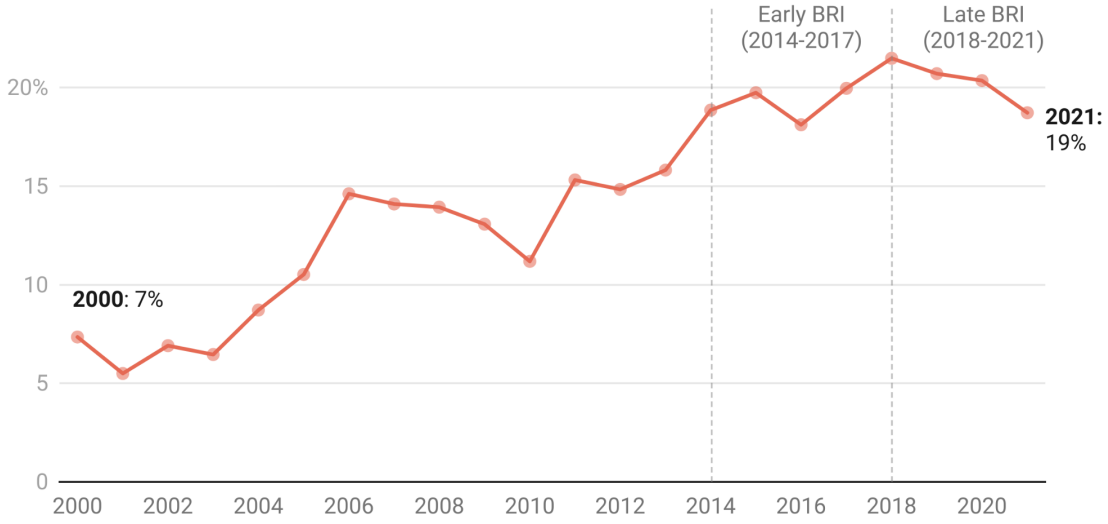


Notes: MOFCOM interest-free loan commitments (which are typically issued without a credible expectation of repayment) and emergency rescue loan commitments (responses to financial distress) are excluded from the calculation. To determine if a country was experiencing financial distress in a given year, we use the binary measure described in Box 1a.

Figure 1.9

China's share of overdue repayments owed to official creditors, 2000-2021

Percentage of sovereign (principal and interest) arrears from low- and middle-income countries



Notes: Sovereign arrears capture principal and interest arrears (i.e., overdue repayments) on PPG debt to China Eximbank, China Development Bank, and China's Ministry of Commerce contracted by a subset of LICs and MICs that participate in the World Bank's Debtor Reporting System (DRS). Each country-year observation is given equal weight in a given year to generate global averages. Years in which a country maintained diplomatic relations with Taiwan are excluded. The data are drawn from the World Bank's International Debt Statistics.

Figures 1.8, 1.9, and A4 in the Appendix highlight the scope and severity of the challenge. Until 2008, Beijing never had to deal with more than 10 financially-distressed countries with unpaid debts to Chinese state-owned creditors; however, by 2021, at least 57 countries with outstanding debt to China were in financial distress (see Figure A4).[36] In 2000, 34% of China's overseas

[36] According to the World Bank's International Debt Statistics (IDS), sovereign arrears from LICs and MICs to official sector creditors in China have also sharply increased in absolute terms (see Figure A5). However, due to the credit coverage and underreporting issues that affect IDS data (see Figure 2.1, Table A15, Horn et al. 2021, and Malik et al. 2021), the absolute amounts in Figure A5 should be interpreted with caution.

lending portfolio supported borrowers in financial distress.[37] By 2021, that figure skyrocketed to 79% (see Figure 1.8).[38]

Box 1a: How AidData identifies when China's borrowers are experiencing financial distress

Figure A4, Figure 1.8 and other graphs and tables in this report require a measure of when countries have borrowed from China under normal circumstances and when countries have borrowed from China during periods of financial distress. In order to determine whether and when a borrower country experienced a financial distress episode, we identify if it met any one of the following conditions in a given year:

- It registered a score of 5 or less on the sovrate index produced by the World Bank;
- Its overdue repayments on public debt to China were equal to or greater than 10% of its of total outstanding public debt to China (as measured by the World Bank); or
- One or more of its official sector loans from China—that are within their originally scheduled repayment periods—showed signs of financial distress (as measured by the 3.0 version of AidData's GCDF dataset).

The World Bank's sovrate index is a measure of repayment risk—based on average sovereign credit ratings from Moody's, Standard & Poor's, and Fitch—that varies from 0 to 21, with higher scores indicating lower levels of sovereign credit risk (Kose et al. 2022). Countries with scores of 0-5 are in "C and D territory" on the measures produced by the *Big Three* credit rating agencies—i.e., they are in default or at a high risk of default (Teixeira et al. 2018; Séri et al. 2021).[39] The data on overdue loan repayments to China are drawn from the World Bank's International Debt Statistics (IDS), which is based on voluntary reporting by 119 low-income and middle-income countries. We use these data to measure whether a country's principal and interest arrears on public and publicly guaranteed (PPG) debt to official sector creditors in China are equal to or greater than 10% of its total outstanding PPG debt to official sector creditors in China.[40] We also use a variable from the 3.0 version of AidData's GCDF dataset that measures on

[37] Figure 1.8 draws inspiration from Figure 1 in Horn et al. (2023b), which relies on an earlier (2.0) version of AidData's GCDF dataset. Both figures seek to measure the percentage of official sector Chinese lending to LIC and MIC borrower countries in distress, but in somewhat different ways. The shape of the line in Figure 1.8 is different from the one in Horn et al. (2023b), in that the onset of exceptionally high levels of distress (in excess of 50%) begins in 2011 rather than 2022. Figure 1.8 also suggests that nearly 80% of China's overseas lending to LICs and MICs is now supporting countries in distress. Horn et al. (2023b) estimate that the figure is closer to 60%, although they use a version of the GCDF dataset which captures 3,030 official sector loans from China rather than the 4,890 official sector loans from China captured in the 3.0 version (including 4,776 for approved, active, and completed projects/activities and 114 for suspended and canceled projects/activities).

[38] During the pre-BRI period (2000-2013), 32% of China's overseas lending portfolio supported borrowers in financial distress on average each year. This figure increased to 79.7% during the early BRI period (2014-2017) and remained unchanged (79.7%) during the late BRI period (2018-2021).

[39] The sovereign credit ratings produced by Moody's, Standard & Poor's, and Fitch vary between AAA and D. Ratings of BB or lower are considered to be "junk territory."

[40] We exclude all observations in years when a country maintained diplomatic relations with Taiwan (since the reported arrears may be to Taiwan).

a *loan-by-loan basis* whether the borrower had difficulty making repayments or showed signs of financial distress during the repayment period.[41]

Our measure of whether a given borrower country experienced a financial distress episode is reset to 0 ("turns off") in a given year if the country's sovrate score exceeds 5.0, its overdue repayments on public debt to China are no longer equal to or greater than 10% of its of total outstanding public debt to China, and none of its loans from official sector creditors in China (that are within their originally scheduled repayment periods) show signs of financial distress.

Another useful gauge of the health of China's overseas lending portfolio is the extent to which its borrowers are falling behind on their repayments to Chinese creditors (in comparison to other external creditors). Figure 1.9 tracks the percentage of all overdue payments (principal and interest arrears) from low-income and middle-income governments to all official creditors that are owed to creditors in China. It shows that a rapidly growing proportion of overdue loan repayments are owed to Chinese state-owned creditors. This figure more than doubled—from 7% in 2000 to 19% in 2021.[42]

Section 4: Project performance risk from Beijing's perspective

Beijing has channeled an extraordinary amount of aid and credit to the developing world for large-scale infrastructure projects. According to the 3.0 version of AidData's GCDF dataset, which includes a new measure of whether projects involve the construction, rehabilitation, expansion, or maintenance of physical infrastructure, official sector donors and lenders in China issued 4,800 grants and loans (worth $825 billion) for infrastructure projects in 140 developing countries between 2000 and 2021.[43] Infrastructure projects are notoriously difficult to implement (for reasons that we discuss at greater length in Chapter

[41] Once this dummy variable is set to 1 ("turns on") in a particular country-year, it retains a value of 1 ("stays on") for that country until the end of the loan's originally scheduled repayment period. The repayment period is calculated for each loan commitment (regardless of whether it was subsequently suspended or canceled) based on the originally scheduled first repayment date (estimated by adding the grace period to the commitment date) and the originally scheduled final repayment (maturity) date (estimated by adding the maturity to the commitment date). In cases where the grace period is unknown, the average grace period across all official sector loans from China to the same borrower country is applied. The variable never "turns on" for MOFCOM interest-free loans (which are typically issued without a credible expectation of repayment) or emergency rescue loans (responses to financial distress).

[42] Sovereign arrears from LICs and MICs to official creditors in China have also sharply increased in absolute terms (see Figure A5).

[43] For more on the definition and measurement of the "infrastructure" variable, see Custer et al. (2023).

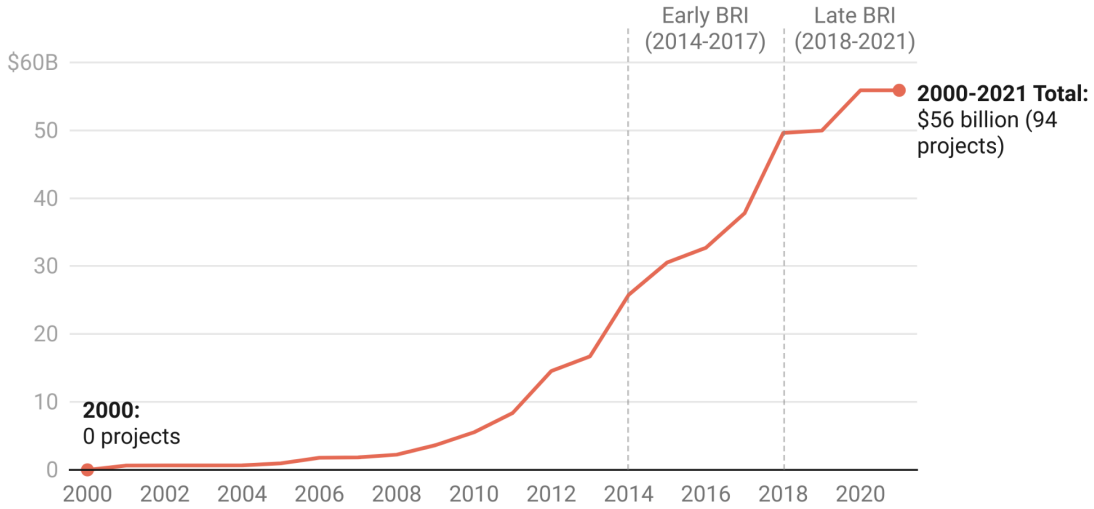
3). Therefore, an important part of Beijing's portfolio management challenge is dealing with project performance risk.

The 3.0 version of AidData's GCDF dataset is different from other publicly available datasets of Chinese development finance in that it captures project suspensions and cancellations (see Figure A6). We have previously encountered criticism for publishing data on infrastructure—and non-infrastructure—projects backed by official commitments that are subsequently suspended or canceled.[44] However, we maintain that it is important to systematically track these projects and subject them to analysis. Shielding suspended and canceled projects from public scrutiny leaves analysts and decision-makers with an incomplete picture of Beijing's overseas development program. It also limits opportunities to learn from failure.

Figure 1.10

Canceled or suspended Chinese infrastructure projects, 2000-2021

Cumulative monetary value of Chinese grant- and loan-financed infrastructure projects (constant 2021 USD billions)

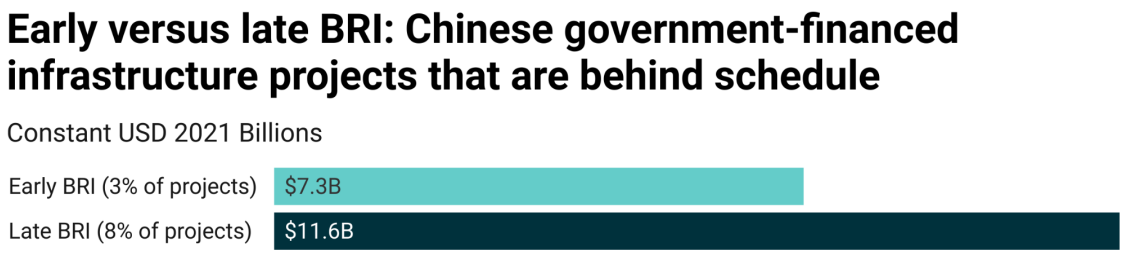


[44] Users of the 3.0 version of AidData's GCDF dataset who wish to exclude suspended and canceled projects from their analysis can easily do so by using the "Recommended for Aggregates" filter or the "Status" variable.

Notes: Based on Chinese ODA- and OOF-financed projects (including those canceled or suspended since 2000) marked as "infrastructure" in the 3.0 version of AidData's GCDF dataset. No projects that were committed in the year 2000 were subsequently canceled or suspended.

Figure 1.10 demonstrates that suspensions and cancellations of infrastructure projects have rapidly accumulated over time. By 2021, 94 infrastructure projects in 49 countries secured Chinese grant and loan commitments worth $56 billion that were subsequently suspended or canceled. These projects are likely viewed by Beijing as evidence of BRI buyer's remorse, as 80% of the suspensions and cancellations that took place between 2014 and 2021 were in BRI participant countries.[45] However, this method of measurement is a conservative, lower-bound estimate of the total number of infrastructure projects that China unsuccessfully sought to bankroll and build, as it excludes those that were shelved *before* securing financial commitments (Lu et al. 2023b).[46]

Figure 1.11



Notes: "Behind schedule" is defined as Chinese ODA- and OOF-financed projects where the actual implementation start date took place 3 months or more after its originally scheduled implementation start date, as well as projects where the actual completion date took place 3 months (or more) after its originally scheduled completion date.

Another source of implementation risk and potential cause for concern is the increase in the proportion of Beijing's infrastructure project portfolio running

[45] To calculate this figure, we first determine which countries had officially joined the BRI by the end of 2021, and then calculate the share of suspended and canceled projects in BRI participant countries between 2014 and 2021.

[46] Take for example the project to build a 97-km "oil road" connecting Masindi-Biso, Kabaale-Kiziranfumbi and Hohwa-Nyairongo-Kyarushesha-Butoole in Uganda (captured via ID#96073 in the 3.0 version of AidData's GCDF dataset). In December 2021, Uganda's Ministry of Finance withdrew its request for parliamentary authorization to contract a loan from China Construction Bank for the project. Therefore, AidData status-codes the project as "Pipeline: Pledge" rather than a suspension or cancellation of a financial commitment.

behind schedule between the early BRI period and the late BRI period (see Figure 1.11).[47] However, this measure of whether a project is running behind schedule captures two different types of delays: commencement delays and completion delays.[48] More specifically, it measures whether a project's (a) actual implementation start date took place 3 months after its scheduled implementation start date or longer, and/or (b) its actual completion date took place 3 months after its scheduled completion date or longer. When this summary metric is unbundled into its constituent parts, a more complex and nuanced picture of China's overseas infrastructure project portfolio emerges. Figure 1.12 demonstrates that, while commencement delays have increased, completion delays have not. The average commencement delay increased by 32 days between the early BRI period and the late BRI period, while the average completion delay shrank by 59 days over the same two time periods.[49]

Figure 1.12

Early versus late BRI: Average commencement and completion delays for Chinese infrastructure projects

Change in number of days

Notes: This figure is based on active and completed infrastructure projects financed with Chinese ODA and OOF. Delays are calculated by taking the difference (in calendar days) between the originally scheduled project implementation start date/completion date and the actual project implementation start date/completion date (respectively).

The fact that a shrinking proportion of infrastructure projects launch on their originally scheduled commencement dates could be related to several different

[47] Figure 1.11 demonstrates that not only the proportion but also the overall size of Beijing's infrastructure project portfolio (in constant 2021 USD) running behind schedule increased between the early BRI period and the late BRI period.
[48] This measure is derived from the "Deviation from Planned Implementation Start Date" and "Deviation from Planned Completion Date" variables in the 3.0 version of AidData's GCDF dataset.
[49] Figure A7 provides evidence of a steady decline in average completion delays—from 571 days in 2000 to 220 days in 2021.

factors. One possibility is that Chinese contractors and/or their host country counterparts are increasingly expected to comply with environmental, social, or governance (ESG) standards prior to the start of project implementation—or they are underestimating the difficulty of meeting these standards before infrastructure projects can get underway.[50] A separate but related possibility is that Chinese lenders are asking their borrowers to meet more ESG conditions (so-called "conditions precedent") prior to the date of the first loan disbursement, which typically precedes the start of project implementation. We address these issues at greater length in Chapter 3. Another possibility, which we address in Chapter 4, is that host country politicians are increasingly reluctant to "claim credit" for infrastructure projects financed by China via high-profile groundbreaking ceremonies.

At the same time, not all of the lights on Beijing's project performance dashboard are "flashing red." Chinese lenders and contractors have evidently learned how to reduce the likelihood that overseas infrastructure projects will not be finished on time—and the length of any delays that do take place during project implementation. These improvements could be the result of better planning (more realistic forecasting of how long it takes to complete projects) or fewer/smaller scope of work deviations by the contractors responsible for project implementation. They also call attention to an important measure that Beijing can take to slow or reverse the rising tide of BRI "buyer's remorse": timely completion of projects that improve the provision of public services in host countries. In new work with collaborators from Heidelberg University, the University of Göttingen, and the University of Hong Kong, we provide causal evidence that the *completion* of Chinese development projects increases popular support for the Chinese government in host countries (Wellner et al. forthcoming).[51] We also show in the same study that host country residents are more likely to report satisfaction with the delivery of public services upon the completion of Chinese development projects.

[50] Typically, the proceeds from a grant or loan from a Chinese state-owned entity are used by the recipient to finance a commercial contract between a "project owner" in the host country and a contractor from the financier's country of origin. The commercial contract typically specifies an expected implementation start date and an expected completion (implementation end) date, but contractors and/or project owners can negotiate scope of work and timeline modifications.

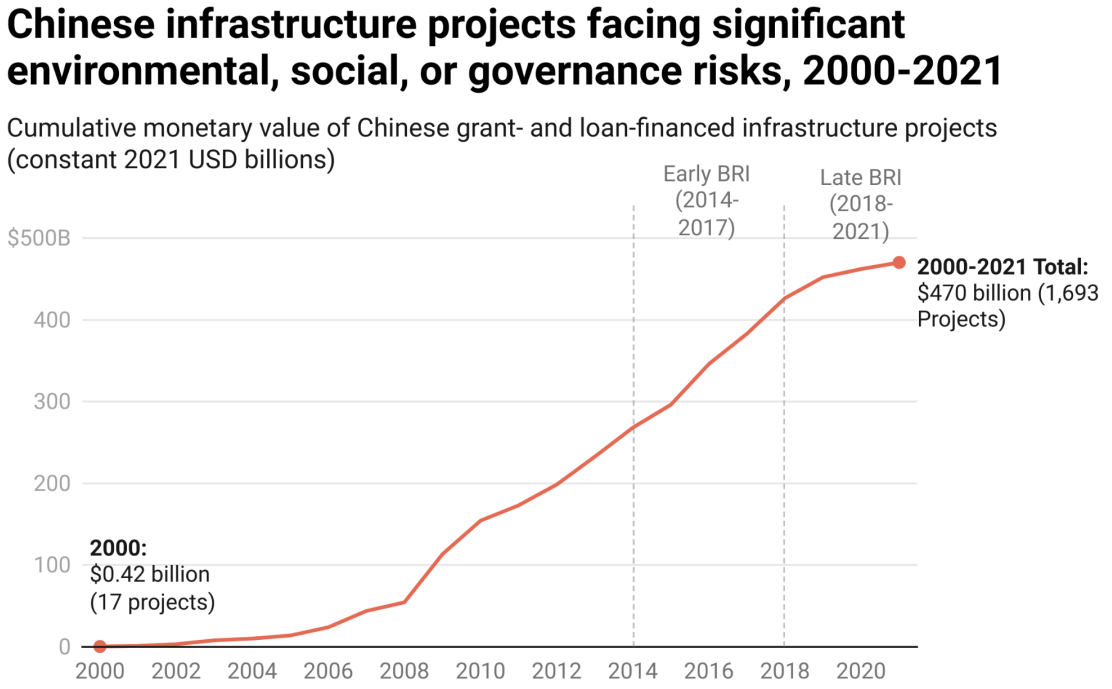
[51] One potential reason why project completion dates are consequential for reputations is that they "erase any uncertainty about whether a project will actually reach completion" (Wellner et al. forthcoming). The same study does *not* find that project commencement consistently delivers a public opinion dividend.

However, Beijing cannot afford to rest on its laurels. Another key finding from the same study is that these effects erode over time: on average, we find that the completion of one additional Chinese development project increases public support for the Chinese government by approximately 3 percentage points in the short run but only 0.2 percentage points in the longer run (Wellner et al. forthcoming).

Beijing also faces a daunting set of ESG risks in its overseas development program. In Chapter 3, we develop and analyze a new composite measure of ESG risk that captures whether a given Chinese grant- or loan-financed infrastructure project (1) took place in an area that is environmentally sensitive, socially sensitive, or vulnerable to political capture and manipulation; (2) relied on contractors sanctioned by other international financiers for fraudulent and corrupt behavior; or (3) encountered a significant environmental, social, or governance problem before, during, or after implementation. Figure 1.13, which draws upon this measure, indicates that the cumulative number of Chinese grant- and loan-financed infrastructure projects in LICs and MICs with significant ESG risk exposure increased from 17 projects in 16 countries in 2000 to 1,693 projects in 125 countries in 2021. As of 2000, Beijing had issued grants and loans worth $420 million for infrastructure projects in LICs and MICs that faced one or more significant ESG risks. This figure increased on a cumulative basis to $470 billion in 2021. The ESG risk prevalence rate, which we define as the annual percentage of China's grant- and loan-financed infrastructure project portfolio (measured in constant 2021 USD) with significant environmental, social, or governance risk exposure, also increased from 12% in 2000 to 33% in 2021 (see Figure 3.2).[52]

[52] The average ESG risk prevalence rate reached 54% during the early BRI (2014-2017) period and 47% during the late BRI (2018-2021) period (see Chapter 3 and Figure 44).

Figure 1.13



Notes: The presence of significant ESG risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3.

Section 5: Reputational risk from Beijing's perspective

Managing the risk profile of China's overseas development program also requires a focus on grassroots, media, and elite support in host countries.[53] In 2014, Xi Jinping made the case for reputational risk management in China's international activities, arguing that "[w]e should increase China's soft power, give a good Chinese narrative, and better communicate China's message to the world" (People's Daily 2014). Reinforcing this point, a senior official from China's Ministry of Commerce noted that "the work of foreign aid relates to China's image. We cannot tolerate any negligence or projects of poor quality" (MOFCOM 2014). More recently, at a September 2023 conference on the 10th anniversary of the BRI, China's Ambassador to the European Union acknowledged that "[w]hen it comes to the BRI, whether it's good or bad, we

[53] Foreign powers undertake reputational risk management efforts that focus on the general public and the media because they believe that more favorable sentiment can "filter up and influence elite policy to be more amenable to [their own] interests" (Brazys and Dukalskis 2019: 567).

need to listen more to the receiving countries. We know there is a lot of criticism in the Western media and also from Western governments sometimes but we care more about the reactions from the receiving states, especially in the Global South" (Euractiv 2023).

Figure 1.14 presents data from the Gallup World Poll (GWP) on average levels of public support for the Chinese government and the U.S. government across the developing world during the early BRI (2014-2017) period and the late BRI (2018-2021) period. The GWP data show similar levels of public support for Beijing and Washington during the early BRI period. Both countries saw their approval ratings in the Global South fluctuate between 50% and 60% between 2014 and 2017. However, as the initial momentum behind China's flagship global infrastructure initiative waned and countries re-evaluated the risks and rewards of their continued participation during the late BRI period, global public opinion vis-à-vis China soured. Beijing suffered a 16 percentage point loss between 2019 and 2021; its public approval rating in low-income and middle-income countries plunged from 56% in 2019 to 40% in 2021.[54] Washington, by contrast, saw its approval rating in the Global South rise by 7 percentage points in 2021, thereby opening up a 14 percentage point advantage over its rival.

Box 1b: How AidData measures grassroots, media, and elite support for China and the U.S. in the developing world

This report relies on three different measures of Chinese and American soft power in low-income and middle-income countries: (1) public opinion, (2) media sentiment, and (3) elite support.

We rely on the Gallup World Poll (GWP) for data on public approval of China and the U.S. The GWP is the most systematic effort to consistently collect public opinion data in every major world region over time. It provides annual (repeated cross-section) data from 2006 to 2021 for more than 140 countries. The data are probability-based and nationally representative of the resident population of 15 years and older. To facilitate our analysis, we first transform the respondent-level data from WP156 and WP151 ("Do you approve or disapprove of the job performance of the leadership of China?" and "Do you approve or disapprove of the job

[54] Figure A9 in the Appendix provides evidence that this decline is not due to increased indifference toward China (i.e., the absence of active approval). It is because of an increase in active disapproval—from 44% in 2019 to 60% in 2021. High levels of active disapproval likely reflect multiple factors, including concerns about the local effects of Chinese development projects and how Beijing handled the COVID-19 pandemic (Silver et al. 2020; Blair et al. 2022a).

performance of the leadership of the United States?") into two binary indicators that assume values of 1 if a respondent approves of the leadership of China or the leadership of the U.S., respectively.[55] We then calculate the percentage of respondents who approved of the leadership of China or the leadership of the U.S., respectively, at the country-year level.

We measure media sentiment toward China and the U.S. by calculating two sets of average scores—one for China and one for the U.S.—at the country-year from the Global Database of Events, Language, and Tone (GDELT) 1.0 Event Database. We rely on the AvgTone variable, which is algorithmically calculated based on the tone of hundreds of millions of news articles across nearly 200 countries. This measure varies from -100 to +100, with positive scores indicating favorable media coverage related to government actors in mainland China (or the U.S.) and negative scores indicating unfavorable coverage related to government actors in mainland China (or the U.S.).[56] For most countries at most times, AvgTone scores vary between -10 and +10, with values of 0 indicating neutral media coverage.

We measure elite support for China and the U.S. by assessing the extent to which other governments align their votes in the United Nations General Assembly (UNGA) with each of these foreign powers. The UNGA is a venue in which governments have an opportunity to stake out foreign policy positions that are similar or dissimilar to those adopted by China (or the U.S.). Our measure of UNGA voting alignment with China (or the U.S.) is based on "idealpointdistance" estimates between each country in the 3.0 version of AidData's GCDF dataset and China (or the U.S.). These estimates are drawn from Version 29.0 of the United Nations General Assembly Voting Data (Bailey et al. 2017) and they are inverted, such that higher values indicate higher levels of UNGA voting alignment with China (or the U.S.).[57]

The global competition for favorable media coverage did not play out in quite the same way. Figure 1.15 demonstrates that, in absolute terms, China outperformed the U.S. on this dimension of soft power in the developing world during both the early BRI period and late BRI period.[58] This pattern is consistent with evidence that Beijing's grassroots image management strategy involves proactive use of public diplomacy tools to generate more favorable media

[55] We also generated two binary indicators that assume values of one if a respondent disapproves of the leadership of China or the leadership of the U.S., respectively. We dropped all "Don't Know" and "Refused to Answer" observations.
[56] GDELT event records are recorded in a dyadic format, with two actors and an action performed by Actor 1 on Actor 2 (e.g., the provision of aid from one country to another country, a leader from one country visiting another country). For the purposes of our analysis, we restrict Actor 1 to the LICs and MICs that are covered by the 3.0 version of the GCDF dataset and Actor 2 to China and the U.S. We also restrict our analysis to event records where the actor2type1code variable is set to GOV (in order to ensure that we are measuring media sentiment about the Chinese Government and the U.S. Government, respectively).
[57] Although the "one country, one vote" rule applies in UNGA, we report population-weighted estimates of UNGA voting alignment in chapters 1 and 4 because we use this measure as a proxy for elite support of China and the U.S. (rather than as a direct measure of an empirical phenomenon of interest). We also report population-weighted estimates of grassroots support (via Gallup World Poll) and media support (via GDELT) in chapters 1 and 4. This approach is based on the assumption that large countries are more important to China (and the U.S.) than small countries, regardless of the soft power outcome that is being sought.
[58] However, in relative terms, the U.S. gained ground on China between 2014 and 2021 (see Figure 1.17.

reporting about China (Brazys and Dukalskis 2019; Custer et al. 2018, 2019). But Beijing's advantage over Washington was hardly insurmountable; by 2020 and 2021, China had lost ground to the U.S. and was struggling to maintain a razor-thin lead in media coverage favorability.

China's outsized influence in the Global South is most clearly evident in the United Nations General Assembly (UNGA), where voting patterns are often used as a proxy for the extent to which governing elites in developing countries align their foreign policy positions with those of the U.S. or China. Figure 1.16 demonstrates that countries in the Global South consistently vote with China rather than the U.S. in UNGA. Although there are some natural foreign policy affinities between China and countries in the Global South, Beijing has a well-established track record of using its largesse to buy votes in international organizations.[59] In joint work with our longtime collaborators from Heidelberg University, the University of Göttingen, the University of Hong Kong, and William & Mary, we show in a new book called *Banking on Beijing* that when countries vote with China in the UN General Assembly, they are richly rewarded. Our statistical model results imply that if a low-income or middle-income government chooses to increase the alignment of its UNGA voting with China by just 10%, it can expect to see a 276% increase in aid and credit (ODA and OOF commitments) from Beijing, on average (Dreher et al. 2022).[60]

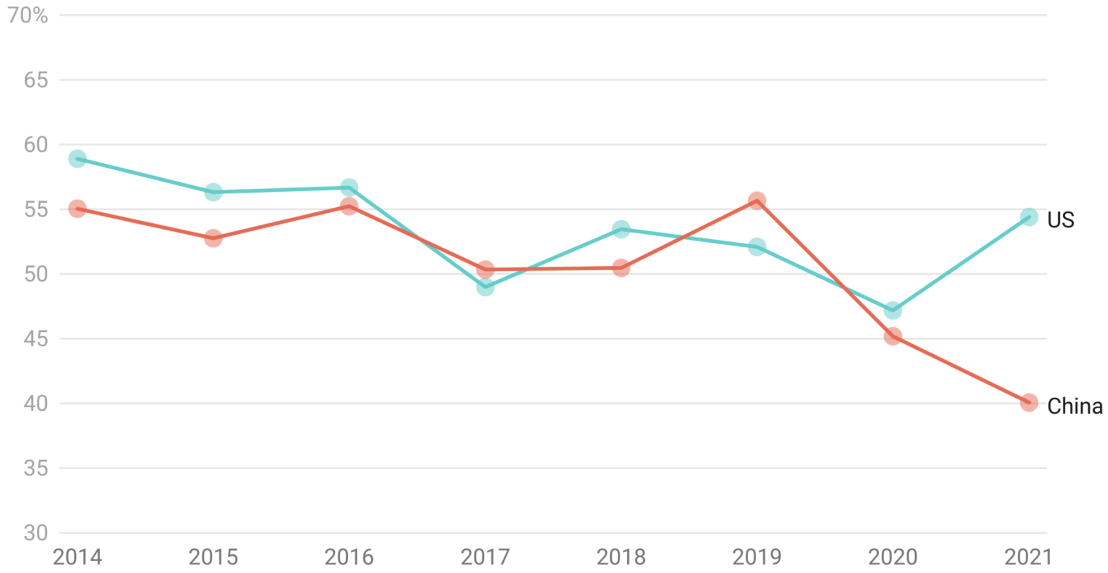
[59] To be sure, China is not the only major power that has used foreign aid and credit to influence the foreign policy positions of developing countries (Alesina and Dollar 2000; Kuziemko and Werker 2006; Vreeland and Dreher 2014; Rose 2018).

[60] We thank Axel Dreher, Andreas Fuchs, Austin Strange, and Mike Tierney for generating and sharing supplementary evidence derived from a statistical model in the fifth chapter of *Banking on Beijing*.

Figure 1.14

China versus the U.S.: Public approval rates

Average approval rates in low- and middle-income countries (Gallup World Poll)

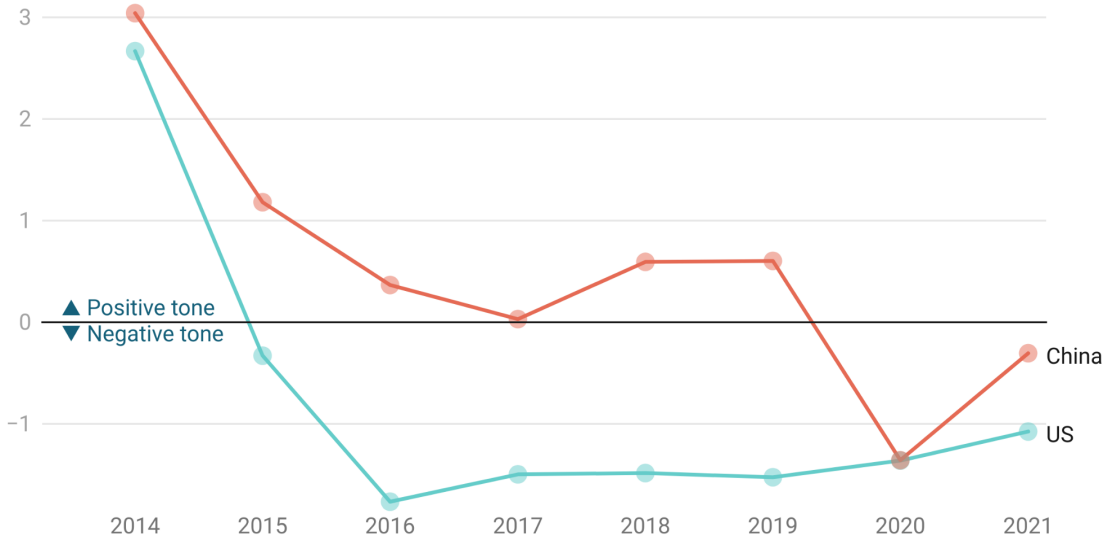


Notes: Average public approval ratings for China and the U.S. are weighted by country population. The construction of this variable is described in greater detail in Box 1b.

Figure 1.15

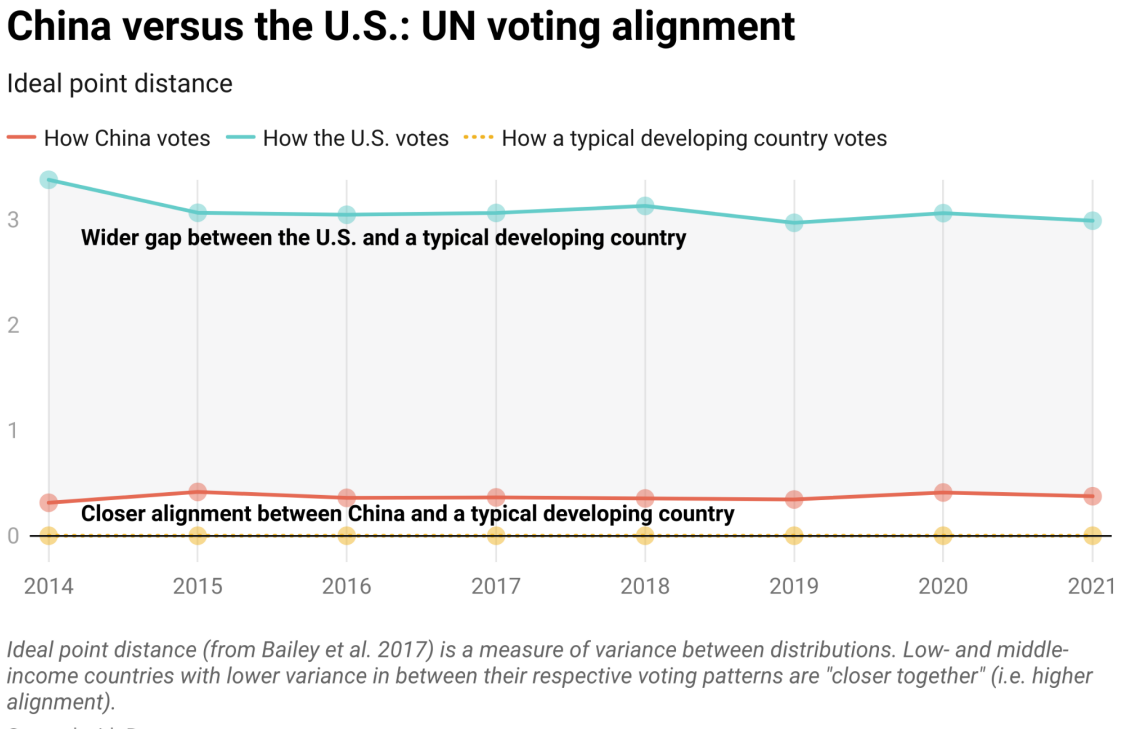
China versus the U.S.: Media sentiment

Average media sentiment scores (GDELT) from news articles in low- and middle-income countries



Notes: Average media sentiment ratings for China and the U.S. are weighted by country population. The construction of this variable is described in greater detail in Box 1b.

Figure 1.16



Notes: Average UNGA voting alignment scores for China and the U.S. are weighted by country population. The construction of this variable is described in greater detail in Box 1b.

Figure 1.17 tallies the annual number of soft power "gains" and "losses" that China experienced vis-à-vis the U.S. on a country-by-country basis between 2014 and 2021.[61] On all three measures of soft power (public opinion, media sentiment, and elite support), China has experienced more losses than gains vis-à-vis the U.S. since 2014 (the first full year of BRI implementation). Public opinion in the developing world has moved in a particularly unfavorable direction for Beijing. During the early BRI period, 39% of the country-level public

[61] Figure 1.17 present the percentages of LICs and MICs in which China experienced relative gains or losses in popular support, media sentiment, and UNGA voting alignment vis-à-vis the U.S. The percentages are reported over two time periods: early BRI (2014-2017) and late BRI (2018-2021). To measure the relative gains or losses in popular support, we follow a three-step calculation for each country: (1) calculate the difference between the public approval rating for China in a given year and the prior year; (2) calculate the difference between public approval rating for the U.S. in a given year and the prior year; and (3) calculate the "double difference" between (1) and (2) to determine if China experienced a greater gain or loss in public support than the U.S. in the same country-year. For relative gains and losses in media sentiment and UNGA voting alignment, the same three-step calculation was followed using the average media sentiment score for each country-year from the GDELT 1.0 Event Database (related to government actors from mainland China or the U.S.) and the average "idealpointdistance" estimate between each country and China (or the U.S.) in a given year.

opinion changes that China experienced were relative losses rather than relative gains (i.e., public opinion toward the U.S. improved at a faster rate than public opinion toward China, or public opinion toward the U.S. declined at a slower rate than public opinion toward China). However, during the late BRI period, this figure shot up to 66%. By 2021, nearly 85% of the country-level public opinion changes that China experienced were relative losses rather than relative gains (see Figure A8 in the Appendix). Over time, rising levels of public antipathy toward China and expanding popular support for the U.S. have widened Washington's soft power advantage over Beijing. The battle for hearts and minds in the developing world was effectively a toss-up during the early years of the BRI: Beijing and Washington achieved a similar number of public opinion gains and losses on a country-by-country basis.[62] However, during the late BRI period (2018-2021), Beijing's losses outnumbered its wins—by a significant margin.[63]

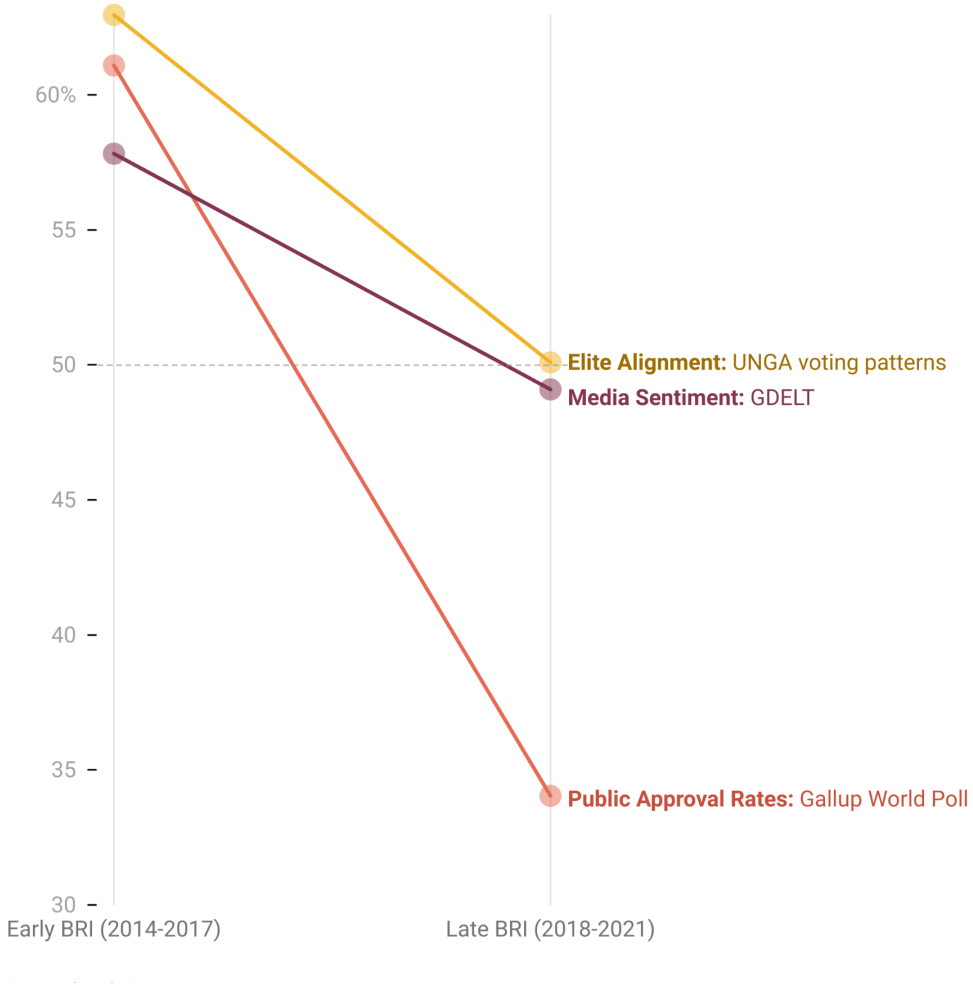
Figures 1.18 and 1.19 suggest that Beijing has suffered less acute public opinion and media sentiment losses in BRI participant countries, which is consistent with new research on the international image-enhancing effects of Chinese aid and credit (Wellner et al. forthcoming, 2023; Brazys and Dukalskis 2019).[64] However, even in BRI participant countries, the trend lines have moved in a direction that should provide cold comfort to Beijing. Figure 1.20 provides additional grounds for concern, since it demonstrates that governing elites in BRI participant countries are taking foreign policy positions that are increasingly out of alignment with those of China. Souring media sentiment and declining levels of public support may be making it more difficult for governing elites to maintain close relations with Beijing.

[62] During the first three years of the early BRI period (2014-2016), 55% of the public opinion changes that China experienced at the country-year level vis-à-vis the U.S. were relative gains and 45% were relative losses. Over the full early BRI period (2014-2017), 61% of the public opinion changes that China experienced at the country-year level vis-à-vis the U.S. were relative gains and 39% were relative losses (see Figure A8).
[63] During the late BRI period (2018-2021), 39% of the public opinion changes that China experienced at the country-year level vis-à-vis the U.S. were relative gains and 61% were relative losses (see Figure A8).
[64] BRI participant countries include those countries that have signed MOUs with China to join its Belt and Road Initiative. A country is assigned to the BRI participant cohort in the year it signed the MOU and every year thereafter.

Figure 1.17

China's soft power losses vis-à-vis the U.S.

Percentage of developing countries where China gained more ground than the U.S.

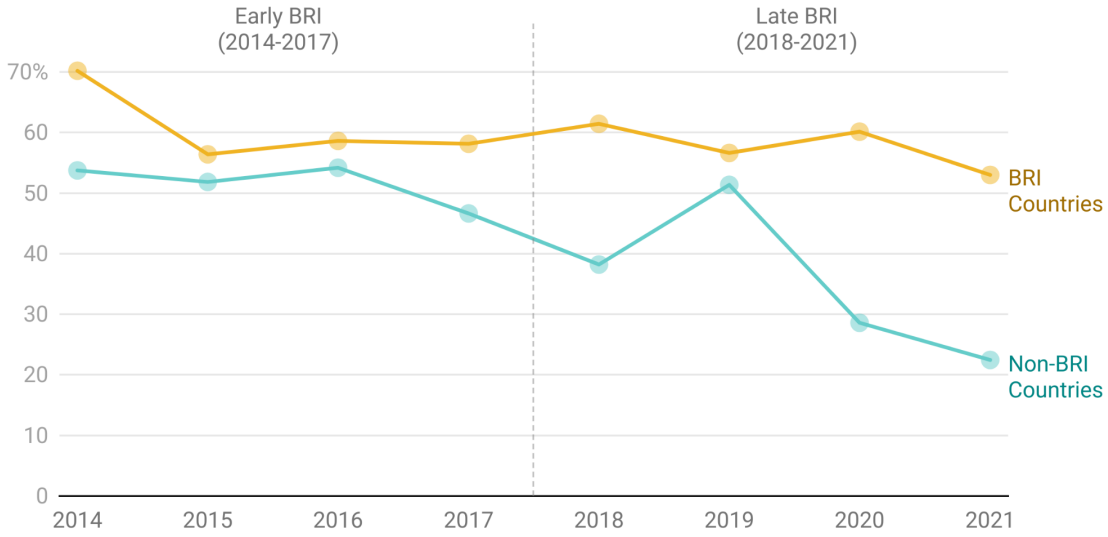


Notes: China's relative gains and losses in popular support, media sentiment, and UNGA voting alignment vis-à-vis the U.S are calculated on a country-by-country and year-by-year basis. The construction of these measures are described in greater detail in Box 1b and footnote 61.

Figure 1.18

Public support for China: BRI countries vs. non-BRI countries

Average approval rates in low- and middle-income countries (Gallup World Poll)

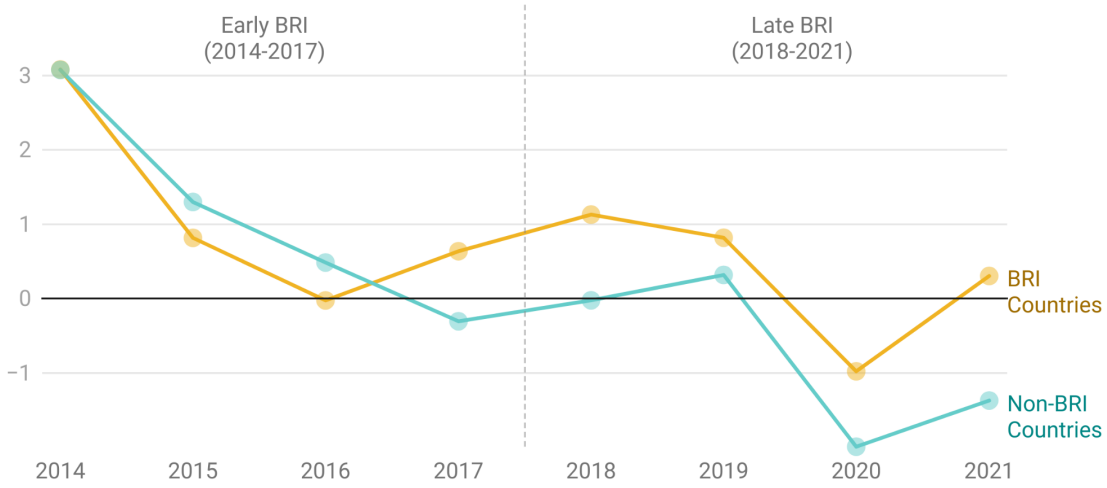


Notes: Average public approval ratings for China are weighted by country population. The construction of this variable is described in greater detail in Box 1b.

Figure 1.19

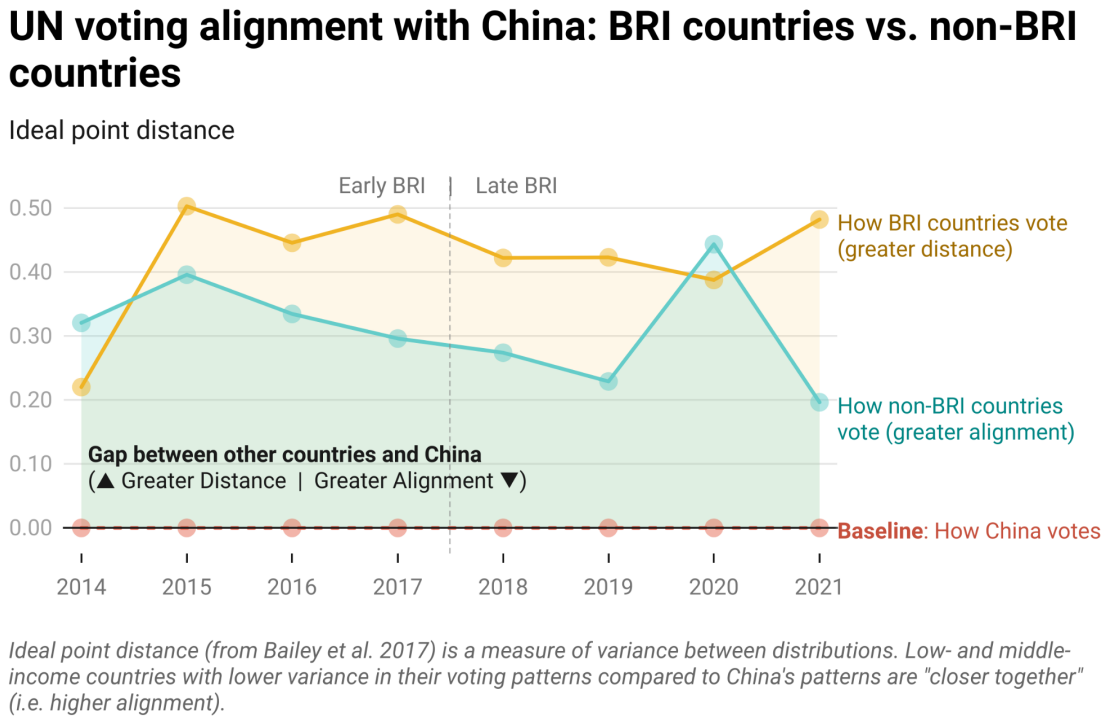
Media sentiment toward China: BRI countries vs. non-BRI countries

Average media sentiment scores (GDELT) from news articles in low- and middle-income countries



Notes: Average media sentiment ratings for China are weighted by country population. The construction of this variable is described in greater detail in Box 1b.

Figure 1.20



Notes: Average UNGA voting alignment scores for China are weighted by country population. The construction of this variable is described in greater detail in Box 1b.

Section 6: The balancing act of portfolio risk management

Managing the risk profile of China's overseas development program is a multifaceted challenge. First, China has a high and rapidly rising level of exposure to non-performing loans in LICs and MICs. Its exposure to distressed debt is heavily concentrated among the most important Belt and Road participants, which raises the question of whether its efforts to get repaid will conflict with its foreign policy (and soft power) objectives (Hancock and Hill 2022).[65] The crux of the matter, as described by a senior official from China's central bank, is that "debt reduction can shape China's image as a responsible, major global player, [but] it often leads to big [financial] losses and even causes a moral hazard—debtors may refuse to make repayments if they know [that we may write off their debts]" (Chengjun 2021). Second, a large share of China's

[65] Beijing's exposure to distressed debt in LICs and MICs also raises the question of whether certain borrowers are "too big to fail" and whether Chinese creditors will strictly adhere to the principle that every loan must be repaid in full (an issue we address at greater length in Chapter 2).

infrastructure project portfolio has significant ESG risk exposure, and while there are many good reasons to de-risk the portfolio by adopting stronger safeguards, doing so could result in China losing a competitive edge in the global infrastructure market. China is no longer "the only game in town" for countries seeking external sources of infrastructure financing, and the other major players in the market already offer high-quality infrastructure projects that benefit from strong ESG safeguards. China has historically outcompeted G7 countries and the multilateral development banks on two key dimensions: speed and convenience. If these differentiators are no longer applicable, China may face a different type of problem: insufficient demand for Chinese infrastructure financing. Third, rising levels of public antipathy toward Beijing and a souring media environment have left China increasingly dependent on the good graces of political leaders in the Global South. One way to address this challenge would be to dust off an old playbook and cater to the parochial interests of host country politicians by plying them with lavish spending on pet projects—like presidential palaces—and amenities in major urban centers (such as museums, theaters, convention centers, and stadiums). An alternative approach would be to double down on public diplomacy efforts—such as scholarships, sister city initiatives, and content-sharing partnerships with local radio stations, television channels, and newspapers—to generate more favorable media coverage and influence public sentiment in BRI participant countries.

Beijing is clearly aware of the need to pivot and assume a "fire-fighting" role. It is rapidly refocusing its time, money, and attention on distressed borrowers, troubled projects, and sources of public backlash in the Global South. However, a longer-term reinvention of the BRI is also underway. As Beijing learns from past mistakes, it is recalibrating its lending and grant-giving practices and making efforts to future-proof its flagship, global infrastructure initiative. The ambition of BRI 2.0 remains poorly understood—and underestimated—by those who make and shape policy in G7 countries. Washington, London, Paris, Berlin, Tokyo, Rome, and Ottawa are, for the most part, still formulating policy on the basis of evidence from the BRI 1.0 era.

The primary goal of this report is to explain *how* China is handling its new role as an international crisis manager in the short-run while engaging in a longer-run

effort to future-proof the BRI. In the next three chapters, we attempt to answer the following questions:

- How is China coping with the rising tide of debt distress? What measures is it taking to reduce its exposure to non-performing loans?

- Is China stepping up its ESG risk mitigation efforts? If so, where, when, and how? Are its infrastructure projects with and without strong ESG safeguards faring differently during implementation?

- How does China manage reputational risk? What measures does it take to preserve grassroots, media, and elite support in host countries? Are Chinese development finance institutions learning from their past mistakes and recalibrating their policies and practices in BRI "buyer's remorse" countries?

- What are China's tolerance levels for repayment risk, project performance risk, and reputational risk?

However, we also want to introduce researchers, policymakers, and journalists to the "art of the possible" with the 3.0 version of AidData's GCDF dataset. There are many additional questions that can now be answered because of the dataset's uniquely comprehensive scope and unprecedented granularity.[66] Several new and improved features of the dataset merit special attention:

1. Donor and lender coverage: The 3.0 dataset captures projects and activities in LICs and MICs supported by 791 official sector donors and lenders in China. It also identifies the participation of 1,225 co-financing institutions—including Western commercial banks, multilateral development banks, and OECD-DAC development finance institutions that have chosen to collaborate or coordinate with Beijing—in Chinese grant- and loan-financed projects and activities. A new feature of the 3.0 dataset is the inclusion of two "flag" variables that allow for easy

[66] Table A1 presents a broad view of how the 3.0 version compares to the 2.0 version of the GCDF dataset.

identification of projects/activities that involve (a) non-Chinese financiers or (b) multilateral institutions.

2. Borrower and recipient coverage: The 3.0 dataset identifies 5,037 receiving (borrowing) institutions and categorizes each one by type (government agency, state-owned bank, state-owned company, special purpose vehicle/joint venture, intergovernmental organization, private sector, etc.), country of origin (recipient country, China, or a third country), and, when applicable, role (direct borrower or indirect borrower through an on-lending arrangement). In recognition of the fact that special purpose vehicles and joint ventures play an important role in China's overseas lending program and often blur the lines between public and private debt (Malik et al. 2021; Malik and Parks 2021), we have also added two new variables to the latest version of the dataset: a measure of the extent of host government ownership and a measure of the extent of Chinese government ownership whenever the borrowing institution (receiving agency) is a special purpose vehicle or joint venture.[67] The 3.0 dataset also identifies 422 institutions ("accountable agencies") that have supported Chinese loan-financed projects and activities by providing repayment guarantees, insurance policies, and collateral which can be seized in the event of default.[68]

3. Financial instrument coverage: The 3.0 dataset allows users to easily differentiate between the 10,291 grant-financed projects/activities and 4,776 loan-financed projects/activities. However, given that Beijing relies on an increasingly diverse set of debt instruments to finance its overseas development program in LICs and MICs, AidData has introduced a new loan categorization scheme in the latest version of the dataset that allows users to isolate specific types of loan instruments, including but not limited to bilateral loans, syndicated/club loans, interest-free loans,

[67] These new variables are called "JV/SPV Host Government Ownership" and "JV/SPV Chinese Government Ownership." The 3.0 dataset captures 851 loan commitments worth $315 billion (in constant 2021 USD) to borrowing institutions that are categorized as special purpose vehicles or joint ventures.
[68] Consistent with the 2.0 version of the GCDF dataset, each accountable agency in the 3.0 dataset is still categorized by type and country of origin. However, unlike the 2.0 version of the GCDF dataset, each accountable agency in the 3.0 dataset is also categorized by role (guarantor, insurance provider, or collateral issuer).

government concessional loans, preferential buyer's credits, public investment loans, balance of payments (BOP) loans, M&A loans, working capital loans, inter-bank loans, refinancing loans, deferred payment agreements, and pre-export financing (PxF) agreements.

4. Borrowing terms and conditions: There is no other publicly available dataset of China's overseas loan commitments with global coverage from 2000-2021 that identifies borrowing terms and conditions at the transaction level. The 3.0 dataset identifies 2,699 interest rates, 3,315 maturity lengths, 1,854 grace periods, 498 commitment fees, 480 management fees, and 2,537 grant elements across 4,776 loans in Africa, Asia, Oceania, Eastern and Central Europe, the Middle East, and Latin America and the Caribbean. It also identifies 668 loans backed by third-party repayment guarantees, 529 loans supported by credit insurance policies, and 1,015 loans underpinned by one or more sources of collateral. Three additional dataset features are worth noting. First, in light of recent changes to the OECD's grant element method of measurement (see Section A-2) and the growing importance of the World Bank/IMF-based method of measurement to determine if and when governments have complied with the non-concessional borrowing limits specified in their World Bank and IMF programs, we now provide three different grant element measures: one based on the OECD's cash-flow methodology, one based on the the OECD's grant-equivalent methodology, and another based on the latest (post-2013) World Bank-IMF methodology.[69] Second, in order to facilitate more accurate calculation of the "all-in" price of Chinese debt, we have introduced variables that measure (a) the default (penalty) interest rate that applies to a loan in the event of default (i.e., non-payment of principal, interest, or fees on their scheduled payment dates), and (b) the cost of credit insurance.[70] Third, to support future research on debt service to China, we

[69] The OECD's cash-flow methodology assumes a fixed, 10 percent discount rate. Its grant-equivalent methodology uses fixed discount rates that depend on the income level of the borrowing country (9% for LDCs and other LICs and 6% for UMICs). The World Bank-IMF methodology assumes a fixed, 5 percent discount rate. For more on the IMF's Debt Limits Policy (DLP), see https://www.imf.org/en/Topics/sovereign-debt/debt-limits-policy.

[70] For example, Argentina's Ministry of Economy and Public Finance signed a $4,714,350,000 syndicated term facility (loan) agreement on August 1, 2014 with Bank of China, China Development Bank, and ICBC for the 1,740 MW Néstor Kirchner and Jorge Cepernic Hydroelectric Power Plant Construction Project. The

have included two new measures in the 3.0 dataset: the calendar day on which the borrower was originally scheduled to make its first loan repayment and the calendar day on which the borrower was originally scheduled to make its last loan repayment. Whenever possible, we have also documented disbursements, repayments, and amounts outstanding in the dataset's "description" field.

5. Spatial and temporal granularity: The 3.0 dataset provides an unprecedented level of detail on project commencement (implementation start) dates and project completion (implementation end) dates. It identifies precise, calendar day-level commencement dates for 11,286 projects (backed by financial commitments worth $767 billion) and calendar day-level completion dates for 11,542 projects (backed by financial commitments worth $606 billion). By way of comparison, the 2.0 version of the GCDF dataset identified calendar day-level commencement dates for 5,539 projects (backed by financial commitments worth $504 billion in constant 2021 USD) and calendar day-level completion dates for 6,061 projects (backed by financial commitments worth $383 million in constant 2021 USD). The 3.0 dataset also provides data on the originally scheduled project commencement dates and completion dates, which has paved the way for the introduction of two new measures ("Deviation from Planned Implementation Start Date" and "Deviation from Planned Completion Date") of to what degree projects ran (or are running) ahead of schedule or behind schedule.[71] Another important value addition to the 3.0 dataset is the level of geographical detail regarding where projects take place. As we describe in greater detail in Goodman et al. (2023), for 9,497 projects

loan agreement, which was later amended on January 27, 2015 and again in mid-2022, specifies a default (penalty) interest rate of 1.5%. As a credit enhancement, the borrower purchased a buyer's credit insurance policy from Sinosure worth approximately 7.1% of the face value of the loan ($502,976,000) (see Project ID#59723, 59724, 37002 in the 3.0 version of the GCDF dataset).

[71] The "Deviation from Planned Implementation Start Date" variable captures the difference between the "Planned Implementation Start Date" and the "Actual Implementation Start Date" when values are recorded for both variables. It captures the difference as the number of calendar days, whereby positive values represent cases where the project started implementation ahead of schedule and negative values represent cases where the project started implementation behind schedule. The "Deviation from Planned Completion Date" variable captures the difference between the "Planned Completion Date" and the "Actual Completion Date" when values are recorded for both variables. It captures the difference as the number of calendar days, whereby positive values represent cases where the project was completed ahead of schedule and negative values represent cases where the project was completed behind schedule.

that have physical footprints or involve specific locations, the 3.0 dataset extracts point, polygon, and line vector data via OpenStreetMap URLs and provides a corresponding set of GeoJSON files and geographic precision codes.[72] 72% (6,919) of these projects include "precise" or "approximate" geocodes; the remaining 28% (2,578 projects) are measured at an administrative unit level.[73] Measuring the spatio-temporal rollout of project implementation with a high level of precision is important because it creates new opportunities to identify cause-and-effect relationships in rigorous ways.[74]

6. Sectoral coverage: The 3.0 dataset systematically tracks provision of official financial flows from China to LICs and MICs across all sectors. Every project/activity is assigned a 3-digit sector code based on OECD definitions and measurement criteria. This "methodological crosswalk" is important because it allows for cross-financier comparisons—at global, regional, national, and subnational scales—since most official sources of international development finance (including OECD-DAC members and multilateral institutions) use the same criteria. It also facilitates analysis of sectoral patterns and trends over space and time.

7. Qualitative detail: The 3.0 dataset provides detailed project narratives that "tell the story" of each project in the "description" field. The average length of each project narrative increased from 144 words in 2.0 dataset to 169 words in the 3.0 dataset. Whereas the project narratives in the 2.0 dataset consisted of 1.93 million words (roughly the same number of words one would find in 19 full-length books), the project narratives in the 3.0 dataset consist of 3.48 million words (roughly the same number of words one would find in 34 full-length books).[75] As we will demonstrate in

[72] Users who wish to conduct analysis at higher levels of spatial aggregation can find the ADM1s (provinces) and ADM2s (districts) that correspond to these project locations in the 3.0 version of the GCDF dataset.
[73] A project with "precise" geocodes is one for which we have highly precise boundaries of the project's geofeature(s). A project with "approximate" geocodes is one identified within a 5-km radius of the precise boundaries of the project's geofeature(s). For more details, see Goodman et al. (2023).
[74] To better understand how highly precise data on the spatio-temporal rollout of Chinese grant- and loan-financed projects make it possible to estimate the causal effects of such projects on intended and unintended outcomes, see Dreher et al. (2019, 2022), Marty et al. (2019), Blair et al. (2022), Baehr et al. (forthcoming), Isaksson and Kotsadam (2018a, 2018b), Isaksson (2020), Martorano et al. (2020), Iacoella et al. (2021), Malik et al. (2021), Bluhm et al. (2020), Anaxagorou et al. (2020), Wellner et al. (forthcoming), and Asmus et al. (forthcoming).
[75] A typical, full-length book includes 100,000 words.

Chapter 3, these narratives are useful in that they document the risks and challenges that arose during project design and implementation (e.g., bankruptcies, scandals, protests, labor strikes, and criminal investigation) and how funding, receiving, implementing, and accountable institutions responded to these risks and challenges.

8. Scale, diversity, quality, and transparency of sourcing: The 3.0 dataset was assembled with 147,703 sources (including 99,393 unique sources in more than a dozen languages, of which 51,597 are official sources). By way of comparison, the 2.0 dataset was assembled with 91,356 sources (including 63,464 unique sources in more than a dozen languages, of which 34,075 were official sources). Whereas the average record in the 1.0 dataset was based upon 3.6 sources and the average record in the 2.0 dataset was based on 6.8 sources, the average record in the 3.0 dataset is based upon 7.0 sources. 87% of the records in the 3.0 dataset are underpinned by at least one official source. To expose our coding and categorization determinations to public scrutiny and promote replicable research findings, we disclose all of the sources that were used to construct the dataset at the individual record level, including hundreds of unredacted grant, loan, debt forgiveness, and debt rescheduling agreements (that AidData has never previously published).

Chapter 2: The Road to Repayment for the World's Largest Official Debt Collector

Section 1: Debunking the myth that Beijing's overseas lending program has collapsed

The conventional wisdom is that Beijing has responded to the deteriorating performance of its overseas lending program via retreat. Eric Olander, co-founder of the China-Global South Project (CGSP), recently summarized the state of expert opinion, noting that "[t]here was a time when Chinese lending to developing countries rivaled the World Bank" but "[t]hose days are now long gone as Chinese overseas development lending has been on a steady downward trajectory" (Olander 2023). Scott Kennedy of the Center for Strategic and International Studies (CSIS) told *Foreign Policy* magazine earlier this year that the BRI was a "shadow of its former self" (Lu 2023).[76] Elliot Wilson of *Euromoney* magazine claims that "Chinese overseas lending to the developing world has collapsed" (Wilson 2022).

However, the conventional wisdom is mostly wrong. The empirical evidence that we present in this chapter paints a different picture—one in which China is behaving more like an international crisis manager than a country admiring its problems and sticking its head in the sand. Beijing is rebalancing its overseas lending portfolio by adopting a wide-ranging set of de-risking measures. It is ramping down the provision of long-term, dollar-denominated bilateral loans to sovereign borrowers for public investment projects, while at the same time ramping up the provision of loans that are RMB-denominated, short- or medium-term in nature, unrelated to public investment projects, and/or involving multiple Chinese and/or non-Chinese banks. It is ratcheting down its use of the policy banks (China Development Bank and China Eximbank), while at the same time ratcheting up its use of the central bank (People's Bank of China), state-owned commercial banks (such as Industrial and Commercial Bank of China, Bank of China, and China Construction Bank), and syndicated loan

[76] The same *Foreign Policy* magazine article notes that "experts say China's lending for BRI projects has plummeted" (Lu 2023).

arrangements with non-Chinese banks (such as Standard Chartered, BNP Paribas, the International Finance Corporation, and the European Bank of Reconstruction and Development). It is also putting in place stronger safeguards to protect itself from borrowers that present high levels of repayment risk. So, another way of reading the evidentiary record is that Beijing is behaving like a *yield-maximizing investment portfolio manager* (see Box 2b).

The de-risking measures that Beijing is implementing are poorly understood among those who make and shape policy in Western capitals, which means that Washington, London, and Brussels increasingly run the risk of competing with a version of the BRI that no longer exists—BRI 1.0 rather than BRI 2.0. Our aim in this chapter is to set the record straight. We do so by first debunking the popular myth that China's overseas lending program has experienced a total collapse. The rest of the chapter is focused on demystifying the purpose, nature, and scope of Beijing's ongoing BRI reboot.

The "Beijing in retreat" storyline has gained traction because it is consistent with the topline Chinese lending commitment trends that are recorded in several publicly available databases, such as the China's Overseas Development Finance Database, the Chinese Loans to Latin America and the Caribbean Database, the Chinese Loans to Africa Database, the China's Global Energy Finance Database, the China Overseas Finance Inventory Database, and the World Bank's International Debt Statistics (IDS). Consider the following claims that have been made based upon these data sources:

- In December 2020, Boston University's Global Development Policy Center released the China's Overseas Development Finance (CODF) Database, which provides data on China Eximbank and CDB lending commitments to governments, inter-governmental bodies, majority state-owned entities and minority state-owned entities with sovereign guarantees. The research team responsible for the database claimed at the time that it provided evidence of "China's overseas development finance commitments" declining from $75 billion in 2016 to $3.9 billion in 2020 (Gallagher and Ray 2020). Then, in January 2023, the same research team used an updated version of the CODF database to argue that China's

overseas development finance commitments remained at an exceptionally low level ($3.6 billion) in 2021 (Ray 2023).

- The World Bank's International Debt Statistics (IDS) show a sharp decline in official sector loan commitments from China to public sector institutions in low-income and middle-income countries—from $31.5 billion in 2016 to $7 billion in 2021.

- According to the Chinese Loans to Latin America and the Caribbean Database jointly produced by Inter-American Dialogue and Boston University's Global Development Policy Center, "the LAC region saw a precipitous decline in loans from CDB and Eximbank between 2015 and 2020, when lending ceased altogether" (Myers and Ray 2023: 1). They also concluded that Chinese development finance commitments to the LAC region remained stubbornly low in 2021, identifying only one ($204 million) CDB loan commitment in that year.[77]

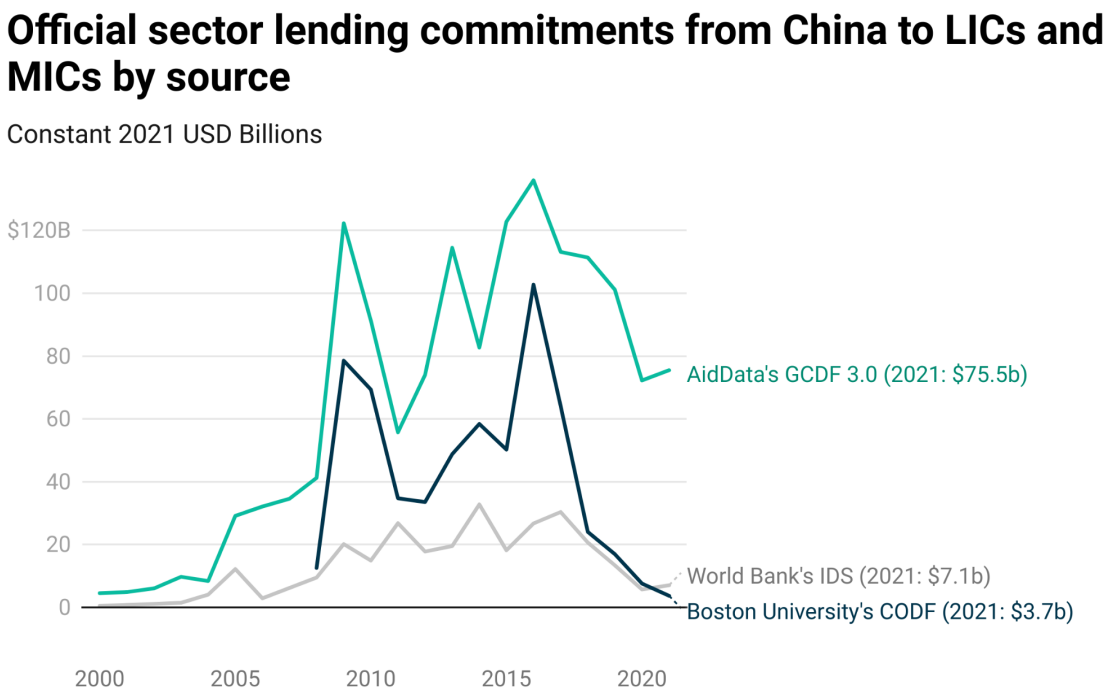
- According to the Chinese Loans to Africa (CLA) database, which was initially developed by the China-Africa Research Initiative at the Johns Hopkins School of Advanced International Studies (SAIS-CARI) and is now maintained by Boston University's Global Development Policy Center, Chinese lending commitments to African governments and state-owned entities plunged from a high of $28 billion in 2016 to a low of $1.9 billion in 2020. In a summary of their findings, the researchers responsible for the CLA database conclude that "[c]ompared to previous years, the number of loans and the total value of loan commitments decreased dramatically in 2020" (Hwang et al. (2022: 2).[78]

The latest (3.0) version of AidData's Global Chinese Development Finance (GCDF) dataset paints a different picture of China's overseas development

[77] AidData has categorized this $204 million (EUR 175 million) CDB loan as an informal pledge of financial support rather than a formal loan commitment, based on evidence that it gathered via direct correspondence with the Debt Management Division of Trinidad and Tobago's Ministry of Finance. See ID#95549 in the 3.0 version of AidData's GCDF dataset for more details.
[78] An update of the CLA database was published at the time that this report was going to press. It shows a continued decline in Chinese lending commitment—to $1.2 billion in 2021 and $994.4 million in 2022 (Moses et al. 2023).

finance portfolio (see Figure 1.2 in Chapter 1). It demonstrates that Beijing is still the single largest source of international development finance in the world, with annual ODA and OOF commitments to LIC and MICs now hovering around $80 billion. Although it provides evidence of China's annual international development finance commitments falling between 2016 and 2020, it also shows an increase in 2021 (returning to a level that is roughly comparable to the first full year of BRI implementation).

Figure 2.1



Notes: Figure 2.1 compares the total size of official sector lending commitments from China to LICs and MICs across three datasets: the 3.0 version of AidData's GCDF dataset, Boston University's China's Overseas Development Finance Database (CODF), and the World Bank's International Debt Statistics (representing commitments to official creditors in China).

Figure 2.1 provides a comparison of official lending commitments from China to borrowers in low-income and middle-income countries, as measured by three different sources: the 3.0 version of AidData's GCDF dataset, the World Bank's IDS, and the CODF database produced by Boston University's Global Development Policy Center.[79] AidData captures lending commitments worth

[79] To ensure comparability, we convert the IDS data series and the CODF data series into constant 2021 USD.

$1.28 trillion between 2000 and 2021, while CODF and IDS capture lending commitments worth $605 billion and $378 billion, respectively.[80] Whereas AidData records a 45% decline in lending commitments between 2016 and 2021, CODF and IDS record substantially larger declines—96% and 78%, respectively. CODF and IDS record $3.7 billion and $7.1 billion, respectively, in new official lending commitments from China in 2021. AidData captures $75.5 billion in new official lending commitments from China in the same year.

There are several reasons why the estimates from AidData's GCDF dataset, BU's CODF dataset, and the World Bank's IDS are widely divergent. First, although all three sources provide data on public and publicly guaranteed debt (PPG) debt from Chinese state-owned creditors,[81] they provide different levels of geographical coverage.[82] AidData's GCDF dataset covers 126 countries, while BU's CODF dataset covers 96 countries and the World Bank's IDS covers 89 countries.[83] Second, there are temporal coverage differences: whereas AidData's GCDF dataset and the World Bank's IDS provide data for 22 commitment years (2000-2021), BU's CODF dataset provides data for 14 commitment years (2008-2021). Third, in the subset of LICs and MICs for which CODF, IDS, and GCDF data are available, there are differences in how much PPG debt from Chinese state-owned creditors is captured. Table A15 demonstrates that, in the subset of LICs and MICs for which CODF or IDS data are available, AidData's GCDF dataset captures $947 billion of lending commitments[84] from official

[80] The $1.28 trillion figure excludes short-term "rollover" facilities to refinance maturing debts. When short-term "rollover" facilities are included in the tally, AidData captures lending commitments from China worth $1.44 trillion between 2000 and 2021.
[81] PPG debt consists of (a) long-term external obligations of public debtors, including the national government, a political subdivision (or an agency of either), and autonomous public bodies; and (b) long-term external obligations of private debtors that are guaranteed for repayment by a public entity (World Bank 2000).
[82] The 3.0 version of AidData's GCDF dataset provides comprehensive coverage of Chinese ODA and OOF commitments across 165 LICs and MICs between 2000 and 2021. However, only 134 of these countries secured loan commitments from official sector creditors in China over the same time period. An even smaller subset (126 countries) secured loan commitments between 2000 and 2021 from official sector creditors in China that qualify as PPG debt.
[83] The IDS data capture official sector lending commitments from China to 89 low-income and middle-income countries (excluding the People's Republic of China) from 2000-2021. The IDS data do not allow users to differentiate between the People's Republic of China ("China") and the Republic of China ("Taiwan"). As such, we exclude all loan commitments that 9 additional countries reported during the years when they maintained diplomatic relations with Taiwan.
[84] The $947 billion figure excludes short-term "rollover" facilities. When short-term "rollover" facilities are included in the tally, AidData captures lending commitments to LICs and MICs that qualify as PPG debt worth $1.09 trillion between 2000 and 2021.

sector institutions in China to LICs and MICs that qualify as PPG debt.[85] In total, BU's CODF dataset captures $605 billion and the World Bank's IDS captures $378 billion of lending from official sector institutions in China that qualifies as PPG debt.[86] These topline differences reflect widely varying levels of lending institution, borrowing institution, and debt instrument coverage (which we discuss at greater length below). Table A15 calls attention to the fourth and final difference: neither BU's CODF dataset nor the World Bank's IDS provide any coverage of lending commitments from official sector institutions in China to LICs and MICs that qualify as non-PPG debt. AidData's GCDF dataset, by contrast, captures $333 billion that does not (clearly) qualify as PPG debt: $67 billion of potential public sector debt (i.e., debt contracted by a minority state-owned institution in the borrowing country without a public sector repayment guarantee), $216 billion of private sector debt, and $50 billion that is not allocable due to a lack of sufficient information for categorization purposes.[87]

One additional source of information is worth considering: newly published data from the Bank of International Settlements (BIS) on total outstanding credit from Chinese banks to LICs and MICs from 2015 to 2021 (see Box 2a). These data are particularly valuable because they are based on direct reporting from Chinese banks about their cross-border claims. Although the BIS does not currently allow for its Chinese lending data to be disaggregated by borrower countries, one can derive lower-bound and upper-bound estimates of total outstanding credit from Chinese banks to LICs and MICs based on new research by Cerutti et al. (2023). As we describe at greater length in Box 2a, lower-bound estimates based on the BIS data indicate that total outstanding credit from Chinese banks to LICs and

[85] In the 96 countries that are covered by the CODF dataset, BU captures $605 billion and AidData captures $824 million of lending commitments (excluding short-term "rollover" facilities) between 2008 and 2021 from official sector institutions in China that qualifies as PPG debt. When short-term "rollover" facilities are included in its tally, AidData captures $987 million in the same set of countries.

[86] For a country-by-country comparison of AidData and IDS measures of PPG debt exposure to China (that are normalized by host country GDP), see Table A16.

[87] The "Level of Public Liability" variable in the 3.0 version of AidData's GCDF dataset captures the extent to which the host government may eventually be liable for debt repayment. Each loan record is assigned to one of six categories: (1) Central government debt, (2) Central government-guaranteed debt, (3) Other public sector debt, (4) Potential public sector debt, (5) Private debt, or (6) Unallocable. The sum of the first three categories is equivalent to PPG debt. The fourth category captures loans to special purpose vehicles (SPV) or joint ventures (JV) that are minority-owned by one or more public sector institutions in the host country and that do not benefit from a central government repayment guarantee or a repayment guarantee from a state-owned entity other than the central government in the host country. For more information about the "Level of Public Liability" variable, see Section A-5 in the Appendix.

MICs increased in nominal terms from $644 billion in 2015 to $1.16 trillion in 2021. Upper-bound estimates based on the BIS data indicate that total outstanding credit from Chinese banks to LICs and MICs increased in nominal terms from $878 billion in 2015 to $1.58 trillion in 2021. AidData's estimates of the cumulative size of China's overseas lending program in LICs and MICs are consistent with the more conservative (lower-bound) BIS-based estimates.[88] According to the 3.0 version of the GCDF dataset, China's cumulative overseas lending commitments increased from $620 billion in 2015 to $1.03 trillion in 2021 (in nominal USD).[89] Neither AidData's GCDF dataset nor the BIS-based estimates support the argument that China's overseas lending program has experienced a total collapse.

Box 2a: What is the true scale of China's overseas lending program?

The overall size of China's overseas lending program is a subject of ongoing debate and controversy. Horn et al. (2019) conducted pioneering work, producing a $393 billion estimate of total outstanding cross-border credit from Chinese banks to LICs and MIC borrowers in 2017. At the time, their estimate was criticized by the IMF as being exaggerated (IMF 2020). Bräutigam and Acker (2020) also published a critique, concluding that they "agree[d] with the IMF." Horn et al. (2020a) then issued a response to their critics, arguing that "our numbers are substantially below comparison figures [from the PBOC and other official sources] and likely a lower bound estimate of the true extent of Chinese overseas lending."[90] They explained that "[d]espite our best efforts to merge data from multiple sources, we still miss substantial amounts of Chinese overseas lending."

There was also an important development around the time that the Horn et al. (2019) study was published: China began reporting to the Bank of International Settlements (BIS) on the cross-border claims of its banks.[91] At the time, the Locational Banking Statistics (LBS) published by the BIS indicated that total outstanding credit from Chinese banks to overseas borrowers was

[88] A key caveat, as we explain in Section A-4, is that the BIS data are represented as amounts outstanding, which is effectively equivalent to cumulative disbursements minus cumulative repayments (i.e., credit stocks rather than credit flows). Consequently, cumulative lending commitments usually *exceed* amounts outstanding.

[89] These nominal USD figures exclude short-term "rollover" facilities to refinance maturing debts. If short-term "rollover" facilities are included in the tally, China's cumulative overseas lending commitments increased from $630 billion in 2015 to $1.17 trillion in 2021 (in nominal USD). In general, we prefer to report China's overseas lending commitments in constant 2021 USD. However, since the BIS data are recorded in nominal USD, an apples-to-apples comparison with the 3.0 version of AidData's GCDF dataset requires use of nominal USD. In Table 2.1, we report China's cumulative overseas lending commitments to LICs and MICs from 2015-2021 in both nominal and constant 2021 USD.

[90] At the time, China's State Administration of Foreign Exchange (SAFE) had published (2017) data on "China's International Investment Position" that identified $637 billion of total outstanding cross-border credit. By 2021, this figure rose to $988 billion. See https://www.safe.gov.cn/en/2018/0928/1459.html.

[91] Although China has joined the list of countries reporting to the BIS, its data (unlike the data of many of other BIS reporting countries) are not made publicly available on a bilateral basis.

more than double ($919 million) the size of the Horn et al. (2019) estimate.[92] Since then, additional BIS reporting by China and new research by Cerutti et al. (2023) has made it possible to generate updated estimates of total outstanding credit from Chinese banks to borrowers in LICs, MICs, high-income countries (HICs), and other overseas jurisdictions.[93] In Section A-4, we provide a step-by-step description of how these BIS-based measures of total outstanding credit from Chinese banks to overseas borrowers are derived. We also discuss a number of important caveats and considerations regarding the BIS cross-border lending data.

The estimates, which we report in Table 2.1, demonstrate that China's total outstanding credit—measured in nominal terms—to borrowers in LICs, MICs, HICs, and other overseas jurisdictions soared from $1.45 trillion in 2015 to $2.63 trillion in 2021. Conservative, lower-bound estimates based on BIS reporting also indicate that *total outstanding credit from Chinese banks to LIC and MIC borrowers effectively doubled in nominal terms between 2015 and 2021—from $644 billion to $1.16 trillion.* This measure of the stock of LIC and MIC debt to Chinese banks is remarkably similar to our own measure of the stock of LIC and MIC debt to Chinese banks.[94] According to the 3.0 version of AidData's GCDF dataset, China's cumulative overseas lending commitments to LIC and MICs increased in nominal terms from $620 billion in 2015 to $1.03 trillion in 2021.[95]

Table 2.1 provides several additional insights. One is that China's total outstanding credit to LICs, MICs, and HICs soared from $1.45 trillion in 2015 to $2.63 trillion in 2021. Another is that total outstanding credit from Chinese banks to HIC borrowers effectively doubled over the same six-year period. Between 2015 and 2021, this figure rose from approximately $330 billion to $600 billion. A third is that total outstanding credit from Chinese banks to "other" borrowers increased from $314.3 billion in 2015 to $568.3 billion in 2021.

While the LBS data from the BIS are extremely valuable for cross-validation purposes (since they provide credible estimates of total outstanding credit from Chinese banks to LIC, MICs, and HICs), they do not make it possible to track disbursements, repayments, and amounts outstanding on a loan-by-loan basis. AidData recently launched a new data collection initiative and research program to address this major evidentiary gap. For the time being, in the 3.0 version of the GCDF dataset, we have documented disbursements, repayments, and amounts outstanding in the "description" field for a subset of countries. However, in the future, we intend to publish loan-level data on disbursements, repayments, and amounts outstanding for a more complete set of countries. We also intend to make these data available in a more user-friendly format.

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[92] On this point, see Zhou and Cerutti 2018.
[93] BIS classifies most HICs as "Advanced Economies" (AEs) and most LICs and MICs as Emerging Market and Developing Economies (EMDEs). For the sake of clarity and consistency, we use the LIC, MIC, and HIC acronyms. For more on the BIS country classification system, see Cerutti et al. (2023).
[94] This BIS-based measure of China's lending portfolio in LICs and MICs is based on amounts outstanding. AidData's measure of China's lending portfolio in LICs and MICs is based on cumulative lending commitments, which usually exceed amounts outstanding. See Section A-4.
[95] According to BU's CODF dataset, China's cumulative overseas lending commitments to LIC and MICs increased in nominal terms from $308 billion in 2015 to $498 billion in 2021. According to the World Bank's IDS, China's cumulative overseas lending commitments to LIC and MICs increased in nominal terms from $188 billion in 2015 to $293 billion in 2021.

Table 2.1

Comparison of AidData- and BIS-based estimates of China's international lending portfolio

Year	BIS Total to LICs and MICs (Based on 60.4% Assumption)	BIS Total to LICs and MICs (Based on 44.31% Assumption)	AidData Total to LICs and MICs Nominal USD (Constant 2021 USD)	BIS Total to HICs (Based on 22.6% Assumption)	BIS Total to HICs (Based on 22.8% Assumption)	BIS Total to "Other" Borrowers (Based on 21.6% Assumption)	BIS Total to OFC Borrowers (Based on 30.33% Assumption)	BIS Total to LICs, MICs, HICs, and "Other" Borrowers
2015	878.7	644.7	620.7 (823.4)	328.8	331.7	314.3	441.3	1,454.9
2016	1,046.1	767.4	721.4 (942.2)	391.4	394.9	374.1	525.3	1,731.9
2017	1,197.7	878.7	805.7 (1,039.3)	448.2	452.1	428.3	601.4	1,983.0
2018	1,348.3	989.1	889.4 (1,130.6)	504.5	509.0	482.2	677.1	2,232.3
2019	1,367.0	1,002.8	951.0 (1,199.8)	511.5	516.0	488.8	686.4	2,263.2
2020	1,492.7	1,095.1	986.8 (1,239.8)	558.5	563.5	533.8	749.6	2,471.4
2021	1,589.2	1,165.9	1,027.1 (1,280.1)	594.6	599.9	568.3	798.0	2,631.1

Notes: The BIS data are reported in current (nominal) USD. For the sake of comparability, the amounts recorded in the "AidData Total to LICs and MICs" column are also reported in current (nominal) USD, though the constant 2021 USD amounts are reported in parenthesis. The totals from AidData exclude short-term "rollover" facilities (see Box 2c and Section A-3 in the Appendix).

There are three main reasons why AidData's GCDF dataset challenges the conventional wisdom about the total collapse of China's overseas lending program.

1. Lending institution coverage: Unlike other publicly available datasets that measure Chinese development finance, the 3.0 version of AidData's GCDF dataset does not exclusively track the overseas lending activities of China's government agencies (MOFCOM and CIDCA) and its state-owned

policy banks (China Eximbank and CDB).[96] Based on OECD-DAC reporting directives, it tracks the overseas lending activities of *all* government and state-owned creditors in China, including state-owned commercial banks (such as Bank of China, ICBC, China Construction Bank, Bank of Communications, China CITIC Bank, Bank of Shanghai, Postal Savings Bank of China, China Merchants Bank, and Harbin Bank), state-owned companies (such as CNPC, CMEC, Poly Technologies, NORINCO, and AVIC), state-owned funds (such as the Silk Road Fund and China Investment Corporation), state-owned policy banks (CDB and China Eximbank), and government agencies (such as MOFCOM, PBOC, and SAFE). In total, 180 Chinese lending institutions are included in the 3.0 version of AidData's GCDF dataset. By way of comparison, two Chinese lending institutions are included in Boston University's CODF database (China Eximbank and CDB) and only a handful of Chinese lending institutions are included in the IDS.[97] The breadth of AidData's lending institution coverage is particularly consequential because, in recent years, the LIC and MIC lending operations of China's central bank (PBOC) and state-owned commercial banks have expanded while those of CDB and China Eximbank have contracted (see Figure 2.7).[98]

[96] The China's Overseas Development Finance Database, the Chinese Loans to Latin America and the Caribbean Database, and China's Global Energy Finance Database track the overseas lending activities of two state-owned policy banks (CDB and China Eximbank). They do not track the overseas lending activities of China's state-owned commercial banks. Nor do the World Bank IDS data capture loans from Chinese state-owned commercial banks. As explained by Horn et al. (2021: 15), "the World Bank's definition [of official sector lending] does not cover lending by commercial banks such as the Industrial and Commercial Bank of China (ICBC) or the Bank of China (BoC), despite the fact that they are state-owned. These banks are official creditors according to our (OECD) definition (they are owned and controlled by the Chinese government), but they are not bilateral creditors according to the World Bank's definition, because they are not a 'public enterprise' in a narrow sense, in contrast to the policy banks such as China Ex-Im Bank or CDB."

[97] IDS includes loan commitments from government agencies (such as MOFCOM and CIDCA) and state-owned policy banks (such as China Eximbank and CDB), but excludes loan commitments from state-owned companies, state-owned funds, and state-owned commercial banks (Horn et al. 2021: 15). For the most part, IDS also appears to exclude loan commitments from the PBOC and SAFE, which is a PBOC subsidiary (see Box 2c). This is true despite the fact that IDS seeks to capture all loans from "the general government, central government; state and local government; [and] central bank and public enterprise" (World Bank 2020b: 4).

[98] On average, during the pre-BRI period (2000-2013), Beijing channeled 15% of its annual lending commitments to low- and middle-income countries through its state-owned commercial banks. This figure increased to 18% during the early BRI (2014-2017) period and 22% during the late BRI period (2018-2021). On average, Beijing channeled 70% of its annual lending commitments to low- and middle-income countries through its policy banks during the pre-BRI period. This figure dropped to 60% during the early BRI period and 30% during the late BRI period. On average, during the pre-BRI period, Beijing channeled only 3% of its annual lending commitments to low- and middle-income countries through PBOC/SAFE. This figure increased to 14% during the early BRI period and 43% during the late BRI period. See Figure 2.7 for more details.

2. Borrowing institution coverage: OECD-DAC reporting guidelines specify that ODA and OOF are designed to capture official sector financial flows, where the "official sector" refers to the sources rather than the destinations of such flows (Horn et al. 2021: 23). AidData adheres to this reporting standard to ensure that its measures of Chinese development finance are comparable to OECD-DAC sources of international development finance. As such, the 3.0 version of AidData's GCDF dataset captures lending from all Chinese government and state-owned creditors to all public sector and private sector borrowers in low-income and middle-income countries, regardless of whether they secured sovereign repayment guarantees. By contrast, other publicly available datasets—such as Boston University's CODF dataset and the World Bank's IDS—exclusively track Chinese loans to government institutions, majority state-owned entities, and borrowing institutions that benefit from sovereign repayment guarantees (i.e., public and publicly guaranteed debt owed to China). This coverage difference is consequential because a significant percentage of China's overseas lending portfolio is channeled to special purpose vehicles, joint ventures, private sector institutions, and minority state-owned entities (see Figures 2.18 and A10). While these loans typically do not appear on government balance sheets in low-income and middle-income countries, many of them benefit from implicit host government liability protection, which has blurred the distinction between public debt and private debt.[99] In total, the 3.0 version of the GCDF dataset captures $525 billion of lending commitments to 661 borrowing institutions that qualify as central government or central government-guaranteed debt, $421 billion of lending commitments to 455 borrowing institutions that qualify as another type of public sector debt, $67 billion of lending commitments to 85 borrowing institutions that qualify as potential public sector debt, $216 billion of lending commitments to 724 borrowing institutions that qualify as private sector debt, and $50 billion that is not allocable due to a lack

[99] As Horn et al. (2021: 4) explain, "[w]hile the distinction between private and public sector recipients is clear in principle, it tends to be blurry in practice, in particular in developing countries and during financial crises. Private debt often turns into public debt once a crisis hits and many of the loans [to private sector borrowers] might have explicit or implicit government guarantees." On this point, also see Malik et al. (2021) and Malik and Parks (2021).

of sufficient information for categorization purposes.[100] By contrast, BU's CODF dataset captures $605 billion of lending commitments from official sector institutions in China to 150 borrowing institutions that qualify either as central government debt, central government-guaranteed debt or another type of public sector debt.[101]

3. Debt instrument coverage: For the most part, existing Chinese development finance datasets—such as BU's CODF dataset and the World Bank's IDS—track long-term, dollar-denominated bilateral loans for public investment projects. However, China's overseas lending program is supported by a more diverse set of financing instruments, some of which are RMB-denominated, short- or medium-term in nature, unrelated to public investment projects, and/or involving multiple Chinese and/or non-Chinese banks. They include syndicated loans with multiple Chinese and/or non-Chinese bank participants, loans entrusted to multilateral administrators, short- or medium-term liquidity support facilities (LSFs) to provide balance of payments (BOP) support, currency swap facilities, foreign currency deposit loans, pre-export financing (PxF) facilities, deferred payment facilities, EPCF arrangements, interbank loan agreements, and revolving credit facilities, among other things. Consistent with OECD-DAC measurement standards, the 3.0 version of AidData's GCDF dataset tracks the full set of debt instruments used by Chinese state-owned entities in low-income and middle-income countries.[102] Here again, the breadth of instrument coverage is becoming increasingly important, as Chinese state-owned creditors pivot away from the traditional approach of issuing long-term, dollar-denominated

[100] These figures exclude the short-term "rollover" facilities that are described in Box 2c and Section A-3. When such facilities are included, the 3.0 version of the GCDF dataset captures the following lending commitment amounts: central government or central government guaranteed debt ($687 billion), other public sector debt ($422 billion), potential public sector debt ($67 billion) and private sector debt ($216 billion). There is an additional $50 billion in debt that is not allocable due to a lack of sufficient information for categorization purposes.

[101] For its part, IDS captures $378 billion of lending from official sector institutions in China to borrowing institutions that qualifies either as central government debt, central government-guaranteed debt or another type of public sector debt (i.e., PPG debt). However, the publicly available IDS data cannot be disaggregated by borrowing institution. For a country-by-country comparison of AidData and IDS measures of PPG and non-PPG debt exposure to China, see Table A16

[102] The OECD-DAC uses a broad definition of what qualifies as a debt instrument. According to the latest version of its Converged Statistical Reporting Directives for the Creditor Reporting System (CRS) and the Annual DAC Questionnaire, "[d]ebt instruments require the payment of principal and/or interest at some point(s) in the future" (OECD 2023b: 12).

bilateral buyer's credits and concessional loans for public investment projects (see Figures A11, A12, and A13) and toward short- and medium-term bilateral emergency rescue loans as well as long-term syndicated loans and loans entrusted to multilateral administrators.[103]

The "scope parameter" differences between the GCDF dataset and other publicly available datasets matter for a simple but important reason: exclusively tracking the lending activities of China Eximbank and CDB and the subset of loans from these two policy banks that qualify as PPG debt is not a useful way to monitor the changing scale and composition of Beijing's overseas lending portfolio if the portfolio has shifted toward new creditors, new borrowers, and new lending instruments. In this chapter, we demonstrate that such changes have already taken place, which means that a continued focus on PPG debt from China Eximbank and China Development Bank would be analogous to the proverbial drunkard who insists upon searching for his keys beneath the lamppost "because that's where the light is."[104]

There are several supply-side factors that have likely prevented China's overseas lending program from collapsing. First, Beijing's state-owned banks have high levels of international exposure to default risk, which means they have an interest in ensuring that their biggest borrowers are sufficiently liquid to continue servicing their existing debts. One way of providing liquidity relief to borrowers is via short- or medium-term bridge loans.[105] Second, even though Chinese banks are increasingly reluctant to issue long-term infrastructure project loans to government borrowers due to the rising tide of sovereign debt distress, Chinese companies with significant international operations have an interest in securing

[103] During the early BRI period (2014-2017) and late BRI period (2018-2021), an increasing proportion of China's official sector lending to LICs and MICs consisted of emergency rescue loans, including those of the "rollover" variety (see Figures 2.6 and A14 and Box 2c). The percentage of China's non-emergency lending program in LICs and MICs that was channeled via multilateral institutions or syndicated loan arrangements increased from 33.7% in 2014 to 51.5% in 2021 (see Figure 2.23).
[104] According to the 3.0 version of AidData's GCDF dataset, the percentage of official sector lending commitments from China to LICs and MICs that were channeled through the policy banks (CDB and China Eximbank) plummeted from 87% in 2009 to 22% in 2021 (see Figure A27). As Mingey and Kratz (2021) put it "[t]he issue ultimately is one of scope. The [...] focus on policy bank loans obscures changes in China's lending patterns—whether a shift in the source of loans to emerging market governments from policy commercial banks, or shifts in the destination of loans from governments to private infrastructure vehicles and corporates."
[105] Other options include grace period extensions, maturity extensions, and interest rate reductions. For more on this topic, see Horn et al. (2023a, 2023b).

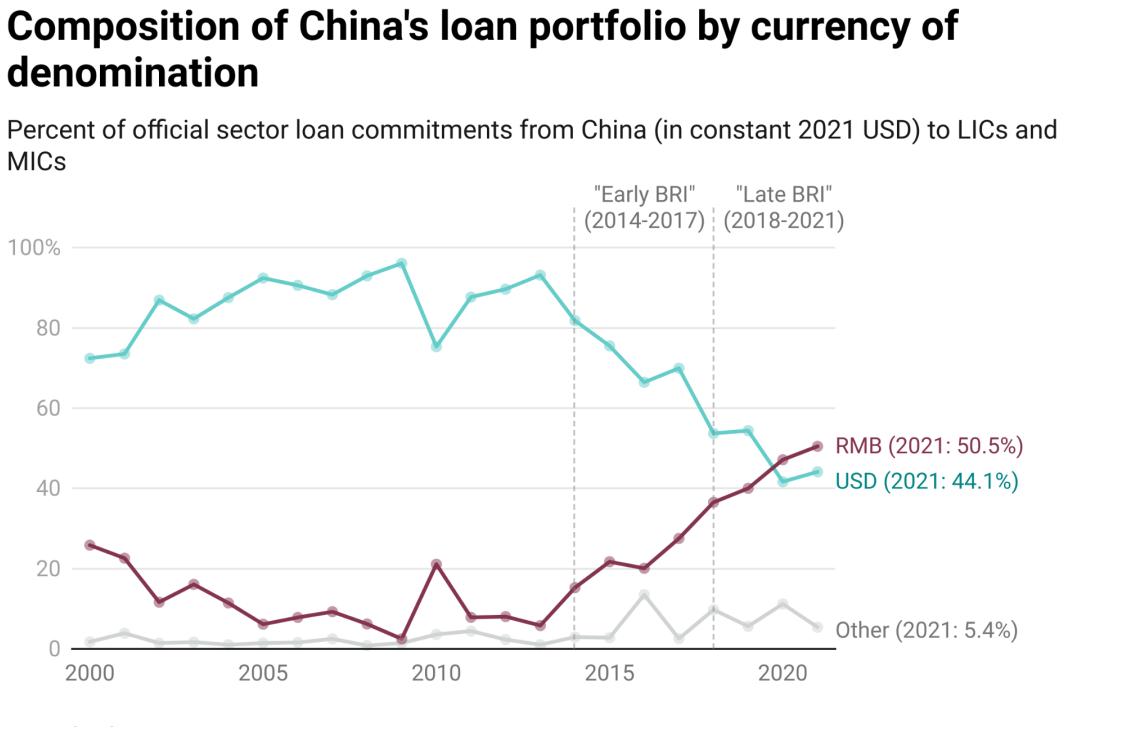
new business and preserving market share in the countries where they operate. They therefore have incentives to ensure that new sources and types of financing—such as syndicated loans that pool credit risk across Chinese and non-Chinese lenders, loans to special purpose vehicles and joint ventures rather than sovereigns, and deferred payment or EPCF agreements that involve more risk-sharing between Chinese companies and their overseas clients—are brought to bear in support of new infrastructure projects in overseas markets. Third, to sustain high levels of domestic economic growth, China has a long-run need to secure natural resources that it lacks in sufficient quantities at home, which is an important reason why Beijing allows its overseas borrowers to collateralize and repay loans with the money they earn from natural resource exports to China. Fourth, China is seeking to position itself as a major world power and project influence around the globe, which serves as a counterweight to financial pressures for retrenchment.

However, there is probably no factor more important than the overall size of China's foreign exchange reserves. China would not have become the world's largest official creditor to the developing world—larger than the World Bank, the IMF, and all Paris Club creditors combined—if not for its massive stockpile of foreign exchange reserves (Dreher et al. 2021, 2022). When Beijing adopted the "Going Out" strategy at the turn of the century, it prioritized dollar-denominated lending to overseas borrowers to deal with a foreign currency oversupply challenge: annual trade surpluses led to a rapid accumulation of dollar reserves, which created a risk of currency (RMB) appreciation and prompted China's State Administration of Foreign Exchange (SAFE) to search for international assets where it could invest its surplus dollar reserves and get a good return.[106] SAFE used these funds in the early 2000s to recapitalize several state-owned banks, which in turn ramped up dollar-denominated lending to overseas borrowers (see Figure 2.2 and Box 2b). However, until the 2008 Global Financial Crisis, SAFE parked the lion's share of its surplus dollar reserves in U.S. government securities. Then, in 2008 and 2009, international asset prices plummeted and the U.S. Federal Reserve weakened the dollar via quantitative easing. Beijing's traditional investment strategy of

[106] For decades, China has sought to avoid a rapid appreciation of its currency in order to sustain high levels of export growth, which it regards as essential to achieve high-income country status.

parking surplus dollar reserves in U.S. government securities became less attractive and it launched a search for higher-yield (undervalued) overseas assets. SAFE entrusted a larger proportion of its surplus dollar reserves to the country's state-owned policy banks, state-owned commercial banks, and state-owned investment funds and tasked them with the pursuit of higher investment returns via dollar-denominated international lending (see Box 2b).[107]

Figure 2.2



Notes: The "Other" category includes all other currencies of denomination, including EUR, GBP, and local currencies in low-income and middle-income countries.

The central role that foreign exchange reserves have played in the dramatic expansion of China's 21st century overseas lending program raises several important questions. Are China's foreign exchange reserves rising or falling? If they are rising, how are they being invested? Are Chinese state-owned lenders being recapitalized with these reserves and tasked with using these reserves to extend foreign currency-denominated loans to overseas borrowers?

[107] However, SAFE is not the only source of foreign exchange that China's state-owned commercial banks have drawn upon to support foreign exchange-denominated overseas lending activities. Their balance sheet data demonstrates that they also have access to domestic foreign exchange deposits (Setser 2023a).

China's foreign currency reserves remain vast—approximately $3.1 trillion as of 2023. However, this figure only refers to the official, foreign currency reserve holdings of China's central bank (the PBOC). It does not account for the country's so-called "hidden reserves," which include foreign currency that the PBOC has moved out of its official reserve holdings (and off of its balance sheet) by entrusting them to Chinese state-owned policy banks (like CDB and China Eximbank), state-owned commercial banks (like BOC, ICBC, and China Construction Bank), and state-owned funds (like the Silk Road Fund and CIC). Brad Setser of the Council on Foreign Relations argues that the country's "hidden reserves" may be worth an additional $3 trillion.[108] He also provides evidence that these additional reserves have rapidly increased over the last decade, which may explain why the 3.0 version of the GCDF dataset does not show a major contraction in the overall size of China's overseas lending program in LICs and MICs.[109] Additionally, it may explain why China's overseas lending program in high-income countries (HICs) and offshore financial centers (OFCs) nearly doubled between 2015 and 2021 (see Box 2a and Table 2.1).

Box 2b: The investment agency behind the curtain—China's State Administration of Foreign Exchange (SAFE)

China's State Administration of Foreign Exchange (SAFE) is a vice ministry-level institution and a subsidiary of the PBOC; its original mandate in 1955 was to act as the country's foreign exchange regulatory authority. However, prior to the opening up of China's economy in the late 1970s, the country had limited foreign exchange reserves and the PBOC had limited central bank responsibilities.[110]

Despite its inauspicious beginnings, SAFE was eventually made responsible for the management of the world's largest stockpile of foreign exchange reserves. It also became one of the most important investors in the world.[111] Due to recurring current account surpluses and capital account surpluses, China's stock of foreign exchange reserves skyrocketed from from $200 billion in 2000 to $1 trillion in 2006, $2 trillion in 2009, and $3 trillion in 2011. Keeping all of these reserves (mostly USD) onshore posed a currency appreciation risk and threatened to undermine

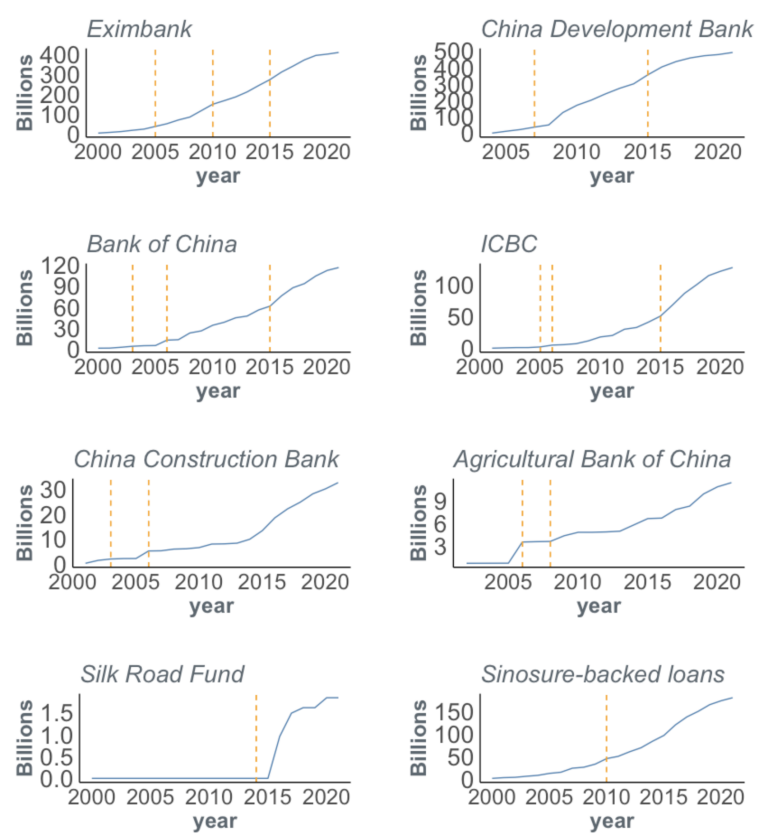
[108] Setser (2023a) argues that China's "hidden reserves" consist of (a) non-reserve foreign exchange assets that SAFE has provided to the policy banks, state-owned commercial banks, and state-owned investment funds to lend and invest abroad; (b) foreign assets that state-owned commercial banks have purchased to match their domestic foreign currency deposit base; and (c) foreign exchange that CIC purchased off the balance sheet of SAFE.
[109] See Setser 2023a, 2023c.
[110] At that time, the PBOC was a state-owned commercial bank operating under the supervision of the Ministry of Finance. The PBOC did not officially become China's central bank until 1983.
[111] Wei 2013; Liu 2023.

the country's export-led economic growth strategy, so SAFE was tasked with investing surplus dollars in overseas assets that would yield attractive returns within acceptable risk levels.[112]

Figure 2.3 below presents *cumulative* lending commitments of China's state-owned policy banks, state-owned commercial banks, and the Silk Road Fund to LICs and MICs, in relation to the timing of SAFE's investments in these organizations. It does the same for Sinosure-backed lending commitments to LICs and MICs. One can see that *large cash injections from SAFE have generally preceded increases in the overseas lending activities of China's state-owned policy banks, state-owned commercial banks, and the Silk Road Fund*. An increase in Sinosure-backed lending to overseas borrowers also followed SAFE's recapitalization of the state-owned credit insurance agency in 2010.

Figure 2.3

Cumulative loan commitments to LICs and MICs by financial institution and capital injections from SAFE, 2000-2021



[112] China's foreign exchange management law requires that the country's official reserves be invested in highly liquid and low-risk assets that can be used to address balance of payment needs. However, foreign exchange reserves that are entrusted to a state-owned entity for investment purposes fall outside the official (IMF) definition of foreign exchange reserves. They can therefore be invested in higher-risk, illiquid assets (Liu 2023).

Notes: This table presents cumulative lending commitments to LICs and MICs (in constant 2021 USD) from selected Chinese state-owned policy banks, state-owned commercial banks, and state-owned funds. It also presents cumulative lending commitments to LICs and MICs (in constant 2021 USD) that are backed by credit insurance from Sinosure. The vertical dashed lines represent years in which a SAFE capital injection is known to have taken place. These figures exclude short-term "rollover" facilities to refinance maturing debts (see Box 2c and Section A-3 in the Appendix).

SAFE's first major investment came in December 2003, when it capitalized the Central Huijin Investment Corporation (Central Huijin) with $45 billion, which in turn bought equity stakes in two state-owned commercial banks: Bank of China ($22.5 billion) and China Construction Bank ($22.5 billion). In April 2005, Central Huijin also bought an equity stake in ICBC for $15 billion. SAFE injected an additional $150 billion into China's state-owned commercial banks—by swapping USD for RMB held by the banks—in late 2005 and 2006.[113] The first known recapitalization of a state-owned policy bank came in July 2005, when SAFE injected $5 billion into China Eximbank. Then, in December 2007, Central Huijin—a wholly-owned subsidiary of SAFE—injected $20 billion into CDB. Six months later, SAFE agreed to provide additional funding (worth an estimated $166.5 billion) to CDB via entrusted loan agreements to support the overseas activities of Chinese companies.[114] Under these agreements, CDB acted as a custodian of funds for SAFE, disbursing loans to borrowers, supervising the use of the funds, and managing repayments.[115] SAFE eventually expanded its use of entrusted loan agreements to other state-owned banks.[116] By 2010, it had "taken initial steps toward giving policy and commercial banks authority to handle loans for intergovernmental cooperation projects" and moved "beyond its traditional role of managing foreign exchange reserves, effectively [becoming] a foreign-currency lender" (Yuzhe 2010).[117]

Then, in April 2010, Central Huijin injected $11.7 billion (RMB 80 billion) into China Eximbank and Sinosure to help them clean up bad loans on their balance sheets. Fourteen months later, in June 2011, China Investment Corporation—another state-owned entity responsible for investing the country's foreign exchange reserves—injected an additional $3.15 billion (RMB 20 billion) into Sinosure. Then, in December 2014, SAFE injected $40 billion into the Silk Road Fund through a subsidiary known as Buttonwood Investment Holding Company Ltd.[118] SAFE injected $48 billion into CDB and $45 billion into China Eximbank in July 2015 through wholly-owned subsidiaries (known as Wutongshu Investment Platform Co. Ltd, Sycamore Tree Investment Platform, and Buttonwood Investment Holding Company Ltd.). SAFE also purchased equity

[113] Central Huijin injected RMB 130 billion ($19 billion) into the Agricultural Bank of China in November 2008. However, it was no longer a wholly-owned subsidiary of SAFE at the time.
[114] Nine foreign reserve entrusted loan agreements were signed by SAFE and CDB in May 2010.
[115] However, as a fiduciary acting on behalf of SAFE (in exchange for a commission), it does not assume any of the risks or rewards of the entrusted loans. As such, CDB records entrusted loans as off-balance sheet items.
[116] According to Liu (2023: 174), "SAFE does have a minimum return target for the foreign exchange entrusted loans of about 2.5 percent, calculated as a spread of several basis points above the international benchmark bank-lending rate, LIBOR. In 2012 and 2013, an interest rate of 2.5 percent was not particularly low in an environment of quantitative easing in the EU and the United States; at the end of 2012 the US ten-year Treasury note, a proxy for the risk-free rate, was only 1.5 percent."
[117] At that time, SAFE also agreed to "act as the organizer and primary arranger of syndicated loans under entrust agreements" (Yuzhe 2010).
[118] In May 2017, the Chinese Government announced that it would inject another RMB 100 billion into the Silk Road Fund. The entity responsible for the injection is unknown.

stakes in ICBC and Bank of China—via Wutongshu Investment Platform Co. Ltd—during the last quarter of 2015.[119]

Since 2015, SAFE has not publicly announced any additional cash infusions into China's state-owned policy banks, state-owned commercial banks, or its state-owned credit insurance agency. An ongoing source of speculation and debate is whether SAFE is worried about "throwing good money after bad."[120] There are some indications that the country's largest state-owned banks and Sinosure, which are stewarding foreign exchange reserves from SAFE, may have high levels of cross-border exposure to non-performing loans on the balance sheets of Chinese banks.[121] In November 2017, China Banking Regulatory Commission (CBRC)—the country's top banking regulator—publicly called upon CDB and China Eximbank to put in place more robust risk management procedures (Xueqing 2017).[122] Then, in 2018, Sinosure's Chief Economist took the extraordinary step of publicly admonishing China's policy banks for their "downright inadequate" due diligence procedures (Pilling and Feng 2018). Another sign of potential peril is the fact that the *annual* overseas lending commitments of CDB, China Eximbank, Bank of China, and ICBC sharply declined *after* they received large cash infusions from SAFE in 2015 (see Figure A31). One potential explanation for this unusual pattern is that SAFE's money was used to clean up bad debts on the balance sheets of these banks instead of supporting new overseas lending commitments.

SAFE is discreet about the returns that it has earned via overseas investments, due to domestic political concerns about whether China's "xuè hàn qián" (the hard-earned money of Chinese workers) is being effectively stewarded. It "tries to limit its investments outside [U.S. government securities] to amounts small enough to hide from the public in case the bets go bad" (Wei 2013). However, in 2021, SAFE disclosed that it had earned an average annual return on its foreign exchange reserve portfolio of 3.35% between 2008 and 2017 and 4.11% between 1998 and

[119] The bank (re)capitalization information in Box 2b was drawn from SAFE 2004, 2017a, 2017b; Ma 2006; PBOC 2007, 2012; Ying 2008; China Daily 2009; Reuters 2009, 2010a, 2010b, 2016; Parson 2010; Shan 2011; Yuan 2014; Tangjun et al. 2014; Jia 2015; Xinhua 2015; Xiao 2016; Xie and Lamar 2016; Chen 2014; Kong and Gallagher 2017; Office of the Leading Group for Promoting the Belt and Road Initiative 2019; Embassy of the People's Republic of China in the Republic of the Philippines 2019; Liu 2023; and Setser 2023a.

[120] SAFE has a particularly high level of exposure to non-performing loans on China Eximbank's balance sheet. According to a bond prospectus that China Eximbank issued in March 2017, "the ownership of the Ministry of Finance in China Eximbank is approximately 10.7% while [...] SAFE owns approximately 89.3% of China Eximbank through its investment platform" (Export-Import Bank of China 2017: 20). SAFE is also exposed to non-performing CDB loans, but its exposure is related to its use of CDB as a fiduciary for entrusted loans and CDB's own balance sheet. SAFE holds a 27.1% ownership stake in CDB through Buttonwood Investment Holding Company Ltd. It purchased this stake on July 15, 2015, when Buttonwood Investment Holding Company Ltd. injected $48 billion of share capital into CDB (CDB 2020).

[121] During the primary data collection effort for the 3.0 version of the GCDF dataset, AidData uncovered evidence of Sinosure in recent years providing credit insurance for loans issued by *non-Chinese banks* for projects being implemented by Chinese contractors. These loan commitments are not included in the 3.0 version of AidData's GCDF dataset.

[122] Zhou Minyuan, the head of CBRC's policy banks supervision department, announced at the time that it "required both banks to fully identify overseas business risks, step up compliance management, completely understand the operational and financial status of their clients as well as the laws and regulations of host countries, strictly observe the local environmental and industrial regulations, and strengthen communication with local regulators" (Xueqing 2017). CBRC also "demanded the banks enhance capital supervision via on-site inspections and investigations, effectively prevent and control overseas business risks by taking risk-sharing measures, prudentially evaluate the feasibility and compliance of relevant guarantee measures, and improve their emergency response mechanism" (Xueqing 2017).

2017 (SAFE 2021: 53). At the time, it characterized the rate of return as being at a "relatively good level" (SAFE 2021: 53). SAFE has not released any data on average annual returns for 2018 or any subsequent years.

Another important question that remains unanswered is the extent to which SAFE owns the bonded debt of the LIC and MIC governments of Emerging Market and Developing Economies (EMDEs)—either through direct purchases or secondary market purchases (i.e., via investment funds like PIMCO, Blackrock, AllianceBernstein, Fidelity Investments, and Amundi Asset Management). There are several reasons to believe that SAFE's holdings of bonded EMDE sovereign debt may be significant. First, when SAFE agreed to buy $300 million of bonded debt from the Government of Costa Rica in 2008, it attempted to hide the purchase (Anderlini 2008). The Deputy Administrator of SAFE, Fang Shangpu, sought and secured a written assurance from the Government of Costa Rica that it would "take necessary measures to prevent the disclosure of the financial terms of this operation and of SAFE as a purchaser of the bonds" (SAFE 2008).[123] The purchase was only made public because of a court order. When SAFE was asked to comment on the matter, it said that there was nothing unusual about the purchase because it "owns bonds issued by many other governments" (Batson 2008). Second, SAFE's Chief Investment Officer from 2010 to 2014 was a bond trader at PIMCO (and right-hand man of PIMCO co-founder Bill Gross) from 2006 to 2009 (Wei 2013). Third, SAFE opened an office on Fifth Avenue in New York City in 2013, and shortly thereafter it became an open secret among the world's largest asset managers—like PIMCO and BlackRock—that SAFE was one of their most important confidential clients.

Section 2: Major changes in Beijing's overseas lending portfolio during the BRI 2.0 era

Our goal in the remainder of this chapter is to explain how China is responding to the rising tide of debt distress in the developing world and identify the measures it is taking to de-risk its overseas lending portfolio. However, before we do so, it is important to understand some of the major changes in Beijing's overseas lending portfolio that have recently transpired. Three changes, which have become hallmarks of the BRI 2.0 era, merit special attention:

1. China's new and unfamiliar role as the world's largest official debt collector

[123] Also see Government of Costa Rica (2007, 2008). We have made the official correspondence between SAFE and Costa Rica's Ministry of Finance in January 2008 accessible via https://www.dropbox.com/scl/fi/a20fdxb2lecowt8tp5lym/2-January-2008-SAFE-Letter-to-Minister-of-Finance-of-Costa-Rica.pdf?rlkey=y9ywdrrhap4rdkt0cyqj4mj4y&dl=0 and https://www.dropbox.com/scl/fi/48qdeslzwim9t6dqhyk0m/7-January-2008-Letter-from-Minister-of-Finance-of-Costa-Rica-to-SAFE.pdf?rlkey=pr3p4advi1wfzzwjr5t8gva5m&dl=0.

2. The rise of emergency rescue lending and the fall of infrastructure project lending

3. A strategic pivot from USD-denominated bilateral lending to RMB-denominated bilateral lending

China's new and unfamiliar role as the world's largest official debt collector

When the BRI was initially launched, Beijing differentiated itself from its peers and competitors by financing big-ticket infrastructure projects—like high-speed railways and next-generation telecommunication networks—that virtually no one else was willing to bankroll. Many of the loans that were issued for these projects included lengthy grace periods, so most borrowers didn't need to worry about making large debt service payments for five, six, or seven years. With a lot of "easy money" sloshing around, many borrower countries saw their economic growth rates soar (Dreher et al. 2021, 2022). China's popularity around the globe also soared: the high-water mark of public support for China in the developing world—after the introduction of the BRI—was in 2019.[124]

However, as Figure 2.4 demonstrates, the age of easy money is in the rear-view mirror for an expanding set of borrowers. By 2020, 40% of official sector loans from China to low-income and middle-income countries had entered their principal repayment periods (following the expiration of their grace periods). This figure increased to 55% in 2023, and we expect it will reach approximately 75% by 2030 and 100% by 2049.

Another way of thinking about the looming repayment challenge is to track the percentage of loans in China's LIC and MIC portfolio that have already reached their (originally scheduled) final repayment dates. In 2014 (the first full year of BRI implementation), this figure stood at only 17% (see Figure 2.5). By 2023 (the tenth full year of BRI implementation), it had increased to 44%. We expect this

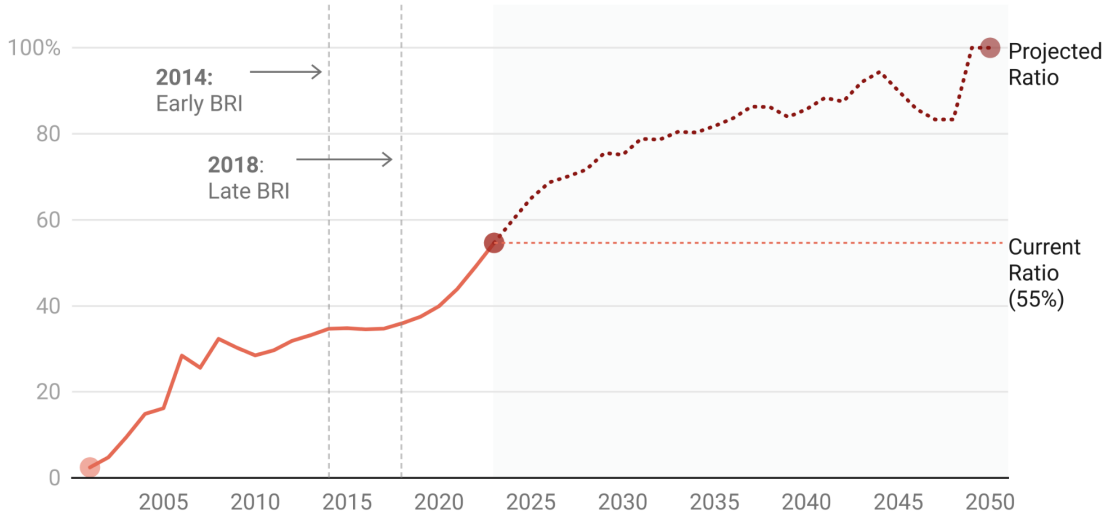
[124] At that time, the population-weighted average level of public support for China in the developing world was 55.66%. On the causal relationship between the receipt of Chinese aid and credit and public support for China, see Wellner et al. (forthcoming, 2023).

figure to rise to 52% by 2025 and approach nearly 100% by 2040 (see Figure 2.5).

Figure 2.4

Loans from China within their repayment periods, 2000-2050

Percentage of loans (count) per year that are no longer within their original grace periods

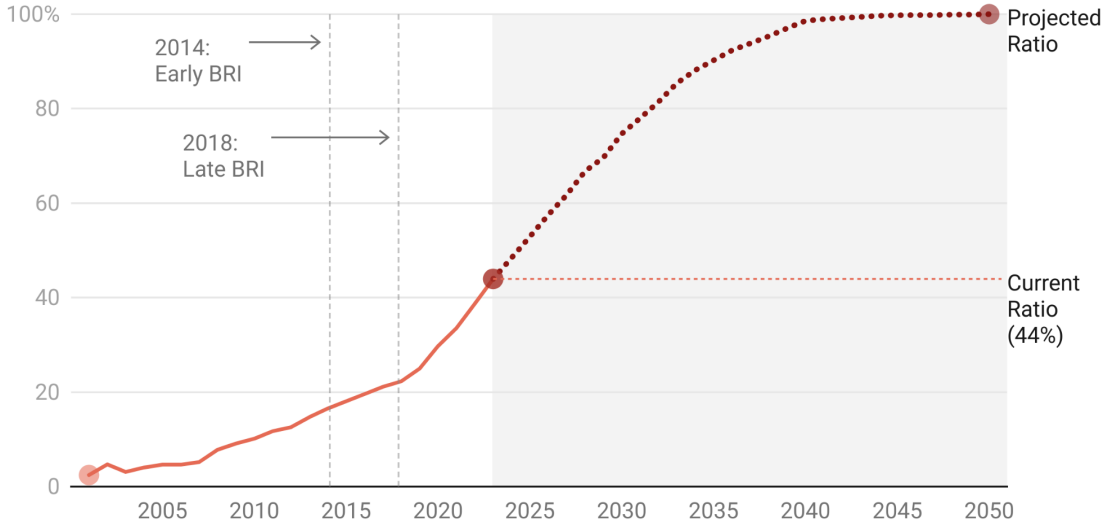


Notes: This graph shows the cumulative percentage of official sector loans from China to LICs and MICs (as measured by the number of loans) that are within their repayment periods). To determine when each loan will enter repayment, each loan's grace period is added to its commitment date. This figure 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). MOFCOM interest-free loan commitments (which are typically issued without a credible expectation of repayment) are excluded from the calculation.

Figure 2.5

Loans from China reaching their (originally scheduled) final repayment dates, 2000-2050

Cumulative percentage of loans from China to LICs and MICs reaching maturity



Notes: This graph shows the cumulative percentage of official sector loans from China to LICs and MICs (as measured by the number of loans) that have reached maturity. To determine when each loan will reach maturity, each loan's maturity period is added to its commitment date. This figure represents when loans will reach their maturity according to the original borrowing terms, although many loans have been rescheduled (often involving an extension of the loan's grace period and/or maturity). MOFCOM interest-free loan commitments (which are typically issued without a credible expectation of repayment) are excluded from the calculation.

What does all of this mean in practical terms? It means that a rapidly growing percentage of borrowers in the Global South are making large debt service payments (that are for the most part denominated in U.S. dollars) to Beijing at a time when interest rates are rising, the U.S. dollar is strengthening, local currencies are weakening, and global growth is slowing. Many borrowers do not have enough hard currency on hand to meet their repayment obligations—especially on loans with LIBOR-based interest rates that increased by five-and-a-half percentage points between January 2022 and September 2023.[125]

[125] Average 6-month LIBOR skyrocketed from 0.426% in January 2022 to 5.892% in September 2023.

It also means that Beijing finds itself in an unfamiliar and uncomfortable role—as the world's largest official debt collector. Some of China's state-sponsored tabloids and research institutions are attempting to deflect criticism by blaming the U.S. Federal Reserve for the sharp increase in LIBOR-based interest rates (e.g., Xueqing 2022; Qing 2023).[126] However, this position will be difficult to defend. When Beijing decided to make LIBOR central to its dollar-denominated overseas lending program (see Figure 2.14), it did not do so at the behest of the U.S. or any other foreign power.[127] It did so on its own—and for its own profit-making purposes (see Box 2b). Now, the grace periods on most of China's LIBOR-based loans are expiring, and Beijing is learning a difficult lesson: *it's easier for great powers to behave like commercial creditors in times of plenty than in times of want*. If China was a commercial bank, it would be easier to demand that financially-distressed LIC and MIC borrowers draw upon their limited U.S. dollar reserves to make increasingly large debt service payments. However, China is a global superpower that has to balance a wide range of competing equities, including reputational risk and repayment risk (see Chapter 4 for more on this key tension and tradeoff).

The rise of emergency rescue lending and the fall of infrastructure project lending

China's overseas lending program has become synonymous with the BRI—an overland "Belt" of road, rail, port, and pipeline projects that seeks to create an infrastructure corridor from China to Central Asia and Europe, and a "Maritime Silk Road" that seeks to link China to South and Southeast Asia, the Middle East, and Africa through deep-water seaport construction projects along the littoral areas of the Indian Ocean. However the 3.0 version of AidData's GCDF dataset

[126] For example, in April 2023, China's state-owned tabloid, *Global Times*, published an op-ed identifying "the US' irresponsible monetary policy [as] the root of African debt problems." It argued that "[r]elying on dollar hegemony, the US has implemented three rounds of quantitative easing, cut interest rates to near zero, and flooded Africa and emerging markets with low-interest dollars. It then arbitrarily and aggressively raised interest rates, boosted the U.S. dollar exchange rate, attracted the return of dollars, as a result, African countries have to face liquidity shortages, broken funding chains, currency depreciation, skyrocketing debt repayment costs denominated in dollars, a surge in sovereign debt, and exacerbated debt problems. The unfair financial system led by the US is the root of Africa's debt problems." (Qing 2023).

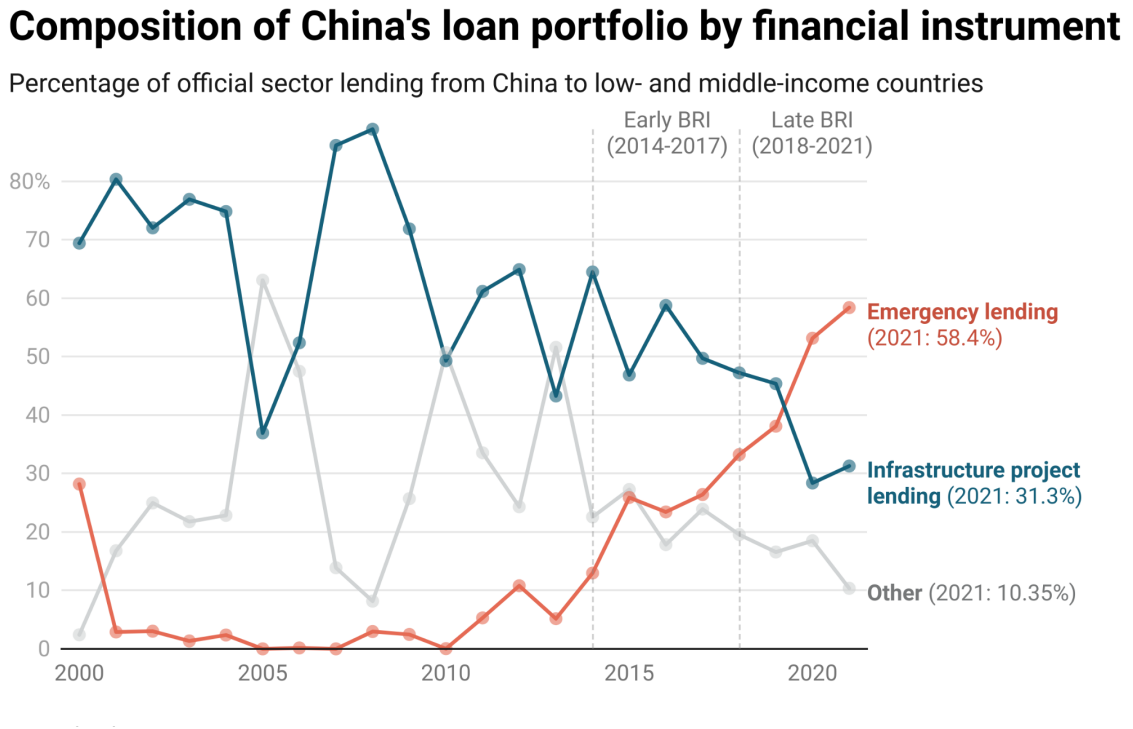
[127] According to the 3.0 version of AidData's GCDF dataset, 45% of China's dollar-denominated official sector lending to LICs and MICs is based on 6-month LIBOR or another LIBOR-based interest rate and 67% of China's variable interest rate official sector lending to LICs and MICs is based on 6-month LIBOR or another LIBOR-based interest rate (see Figure 2.14).

highlights the importance of not conflating China's flagship, global infrastructure initiative with its overseas lending program.[128]

During the pre-BRI period (2000-2013), Beijing provided an extraordinary amount of credit for infrastructure projects in LICs and MICs.[129] In total, the 3.0 version of AidData's GCDF dataset identifies 2,217 loan-financed projects worth $628 billion during this fourteen-year period.[130] 66% of these projects (worth $412 billion) sought to construct, rehabilitate, expand, or maintain physical infrastructure.[131] However, Figures 2.6 and A13 provide evidence that, since the BRI was launched, a rapidly *shrinking* proportion of China's overseas lending to LICs and MICs has supported infrastructure projects.[132] This was true during the early BRI period (2014-2017) and during the late BRI (2018-2021) period. Infrastructure project lending commitments as a share of total lending commitments to LICs and MICs fell from 65% in 2014, to 50% in 2017, 49% in 2018, and 31% in 2021.

[128] Table 2.1 also calls attention to this point by spotlighting the vast scale of China's overseas lending to high-income countries (HICs) and offshore financial centers (OFCs).
[129] 84% of China's infrastructure project lending from 2000-2014 was provided by CDB and China Eximbank, and 32% was provided via buyer's credits. However, Figures A11 and 2.7 demonstrate that a rapidly shrinking percentage of China's overseas lending program in the developing world is provided via the country's policy banks and buyer's credits.
[130] To generate this estimate, we identify all loans in the 3.0 version of the GCDF dataset that are categorized as "investment project loans." For more on the definition and measurement of the investment project loan variable, see Custer et al. (2023).
[131] To generate this estimate, we identify all loans in the 3.0 version of the GCDF dataset that are categorized as "investment project loans" *and* that involve the construction, rehabilitation, expansion, or maintenance of physical infrastructure. For more on the definition and measurement of the infrastructure variable and the investment project loan variable, see Custer et al. (2023).
[132] Figure A26 in the Appendix provides another version of this graph that presents project lending rather than infrastructure project lending over time. It shows a very similar pattern: project lending commitments as a share of total lending commitments fell from 78% in 2014 to 56% in 2017, and then from 50% in 2018 to 32% in 2021.

Figure 2.6



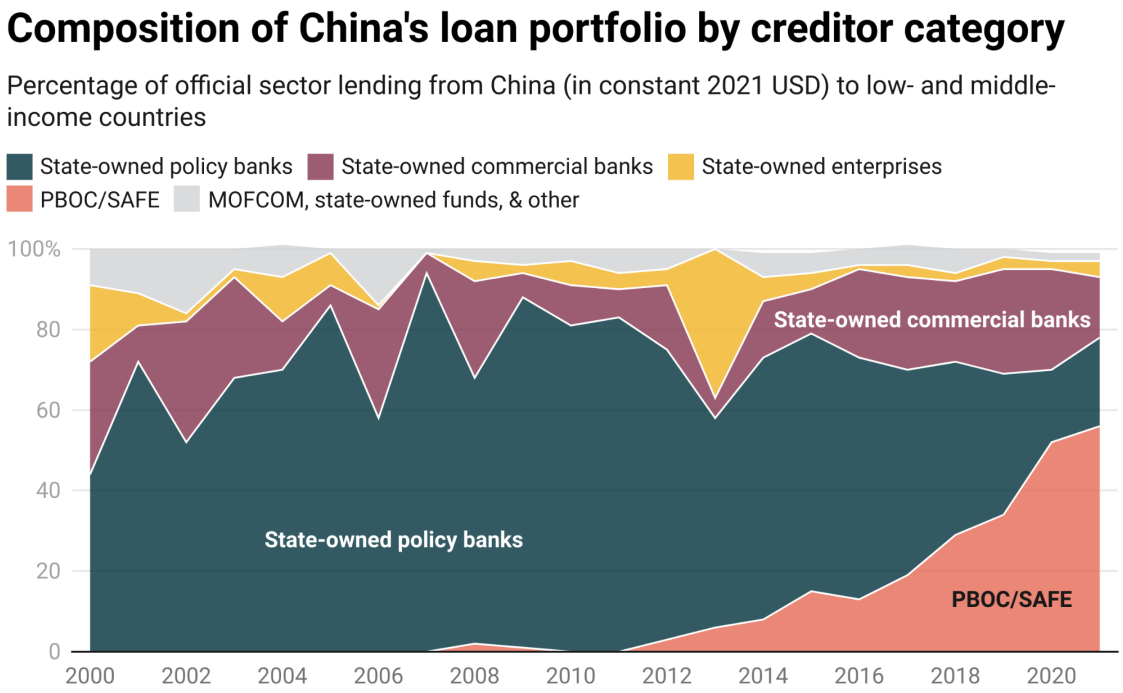
Notes: For details on how infrastructure project lending is measured, see footnote 131.

Given that Beijing did not dramatically scale back the overall size of its overseas lending program in LICs and MICs, how and why did it continue to lend record amounts to developing countries at a time when it was ratcheting down Belt and Road project lending? Figure 2.6 provides a clear answer: Beijing was ramping up its emergency rescue lending activities while it was ramping down its infrastructure project lending activities.[133] In 2013, one year before the first full year of BRI implementation, emergency rescue lending represented only 5% of China's overseas lending to LICs and MICs. By 2021, 58% of China's overseas lending to LICs and MICs consisted of emergency rescue lending. The People's Bank of China (PBOC)—China's central bank—is by far the most important financier of international emergency rescue lending operations, which explains

[133] Consistent with Horn et al. (2023a, 2023b), we define emergency rescue loans as all loans from Chinese state-owned entities to government borrowing institutions in low-income and middle-income countries that can be used for at least one of three purposes: repaying existing debts, financing general public expenditures, or 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" (主权贷).

why it had assumed a dominant role in Beijing's LIC and MIC lending portfolio by 2020 (see Figure 2.7).[134]

Figure 2.7



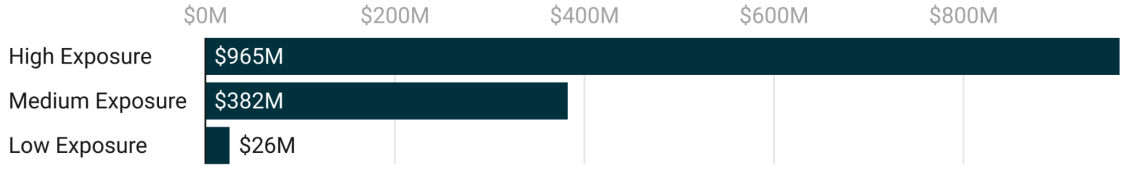
In March 2023, a team of researchers from AidData, the World Bank, the Harvard Kennedy School, and the Kiel Institute for the World Economy published a study that explains why Beijing has undertaken rescue lending operations worth nearly $250 billion in 22 countries (Horn et al. 2023a).[135] They find that most of these operations have taken place in BRI participant countries with high levels of outstanding (infrastructure project) debt to Chinese banks and companies. They also find that bailouts from Beijing are directed to distressed government borrowers at times when their foreign exchange reserve levels are low and their credit ratings are weak.

[134] In 2013, the PBOC and SAFE (its subsidiary) were responsible for only 6% of China's official sector lending commitments to LICs and MICs. By 2021, that figure reached 54% (see Figure 2.7 and Figure A37).
[135] The authors of the study include Sebastian Horn of the World Bank; Brad Parks, Executive Director of AidData and Research Professor at William & Mary's Global Research Institute; Carmen Reinhart, former World Bank Group Chief Economist and current Professor at the Harvard Kennedy School; and Christoph Trebesch, Director at the Kiel Institute for the World Economy.

Figure 2.8

Chinese emergency rescue lending by countries' level of debt exposure to China

Average emergency rescue lending commitments from China in each category (constant 2021 USD millions)



Notes: The three categories (high, medium, or low debt exposure to China) are constructed by ranking countries according to total non-emergency lending commitments from official sector institutions in China between 2000 and 2021. Countries that did not receive any non-emergency lending commitments are excluded from the calculation. The calculation of average emergency rescue loan commitments excludes short-term "rollover" facilities to refinance maturing debts (see Box 2c and Section A-3 in the Appendix).

The 3.0 version of AidData's GCDF dataset provides an opportunity to conduct a basic replication exercise with four years of additional data (2018-2021), substantially revised data for 2000-2017, and more precise measurements of China's project, infrastructure project, and non-emergency lending activities. In Figure 2.8, we reproduce Figure 5 from the Horn et al. (2023a) study with updated data on emergency and non-emergency lending commitments and confirm that China's international emergency lending operations are concentrated in countries that accumulated large amounts of debt to China for non-emergency purposes between 2000 and 2021.[136] We can also confirm that every country that received an emergency rescue loan from China is a participant in the BRI.[137] In Table 2.2, we replicate Table A4 from the Horn et al. (2023a) study and confirm that Chinese emergency rescue loans are issued to sovereigns at times when reserves are low and at times when borrowers have

[136] Figure 2.8 uses a new dummy variable ("rescue") in the 3.0 version of the GCDF dataset for emergency rescue loans, which captures any loan that allows a sovereign debtor to (1) service existing debts, (2) finance general budgetary expenditures and/or (3) shore up foreign reserves.
[137] As of 2021, this was true of all emergency rescue loan recipients other than Argentina and Malawi. Then, in 2022, Argentina and Malawi joined the BRI.

very weak credit ratings.[138] By contrast, we find that Chinese project loans and Chinese infrastructure project loans are issued to borrowers at times when they have relatively strong credit ratings and reserve adequacy ratios.[139] All of these findings are consistent with those of Horn et al. (2023a) and support their characterization of Beijing's crisis management response as one of "Bailouts on the Belt and Road."[140]

Table 2.2

Average sovereign risk ratings and gross reserves for recipients of different Chinese loan types

Type of Loan	Average Sovereign Risk Rating	Moody's Rating	Fitch Rating	S&P Rating	Gross Reserves (in Months of Imports)
Rescue Loans	5.7	Caa1	CCC	CCC+	4.7
Project Loans	9.4	Ba3	BB-	BB-	6.2
Infrastructure Project Loans	9.2	Ba3	BB-	BB-	5.9

Notes: This table presents the average sovereign risk rating and level of gross reserves (in months of import cover) for countries that received emergency rescue loans, project loans and infrastructure project loans from China between 2000 and 2021. The averages are weighted by the commitment amounts of the emergency rescue, project, and infrastructure project loans from the 3.0 version of AidData's GCDF dataset. The data on gross reserves in months of imports are drawn from the World Bank's World Development Indicators. The sovereign risk ratings data are derived from the World Bank's sovrate index using the conversion scale in Séri (2021). Sovrate is a measure of repayment risk that varies from 0 to 21, with higher scores indicating lower levels of sovereign credit risk (Kose et al. 2022).

[138] The sovereign risk ratings produced by Moody's take one of 21 categorical values, where Aaa represents the lowest level of risk and C represents the highest level of risk. The sovereign risk ratings produced by Fitch take one of 21 categorical values, where AAA represents the lowest level of risk and D represents the highest level of risk. The sovereign risk ratings produced by S&P take one of 21 categorical values, where AAA represents the lowest level of risk and C/D represents the highest level of risk. For more details, see Séri (2021).

[139] Horn et al. (2023a) uses loan commitments for non-emergency purposes as a proxy for "project loans" and relies on the 2.0 version of AidData's GCDF dataset. Table 2.2 uses the 3.0 version of AidData's GCDF dataset, which allows for more precise measurement of project loans and infrastructure project loans. For more on these measurements, see footnote 130 and footnote 131.

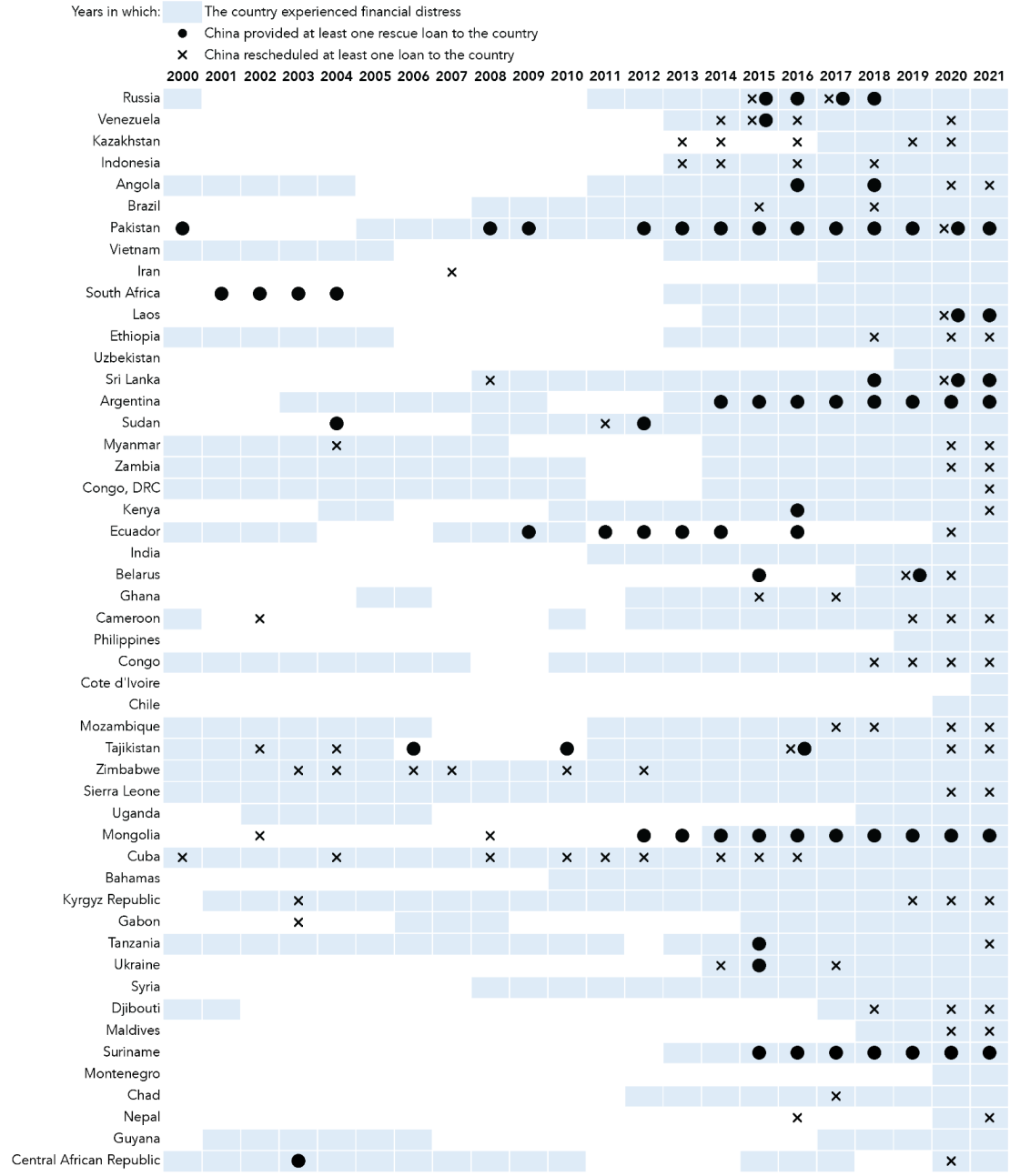
[140] Emergency rescue loans and debt reschedulings are similar in that they both provide cash flow relief to insufficiently liquid borrowers. In this way, they can both be used to "bail out" a borrower (Horn et al. 2023b).

In Figure 2.9, we take the analysis one step further. We first use the country-year level measure of financial distress (that we introduced in Chapter 1) to identify Beijing's 50 largest LIC and MIC borrowers that experienced financial distress at some point between 2000 and 2021.[141] We then identify the timing of bailouts (emergency rescue loans) and debt reschedulings (cash flow relief) from Beijing in relation to the onset and duration of financial distress episodes.

[141] In order to differentiate between repayment risks and repayment risk mitigation efforts, we modify the criteria for the financial distress measure. Instead of using all loan records where the description field in the 3.0 GCDF dataset indicates that the borrower had difficulty making repayments or experienced financial distress, we exclude all observations for which the only source of evidence of the borrower having difficulty making repayments or experiencing financial distress is an attempted or actual debt rescheduling.

Figure 2.9

Rescue lending and debt rescheduling events for the top 50 borrowers in financial distress, 2000-2021



Notes: This figure provides an overview of the timeline of when countries experienced financial distress (blue shading), when China provided rescue lending (circles), and when China rescheduled existing loan repayments (X's). A circle indicates that at least one rescue loan was provided by China to the respective country that year, and an X indicates that at least one loan was rescheduled by China for the respective country that year. Countries included in this list represent the top 50 borrowers in distress, ordered by the

size of their cumulative lending portfolio as of 2021. See footnote 141 for details on how the financial distress index was modified to differentiate between repayment risks and repayment risk mitigation efforts.

Figure 2.9 demonstrates that 83% of China's emergency rescue loans (including short-term "rollover" facilities) were issued in years when the recipients of these loans were in financial distress.[142] Similarly, 80% of China's debt reschedulings took place in years when borrowers in the participating countries experienced financial distress.[143] Figure 2.9 also provides evidence of Beijing repeatedly targeting debt reschedulings and emergency rescue loans to the same BRI participant countries with high levels of debt exposure to China.[144] The serial nature of these cash flow relief efforts suggests that Beijing's biggest borrowers may not only have short-term liquidity problems, but also long-term solvency problems.

Another important implication of these results is that China is increasingly behaving like an international crisis manager. It has effectively created a safety net for financially distressed sovereigns that are participating in the BRI—and, by extension, their highly exposed Chinese creditors.[145] It has also taken a differentiated approach across countries that present varying levels of risk to the Chinese banking sector, whereby countries that present a high level of balance sheet exposure get new money (via balance of payments support) and countries that present a low level of balance sheet exposure get cash flow relief (via debt reschedulings) but no new money (Horn et al. 2023a, 2023b).[146] These actions

[142] By comparison, 49% of China's non-emergency loans were issued in years when the recipients of these loans were in financial distress. This difference is also observable during the BRI era (2014-2021). Over this eight-year period, 83% of China's emergency rescue loans (representing 86% of China's emergency rescue lending portfolio in monetary terms) were issued in years when the recipients of these loans were in financial distress. During the BRI era (2014-2021), 63% of China's non-emergency loans (representing 67% of China's non-emergency rescue lending portfolio in monetary terms) were issued in years when the recipients of these loans were in financial distress. These percentages reflect the distress marker that was modified to differentiate between repayment risks and repayment risk mitigation efforts (see footnote 141).
[143] This finding is also consistent with Horn et al. (2023a) and Horn et al. (2023b).
[144] According to the underlying data that was used to construct Figure 2.9, 100% of the countries that received serial debt reschedulings and 100% of the countries that received serial emergency rescue loans are formal participants in the BRI. All of these countries rank among Beijing's 50 largest LIC and MIC borrowers and either benefited from debt reschedulings in two or more consecutive years or emergency rescue loans in two or more consecutive years.
[145] It is important to keep in mind that, from a historical perspective, countercyclical official lending is the norm rather than the exception. As Horn et al. (2020b) explain, "[d]uring the course of the 1930s, the United States joined European states in extending official loans to states with balance-of-payments problems, in particular through the US Export-Import Bank and the US Treasury's Exchange Stabilization Fund, which was established in 1934" (Horn et al. 2020b: 7).
[146] For more on this point, see Horn et al. (2023a) and Horn et al. (2023b).

are difficult to reconcile with the increasingly popular "Beijing in retreat" narrative that we previously described.

A strategic pivot from USD-denominated bilateral lending to RMB-denominated bilateral lending

As we noted in Section 1 of Chapter 2, China dramatically increased its foreign, dollar-denominated lending activities in the immediate aftermath of the 2008 Global Financial Crisis. Figure 1.2 in Chapter 1 demonstrates that the single largest year-on-year increase in official sector lending commitments from China to LICs and MICs was between 2008 and 2009, and Figure 2.2 provides evidence that nearly all of these commitments were denominated in dollars.

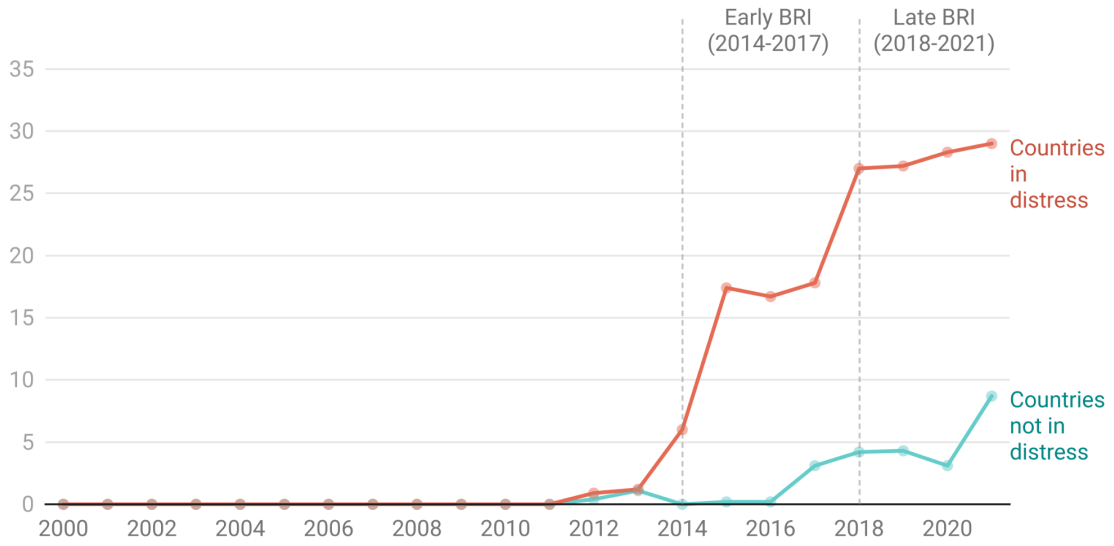
But the 3.0 version of AidData's GCDF dataset also calls attention to three additional changes that took place after the 2008 Global Financial Crisis. First, Chinese state-owned creditors were already holding a substantial amount of distressed, dollar-denominated debt by the time the BRI was announced in 2013 (see Figures 1.8 and A4). Second, from 2013 onward, the dollar's importance in China's overseas lending portfolio steadily declined: the share of new lending commitments denominated in dollars fell sharply, from 93% in 2013 to 44% in 2021 (see Figure 2.2). Dollar-denominated loans were replaced by RMB-denominated loans: the share of new lending commitments denominated in RMB soared from 6% in 2013 to 50% in 2021 (see Figure 2.2). Third, the RMB-denominated loans that Beijing issued were predominantly emergency rescue loans to countries in financial distress (see Figures 2.9, 2.10, and A15).[147]

[147] In the Appendix, we replicate Figure 2.2 for two different cohorts: one for countries in financial distress and another for countries not in financial distress (see Figures A16 and A17). One can see an increase in RMB-denominated lending across both cohorts, but the increase is more substantial for countries in financial distress. Figure 2.10, which includes short-term, roll-over loan amounts, shows a similar pattern in China's RMB-denominated rescue lending portfolio.

Figure 2.10

RMB-denominated rescue lending to countries in and not in financial distress

Official sector loan commitments (in constant USD 2021 billions) from China to LICs and MICs



Notes: To determine if a country experienced financial distress in a given year, we use the binary measure that is described in Box 1a in Chapter 1.

On one hand, this strategy makes sense. During the 1930s and after World War II, the U.S. became a major international lender of last resort, providing dollar-denominated emergency rescue loans to borrowers with large outstanding dollar-denominated debts to U.S. companies and banks through the U.S. Federal Reserve, the U.S. Treasury's Exchange Stabilization Fund, and the U.S. Ex-Im Bank (Horn et al. 2020b). These activities helped the dollar eventually become a dominant currency for reserve holdings and international financial transactions. Now, Chinese state-owned policy banks, state-owned commercial banks, and state-owned enterprises have high levels of exposure to overseas borrowers that are in default or teetering on the edge of default, and the institution with a mandate to protect the health of China's financial sector and internationalize the RMB (the PBOC) is ramping up the provision of emergency rescue loans to ensure that its overseas borrowers are sufficiently liquid to continue servicing their outstanding debts to Chinese creditors.

On the other hand, the PBOC's decision to provide RMB-denominated rescue loans is puzzling because the borrowers being bailed out need USD more than RMB to repay their outstanding debts to Chinese creditors. One potential explanation is that the PBOC is heeding Winston's Churchill's advice to "never let a good crisis go to waste." For many years, it sought to internationalize the RMB—without achieving much progress due to tight capital controls and an insufficiently deep and liquid RMB bond market outside of mainland China.[148] However, the rising tide of debt distress in the Global South has made two groups of countries more willing to increase their RMB reserve holdings: (1) countries facing severe liquidity and/or solvency problems that would like to avoid borrowing from the traditional lender of the last resort (the IMF) because of concerns about onerous policy conditionalities (like Venezuela, Belarus, and Laos); and (2) countries facing severe liquidity and/or solvency problems that have decided to seek IMF support but need additional support in order to stay afloat (like Argentina, Mongolia, and Sri Lanka).[149]

Why has the PBOC channeled RMB-denominated emergency rescue loans to both groups of countries since 2013? The logic of doing so in the first country cohort seems relatively straightforward: the proceeds from an RMB-denominated emergency loan can be used to service previously contracted loans from Chinese creditors that were denominated in RMB. For the second cohort of countries, Beijing's intentions are opaque and poorly-understood. But recent events in Argentina may provide a clue. In mid-2023, the dollar reserve holdings of the country's central bank (BCRA) were perilously low, and it was urgently seeking bridge funding to avoid defaulting on its repayment obligations under a $44 billion loan agreement with the IMF. The PBOC stepped into the breach, helping BCRA make three large debt service payments to the IMF in June 2023, July 2023, and October 2023 (Nugent 2023a, 2023b; Do Rosario 2023b; Do Rosario and Strohecker 2023). It did so by allowing BCRA to use RMB drawings under a swap line between the two central banks worth approximately $9.3 billion. BCRA was able to use short-term RMB swap debt

[148] As of 2022, the RMB accounted for less than 3% of global currency reserves and less than 2.5% of global payments. Key impediments to RMB internationalization include tight capital controls that inhibit the free movement of the currency and the absence of a large offshore market for investors to purchase safe, RMB-denominated assets that are comparable to U.S. Treasury bonds (Bertaut et al. 2023).
[149] See Horn et al. (2023a, 2023b).

from the PBOC to repay the IMF "without touching [its] dollar reserves" (do Rosario and Otaola 2023) for two reasons: (1) money is fungible, and (2) IMF loans can be repaid with multiple currencies (including USD, EUR, RMB, JPY, GBP, and SDR). In other words, BCRA repaid its debt to the IMF in RMB, which allowed it to preserve its dollar reserve holdings.[150] The case of Argentina also calls attention to a separate, but closely related, point: Beijing has an encompassing interest in ensuring that its largest borrowers with dollar-denominated debts to Chinese creditors do not exhaust their dollar reserve holdings.[151]

In this way, the PBOC's willingness to serve as an international lender of last resort suggests that it may be seeking to kill several birds with one stone: preserving the dollar reserve holdings of its biggest borrowers, encouraging greater use of the RMB in cross-border transactions, and laying the groundwork for the RMB to eventually achieve global reserve currency status.[152] The fact that the PBOC played an instrumental role in helping the IMF's single largest borrower meet its repayment obligations with RMB also suggests that former U.S. Treasury Secretary Larry Summers may have been overly optimistic when he was asked about the risk of de-dollarization and responded that: "you cannot replace something with nothing. […] Europe's a museum, Japan's a nursing home, and China's a jail. We don't need to worry about those currencies being some kind of major threat to us."[153]

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[150] In August 2023, Argentina's central bank (BCRA) decided to repay some of its outstanding swap debt to the PBOC with the proceeds from an IMF loan disbursement (Do Rosario 2023a).

[151] There is also a potential demand-side explanation for why sovereigns in financial distress—like Argentina and Sri Lanka—are willing to contract RMB-denominated swap debt from the PBOC. Despite significant restrictions on the free and flexible use of PBOC swap drawings, central banks can use these RMB drawings as a "window dressing" device to temporarily inflate their gross international reserves (Horn et al. 2023a). This approach might help avert credit rating downgrades and borrowing cost increases. However, it can also free up otherwise encumbered foreign exchange reserves to facilitate dollar-denominated debt service to Chinese creditors (other than PBOC) and non-Chinese creditors. For example, Brad Setser has argued (see https://twitter.com/Brad_Setser/status/1602151579150438401) that the receipt of PBOC swap debt in Sri Lanka freed up foreign exchange reserves to facilitate a $400 million payment on a maturing Eurobond and dollar-denominated debt service to China Eximbank.

[152] It is also noteworthy that Beijing has changed its public messaging about the advisability of dollar-denominated overseas lending and borrowing (e.g., Qing 2023).

[153] Indeed, there is evidence that signing a currency swap agreement with the PBOC results in a 14% increase in the probability of a country using the RMB for international payments (Bahaj and Reis 2022). Large-scale borrowing via PBOC swap lines can also have the direct effect of changing the currency composition of a country's reserve holdings. After nearly a decade of RMB drawdowns through its swap line with PBOC, approximately 50% of Argentina's reserve holdings consisted of RMB (Douglas 2022).

Section 3: Beijing's crisis-time approach to repayment risk mitigation—Fool me once, shame on you. Fool me twice, shame on me.

In the next section of this chapter, we analyze the 3.0 version of AidData's GCDF dataset to better understand how Beijing is seeking to de-risk its overseas loan portfolio. We see evidence of Chinese state-owned lenders taking the following risk mitigation efforts:

1. Sweeping cash out of escrow accounts
2. Providing short-term cash flow relief in exchange for escrow account replenishment
3. Lending with higher interest rates, shorter repayment periods, more safeguards, and more severe penalties for default
4. Taking a differentiated approach with borrowers that present high and low levels of repayment risk
5. Scaling down bilateral lending operations and scaling up lending operations via syndication and multilateralization

Risk mitigation strategy #1: Sweeping cash out of escrow accounts

In March 2021, a team of researchers from AidData, the Center for Global Development (CGD), the Kiel Institute for the World Economy, and the Peterson Institute for International Economics (PIIE) published a study entitled "How China Lends," which demonstrated that Chinese state-owned lenders have a preference for sources of collateral that do not require liquidation through a costly, time-consuming, and uncertain judicial process (Gelpern et al. 2021, 2022). More specifically, the study found that Chinese state-owned lenders prefer to collateralize on foreign currency deposits in escrow accounts that they control and can unilaterally debit (without having to initiate judicial proceedings to try to recover an overdue debt by seizing or liquidating a physical asset). It also found that borrowers are typically required to maintain a minimum cash

balance in a special type of escrow account—known as a "Repayment Reserve Account" or "Debt Service Reserve Account" (DSRA)—equivalent to one year's worth of principal and interest repayments.

At the time that the study was published, there was no hard evidence of borrowers complying with these escrow account conditions. Nor was there any hard evidence of Chinese lenders sweeping cash out of these escrow accounts in order to deal with nonpayment or late payment by overseas borrowers. The 3.0 version of the GCDF dataset provides such evidence.[154]

Table 2.3

Illustrative escrow account balances linked to loans from China Eximbank, CDB, and ICBC

Country	Lender	Borrower	Aggregate Cash Balance of Escrow Accounts (Maximum)	Corresponding Loan(s)
Tanzania	China Eximbank	Ministry of Finance, TPDC	$60.3 million	$920 million (2012), $275 million (2012)
Guinea	ICBC	Central Government	€76.35 million	€559.4 million (2018)
Republic of Congo	China Eximbank	Central Government	$338 million	~20 loans under $1.6 billion (2006) and $1 billion (2012) framework agreements
Suriname	China Eximbank	Central Government, Telesur	$9.3 million	$98.4 million (2016)
Ghana	CDB	Central Government	$71.2 million	$850 million (2012), $150 million (2013), $210.6 million (2019), $185.5 million (2019)
Malawi	ICBC	Reserve Bank of Malawi	$32 million	$66 million (2021)
Myanmar	CDB	Myanmar Oil and Gas Enterprise	$77.1 million (in € equivalent)	€452.7 million (2010)
Zimbabwe	China Eximbank	Ministry of Finance, KHPC	$17.2 million	$319 million (2013)
Angola	CDB	Ministry of Finance	$1.5 billion	$15 billion (2015)
Kenya	China Eximbank	National Treasury, KRC	$250 million	$1.9 billion (2014), $1.6 billion (2014)

[154] Escrow account cash balances are recorded in the 3.0 version of the GCDF dataset's "collateral" and "description" fields. Cash sweeps out of escrow accounts recorded in the GCDF dataset's "description" field.

Country	Lender	Borrower	Aggregate Cash Balance of Escrow Accounts (Maximum)	Corresponding Loan(s)
Ecuador	CDB	Ministry of Finance	$113 million	$1 billion (2010)
Ghana	China Eximbank	Central Government	$27.2 million	$293.5 million (2007)
Zimbabwe	CDB	Econet Wireless Zimbabwe	$12.4 million	$93 million (2014)
Botswana	ICBC	BPC	$33 million	$825 million (2009)
Zambia	CDB	DBZ	$6 million	$30 million (2015)

Notes: This table provides examples of escrow account cash balances linked to loans from Eximbank, CDB, and ICBC (project ID#59752, 59733, 65116, 65115, 60219, 59273, 55437, 73140, 30578, 58586, 60039, 98520, 34468, 62674, 66847, 31777, 37103, 35865, 183, 62601, 40, 52190 in the 3.0 version of AidData's GCDF dataset). The escrow account balance information is drawn from the collateral field and description field. Escrow account balances vary over time. This table records the maximum observed account balances.

Table 2.3 provides an illustrative set of escrow account cash balances linked to China Eximbank, CDB, and ICBC loans in 15 countries. There are several important points to keep in mind about these balances. First, although there is some evidence of borrower noncompliance with the escrow account conditions in their Chinese loan agreements, compliance seems to be the norm rather than the exception. Borrowers subject to such conditions typically maintain escrow account cash balances that are sufficient to cover the cost of 1 to 3 semi-annual principal and interest payments. These amounts are usually equivalent to 5-10% of the face value of the loan supported by the escrow account. Second, it is not uncommon for minimum cash balances—and minimum cash balance requirements—to change based on a loan's actual or expected amount outstanding at different points in time over the lifetime of the loan. The cash balance (requirement) is usually at its lowest point during the grace period when the loan has not fully disbursed and at its highest point when the loan has fully disbursed but no repayments have been made. Some, but not all, Chinese lenders allow borrowers to incrementally reduce the amount of cash in their escrow accounts as repayments are made and the total amounts outstanding shrink.[155]

[155] In the 3.0 version of AidData's GCDF dataset, there is more evidence that CDB follows this practice than China Eximbank. See, for example, project ID#37103, 55437, 58839, and 58842.

Third, notwithstanding the "1 to 3 semi-annual debt service payments" rule of thumb, minimum cash balance requirements can be adjusted based on the borrower's risk profile and/or the lender's level of exposure.[156] Chinese state-owned creditors may, for example, use a "portfolio-wide approach" to compensate for a high level of exposure to a risky borrower. China Eximbank's collateralized lending arrangement with the Government of Congo-Brazzaville is a case in point. The borrower is required to keep a minimum cash balance equivalent to 20% of its total outstanding debt under multiple China Eximbank loan agreements in an offshore, lender-controlled escrow account (République du Congo 2018). The 3.0 version of AidData's GCDF dataset demonstrates that the Congolese authorities have for the most part complied with this requirement: the cash balances in their China Eximbank-controlled escrow account were $338 million in 2017 and $266.6 million in 2020.[157] Fourth, while the amounts of foreign currency that Chinese state-owned creditors ask borrowers to ring-fence in escrow accounts are not necessarily large enough to be consequential during normal times, the significance of these funds can increase during periods of financial distress, when borrowers are strapped for hard currency and seeking a coordinated debt restructuring with multiple creditors. Non-Chinese creditors often lack access to foreign currency that is ring-fenced for their exclusive use and they fear—with some justification—that Chinese creditors have positioned themselves at the front of the repayment line by demanding that borrowers grant them access to cash collateral that other creditors lack (and that can be unilaterally debited in a moment's notice). Consequently, they may not be willing to participate in a coordinated debt rescheduling unless all creditors agree to abide by the so-called "comparable treatment" principle—i.e., ensure that there is reasonable burden sharing in the

[156] Gelpern et al. (2021, 2022) analyze the terms and conditions in 100 loan contracts issued by Chinese state-owned creditors and 142 foreign loan contracts issued by 28 non-Chinese (commercial, bilateral, and multilateral) creditors to government borrowers in LICs and MICs. They find that 30% of the Chinese loan contracts include escrow or revenue account provisions, but only 2% of the non-Chinese loan contracts (one from AfDB, one from Commerzbank, and one from Agence Française de Développement) include such provisions. In the rare cases when non-Chinese creditors require government borrowers to maintain minimum cash balances in escrow accounts, the amounts that they require are similar to the amounts required by Chinese creditors. There is only one contract in the sample of 142 non-Chinese loan contracts analyzed by Gelpern et al. (2021, 2022) that clearly specifies a minimum cash balance requirement: a $56.6 million loan agreement between Commerzbank AG Paris Branch and the Government of Cameroon that requires the borrower to (initially) maintain a escrow account cash balance equivalent to one year's worth of principal and interest payments (i.e., two semi-annual debt service payments). The unredacted loan agreement can be accessed in its entirety via https://docs.aiddata.org/ad4/pdfs/how_china_lends/CMR_2015_121.pdf.

[157] See ID#60219 and #59273 in the 3.0 version of the GCDF dataset.

way that financial losses are distributed across creditors (Buchheit and Gulati 2023).[158]

During our review of the primary sources that underpin the dataset (including escrow account agreements, repayment mechanism agreements, and the audited financial statements of borrowing institutions), we also discovered that Chinese lenders have put in place several different safeguards (or "lines of defense") to minimize the risk that these escrow accounts will not fulfill their intended risk mitigation purposes. The first safeguard is a requirement that the borrowers initially meet their minimum cash balance requirements by depositing funds into the repayment reserve (or DSRA) accounts with revenues that are already at their disposal (rather than project revenues, which are typically minimal or nonexistent when project loans are first issued). The second safeguard is automaticity in the way that the repayment reserve (or DSRA) accounts are replenished after withdrawals have taken place. In a typical escrow account agreement between a Chinese lender, borrower, and escrow account bank, if the borrower misses a principal and/or interest payment and the lender sweeps cash out of the repayment reserve account (in order to satisfy its desire to be repaid in a timely manner), the escrow account bank is responsible for immediately replenishing the repayment reserve account with cash from another escrow account that is often referred to as the "revenue account" or "sales collection account." Chinese lenders typically require that their borrowers deposit all project revenues—or all of the revenues generated by the underlying infrastructure asset (e.g., a toll road, an airport, a telecommunications network) supported by the project—into this additional escrow account.[159] In some cases, Chinese lenders will go one step further and require that a fixed percentage of all revenues of the borrowing institution be deposited in the revenue account.[160] The third safeguard is that Chinese lenders usually possess exclusive authority to freeze the revenue account (without the consent of the borrower) and prevent

[158] If there is a perception that China wants to be treated as a senior creditor whose debts need to be given first priority and other creditors are being pushed to the back of the repayment line, a collective action failure among creditors (i.e., no coordinated debt rescheduling) becomes more likely (Wigglesworth and Yu 2023; Ferry and Zeitz 2023).
[159] See, for example, ID#59753 in the 3.0 version of AidData's GCDF dataset. Alternatively, the borrower may be required to deposit into this account cash proceeds from sales under a long-term commodity purchase agreement. See, for example, ID#35865 in the 3.0 version of AidData's GCDF dataset.
[160] See, for example, ID#55437 in the 3.0 version of AidData's GCDF dataset.

the borrower from making withdrawals from the account.[161] The fourth safeguard is that, in the event of a missed interest or principal payment, Chinese lenders are entitled under the terms of most escrow account agreements to "pay themselves" by withdrawing an equivalent amount of cash out of the repayment reserve account and/or the revenue account (without borrower consent).[162]

The latest version of the GCDF dataset also provides evidence that, when borrowers default on their repayment obligations, Chinese lenders do in fact "pay themselves" by unilaterally making cash withdrawals from the escrow accounts that they established for risk mitigation purposes. Consider, for example, the $98.4 million loan that China Eximbank issued to the Government of Suriname and Telesur—the state-owned telecommunications company of Suriname—in 2016 for a National Broadband Network Project.[163] As a source of cash collateral, the lender asked its borrower to maintain a minimum balance in a USD repayment reserve account of $2.9 million (equivalent to total payable interest for one year or two semi-annual interest payments) during the loan's grace period and $9.3 million (equivalent to total payable principal for one year or two semi-annual principal payments) during the loan's repayment period. It also required that Telesur deposit at least 50% of its organizational funding (including broadband user revenues from the National Broadband Network Project) in a local currency revenue account. Then, during the COVID-19 pandemic, the Government of Suriname defaulted on its sovereign debt obligations multiple times in 2020 and 2021. By the end of 2021, the Government of Suriname had accumulated principal and interest arrears to China Eximbank worth approximately $61 million (IMF 2021). Then, in February 2022, the Government of Suriname and Telesur missed a scheduled interest payment on the China Eximbank loan for the National Broadband Network

[161] More precisely, Chinese lenders typically possess the exclusive authority to instruct the escrow account bank to freeze the revenue account and prevent borrower withdrawals. See, for example, ID#59753 in the 3.0 version of AidData's GCDF dataset

[162] By way of example, see ID#37103, #31777, #59753, and #35865 in the 3.0 version of AidData's GCDF dataset.

[163] On December 30, 2016, China Eximbank and the Government of the Republic of Suriname signed a $98.4 million preferential buyer's credit (PBC) agreement for the Suriname National Broadband Network Project. The loan officially went into effect in November 2017 after several preconditions (so-called "conditions precedent") were met by the borrower, including but not limited to the signing of a repayment mechanism (escrow account) agreement. The loan carries the following borrowing terms: a 15-year maturity, a 5-year grace period, a 3% interest rate, a 0.4% management fee, and a 0.4% commitment fee. The Government of Suriname on-lent the proceeds of the loan to Telesur on May 12, 2017. For more details, see ID#55437 in the 3.0 version of AidData's GCDF dataset.

Project. The lender responded by immediately withdrawing $1.47 million (the monetary value of one semi-annual interest payment) from the repayment reserve account in order to cover the cost of the missed interest payment. It also instructed a local Surinamese escrow account bank (FinaBank N.V) to immediately (a) block Telesur's access to the local currency revenue account, and (b) replenish the repayment reserve account with funds in the revenue account.[164] These actions proved consequential for domestic and international reasons. The decision to deny the state-owned telecommunications company access to at least 50% of its organizational funding instigated questions among local stakeholders about why a foreign lender possessed such extraordinary authority. The revelation that China Eximbank paid itself by executing a cash sweep out of an offshore, lender-controlled escrow account also proved controversial because the Government of Suriname was pursuing a coordinated debt rescheduling with all of its major external creditors at the time, many of whom were unaware that China Eximbank had recourse to ring-fenced foreign currency reserves (and under the impression that the Government of Suriname was cash-strapped and unable to make loan repayments to any external creditors).[165]

Most of these cash sweeps are done in secret. These are exceptionally difficult to monitor because the lender is debiting cash from an escrow account that is typically domiciled outside of the borrower country or inside the borrower country but beyond the immediate reach of domestic oversight institutions—such as the auditor general and the public accounts committee within parliament.[166] Also, the legal agreements that grant Chinese lenders the authority to conduct these cash sweeps effectively represent "side agreements."

[164] Under the original escrow account arrangement that was finalized in 2017, Telesur was required to deposit at least 50% of its funding (including broadband user revenues from the National Broadband Network Project) in the local currency-denominated revenue account. See ID#55437 in the 3.0 version of AidData's GCDF dataset.

[165] In March 2022, the IMF reported that the February 2022 "[p]ayment from the repayment reserve account for the Telesur loan will be reflected in the eventual debt restructuring with [China Eximbank] to ensure there is comparability of treatment with other official creditors" (IMF 2022).

[166] In most sovereign debt transactions, finance ministries are the borrower country counterparts to escrow account agreements with Chinese creditors. These agreements typically impose expansive confidentiality obligations on borrowers (finance ministries). By way of illustration, the escrow account agreement for the China Eximbank loan captured in Project ID#59753 of AidData's GCDF dataset (Version 3.0) says that "[t]he obligation of confidentiality shall endure in perpetuity. […] The Parties [to the escrow account agreement] shall not at any time during the terms of this Deed release any statement to the press or make any other public statement of any nature which could reasonably be expected to be published in any media regarding the relationship or the subject matter of this Deed […]."

The authority to conduct a cash sweep is almost never identified in loan agreements between Chinese lenders and their overseas borrowers, which are more readily accessible to domestic oversight institutions. Instead, loan agreements with Chinese state-owned creditors typically cross-reference another agreement—often known as an "account management agreement," an "escrow account agreement," or a "repayment mechanism agreement"—that grants the lender such authority. Finance ministries rarely disclose these side agreements to auditors in the executive branch, overseers in the legislative branch, or international organizations (like the IMF) with surveillance responsibilities unless they are pressed to do so. These agreements are shrouded in secrecy for a purpose: collateralizing on cash deposits in lender-controlled escrow accounts is rare among official creditors, so (sovereign) borrowers are reluctant to disclose that they have granted these sources of leverage (debt seniority) to Chinese state-owned creditors but not other official creditors. In the vanishingly rare instances in which cash sweeps are discovered, it can become more difficult for a distressed sovereign to get all major creditors to participate in a coordinated debt rescheduling governed by the "comparable treatment" principle. If some creditors have recourse to ring-fenced sources of foreign currency and others do not, any promise by the sovereign borrower to abide by the "comparable treatment" principle is rendered less credible.[167]

Risk mitigation strategy #2: Providing short-term cash flow relief in exchange for escrow account replenishment

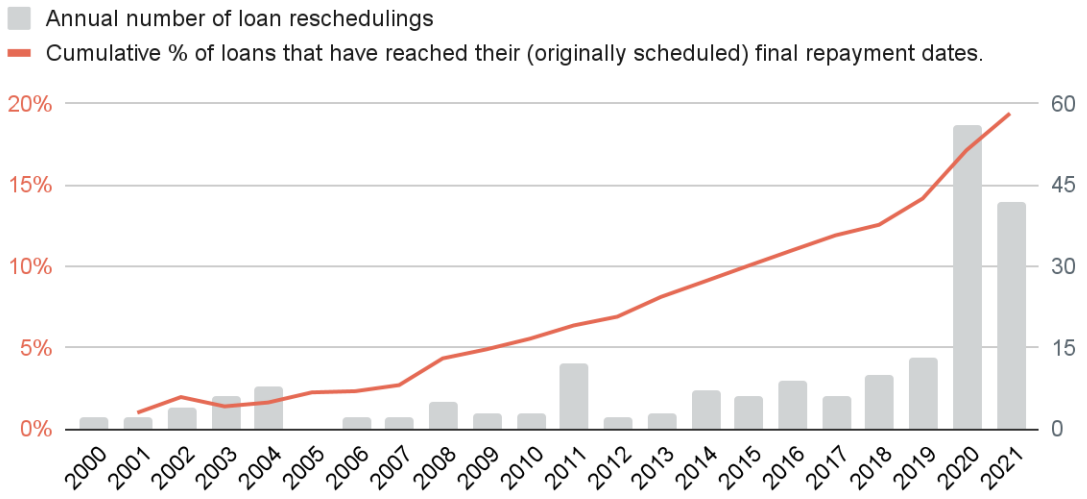
Figure 2.11 demonstrates that we have entered a new era of "reschedulings galore." The 3.0 version of the GCDF dataset records 98 Chinese debt reschedulings in 2020 and 2021, which is more than double the number of Chinese debt restructurings recorded in the Rhodium Group database over the same time period (Mingey and Wright 2023). Chinese debt reschedulings for LICs and MICs have increased in tandem with the percentage of loans in China's LIC and MIC portfolio that have already reached their (originally scheduled) final repayment dates (see Figure 2.11). They have also for the most part taken place in financially distressed countries (see Figures 2.9 and 2.12).

[167] Suriname is a case in point.

Figure 2.11

Percentage of loans that have reached maturity and number of loans rescheduled

Official sector loans from China to LICs and MICs (count)

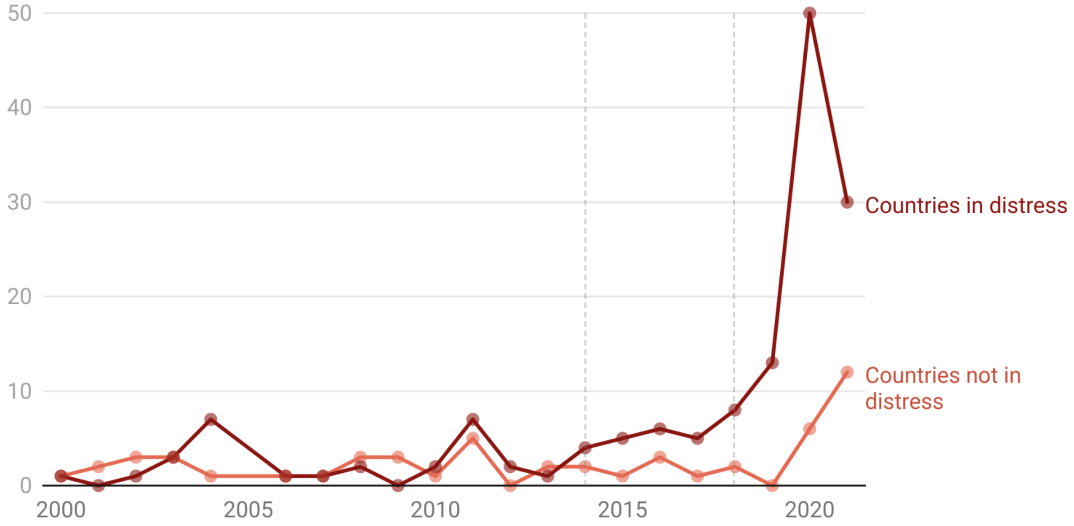


Notes: To determine when each loan will reach maturity, each loan's maturity period is added to its commitment date. This figure represents when loans reached their final maturity dates according to the original borrowing terms, although many loans have been rescheduled (often involving an extension of the loan's grace period and/or maturity). MOFCOM interest-free loan commitments (which are typically issued without a credible expectation of repayment) are excluded from the calculation.

Figure 2.12

Loan reschedulings for countries in and not in financial distress

Annual number of reschedulings of official sector loans from China to LICs and MICs



Notes:To determine if a country experienced financial distress in a given year, we use the binary measure that is described in Box 1a in Chapter 1. See footnote 141 for details on how the financial distress index was modified to differentiate between repayment risks and repayment risk mitigation efforts.

These empirical patterns underline the fact that many of China's overseas borrowers are insufficiently liquid to meet their repayment obligations and in need of debt relief. How is Beijing responding to this challenge? The 3.0 version of AidData's GCDF dataset demonstrates that Chinese lenders are generally willing to defer principal and/or interest payments for several years, thereby providing short-term cash flow relief (i.e., "breathing room") to their borrowers.[168] However, as yield-maximizing surrogates of the state, Chinese lenders are ultimately focused on protecting the bottom line (Chen 2020a,

[168] There is an important distinction between cash flow relief and debt relief. Chinese state-owned creditors are substantially more willing to provide cash flow relief than debt relief, which is traditionally defined in the academic literature as "the reduction in the net present value of the debtor's outstanding obligations due to the restructuring agreement" (Horn et al. 2022a: 14). The importance of this distinction came into sharper resolution after China agreed to participate in the G20's Debt Service Suspension Initiative (DSSI). In April 2021, the President of China Eximbank publicly clarified that "debt suspension [...] is neither debt reduction nor debt forgiveness. One should not take the opportunity [of the Covid-19 pandemic] to harm China's interests and take advantage of China" (The Export-Import Bank of China 2021).

2020b, 2023; Dreher et al. 2021, 2022).[169] As such, they are generally unwilling to accept significant financial losses in net present value (NPV) terms (Ministry of Finance of the People's Republic of China 2020; Bon and Cheng 2021; Gardner et al. 2021; Horn et al. 2022b).[170]

The 3.0 version of AidData's GCDF dataset also sheds light on the key role that escrow account *replenishment* plays in debt rescheduling negotiations with Chinese creditors. Once a borrower has defaulted on its repayment obligations and its Chinese lender has exhausted the funds in a repayment reserve account (DSRA), the Chinese lender will typically instruct the escrow bank to (a) immediately replenish the account with funds from the revenue (sales collection) account, and (b) block the borrower from making any withdrawals from the revenue (sales collection) account. However, this approach is not foolproof, since a financially distressed borrower can stop making deposits into the revenue (sales collection) account, thereby eliminating the Chinese lender's second line of defense. Consequently, as more borrowers seek debt relief, Chinese lenders are demanding a credible protection against (another) default in exchange for short-term cash flow relief.

The Government of Angola's 2020 debt rescheduling with China Development Bank is a case in point.[171] In late 2015, CDB issued a $15 billion loan to the Government of Angola and required that the borrower maintain a minimum balance of $1.5 billion in an escrow account as a source of cash collateral. Then, the Angolan Government faced a cash crunch—due to a sharp decline in oil prices—and had difficulty servicing its dollar-denominated debts. CDB agreed to defer principal payments as part of a debt reprofiling agreement in 2020 and

[169] During debt rescheduling negotiations, Chinese lenders have traditionally provided cash flow relief to borrowers so long as there was no significant net present value (NPV) reduction in total repayments to the lender over the lifetime of the loan (i.e., the NPV of debt service payments after rescheduling was not lower than the NPV of debt service payments before rescheduling). However, change may be afoot. In January 2023, IMF Managing Director Kristalina Georgieva announced that "[w]e have reached an understanding in principle that China will de facto accept NPV reduction on the basis of significant stretching of the maturities and reduction of interest. [...] In China there is not yet a consensus to take upfront haircuts" (Mfula 2023). Reductions in a loan's NPV can be achieved via substantial interest rate reductions, lengthy maturity/grace period extensions, and/or face value reductions to loan principal (so-called "face value haircuts" or "principal haircuts").

[170] Reinhart and Trebesch (2016) study debt relief operations during two periods—1920-1939 and 1978-2010—and find that economic growth generally increased following debt *stock* reductions (face value reductions to loan principal) but not debt *flow* reductions (cash flow relief via maturity/grace period extensions and interest rate reductions).

[171] See ID#95415 and ID#53063 in the 3.0 version of AidData's GCDF dataset.

use the cash in the escrow account to satisfy the borrower's interest payment obligations from 2020 to 2022. However, in anticipation of the escrow account balance being depleted to nearly zero by mid-2022, CDB demanded that the borrower replenish the account to $1.5 billion by 2023.

Risk mitigation strategy #3: Lending with higher interest rates, shorter repayment periods, more safeguards, and more severe penalties for default

One way to go about de-risking an overseas lending portfolio—on a going forward basis ("future-proofing")—is to reduce the provision of concessional credit. Lending on below-market terms is risky from a creditor perspective for multiple reasons.[172] First, any subsidy from a creditor to a borrower implies that the creditor will achieve a smaller investment return than it would in the absence of the subsidy. Second, most concessional loans carry low interest rates that are fixed rather than floating, so a creditor that provides such loans must bear all of the risk associated with its "cost of funds" increasing over time.[173] As the "cost of funds" increases (for example, due to an increase in interbank lending rates or an increase in the cost of borrowing via bonds issued on capital markets), the creditor's incentive to offer concessional loans with low, fixed interest rates weakens. Third, concessional loans from official creditors are subject to substantially larger haircuts (investor losses) than loans from commercial creditors.[174] Therefore, if SAFE—a central government institution with discretionary authority to entrust surplus foreign exchange to "official creditors" like China Eximbank or "commercial creditors" like Bank of China (see Box 2b for more on SAFE's role)—wanted to de-risk the country's overseas loan portfolio, it might seek to minimize future losses (i.e., future-proof the portfolio)

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[172] If a creditor issues a loan to a borrower at an interest rate that is lower than its own borrowing terms (i.e., "cost of funds") at the time the loan is issued, the creditor is lending to the borrower at a "below-market" rate. There is significant "cost of funds" variation across Chinese banks and loans denominated in different currencies (Chen 2020a). With respect to RMB-denominated loans, the state-owned commercial banks mobilize funds by accepting deposits (with the deposit rate at 1-2%), while the state-owned policy banks mobilize funds by issuing bonds with yields of 3-5%. With respect to foreign currency-denominated loans, the state-owned policy banks can borrow from PBOC at a 2-3% interest rate.

[173] Relatedly, the bank bears all of the downside risk associated with an increase in the *opportunity* cost of funds.

[174] Depending on the discounting approach that is used, there is a 19.4 percentage point minimum difference and 38.6 percentage point maximum difference in average haircuts (investor losses) for official creditors versus commercial creditors (Schlegl et al. 2019).

by reining in the amount of concessional credit provided via official creditors and prioritizing the provision of non-concessional credit via commercial creditors.[175]

The 3.0 version of AidData's GCDF dataset provides evidence that Beijing is indeed moving in this direction. Figure A18 demonstrates that the weighted average interest rate of official sector lending from China to LICs and MICs increased from 4.5% during the early BRI period to 5% during the late BRI period. Consistent with this shift toward harder lending terms, the weighted average repayment period (maturity) declined from 11 years during the early BRI period to 6 years during the late BRI period (see Figure A19). The weighted average grant element—a summary measure of financial concessionality (discussed at greater length in Section A-2 in the Appendix)—fell by 9 percentage points between the early BRI period and the late BRI period: from 25% to 16% (see Figure A20).[176]

In order to gauge whether Beijing is making a concerted effort to rein in the provision of concessional cross-border credit, it is also worth considering if it has increased or reduced use of the two primary instruments that it has established for concessional lending to overseas borrowers: government concessional loans (GCLs) and preferential buyer's credits (PBCs) from China Eximbank.[177] Figure A12 provides evidence that GCLs and PBCs have indeed fallen out of favor, as they represent a rapidly dwindling percentage of new overseas lending commitments from China to LICs and MICs (18% in 2014 and 3% in 2021).[178]

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[175] Some Chinese state-owned lenders participate in debt restructurings that are (loosely) coordinated with official creditors from other countries, while others do not and wish to be treated as commercial creditors (Gardner et al. 2021; Horn et al. 2022b). Recent events in Zambia suggest that Beijing considers the claims of its official creditors to include those of China Eximbank and those of other Chinese state-owned creditors that are insured ("guaranteed") by Sinosure. Beijing evidently considers CDB debts that are not backed by a Sinosure credit insurance policy to be the claims of a commercial creditor (Setser 2023b).

[176] The weighted average grant element of Chinese lending to overseas borrowers declined by 19 percentage points—from 30% in 2014 to 11% in 2021 (see Figure A21).

[177] GCLs are RMB-denominated loans that are issued to government institutions and provided on below-market terms (usually 20-year maturities, 5-year grace periods, and 2% interest rates). PBCs are USD-denominated loans that are issued to government institutions on terms that are more generous than prevailing market terms, but slightly more expensive (higher interest rates, shorter maturities, and shorter grace periods) than GCLs (Morris et al. 2020; Horn et al. 2021; Dreher et al. 2022).

[178] The fact that these two concessional lending windows are increasingly inaccessible has significant implications for sovereign borrowers. The terms and conditions in PBC and GCL contracts are fairly standardized (Gelpern et al. 2022) and reasonably well-understood among debt management officers and transaction lawyers in LIC and MIC finance ministries (e.g., Banco Central de Bolivia 2016; NEDA 2017; Economic Relations Division of the Government of the People's Republic of Bangladesh 2023). They include low (fixed) interest rates, long maturities, generous grace periods, no penalty interest provisions, and strict requirements to use Chinese contractors and keep all terms and conditions confidential, among

During the pre-BRI and early BRI era, GCLs and PBCs were Beijing's "workhorse" lending instruments. China Eximbank issued 669 GCLs and PBCs worth $121 billion from 2000 to 2017.[179] All of these loans carry low, fixed interest rates and nearly 100% of them qualify as concessional loans under OECD-DAC measurement standards.[180] However, Figure 2.13 provides evidence of a shift away from fixed interest rate lending and toward variable interest rate lending: whereas 60% of new lending commitments from China to LIC and MIC borrowers carried variable interest rates in 2014, this figure increased to 90% by 2021. These portfolio-level summary statistics suggest that an effort is underway to transfer more risk from lenders to borrowers. Risk-based loan pricing models usually rely on a variable interest rate, which in turn is based on a floating market reference rate—such as the London Interbank Offered Rate (LIBOR) or Euro Interbank Offered Rate (EURIBOR)—and a premium that accounts for the risk profile of the borrower. It is also important to keep in mind that SAFE has tasked Chinese state-owned lenders with maximizing investment returns within acceptable risk levels, which is more difficult to do via fixed interest lending when variable (floating market) interest rates are increasing and pushing up the opportunity cost of funds for lenders (see Box 2b).

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other things. However, the terms and conditions that are included in more "exotic" Chinese lending instruments (like PBOC swap contracts, CDB liquidity support facilities, and accounts receivable financing arrangements with Chinese state-owned commercial banks) are not well-understood.

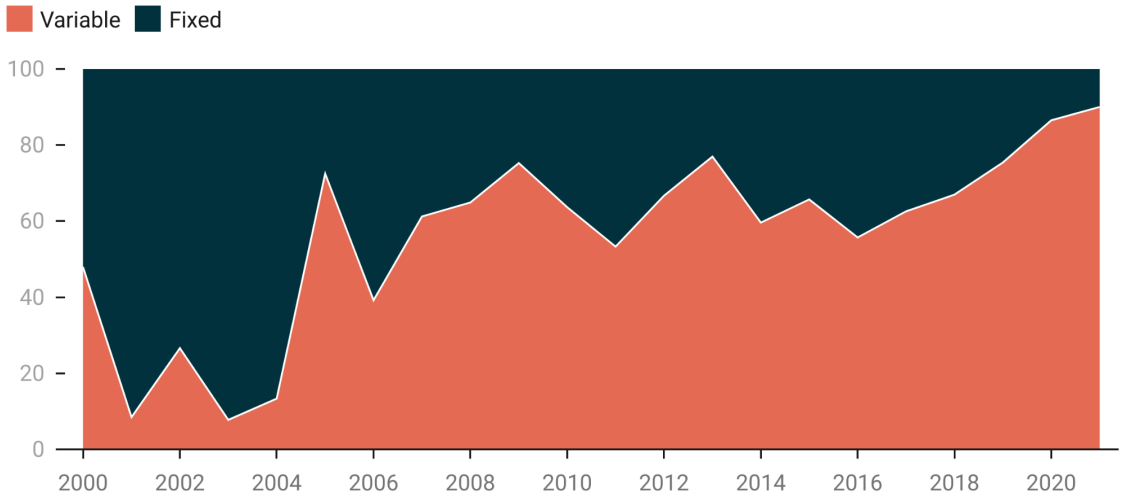
[179] Between 2018 and 2021, China Eximbank issued 49 GCLs worth $9 billion and 40 PBCs worth $22 billion.

[180] 99.6% (260 of 261) of the GCLs that were issued between 2000 and 2017 with grant element observations met the OECD's 25% grant element threshold of concessionality. 99.6% (247 of 248) of the PBCs that were issued between 2000 and 2017 with grant element observations met the OECD's 25% grant element threshold of concessionality.

Figure 2.13

Percentage of lending portfolio using fixed or variable interest rates

Percentage of official sector lending commitments from China (in constant 2021 USD) to LICs and MICs



Notes: Variable interest rates that Chinese state-owned creditors use as benchmarks include LIBOR, EURIBOR, SHIBOR, BADLAR, CIRR, JIBOR, LPR and BADCOR. We exclude all loans for which we cannot determine if a fixed or variable interest rate was applied.

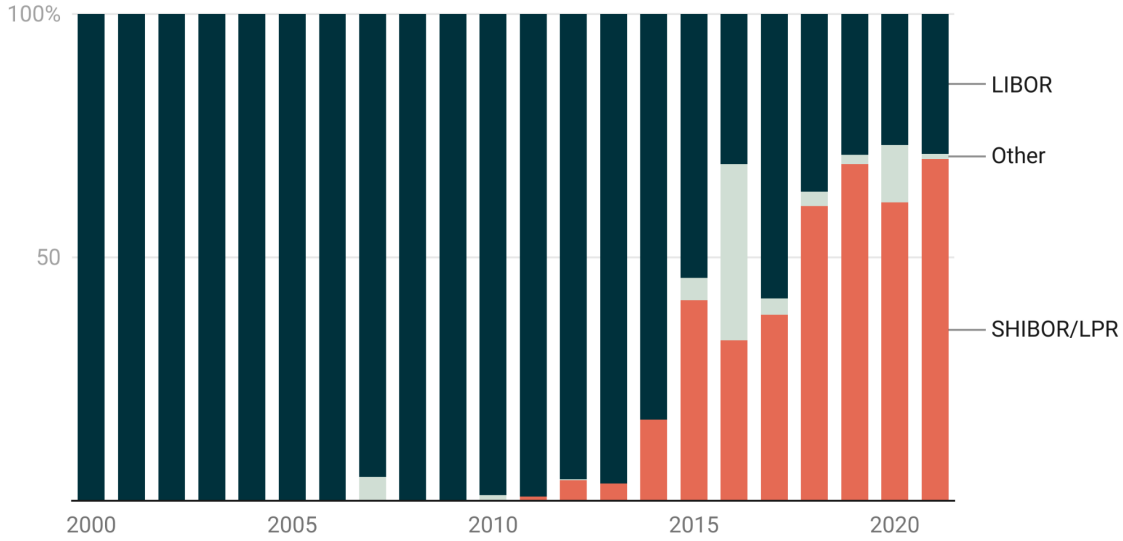
Together, the shift from dollar-denominated lending to RMB-denominated lending and the shift from fixed interest rate lending to variable interest rate lending have resulted in a dramatic turn away from LIBOR-based lending and toward SHIBOR-based lending. Figure 2.14 demonstrates that the percentage of China's variable interest rate lending to LICs and MICs based on LIBOR sharply declined from 100% in 2008 to 29% in 2021.[181] The fall of LIBOR was accompanied by the rise of SHIBOR. The percentage of China's variable interest rate lending to LICs and MICs based on SHIBOR soared from 0% in 2008 to 70% in 2021.[182]

[181] China's LIC and MIC lending program was almost exclusively dollar-denominated in 2009 (see Figure 2.2).
[182] SHIBOR and LPR are both variable interest rates set by the PBOC. Figure 2.14 combines all loans with SHIBOR- and LPR- based interest rates into a single category. However, LPR is not yet widely used in China's overseas lending portfolio. There are only 2 LPR-based loan records in the 3.0 version of the GCDF dataset. The shift that has taken place is largely a shift from LIBOR to SHIBOR.

Figure 2.14

Composition of variable interest rate lending portfolio

Percentage of official sector lending from China (in 2021 USD) to LICs and MICs with variable interest rates, by reference rate



Notes: LIBOR refers to the London Interbank Offered Rate. SHIBOR refers to the Shanghai Interbank Offered Rate. LPR refers to the China Loan Prime Rate. The "other" category includes loans with variable interest rates, such as EURIBOR, BADLAR, CIRR, JIBOR, and BADCOR.

Another important reason why concessionality at the portfolio level has fallen over time is that some of Beijing's biggest sovereign borrowers have swapped less expensive debt for more expensive debt. Horn et al. (2023a) provide evidence that the interest rates on China's emergency rescue loans exceed the interest rates on the existing debt stocks of the borrowers. They also provide evidence that China's emergency loans have very short maturities (in many cases, 1 year or less), although it is not unusual for such loans to be "rolled over" when they reach their official maturity dates (see Box 2c for more on this issue).[183] As such, refinancing with bailouts from Beijing typically does not reduce the net present value of a borrower's debt stock, which highlights an emerging tension between those providing and those receiving new loans:

[183] Rollover debt comes in two varieties: (1) loans that reach their original contractual maturity dates and secure final maturity date extensions; and (2) loans that are repaid on their original contractual maturity dates and reissued (with similar or different face values and borrowing terms) and assigned new maturity dates.

financially distressed borrowers want cheap credit that will help them "ride out the storm," but Chinese state-owned creditors are unsure if their biggest Belt and Road borrowers are illiquid or insolvent, so they are pricing in a higher risk of default when they provide additional credit.

Box 2c: Should emergency liquidity support from PBOC swap lines be treated as short-term or long-term debt?

Between 2016 and 2021, the PBOC used its swap line network to provide nearly $150 billion in emergency liquidity support to central banks in LICs and MICs (Horn et al. 2023a). These borrowings have created a new measurement challenge for organizations that (a) track the international lending activities of external creditors, and (b) monitor levels of public debt exposure in the developing world.

The reporting directives of the OECD's Creditor Reporting System (CRS) specify that "[l]oans with a maturity of one year or less are not reportable in DAC statistics" (OECD 2021: 51).[184] Similarly, governments that participate in the World Bank's Debtor Reporting System (DRS) are asked to report their long-term debt repayment obligations to external creditors on an annual basis.[185] Long-term debt is defined in the DRS reporting manual as debt "with an original contractual or extended maturity of more than one year […]" (World Bank 2000: 4).

Based on a narrow interpretation of the prevailing international reporting rules, PBOC swap line borrowings should not be reported to the DRS or the CRS. Nearly all of these borrowings carry de jure maturities of one year or less (i.e., they are initially scheduled for repayment in 12 months or less). However, central banks that borrow from the PBOC frequently see their final maturity dates extended—or they repeatedly receive short-term loans to refinance maturing debts. Horn et al. (2023a) provide evidence that the de facto maturity of the average PBOC swap line borrowing is 3.5 years.

The custodians of the DRS are aware of the gap between the de jure and de facto maturities of PBOC swap line borrowings and the underreporting of PBOC swap debt. In October 2020, they sounded the alarm, questioning whether "currency swap arrangements that represent loans from other central banks are reflected in external debt stocks of low- and middle-income countries" (World Bank 2020a: 13). At that time, they clarified that "[t]he DRS […] considers one-year [central bank] deposits that are consistently rolled over (de facto) to be long-term debt" (World Bank 2020a: 13). They also emphasized that "[t]he transparency of data on debt must evolve to keep pace with an ever-changing creditor landscape and with new and increasingly complex debt-like instruments and data requirements," and that one of their top priorities is

[184] Since 1973, the OECD's Creditor Reporting System (CRS) has collected and published data on official sector financial flows (ODA and OOF) from DAC and non-DAC countries.
[185] The World Bank's Debtor Reporting System (DRS) has served as the primary international reporting system for public debt since 1951. It supports the publication of a widely used data source: the World Bank's International Debt Statistics (IDS).

"incorporating Central Bank deposits and currency swaps lines into the DRS dataset" (World Bank 2021: 29).[186]

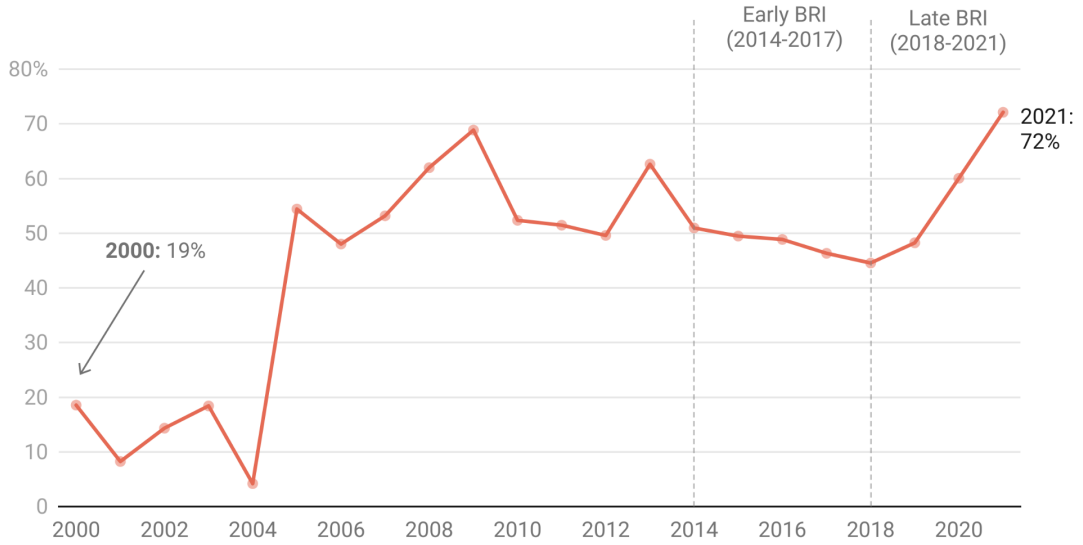
The 3.0 version of AidData's GCDF dataset captures the full range of China's international rescue lending operations. Figure A14 demonstrates that an increasing proportion of China's official sector lending to LICs and MICs consisted of "rollover" emergency rescue loans during the early BRI period (8%) and the late BRI period (34%).

Another way of mitigating elevated levels of default risk is to attach stronger repayment safeguards to new loans. Beijing appears to be following this strategy. Figure 2.15 demonstrates that the percentage of China's overseas lending portfolio supported by collateral increased from 42% during the pre-BRI and early BRI period (2000-2017) to 56% in the late BRI period (2018-2021). By 2021, nearly three-quarters (72%) of China's overseas lending to LICs and MICs was collateralized.

Figure 2.15

Loan portfolio backed by collateral

Percentage of China's official sector lending commitments (in constant 2021 USD) to LICs and MICs backed by collateral

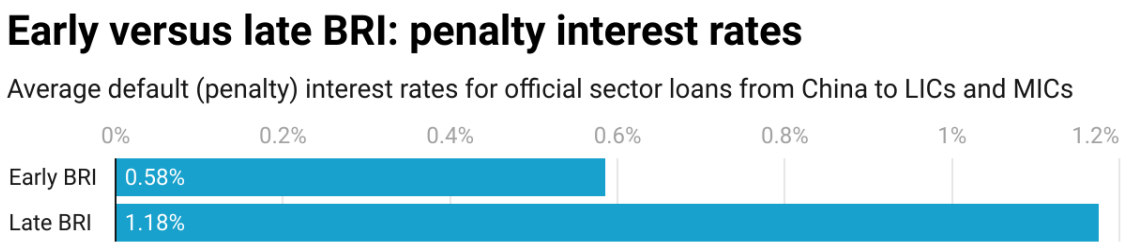


Notes: Collateralized lending commitments are identified with the "collateralized" field in the 3.0 version of the AidData's GCDF dataset.

[186] The custodians of the CRS, by contrast, have not addressed this issue—most likely because China does not participate in its reporting system.

There is also some evidence that, in order to reduce the likelihood of default and/or minimize post-default losses, Chinese state-owned creditors are including stiffer penalties for default in their contracts with borrowers. The 3.0 version of AidData's GCDF dataset includes a new variable that measures the default (penalty) interest rates that apply to individual loans from Chinese state-owned entities. Figure 2.16, which draws upon the data, demonstrates that the average default (penalty) interest rate more than doubled between the early BRI period and the late BRI period (0.584% from 2014-2017 and 1.175% from 2018-2021).[187] The maximum (observed) default (penalty) interest rate also increased—from 3% during the early BRI period to 8.7% during the late BRI period.[188] These findings are difficult to reconcile with those of SAIS-CARI, which has concluded that they "see no evidence of penalty interest rates" in China's overseas lending to developing countries (Acker et al. 2020: 31).[189]

Figure 2.16



Notes: Default (penalty) interest rates are identified with the "Default Interest Rate" field in the 3.0 version of the AidData's GCDF dataset.

[187] In most Chinese loan agreements that include such provisions, the default (penalty) interest rate applies to overdue principal and/or overdue interest amounts. See, for example, Section 6.9 of the China Eximbank buyer's credit loan agreement for Phase 1 of the Standard Gauge Railway Project (accessible via https://www.dropbox.com/s/5j3alwun2tv8wk2/SGR%20BCL%202014.pdf).

[188] It is also important to keep in mind that the creditor composition of China's overseas lending portfolio is shifting away from financiers that use no or low penalty interest rates. Interest-free loans from MOFCOM, government concessional loans from China Eximbank, and preferential buyer's credits from China Eximbank do not carry penalty interest rates—and they are all on the decline (see Figures 2.7 and A12). However, lending from Chinese state-owned commercial banks carries penalty interest rates in the 0.5% to 3% range—and it is on the rise (see Figure 2.7).

[189] Lest there be any confusion about whether sovereign borrowers are responsible for making penalty interest payments to their Chinese creditors, the Government of Sudan disclosed that it owed $127 million of penalty interest to Chinese creditors as of March 31, 2022 (CBOS 2023). The Government of Zimbabwe and the Government of Serbia have also acknowledged incurring penalty interest under their loan agreements with China Eximbank (NBS 2007; MOFED 2022).

Figure 2.17 zooms in on four sovereign borrowers—Ghana, Uganda, Guyana, and Serbia—for whom we have reasonably complete data over time on the default (penalty) interest rates attached to loans from Chinese state-owned creditors. One can see that, in all of these countries, default (penalty) interest rates varied between 0-0.33% until 2015. These rates remained mostly stable from 2016 to 2020, although there was a slight uptick in two countries. However, by 2021 or 2022, default (penalty) interest rates reached 2% in Serbia, 2% in Uganda, 3.5% in Guyana, and 4.8% in Ghana. These new risk mitigation measures by Beijing pose a challenge to borrowers in the developing world that is rarely taken into consideration: those who continue to contract new debt from Beijing must be aware of the danger of compounding arrears due to penalty interest.

Figure 2.17

Average penalty interest rates in select countries

Year	Ghana	Serbia	Guyana	Uganda
2007				0.00%
2008				
2009				0.00%
2010		0.00%	0.00%	
2011		0.00%	0.00%	0.00%
2012			0.00%	
2013	0.00%	0.00%		
2014		0.00%		0.00%
2015			0.00%	0.33%
2016	2.00%	0.00%		1.00%
2017		0.00%	0.00%	
2018	1.82%	0.00%	0.00%	
2019	0.00%	0.00%		0.00%
2020	2.00%	2.00%		1.00%
2021		2.00%		2.00%
2022	4.88%	1.00%	3.50%	

Created with Datawrapper

Notes: This chart shows unweighted average default (penalty) interest rates on loans from official sector institutions in China to government and state-owned borrowing institutions in Ghana, Serbia, Guyana and Uganda. The absence of a value in a given country-year indicates missing penalty interest rate data. Observations are drawn from 2000-2021 GCDF (Version 3.0) data and preliminary 2022 GCDF data. In addition to loan commitments, pledged loans and suspended/canceled loan commitments are included since borrowers may be more likely to reject loan offers with high penalty interest rates and suspend or cancel loan commitments with terms that they perceive to be onerous.

The 3.0 version of AidData's GCDF dataset also provides evidence that when borrowers fail to honor their repayment obligations, Chinese lenders will seek to recover the penalty interest that they are owed by sweeping cash out of escrow accounts (when they have recourse to such collateral). By way of illustration, consider how China Eximbank responded to an overdue debt repayment from Tanzania Petroleum Development Corporation (TPDC)—a parastatal that is wholly-owned by the Government of Tanzania—for the Songo Songo to Dar Es Salaam Gas Pipeline and Natural Gas Processing Plants at Mnazi Bay and Songo Songo Project. As a source of collateral for a $275 million buyer's credit loan (BCL) that China Eximbank issued in 2012, TPDC deposited approximately $60 million in escrow accounts accessible to the lender.[190] However, by the first half of 2017, TPDC had accumulated arrears to China Eximbank. The lender responded by sweeping cash out of one of the escrow accounts between July 2017 and June 2018. According to TPDC's audited financial statements, it withdrew the funds "as a penalty for [the borrower's] late repayment of due installment" (The Controller and Auditor General of the National Audit Office of Tanzania 2018: 76).[191]

Risk mitigation strategy #4: Taking a differentiated approach with borrowers that present high and low levels of repayment risk

Previous research indicates that when creditors are confronted with a sudden wave of defaults or a sharp increase in non-performing loans, they may seek to rebalance the risk profiles of their asset portfolios by issuing fewer loans to potentially risky borrowers—or by pulling back from an entire asset class with a new risk profile (Kaminsky and Reinhart 2000; Longstaff et al. 2011; Brooks et al. 2015; Gilchrist et al. 2022). Consistent with this expectation, the 3.0 version of AidData's GCDF dataset provides evidence of a compositional shift in

[190] According to TPDC's audited financial statements, the escrow accounts "were opened to secure repayment of principal and payment of interest and fees under the loan agreements" and the minimum cash balances in these accounts functioned as sources of "collateral."
[191] In June 20, 2012, China Eximbank and Tanzania's Ministry of Finance signed a $1,225,327,000 financing agreement for the Songo Songo to Dar Es Salaam Gas Pipeline and Natural Gas Processing Plants at Mnazi Bay and Songo Songo Project. Two loans were issued to Tanzania's Ministry of Finance: (1) a $275 million buyer's credit loan (BCL) with an interest rate of 6-month LIBOR plus 430 basis points, a 1.83-year (22-month) grace period, and a 12.83-year (154-month) maturity, and (2) a $920 million preferential buyer's credit (PBC) with a 20-year maturity, a 7-year grace period, and a 2% interest rate. The BCL and PBC proceeds were then on-lent from Tanzania's Ministry of Finance to the Tanzania Petroleum Development Corporation (TPDC). See ID#59733 and 59752 in the 3.0 version of AidData's GCDF dataset.

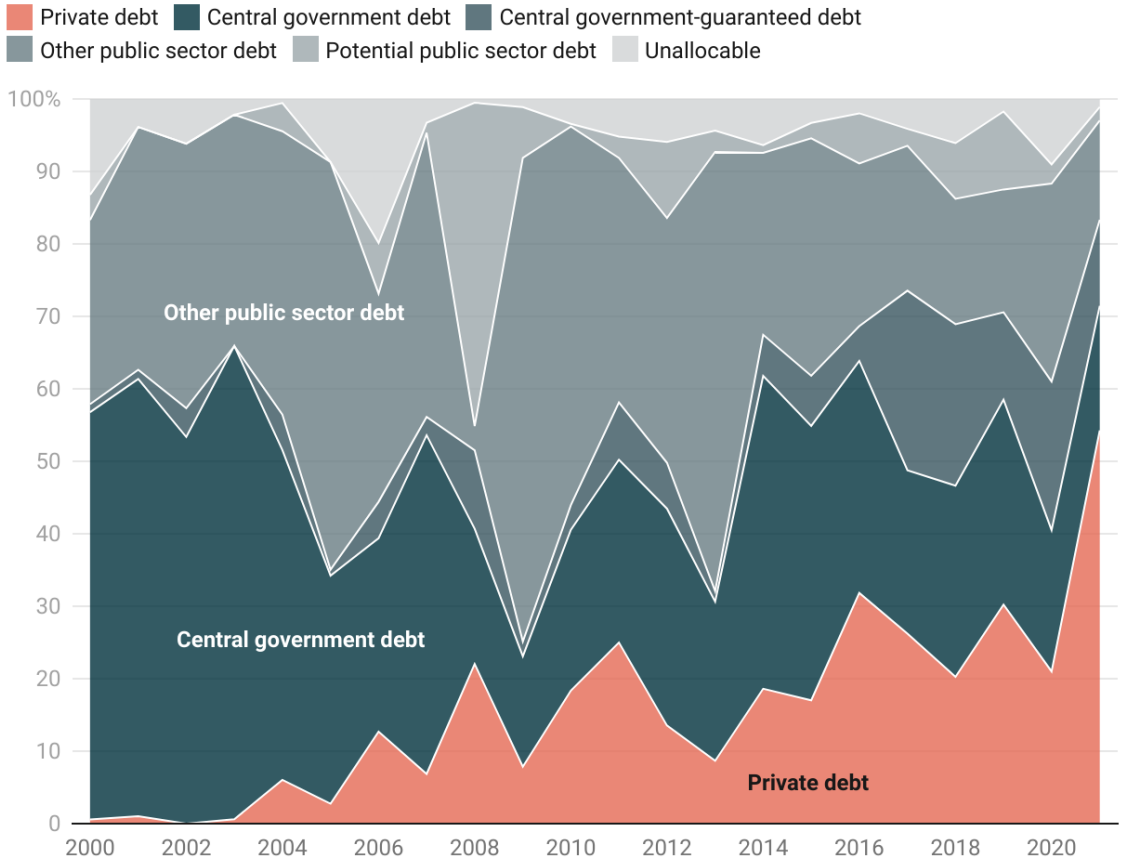
non-emergency lending from public sector to private sector borrowers. This move away from the sovereign debt "asset class" is particularly noticeable between 2020 and 2021—when the effects of the COVID-19 pandemic were most acute. The share of China's non-emergency lending commitments to private sector borrowers in LICs and MICs soared from 21% in 2020 to 54% in 2021, while the share devoted to public sector borrowers shrank from 67% in 2020 to 43% in 2021 (see Figure 2.18).[192]

[192] Here we define public sector loans as the sum of central government debt, central government-guaranteed debt, and other public sector debt (as described in Section A-5 in the Appendix), which is consistent with the IDS definition of PPG debt. In the Appendix, we replicate this graph for China's total (emergency and non-emergency) lending commitments to borrowers in LIC and MICs (see Figure A10). The incorporation of China's emergency lending commitments disguises the pivot away from public sector lending and toward private sector lending (as emergency lending commitments are large and exclusively channeled to sovereign borrowers).

Figure 2.18

Composition of non-emergency lending portfolio

Percentage of official sector, non-emergency lending commitments from China (in constant 2021 USD) to LICs and MICs, by public liability category



Notes: This graph shows the composition of China's non-emergency lending portfolio (as measured in 2021 constant USD) in LICs and MICs according to the extent to which host governments may eventually be liable for debt repayment. Central government debt and other public sector debt represent loans where the borrower is a government agency or a wholly- or majority-owned state entity. Central government debt represents loans that have a sovereign guarantee from the host government. Potential public debt represents loans to entities (including special purpose vehicles or joint ventures) where the host government has a minority stake. Private debt captures loans to private entities.

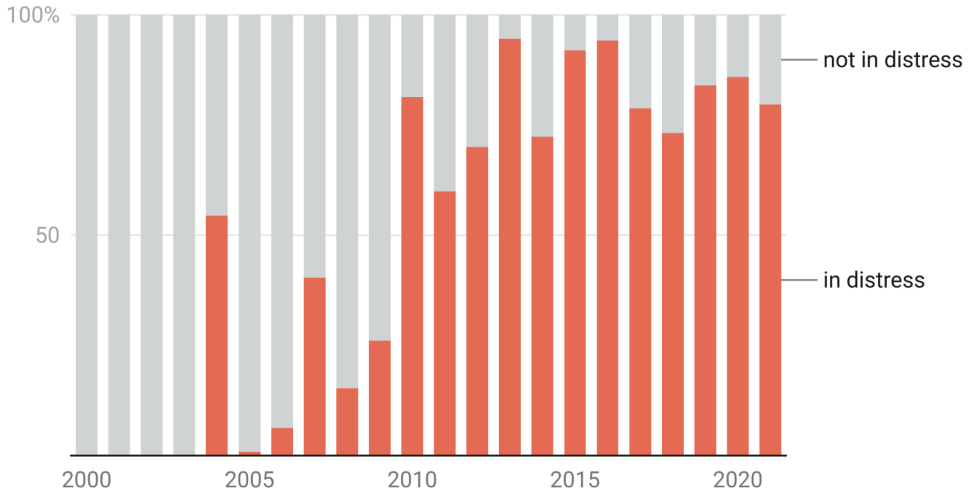
Another potential de-risking strategy is to take a differentiated approach across borrower countries that present varying levels of repayment risk. Figures A22 and A23 provide evidence that suggests Beijing is adopting this approach: Chinese state-owned creditors have lent to financially distressed countries at higher interest rates and with shorter repayment periods than countries that are

not in financial distress. Consequently, the concessionality level (weighted average grant element) of official sector lending from China is consistently lower in countries experiencing financial distress than in countries not experiencing financial distress (see Figure A24).[193]

Figure 2.19

Percentage of variable interest rate lending to countries in and not in financial distress

Percentage of China's official sector lending (in constant 2021 USD) with variable interest rates to LICs and MICs



Notes: Variable interest rates include LIBOR, EURIBOR, SHIBOR, BADLAR, CIRR, JIBOR, LPR and BADCOR. To determine if a country experienced financial distress in a given year, we use the binary measure that is described in Box 1a.

Chinese state-owned creditors have also changed the way that they lend to financially distressed countries over time by shifting toward variable interest rate lending (see Figure 2.19). This approach to lending follows a risk-based pricing model by adding a borrower-specific margin—that accounts for the credit profile characteristics of the borrower—to a market-based reference interest rate.[194] In

[193] Between 2000 and 2021, the weighted average grant element of official sector lending from China to countries experiencing financial distress was ten percentage points lower than in countries not experiencing financial distress (see Figure A25 in the Appendix).
[194] Risk-based loan pricing models (a) charge risky borrowers higher prices (i.e., attach larger risk premia to borrowers that present a high probability of default), and (b) account for the expected magnitude of post-default losses (i.e., how much money the creditor expects to lose if the borrower defaults).

the early 2000s, there was no evidence whatsoever of any variable interest rate lending by Chinese state-owned creditors to LICs or MICs in financial distress. However, by 2021, more than 80% of China's variable interest rate lending was directed to countries in financial distress.

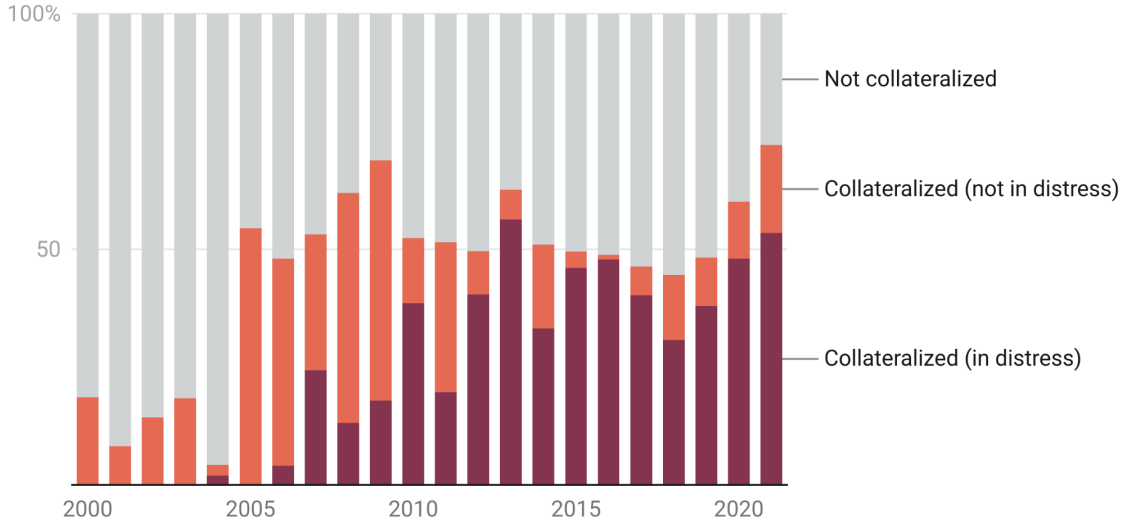
The 3.0 version of AidData's GCDF dataset also reveals that China is increasingly collateralizing loans to countries in dire financial straits: the share of China's collateralized lending portfolio directed to countries in financial distress increased from zero at the turn of the century to 74% by 2021 (see Figure 2.20).[195] This change is part of a broader pattern in China's use of credit enhancements, which AidData defines as lending backed by a credit insurance policy, a third-party repayment guarantee, and/or collateral. Figure A29 divides China's LIC and MIC lending portfolio into three categories: (1) credit-enhanced lending to countries in financial distress; (2) credit-enhanced lending to countries not in financial distress; and (3) lending that is not credit-enhanced. It shows almost no proportional increase in credit-enhanced lending to countries that are not in financial distress, but a large proportional increase in credit-enhanced lending to countries that are in financial distress.

[195] Figure 2.20 shows the proportion of official sector lending commitments from China (in constant 2021 USD) to LICs and MICs that falls into three categories: (1) loans that are collateralized and are going to a borrowing country that is in distress at the time of the loan commitment, (2) loans that are collateralized but are going to a borrowing country that is not experiencing financial distress at the time of the loan commitment, and (3) loans that are not collateralized at the time of commitment. The underlying data from Figure 2.20 demonstrate that, while 51% of China's collateralized lending commitments to LICs and MICs were directed to developing countries in financial distress during the pre-BRI period (2000-2013), this figure increased to 82% in the early and late BRI periods (2014-2021).

Figure 2.20

Composition of lending to countries in and not in financial distress

Percentage of official sector lending (in constant 2021 USD) from China to LICs and MICs



Notes: To determine if a country experienced financial distress in a given year, we use the binary measure that is described in Box 1a.

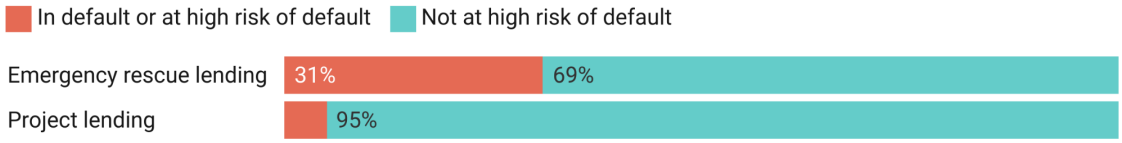
Given that the large-scale provision of emergency rescue loans to financially distressed borrowers has increased Chinese bank exposure to repayment risk, another potential portfolio rebalancing strategy is to direct project (or nonemergency) loans to less risky borrowers. As a preliminary test of whether Chinese state-owned creditors may be responding in this way, we first measure the percentage of China's emergency rescue loan portfolio supporting borrower countries with credit ratings in "C and D territory"—i.e., countries that Moody's, Standard & Poor's, and Fitch identify as in default or presenting a high risk of default. We then measure the percentage of China's project loan portfolio supporting borrower countries with credit ratings in C and D territory. Figure 2.21 provides these summary statistics, which demonstrate that the overall credit quality of China's project loan portfolio is substantially better than that of its emergency rescue loan portfolio.[196]

[196] Project loans are defined as those in the 3.0 version of AidData's GCDF dataset that are categorized as investment project loans (IPLs).

Figure 2.21

Repayment risk in emergency lending portfolio versus project lending portfolio

Percentage of China's emergency rescue lending portfolio and project lending portfolio (in constant 2021 USD), by level of repayment risk



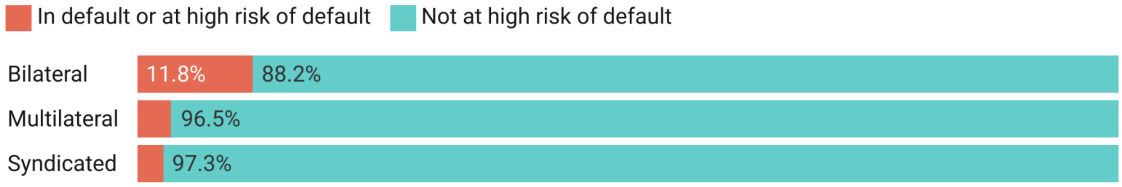
Notes: Countries in default or at a high risk of default represent LICs and MICs with scores of 5 or less on the sovrate index (see Box 1a). Countries not at a high risk of default represent LICs and MICs with scores above 5 on the sovrate index. The World Bank's sovrate index is a measure of repayment risk that varies from 0 to 21, with higher scores indicating lower levels of sovereign credit risk (Kose et al. 2022). Country-year observations without official sector Chinese lending commitments or sovrate scores are excluded from the figure. MOFCOM interest-free loan commitments (which are typically issued without a credible expectation of repayment) are excluded from the calculation.

We also find evidence of portfolio rebalancing over time. According to Figure A30, China reduced the percentage of its non-emergency loan portfolio supporting borrower countries with credit ratings in C and D territory—from 7.9% during the early BRI period to 0.8% during the late BRI period. One potential way of shifting the non-emergency (and project) lending portfolio away from countries that present high levels of repayment risk is via syndication and multilateralization. Figure 2.22 demonstrates that when Beijing outsources risk management (including the loan origination process), less credit is channeled to countries that are in default or present a high probability of default. However, is there any evidence that Beijing is actually pivoting away from its bilateral lending institutions and toward multilateral lending institutions and syndicated loan arrangements? This is the next question that we attempt to answer.

Figure 2.22

Repayment risk in bilateral, multilateral, and syndicated lending portfolio

Percentage of China's bilateral, multilateral, and syndicated lending portfolio (in constant 2021 USD), by level of repayment risk



Notes: Countries in default or at a high risk of default represent LICs and MICs with scores of 5 or less on the sovrate index (see Box 1a). Countries not at a high risk of default represent LICs and MICs with scores above 5 on the sovrate index. The World Bank's sovrate index is a measure of repayment risk that varies from 0 to 21, with higher scores indicating lower levels of sovereign credit risk (Kose et al. 2022). Country-year observations without official sector Chinese lending commitments or sovrate scores are excluded from the figure. MOFCOM interest-free loan commitments (which are typically issued without a credible expectation of repayment) are excluded from the calculation.

Risk mitigation strategy #5: Scaling down bilateral lending operations and scaling up lending operations via syndication and multilateralization

If China's bilateral development finance institutions do not have sufficiently strong risk management guardrails in place, one option is to reform these institutions from within. However, these institutions are politically powerful and slow to change (Chen 2020a, 2020b, 2023). Another option to improve the risk profile of the country's overseas lending program is to dial down the provision of credit through bilateral channels and dial up the provision of credit through syndicated and multilateral lending channels.

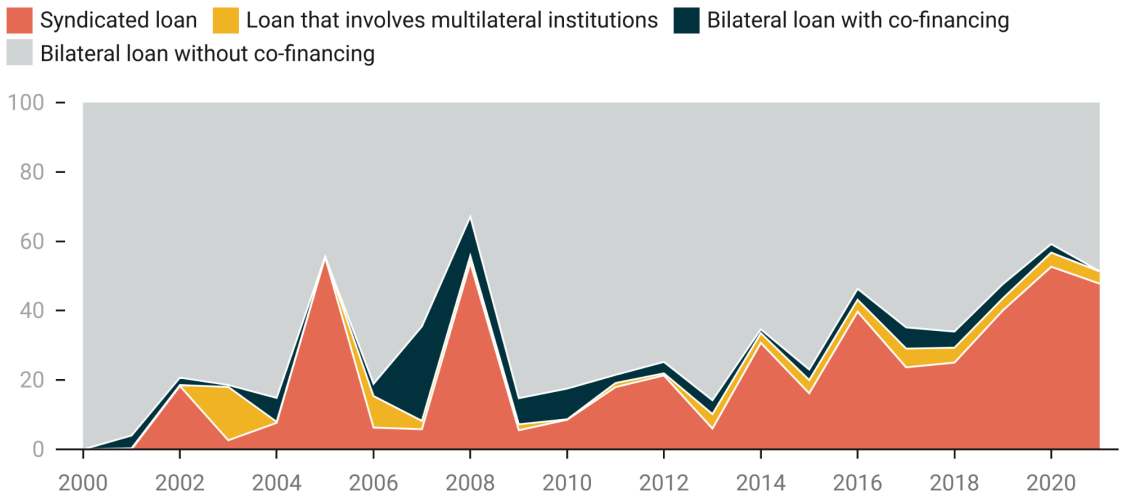
Syndicated loans allow a group of lenders (a "syndicate") to pool their funds and share credit risk. When a transaction is financed through a syndicated arrangement, all members of the syndicate must agree to a common set of contractual terms and conditions, including the standards and safeguards that will govern the transaction. Given that each lender has its own standards and safeguards, the members of a syndicate can seek to reconcile (hybridize) their

respective standards and safeguards. However, it is more common for the members of the syndicate to defer to the standards and safeguards of one member of the syndicate. In most syndicated loan arrangements, a "lead arranger"—sometimes referred to as the "arranging lender" "lead lender," "lead manager," or "underwriter"—establishes the transaction's key terms and conditions, which cannot be amended without the consent of all members of the syndicate.[197] It is also customary for all members of the syndicate to use a common set of due diligence standards to vet the borrowing institution and the proposed transaction.[198] Here again, the lead arranger is usually responsible for identifying and applying the due diligence standards (Dennis and Mullineaux 2000; Ivashina 2009).

Figure 2.23

Composition of non-emergency lending portfolio by channel of delivery

Percentage of official sector lending commitments from China (in constant 2021 USD) to LICs and MICs



Notes: All emergency rescue loans are excluded. The "loans that involve multilateral institutions" category include loans where a multilateral agency has some formal role, such as an entrusted loan agreement or a co-financing arrangement.

[197] However, other terms and conditions can usually be amended with the consent of the "majority lenders."
[198] Sufi (2007) demonstrates that lead arrangers reduce the costs of due diligence for all other syndicate participants.

Figure 2.23 provides evidence that, at the turn of the century, China's non-emergency lending program in LICs and MICs exclusively consisted of bilateral loans—i.e., loans issued by a single lender to a single borrower. However, over time, Beijing has moved away from this approach, ramping up its use of syndicated loan arrangements. It began experimenting with this more collaborative way of issuing credit during the pre-BRI period and early BRI period, but made syndication central to the country's overseas lending strategy during the late BRI period. By 2021, 50% of China's non-emergency lending program in LICs and MICs consisted of syndicated loan commitments.[199]

This empirical pattern flies in the face of the conventional wisdom that "[e]merging economies' debt to China is [...] non-marketable" (Kondo et al. 2022).[200] That was certainly true 25 years ago, but it is no longer the case: half of China's non-emergency lending portfolio in the developing world now consists of syndicated loans (Figure 2.23).

China's state-owned commercial banks are particularly focused on this approach to cross-border lending. The 3.0 version of AidData's GCDF dataset demonstrates that they are more heavily engaged than the country's policy banks in syndicated lending to LICs and MICs. In 2021, 84% of China's state-owned commercial bank lending to LICs and MICs relied on syndicated loan instruments and the remaining 16% relied on bilateral loan instruments. By comparison, only 36% of China's policy bank lending to LICs and MICs relied on syndicated loan instruments and the remaining 64% relied on bilateral loan instruments.

Another important aspect of the country's pivot from bilateral lending to syndicated loans is the growing involvement of non-Chinese banks and multilateral institutions in the syndicates that are being established. Figure A32 demonstrates that roughly 80% of the syndicated loans from official sector

[199] 49% of China's non-emergency lending program in LICs and MICs consisted of bilateral loan commitments in 2021. Beijing's pivot toward lending via syndicated loans is especially noticeable in the project lending portfolio (see Figure A36 for supplementary evidence).
[200] A syndicated loan constitutes marketable debt in that the arranging lender responsible for originating and structuring the transaction can distribute/sell part of the loan to other banks and nonbank institutions through a marketing and syndication process and the loan can be traded on secondary markets.

creditors in China to LICs and MICs involve non-Chinese bank participants.[201] A non-trivial percentage of these loans also involve multilateral institutions (see Figure A33).[202] Multilateral and non-Chinese bank participation could have far-reaching consequences if their standards and safeguards prevail as the ones that all other syndicate members must follow.[203] In Table 2.4, we provide metadata for an illustrative set of syndicated loan agreements involving Chinese state-owned creditors and non-Chinese creditors. One can see that syndicated loans with Chinese and non-Chinese participants frequently rely on Western commercial banks and multilateral institutions to serve as lead arrangers, which is consistent with the notion that Beijing is de-risking its overseas loan portfolio by outsourcing risk management.[204] In Chapter 4, where we address this issue at greater length, we find that Chinese participation in syndicated loan agreements with non-Chinese banks and multilateral institutions consistently results in stronger rather than weaker risk management standards and safeguards.

Table 2.4

Illustrative set of syndicated loan agreements with Chinese and non-Chinese bank participants

Country	Project	Year	Value of Loan	Lead Arranger	Chinese Participants	Total Number of Participants
Sierra Leone	Port Elizabeth II Upgrading and Expansion Project	2017	$659 million	ICBC	ICBC, China Eximbank	2

[201] Although there are more syndicated loans with Chinese and non-Chinese participants (833) than there are syndicated loans with exclusively Chinese participants (312), syndicated loans with Chinese and non-Chinese participants tend to be smaller ($138.8 million on average) than syndicated loans with exclusively Chinese participants ($545.5 million on average). These summary statistics are drawn from Figures A34 and A35.
[202] When one accounts for multilateral participation in syndicated loans *and* entrusted loan agreements with multilateral institutions, the multilateralization of China's LIC and MIC lending portfolio comes into sharper resolution (see Figure A28).
[203] We provide evidence that suggests this is indeed the case in Chapter 3.
[204] With an earlier vintage of the GCDF dataset, Joosse et al. (2023) use social network analysis to map the international network of non-Chinese financiers that facilitate the participation of Chinese state-owned creditors in syndicated loan agreements. They conclude that the ten most important network "brokers" include two multilateral institutions (Inter-American Development Bank and African Development Bank) and eight Western commercial banks (BNP Paribas, Standard Chartered, Sumitomo Mitsui, MUFG, Citibank, ING, Deutsche Bank, and HSBC).

Country	Project	Year	Value of Loan	Lead Arranger	Chinese Participants	Total Number of Participants
Iraq	Basrah Natural Gas Liquids Facility Construction Project	2021	$260 million	International Finance Corporation (IFC)	ICBC, Bank of China	9
Kazakhstan	Almaty Ring Road Project	2020	$585 million	European Bank for Reconstruction and Development (EBRD)	Bank of China	5
Argentina	La Castellana Wind Power Project	2017	$64.05 million	International Finance Corporation (IFC)	SAFE through the Managed Co-lending Portfolio Program	2
Bangladesh	Unit 3 of 220 MW Sirajganj Combined Cycle Power Plant Project	2017	$196.7 million	Standard Chartered Bank	Bank of China	4

Notes: This table provides examples of syndicated loans with Chinese state-owned participants (ID#62223, 62224, 95921, 92613, 98022, and 69033 in the 3.0 version of AidData's GCDF dataset). The "Year" column captures the financial commitment year. The "Value of Loan" column captures the aggregate monetary value of all syndicated loan tranches/contributions. The "Chinese Participants" column captures all official sector Chinese participants in the syndicate. The "Total Number of Participants" column captures the total number of Chinese and non-Chinese creditors that participated in the syndicate.

Figure 2.23 above highlights another interesting trend: a modest increase in Chinese lending that is channeled via multilateral institutions during the BRI era (2014-2021). During the five year period that preceded the BRI (2009-2013), 2% of China's non-emergency lending to LICs and MICs was channeled via multilateral institutions. This figure doubled (to 4%) during the first eight years of BRI implementation (2014-2021).[205]

One of China's initial forays into entrusted lending via multilateral institutions began in 2013 and 2014, with the creation of the Africa Growing Together Fund (AGTF) at the African Development Bank, the China Co-financing Fund for Latin America and the Caribbean at the Inter-American Development Bank, and the Managed Co-Lending Portfolio Program (MCPP) at the International Finance Corporation (IFC). The MCPP, which was launched by the IFC in partnership with China's State Administration for Foreign Exchange (SAFE), helps illustrate the logic of an entrusted loan agreement with a multilateral institution. Rather than directly lending to borrowers in developing countries, SAFE entrusted $3 billion to the IFC and "leverage[d] IFC's project pipeline and due diligence skills to [...]

[205] Figure 2.23 excludes emergency loans since they are exclusively provided via bilateral channels.

co-lend to projects or groups of projects alongside IFC on commercial terms" (World Bank Group 2020: 35). Beijing's decision to outsource loan management to a multilateral institution was evidently motivated by a desire for stronger safeguards and attractive investment returns (see Box 2b for more on SAFE's mandate to maximize investment returns on the country's surplus foreign exchange reserves). An ex-post evaluation of the MCPP concluded that "[m]ost of these borrowers [had] the capacity to meet their financial commitments and [were] less vulnerable to nonpayment than other speculative projects" (World Bank Group 2020: 36).

Think tanks, research institutions, and media outlets in G7 countries have in recent years trained their sights on China's *bilateral* lending activities—in particular, infrastructure projects financed by China Eximbank and China Development Bank (e.g., Dyer et al. 2011; Sanderson and Forsythe 2013; Gallagher and Ray 2020; Myers and Ray 2023; Ray 2023; Do Rosario and Savage 2023). Yet there has been virtually no discussion about Beijing's strategic pivot away from bilateral lending and toward collaborative lending arrangements involving Chinese and non-Chinese banks. The reason why this change in China's overseas lending portfolio has not received serious attention is simple: Chinese bank participation in syndicated loans (with non-Chinese participants) and loans entrusted to multilateral institutions have gone undetected because they are mostly excluded from other publicly available Chinese development finance datasets.[206] Beijing has not been especially secretive about this change in the composition of its overseas lending strategy. It was hiding in plain sight; those seeking to track China's overseas lending activities either did not detect it or did not think it was important enough to track.

[206] Here again, one is reminded of the proverbial drunkard who insists upon searching for his keys beneath the lamppost "because that's where the light is." Chinese creditor contributions to syndicated loans are not systematically tracked in the China's Overseas Development Finance Database, the Chinese Loans to Latin America and the Caribbean Database, the Chinese Loans to Africa Database, the China's Global Energy Finance Database, the China Overseas Finance Inventory Database, or the World Bank's International Debt Statistics (IDS). However, Figure A32 demonstrates that official sector lending from China is increasingly channeled via bank syndicates that include Chinese and non-Chinese banks.

There are several reasons why Beijing's pivot away from bilateral lending instruments is crucial to understand its de-risking strategy.[207] First, since most of the syndicated loans in question involve non-Chinese bank participants (see Figure A32), Beijing is increasingly able to outsource risk management to lending institutions with stronger rules and standards.[208] Second, multilateral institutions have particularly strong risk management guardrails in place (see Chapter 3), so the use of entrusted loan agreements with multilateral institutions necessarily involves the application of a more stringent set of safeguards. These are effectively de-risking "shortcuts." Bilateral development finance institutions have rules and standards that have evolved over decades via accretion. It is unlikely that these institutions are going to dispense with these safeguards or dramatically change them in the short-run. So, delegating borrower selection and loan preparation to a credible third party is an attractive shortcut to de-risk a loan portfolio (on a going forward basis).[209] Second, participation in a syndicated loan agreement or an entrusted loan agreement with a multilateral development bank (MDB) is a rapid and reliable de-risking strategy because MDBs enjoy de facto preferred creditor status (Schlegl et al. 2019) and confer this benefit to all other lenders that participate in their syndicated loan agreements and entrusted loan agreements (Gurara et al. 2020).[210] An added benefit of this approach is that loans involving MDBs are generally exempt from rescheduling and shielded from large haircuts (investor losses).[211] From a risk mitigation perspective, syndicated loan agreements also have two perversely attractive features to official creditors: (1) unanimous consent requirements can make them more difficult and time-consuming to reschedule (Buchheit 1985, 1991; Gelpern

[207] As we explain at greater length in Chapter 3, Beijing has positioned its bilateral lending institutions as alternative sources of financing for LICs and MICs that would prefer not to deal with OECD-DAC donors or multilateral development banks (Parks 2019; Malik et al. 2021; Dreher et al. 2022). Therefore, the pivot toward syndication and multilateralization represents a major departure.

[208] In November 2017, the country's top banking regulator—the China Banking Regulatory Commission (CBRC)—called upon Chinese state-owned banks to "prevent and control overseas business risks *by taking risk-sharing measures*" (Xueqing 2017, emphasis added). The shift toward syndication and multilateralization during the late BRI period (highlighted above in Figure 2.23) may constitute evidence of bank responsiveness to CBRC's policy guidance.

[209] On this point, see Dennis and Mullineaux (2000).

[210] In a typical A/B syndicated loan arrangement involving an MDB, the lender-of-record is the MDB; it keeps a part of the loan for its own account (the "A-loan") and it sells participation in the remainder of the loan (the "B-loan"). As the lender-of-record, the MDB confers its status as a de facto preferred creditor to all B-loan participants.

[211] On this point, see Cordella and Powell (2021).

2016); and (2) they are generally subject to smaller haircuts (financial losses) than bilateral loans (Cruces and Trebesch 2013; Schlegl et al. 2019).[212]

Section 4: What have we learned about Beijing's bid to reboot its overseas lending program?

In this chapter, we have presented evidence that challenges the conventional wisdom about the total collapse of China's overseas lending program. With more complete data on the full range of China's lending activities in LICs and MICs, we have shown that Beijing remains the world's largest official creditor: in nominal terms, the world owes China about $2.6 trillion and the developing world owes China at least $1.1 trillion and perhaps as much as $1.5 trillion. We have also shed light on the ways in which Beijing is rebalancing its cross-border credit portfolio—much like a yield-maximizing investment portfolio manager that is navigating an environment in which a growing number of borrowers are illiquid or insolvent. Beijing has ramped down the provision of long-term, dollar-denominated bilateral loans to sovereign borrowers for public investment projects, while at the same time ramping up the provision of RMB-denominated emergency rescue loans that are short- or medium-term in nature. It has reduced its reliance upon the policy banks, while making greater use of state-owned commercial banks, the central bank, syndicated loan arrangements with non-Chinese banks, and multilateral administrators.

What can we say, by way of conclusion, about Beijing's efforts to de-risk its overseas lending portfolio and its determination to ensure that LIC and MIC borrowers repay their debts? The evidence at hand does not suggest that it is ready to take financial losses in order to minimize diplomatic blowback and reputational damage.[213] Quite the opposite: Beijing appears to be stiffening its resolve and preparing for a long and difficult slog. It is sweeping cash out of the escrow accounts of its overseas borrowers, requiring that borrowers replenish

[212] Bilateral loans from official creditors are typically rescheduled through the Paris Club, while syndicated loans are typically rescheduled through London Club reschedulings (regardless of whether the syndicate members include official creditors or commercial creditors).
[213] Gong Chen, the founder of Anbound (a Beijing-based think tank) and a BRI adviser to the central government, recently told Nikkei Asia that "widespread debt evasion and avoidance [by BRI participants] would have a significant impact on China's financial stability" and "we are concerned that some countries may try to avoid paying back their debt by utilizing geopolitics and the ideological competition between East and West" (Aamir et al. 2022).

escrow accounts in exchange for short-term cash flow relief, introducing stronger penalties for late repayments, and channeling emergency rescue loans with high interest rates and short repayment periods to financially distressed borrowers (to make sure they have enough cash on hand to service their existing infrastructure project debts). Only time will tell if Beijing has enough "steel in its spine" to stay the course, but its actions to date suggest that it intends to do whatever it takes to protect the bottom line.

A final point bears emphasis. We freely concede that this chapter has only scratched the surface of what can be done with the 3.0 version of AidData's GCDF dataset to uncover new insights about Beijing's contemporary lending activities and practices in the Global South. The dataset can—and should—be used to answer an array of additional questions, such as:

- How have the terms and conditions in Chinese loan contracts changed (or not) since Beijing endorsed the Common Framework in November 2020?

- What are the consequences of borrower non-compliance with escrow account conditions?

- How do Chinese creditors select their preferred partners in syndicated loan agreements?

- Why does Beijing prefer to channel loans through some multilateral institutions rather than others?

- What are the supply-side and demand-side drivers of China's emergency lending program? Has this changed over time, and if so, how and why?

- What are the supply-side and demand-side drivers of China's non-emergency lending program? Has this changed over time, and if so, how and why?

Although there are commercial incentives to put the GCDF dataset behind a paywall and professional incentives to withhold release until it is introduced in leading, peer-reviewed academic journals, we remain fully committed to the

principle that all past, present, and future versions of the GCDF dataset should be treated as public goods rather than private goods.[214] Our hope is that the dataset will catalyze a knowledge multiplier effect and facilitate evidence-based decision-making.[215]

[214] In this respect, we are carrying forward the "open research" tradition of the original, interdisciplinary group of researchers who developed the Tracking Underreported Financial Flows (TUFF) methodology that underpins AidData's GCDF dataset. See Chapter 3 of Dreher et al. (2022).
[215] If past is prologue, we expect that this approach will deliver a significant payoff. To date, the GCDF dataset has been used in more than 500 research publications (Wooley 2023).

Chapter 3: Redesigning the Belt and Road for Safety and Speed

Section 1: Beijing's journey from skeptic to advocate of ESG risk management

For the better part of the last two decades, Beijing sought to position itself as an alternative source of infrastructure financing for governments that would prefer not to deal with OECD-DAC donors or multilateral development banks. It characterized itself as a demand-driven financier of South-South cooperation and tacitly encouraged its foreign counterparts to bypass the rules and standards of OECD-DAC donors and multilateral development banks by fast-tracking large-scale infrastructure projects with as little "red tape" and "hassle factor" as possible. It offered fast and flexible project preparation procedures; a streamlined set of loan and grant approval processes; the ability to issue contracts without competitive bidding requirements; and less stringent environmental, social, and governance (ESG) safeguards.[216]

China's value proposition was compelling. Between 2000 and 2021, 140 LICs and MICs accepted $825 billion of aid and credit from Beijing for 4,800 infrastructure projects.[217] China became the developing world's go-to banker for big-ticket infrastructure projects because it demonstrated three comparative advantages vis-à-vis OECD-DAC donors and multilateral development banks (MDBs): scale, speed, and impact. Beijing bankrolled large-scale infrastructure projects that its peers and competitors were unwilling or unable to support.[218] It financed 1,385 infrastructure projects with grants and loans worth $100 million

[216] At the same time, Beijing spurned nearly all invitations to follow the prevailing set of international development finance rules and norms, and it admonished Western donors and multilateral lenders for their "one-size-fits-all" policies (Malik et al. 2021; Dreher et al. 2022).
[217] These figures only refer to active and completed projects. Between 2000 and 2021, Beijing also issued grants and loans worth $56 billion for 94 infrastructure projects in 49 LICs and MICs that were subsequently suspended or canceled.
[218] China was faster than its competitors at finalizing loan agreements for large-scale infrastructure projects. In 2008, Senegal's then-President, Abdoulaye Wade, wrote in the *Financial Times* that "with direct aid, credit lines and reasonable contracts, China has helped African nations build infrastructure projects in record time. … I have found that a contract that would take five years to discuss, negotiate and sign with the World Bank takes three months when we have dealt with Chinese authorities" (Wade 2008).

or more between 2000 and 2021.[219] China also earned a reputation for implementing brick-and-mortar projects with lightning speed: the average Chinese government-financed infrastructure project between 2000-2021 took only 2.7 years to complete.[220] Similar projects financed by the World Bank and regional development banks usually took 5-10 years to complete (Bulman et al. 2017; Lagarda et al. 2018; Duggan et al. 2020; World Bank 2023c). China's overseas development projects—in particular, those involving the construction of infrastructure such as roads, bridges, tunnels, railways, and ports—also generated significant economic benefits in a politically relevant timeframe.[221] In an evaluation of 4,304 projects in 138 LICs and MICs over a 15-year period, Dreher et al. (2021) find that the average project increased economic growth by 0.95 percentage points two years after securing funding approval from Beijing.[222] Bluhm et al. (2020) provide evidence that China's connective infrastructure project portfolio was especially effective at promoting spatially-inclusive economic development—by decentralizing economic activity within the provinces and districts where they were implemented.[223]

[219] Between 2000 and 2021, Beijing financed 735 infrastructure projects with grants and loans worth at least $250 million in 89 LICs and MICs, 377 infrastructure projects with grants and loans worth at least $500 million in 68 LICs and MICs, and 163 infrastructure projects with grants and loans worth at least $1 billion in 47 LICs and MICs. All of these figures include infrastructure projects that secured grant or loan commitments from China, which were subsequently suspended or canceled.

[220] With the 3.0 version of AidData's GCDF dataset, we calculate the average amount of time needed to complete a Chinese grant- or loan-financed infrastructure project by measuring the average number of calendar days between actual project implementation start dates and actual project completion dates. We only include active projects and completed projects that secured official commitments from China in our analysis.

[221] This finding implies that if a host country chose to accept three additional Chinese ODA or OOF-financed development projects, it could reasonably expect to boost its economic (GDP) growth by 2.85 percentage points within two years of Beijing agreeing to bankroll the projects. For more on the socioeconomic impacts of Chinese grant- and loan-financed development projects, see Bluhm et al. (2020), Martorano et al. (2020), Dreher et al. (2022), Mandon and Woldemichael (2023), and Wellner et al. (forthcoming, 2023).

[222] More specifically, Dreher et al. (2021a) find that one additional Chinese ODA- or OOF-financed project increases economic growth by between 0.41 and 1.49 percentage points (pp) two years after the funding for the project is approved, on average. 0.95 pp represents the midpoint of this range.

[223] Bluhm et al. (2020) find that, on average, Chinese ODA and OOF-financed connective infrastructure projects reduce economic concentration (as measured by the Gini coefficient of nighttime light output in all 9.3 km square grid cells within a particular subnational locality) by about 2.2 percentage points. They also provide evidence that these projects have effectively relocated economic output from dense areas like city centers to their immediate peripheries (i.e., peri-urban and suburban areas). The installation of connective infrastructure can accelerate spatially-inclusive economic development by making it easier for firms to reach more distant markets and individuals to commute or relocate to places of work. It also can also lower the cost of consumer goods and inputs, promote the development of new businesses, increase land values, boost agricultural production, and facilitate knowledge and technology spillovers.

Beijing's track record of bankrolling and building big-ticket infrastructure projects with record speed and near-term economic impact changed the nature of policymaker demand in the Global South. Through its *Listening to Leaders* program, AidData has repeatedly surveyed thousands of senior and mid-level governmental officials across 140 LICs and MICs, and these leaders now report a strong preference for working with Beijing rather than its competitors on infrastructure projects (Custer et al. 2021; Horigoshi et al. 2022; Blair et al. 2022b).

Still, the fact that China—seemingly overnight—became the Global South's infrastructure financier of first resort is remarkable. Large-scale infrastructure projects are notoriously difficult to implement. They often encounter major delays and cost overruns and raise concerns about pollution, biodiversity loss, the displacement of nearby residents, and the preservation of cultural heritage.[224] If they are not carefully designed and implemented, they can also lead to public protests, lawsuits, labor strikes, corruption scandals, and allegations of political favoritism.[225]

Beijing initially sought to overcome these challenges by asking political leaders, rather than technocrats, to propose infrastructure projects and oversee their implementation (Dreher et al. 2019, 2022).[226] It relied on presidents and prime ministers and their deputies to resolve complex and contentious matters that could delay or derail projects—for example, the grievances and compensation demands of those displaced or harmed by construction activities (Dreher et al. 2022). It also dispensed with many of the costly and cumbersome requirements of Western donors and multilateral development banks (MDBs). Rather than insisting upon strict adherence to international ESG safeguards (such as those

[224] On the difficulty of implementing these types of projects on time and on budget, see Flyvbjerg et al. (2002).
[225] On this point, see Isaksson and Kotsadam (2018a, 2018b), Isaksson (2020), Dreher et al. (2019, 2022), Anaxagorou et al. (2020), Iacoella et al. (2021), and Baehr et al. (forthcoming).
[226] China's demand-driven project selection system also encourages collusion between host country politicians and Chinese contractors. As Zhang and Smith (2017: 2335) explain, "Chinese firms and host governments enter into an informal alliance in which China's companies persuade host governments to raise new aid projects with China while the contractors promise to help behind the scenes to secure financing. The projects are reverse-engineered to suit the political needs of local politicians and the commercial strategies of Chinese contractors." Similarly, Bräutigam (2019) argues that "[t]he Achilles Heel of China's bank financing model is that it relies heavily on Chinese companies to develop projects together with host country officials. This creates strong incentives for kickbacks and inflated project costs. Particularly in election years, companies and public works ministers may collude to get projects approved."

described in the IFC's Performance Standards on Environmental and Social Sustainability), Beijing's state-owned banks requested compliance with national rules and standards (Export-Import Bank of China 2017; Chen and Landry 2018; Baehr et al. forthcoming). To facilitate rapid mobilization as soon as loan or grant applications were approved, they issued no-bid contracts to Chinese companies with an established, on-the-ground presence (Bräutigam 2019).[227] The absence of any requirement or expectation to coordinate with other donors and lenders eliminated additional obstacles to implementation (Bourguignon and Platteau 2015; Furukawa 2018).

But speed and convenience came at a cost: at least 54% of China's overseas infrastructure project portfolio from 2000 to 2017 had significant environmental, social, or governance risk exposure (see Figure A38 in the Appendix).[228] In some cases, multi-billion dollar public investment projects were suspended or rescoped because of insufficient inattention to environmental and social impact assessments (see Lu et al. 2023b and Box 3b). In other cases, journalists and civil society organizations uncovered evidence of Chinese companies and host government officials colluding by artificially inflating sole-source contract prices for construction projects and sharing the illicit proceeds (Malik et al. 2021: 67; Dreher et al. 2022: 11-12). In still other cases, local grievances were not addressed in a timely or thorough manner and they metastasized into reputational liabilities (that we analyze at greater length in Chapter 4).[229]

By the end of the early BRI era, the authorities in Beijing seemed to coalesce around the idea that sustaining elite and public support for its flagship global

[227] Sole-source procurement is the rule rather than the exception in most of CDB and China Eximbank's overseas loan agreements. In fact, these agreements almost always reference a specific commercial contract with a specific Chinese firm and strictly instruct the borrower to exclusively use the proceeds of the loan to finance the pre-selected commercial contract that is referenced in the loan agreement (Gelpern et al. 2021, 2022).

[228] This figure represents the cumulative percentage of China's grant- and loan-financed infrastructure project portfolio (measured in constant 2021 USD) between 2000 and 2017 with significant environmental, social, or governance risk exposure. The average annual ESG risk prevalence rate, as defined in Figure 3.2), was 47% between 2000 and 2017. Between 2000 and 2017, 1,403 infrastructure projects in LICs and MICs supported by grants and loans from China worth $383 billion (in constant 2021 USD) presented a significant environmental, social, or governance risk (see Figure 1.13).

[229] Many of these problems probably could have been avoided via a variety of mechanisms: environmental and social impact assessments to ensure that indigenous peoples are granted free, prior, and informed consent (FPIC) and avoid siting projects near endangered habitats; competitive bidding rules to ensure good value-for-money; blacklisting procedures to avoid hiring contractors with a track record of participating in corrupt and collusive behavior; and grievance mechanisms to make it easier to identify and respond to the concerns of local stakeholders (Parks 2019; Dreher et al. 2022).

infrastructure initiative would require more effective ESG risk management and mitigation. One of the first signs that change was afoot came in November 2017 when the China Banking Regulatory Commission (CBRC)—the country's top banking regulator—issued a new set of rules, requiring CDB and China Eximbank to put in place more robust environmental and social risk management procedures (CBRC 2017a, 2017b).[230] By 2018, the authorities were planning a transition "from a hazily defined BRI 1.0 to a more fine-tuned BRI 2.0" (Ang 2019). On August 27, 2018, in the run-up to the fifth anniversary of the BRI, Xi Jinping used a Chinese painting metaphor to call for "a switch from xieyi, freehand painting for outlining broad strokes, to gongbi, the careful inscription of details" (Ang 2019). Then, in April 2019, he gave a speech at the Second Belt and Road Forum for International Cooperation where he announced that China would "adopt widely accepted rules and standards and encourage participating companies to follow general international rules and standards in project development, operation, procurement and tendering and bidding" (Ministry of Foreign Affairs of the People's Republic of China 2019). He conveyed during the same speech that "in pursuing Belt and Road cooperation, everything should be done in a transparent way, and we should have zero tolerance for corruption" (Ministry of Foreign Affairs of the People's Republic of China 2019).[231]

One year later, Beijing signaled preliminary interest in "multilateralizing" the BRI by co-financing, co-designing, and co-implementing infrastructure projects with Western and multilateral development finance institutions and subjecting these projects to stronger safeguards.[232] It teamed up with eight multilateral institutions—the World Bank, the Inter-American Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development,

[230] In 2018, Beijing also financed the creation of a China-IMF Capacity Development Center to train government officials on debt sustainability frameworks (DSFs) in low-income countries and other BRI-related policy issues (Morris et al. 2020).
[231] In January 2021, Hu Huaibang, the former chairman of CDB, was sentenced to life in prison for taking $13 million in bribes. Then, in September 2021, He Xingxiang, a CDB vice president, was placed under investigation by China's Central Commission for Discipline Inspection (CCDI) for "severe discipline and law violations" (Wilson 2022). One year later, Li Li, the former President of the Beijing Branch of the China Eximbank was expelled from the Chinese Communist Party due to corruption charges. Then, in March 2023, Liu Liange resigned from his position as chairman of Bank of China and CCDI investigated him on suspicions of corruption and graft (Wong and Zhai 2023).
[232] There is some evidence of international financial institution (IFI) leaders trying to steer China in this direction (e.g., Kim 2017; Lagarde 2019).

the European Investment Bank, the International Fund for Agricultural Development (IFAD), Corporación Andina de Fomento, and the Asian Infrastructure Investment Bank—to establish a Multilateral Cooperation Center for Development Finance (MCDF).[233] The Center's mandate is to (a) invest in more upstream project preparation work; (b) build the capacity of lenders and borrowers to more effectively manage and mitigate risks related to debt sustainability, procurement, corruption, and environmental and social issues; and (c) facilitate greater information-sharing and coordination between Chinese and non-Chinese development finance institutions (AIIB 2021).[234]

Then, in 2021, SAFE—the ultimate source of funding for most of China's state-owned policy banks, commercial banks, and investment funds (see Box 2b in Chapter 2)—announced that it would prioritize "adopting MDB's ESG criteria" and "incorporating ESG principles into the whole project investment process from decision-making to post-investment management" (SAFE 2021: 54).[235] In parallel, through a multilateral forum known as the International Platform on Sustainable Finance (IPSF), the EU and China launched a joint effort to assess the commonalities and differences in their respective taxonomies for environmentally sustainable investments (Moody's Investor Service 2022; IPSF 2022; HKGFA and Guangdong Green Finance Committee 2022).[236] This collaboration resulted in the 2021 publication of a so-called Common Ground Taxonomy (CGT), which in turn was "incorporated into domestic regulation [in China]" and "directly used by Chinese banks as standards for issuing green bonds in the international market" (Cheng and Zhang 2023: 10).

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[233] The MOU that established the MCDF can be accessed in its entirety via https://www.ndb.int/wp-content/uploads/2022/11/MCDF-MOU-for-disclosure.pdf.

[234] The MCDF, which is administered by the AIIB, describes itself as "a multilateral initiative to increase high-quality infrastructure and connectivity investments in developing countries in compliance with International Financial Institution (IFI) standards, including by encouraging other investors and financial institutions to adopt such standards" (AIIB 2021).

[235] In September 2021, Xi Jinping announced at the UN General Assembly that China would no longer finance new coal-fired power projects overseas. Then, in March 2022, NDRC, the Ministry of Foreign Affairs, the Ministry of Commerce, and the Ministry of Ecology and Environment published "Opinions on Jointly Promoting Green Development of the Belt and Road," clarifying that China would "stop building new coal-fired power projects abroad and prudently proceed with existing ones that are under construction" (National Development and Reform Commission, Ministry of Foreign Affairs, Ministry of Ecology and Environment, and Ministry of Commerce of the People's Republic of China 2022).

[236] IPSF is a multilateral forum that aims to enable the exchange of practices and increase international cooperation on sustainable finance related matters. Its members include the EU, China, Singapore, Japan, and India.

All of these actions and rhetorical commitments suggest that Beijing has some level of interest in more effectively managing the ESG risks in its overseas infrastructure project portfolio—and potentially even harmonizing its policies and practices with prevailing international development finance rules and standards. However, interest does not necessarily translate into implementation, so our aim in this chapter is to determine if China has learned from past mistakes and recalibrated the ways that it finances, designs, and implements infrastructure projects in the Global South.[237] More specifically, we will use the 3.0 version of AidData's GCDF dataset to (a) document the scope and severity of the ESG risks in China's overseas infrastructure project portfolio; (b) identify whether, when, and how it has sought to mitigate these project implementation risks; and (c) determine whether its infrastructure projects with and without strong ESG safeguards have fared differently during implementation.

Our findings demonstrate that, although the ESG risk profile of China's overseas infrastructure project portfolio deteriorated during the pre-BRI period and early BRI period, there are signs of improvement during the late BRI ("BRI 2.0") period. Chinese lenders and donors have responded to rising levels of ESG risk by putting in place increasingly stringent safeguards that may ultimately undermine G7 and MDB efforts to outcompete Beijing on "quality" and "safety" grounds. Chinese grant- and loan-financed infrastructure projects that are subjected to strong ESG safeguards present fewer environmental, social, and governance risks during implementation. They are also less likely to be suspended or canceled. Perhaps most importantly, Chinese grant- and loan-financed infrastructure projects that are subjected to strong ESG safeguards do not face substantially longer implementation delays than those subjected to weak ESG safeguards. Our findings therefore suggest Beijing enjoys a stronger position in the global infrastructure financing market than its bilateral and multilateral competitors realize. Developing countries have made their preferences very clear: they want to work with lenders and donors that are willing and able to quickly design and implement big-ticket, high-impact

[237] In February 2022, Yunnan Chen of the Overseas Development Institute (ODI) told *Euromoney* magazine that "China seems to have a more specific and targeted approach. Its financial institutions are learning, recognising past mistakes and errors, and taking a more risk-averse approach to what projects they finance, and how they go about financing and due diligence" (Wilson 2022).

infrastructure projects without unreasonably high levels of ESG risk.[238] Beijing is taking active measures to meet this challenge. Whether its competitors will do the same is an open question.

Section 2: Measuring the scope and severity of ESG risk exposure in China's infrastructure project portfolio

We begin by measuring the nature and extent of ESG risk exposure in China's overseas infrastructure project portfolio—and how it has changed over time.[239] We do so in five ways. First, we identify whether China is locating large-scale infrastructure projects in environmentally sensitive areas. Second, we analyze whether China is placing such projects in socially sensitive areas—specifically, in areas where indigenous populations are often denied free, prior, and informed consent (FPIC). Third, we assess whether China is locating large-scale infrastructure projects in geographical areas that are vulnerable to political capture and manipulation by governing elites in host countries. Fourth, we evaluate the extent to which China is relying on contractors sanctioned for fraudulent and corrupt behavior for the implementation of its overseas infrastructure projects. Fifth, based upon narrative evidence from the 3.0 version of AidData's GCDF dataset, we flag all infrastructure projects for which it is known that a significant environmental, social, or governance challenge arose before, during, or after implementation.

Figure A39 presents the cumulative number of Chinese grant- and loan-financed infrastructure projects located in environmentally sensitive areas within LICs and MICs between 2000 and 2021. We determine if a given infrastructure project is located in one or more environmentally sensitive areas by first merging precisely geocoded data on Chinese ODA- and OOF-financed infrastructure project sites with two separate datasets: (1) the boundaries of designated terrestrial and marine protected areas from the World Database on Protected Areas (WDPA), which we convert into a 1 km x 1 km grid cell raster; and (2) the 1 km x 1 km grid cell raster of terrestrial and marine critical habitats (as defined by the

[238] On this point, see Humphrey 2015; Dollar 2016; Swedlund 2017; Humphrey and Michaelowa 2019; Zeitz 2021; Horigoshi et al. 2022; and Blair et al. 2022b.
[239] Our analysis not only includes active and completed infrastructure projects, but also suspended and canceled projects. We include suspended and canceled projects to avoid sample selection bias, since such projects are more likely to present significant ESG risks (Lu et al. 2023b).

International Finance Corporation's Performance Standard 6).[240] We then identify the subset of projects with one or more sites that overlap with a terrestrial protected area, a marine protected area, a terrestrial critical habitat, and/or a marine critical habitat.[241] In total, we find 1,035 infrastructure projects in 108 countries supported by grants and loans from China worth $233 billion that are located in environmentally sensitive areas.[242]

Figure A40 presents the cumulative number of Chinese grant- and loan-financed infrastructure projects located in socially sensitive areas within LICs and MICs between 2000 and 2021. We determine if a given infrastructure project is located in one or more of these areas by first merging precisely geocoded data on Chinese ODA- and OOF-financed infrastructure project sites with a 1 km x 1 km grid cell raster of indigenous lands.[243] We then identify the subset of projects with one or more sites that overlap with indigenous lands, which is a useful measure of social risk because infrastructure projects can cause local harm by encroaching upon the traditional territories of indigenous communities without free, prior, and informed consent (FPIC).[244] In total, we find 547 infrastructure projects in 53 countries supported by grants and loans from China worth $112 billion that are located in socially sensitive areas.[245]

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[240] Martin et al. (2015); Brauneder et al. (2018); and UNEP-WCMC & IUCN (2023). The International Finance Corporation's Performance Standard 6 (PS6) is widely used by international lenders and donors to identify "critical habitats," which refer to areas of high biodiversity value (Narain et al. 2020, 2022).

[241] More specifically, we identify all Chinese grant- and loan-financed infrastructure projects with locations that physically overlap with areas that were designated as terrestrial or marine protected areas or "likely" critical habitats (as defined by PS6) at any point between 2000 and 2021. We exclude all projects without "precise" or "approximate" geocodes from the analysis. A project with "precise" geocodes is one for which have highly precise boundaries of the project's geofeature(s). A project with "approximate" geocode is one identified within a 5 km radius of the precise boundaries of the project's geofeature(s). As such, all projects geocoded to the ADM8, ADM7, ADM6, ADM5, ADM4, ADM3, ADM2, ADM1, and ADM0 levels are excluded.

[242] Environmentalists have expressed particular concerns about the siting of Chinese government-financed infrastructure projects in geographical areas that may facilitate legal and illegal logging, agricultural frontier expansion, and human settlements in previously remote or pristine areas (Laurance et al. 2015; Yang et al. 2021; Baehr et al. 2022).

[243] Garnett et al. 2018.

[244] Free, prior, and informed consent (FPIC) refers to the right of Indigenous Peoples to provide or withhold consent, at any point, for development projects affecting their territories. It is a right granted to Indigenous Peoples in the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) and it is based on the principle that "all peoples have the right to self-determination." UNDRIP requires states to "consult and cooperate in good faith with the indigenous peoples concerned through their own representative institutions in order to obtain their free, prior and informed consent before adopting and implementing legislative or administrative measures that may affect them."

[245] The decision to locate an infrastructure project within or outside the traditional territories of indigenous communities is only one way of understanding the social risk profile of such a project. Consistent with the existing literature, we focus on this dimension of social risk because it can be consistently measured over geographic space and time for nearly all infrastructure projects (e.g., Yang et al. 2021).

Figure A41 presents the cumulative number of Chinese grant- and loan-financed infrastructure projects located in geographical areas within LICs and MICs that are vulnerable to political capture and manipulation between 2000 and 2021. We determine if a given infrastructure project is located in one or more of these areas by first merging precisely geocoded data on Chinese ODA- and OOF-financed infrastructure project sites with the Political Leaders' Affiliation Database (PLAD), which identifies the home (birth) districts (ADM2s) of political leaders in LICs and MICs.[246] Previous research has shown that Chinese aid and credit is disproportionately allocated to the home provinces and districts of political leaders in host countries and that Chinese lenders and donors lack institutional safeguards to reduce the likelihood that politically motivated projects will be approved (Dreher et al. 2019, 2022; Anaxagorou et al. 2020).[247] In total, we find 216 infrastructure projects in 69 countries supported by grants and loans from China worth $37 billion that are located in geographical areas that are vulnerable to political capture and manipulation.[248]

Figure A42 presents 2000-2021 data on the cumulative number of Chinese grant- and loan-financed infrastructure projects that relied on contractors sanctioned by other international financiers for fraudulent and corrupt behavior. We determine if a given infrastructure project relied on contractors sanctioned by other international financiers for fraudulent and corrupt behavior with a three-step process. First, we compile a list of firms historically or currently debarred by the World Bank and five other multilateral development banks (MDBs)—the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, the Inter-American

[246] PLAD provides information on the birthplaces of 1,109 effective political leaders from 177 countries between 1989 and 2021 (Bomprezzi et al. 2023). Birthplaces are geocoded to the ADM2 (district) level. In order to identify projects that are vulnerable to political capture and manipulation, we identify all projects with locations in the home (birth) districts (ADM2s) of effective political leaders that secured Chinese grant or loan commitments during the periods of time when the leaders in question held office.
[247] The World Bank uses ex ante, cost-benefit analysis to screen candidate projects. It employs a simple project acceptability rule—"the expected present value of the project's net benefits must be higher than or equal to the expected net present value of mutually exclusive project alternatives"—as "a safeguard against project choices being captured by narrow political or sectional interests" (Warner 2010: 2). By contrast, the Chinese grant-giving and lending institutions do not have analogous institutional safeguards in place (Dreher et al. 2019, 2022).
[248] An important caveat is that we only identify projects as being located within geographical areas that are vulnerable to political capture and manipulation if they fall within home districts (ADM2s) of political leaders. Therefore, projects that fall within the home regions (ADM1s), but not the home districts (ADM2s) of political leaders, are excluded. Nor do we consider the presence of non-infrastructure projects in the home districts (ADM2s) of political leaders.

Development Bank, and the Asian Infrastructure Investment Bank—as well as the dates of each firm's formal debarment period. Then, we compare the list of debarred firm names to the firm names of implementing agencies and contractors involved in the Chinese grant- and loan-financed infrastructure projects. Finally, we identify the subset of projects that relied upon debarred firms while they were still within their debarment periods by identifying all cases in which there was calendar day overlap between the start and end dates of an organization's debarment period and the commitment, implementation, or completion dates of the project(s) it supported. Projects that relied upon a debarred firm are identified as posing a significant governance risk (see Section A-6 in the Appendix for more details). In total, we find 296 infrastructure projects in 81 countries supported by grants and loans from China worth $88.8 billion that rely on such firms.

Figure A43 presents the cumulative number of Chinese grant- and loan-financed infrastructure projects for which there is evidence that a significant environmental, social, or governance challenge arose before, during, or after implementation. A key feature of AidData's 3.0 dataset—that sets it apart from other publicly available Chinese development finance datasets—is the inclusion of "cradle to grave" narratives that provide detailed information about how projects were designed and implemented in practice and why they failed, faltered, or succeeded. These narratives consist of 3.48 million words (roughly the same number of words one would find in 34 full-length books) across 20,985 project records. They capture, among other details, project design and implementation challenges related to land acquisition; preservation of cultural heritage and archaeological sites; resettlement and compensation of indigenous communities; pollution of air, water, and soil; and adherence to anti-corruption standards. To make use of this vast trove of qualitative information, we apply a set of systematic search and categorization procedures (described in Section A-7 in the Appendix) to identify the subset of infrastructure projects for which there is evidence that a significant environmental, social, or governance challenge arose before, during, or after implementation. In total, we find that at least 356 infrastructure projects in 131 countries supported by grants and loans from

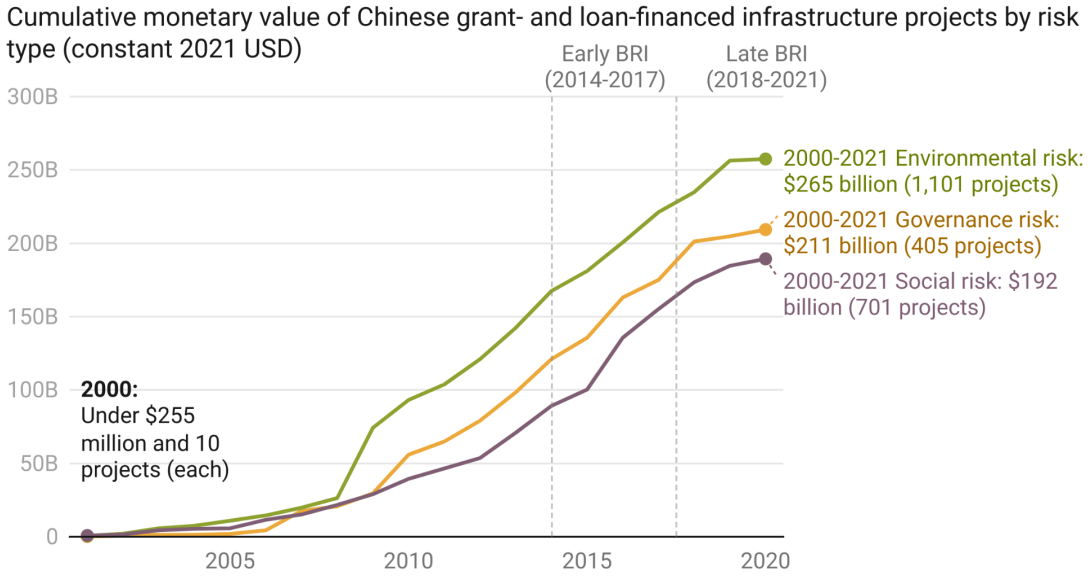
China worth $250 billion encountered a significant environmental, social, or governance challenge before, during, or after implementation.[249]

Finally, to gain a bird's eye view of the scope and severity of ESG risk in China's infrastructure project portfolio in the developing world, we use all five of these measures in combination. To determine if any given Chinese grant- or loan-financed infrastructure project presented a significant environmental, social, or governance risk between 2000 and 2021, we identify if it was located in an area that is environmentally sensitive, socially sensitive, or vulnerable to political capture and manipulation; relied on contractors sanctioned by other international financiers for fraudulent and corrupt behavior; and/or encountered a significant environmental, social, or governance challenge before, during, or after implementation.[250] Across 125 LICs and MICs between 2000 and 2021, we find that 1,693 infrastructure projects supported by grants and loans from China worth $470 billion had significant environmental, social, or governance risk exposure (see Figure 1.13). Over the same 22-year time period, we find that $265 billion in Chinese grant and loan commitments for 1,101 infrastructure projects had significant environmental risk exposure, while $192 billion in Chinese grant and loan commitments for 701 infrastructure projects had significant social risk exposure and $211 billion in Chinese grant and loan commitments for 405 infrastructure projects had significant governance risk exposure (see Figure 3.1).[251]

[249] The "at least" qualifier is important because of our inability to address "false negatives" that may affect our keyword-search based measures (see Section A-7 in the Appendix).
[250] We restricted our searches to infrastructure projects supported by grant and loan commitments worth $20 million (in constant 2021 USD) or more. Projects supported by larger financial commitments generally have more detailed project descriptions, which provide a stronger basis for the identification of environmental, social, and governance risks. They also present a lower risk of generating "false negatives."
[251] Chinese grant- and loan-financed infrastructure projects can—and often do—face more than one type of ESG risk.

Figure 3.1

Infrastructure projects with significant environmental, social, and governance risk exposure



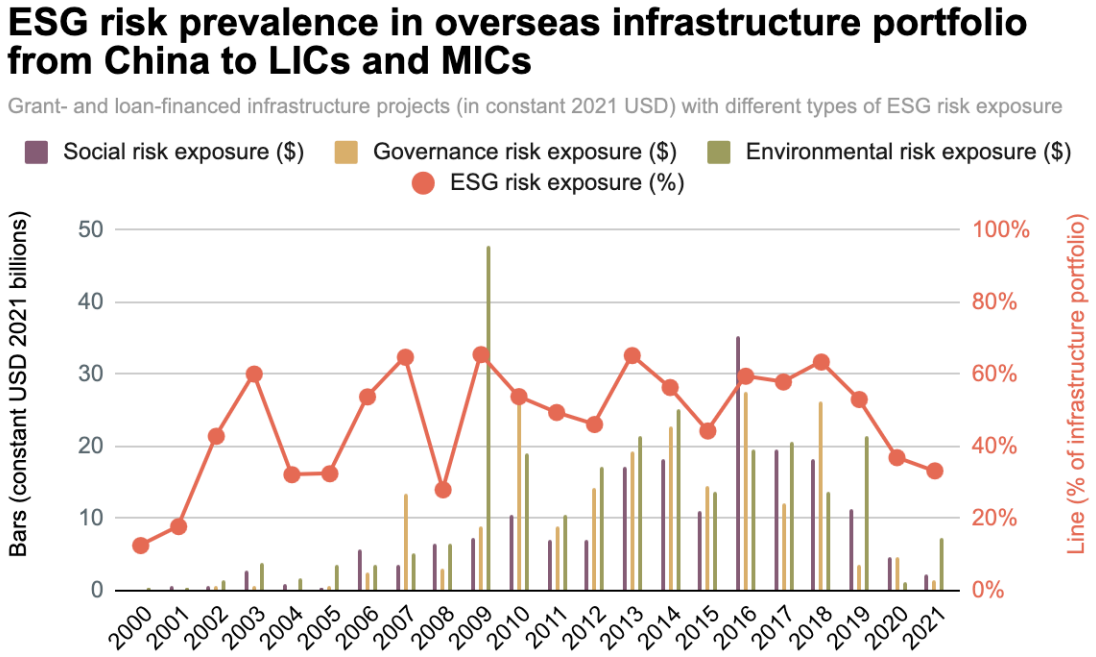
Notes: The presence of significant environmental, social, and governance risk (ESG) exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3.

The ESG risk prevalence rate—defined as the annual percentage of China's grant- and loan-financed infrastructure project portfolio (measured in constant 2021 USD) with significant environmental, social, or governance risk exposure—has fluctuated over time (see Figure 3.2).[252] During the pre-BRI period, it sharply increased from 12% in 2000 to 65% in 2013. It then fell to 54% (on average) during the early BRI period and 47% (on average) during the late BRI period.[253] By 2021, it fell to 33%.

[252] A similar pattern is observable when one tracks the sheer number of Chinese grant- and loan-financed infrastructure projects facing such risks. There is an apparent reduction in the number of infrastructure projects affected by ESG risk in 2020 and 2021 (see Figure A44), but given that the probability of ESG risks materializing and being detected increases as a project progresses from the financial commitment phase to the implementation phase and the completion phase, we think the apparent reduction in 2020 and 2021 should be interpreted with caution.

[253] If the ESG risk prevalence rate is redefined as the annual percentage of China's grant- and loan-financed infrastructure *projects* facing a significant environmental, social, or governance risk, it rose from 25% in 2000 to 40% in 2013. It then fell to 36% (on average) during the early BRI period and 31% (on average) during the late BRI period (see Figure A44).

Figure 3.2



Notes: Projects are recorded in the years when they secured financial commitments from China, although the ESG risks that they encountered may have materialized after the financial commitment year. The presence of significant ESG risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3. Likewise, environmental risk exposure, social risk exposure, and governance risk exposure are based on the project-level composite measures that are described in Section 2 of Chapter 3.

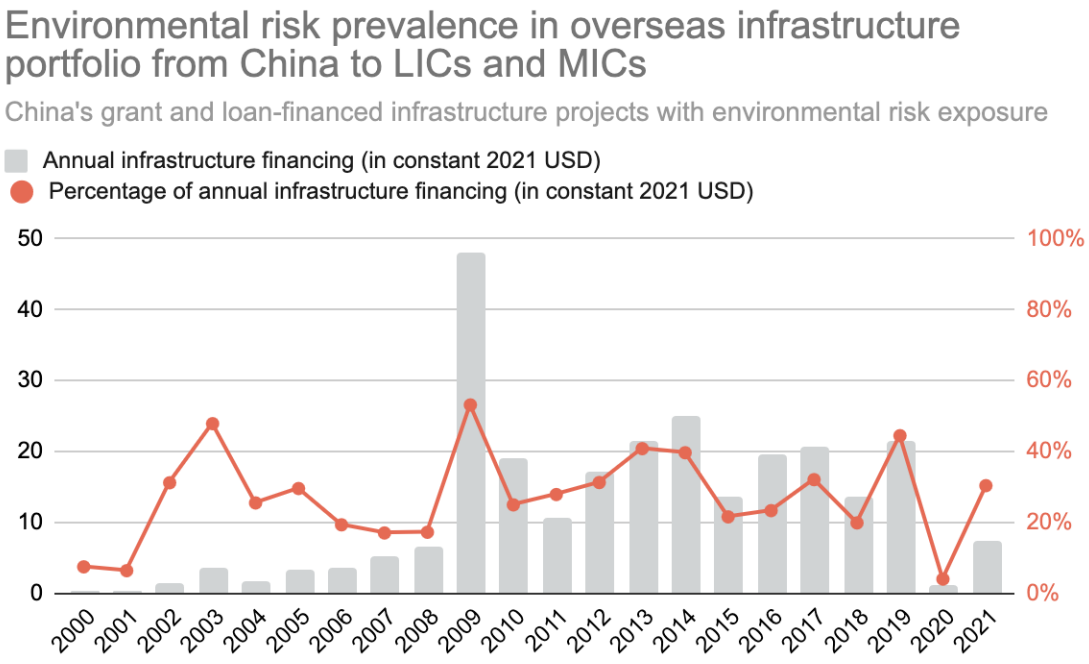
In Figures 3.3, 3.4, and 3.5, we separately track the environmental risk prevalence rate, the social risk prevalence rate, and the governance risk prevalence rate.[254] On average, over the entire 22-year period of analysis (2000-2021), the environmental risk prevalence rate was higher (27%) than the social risk prevalence rate (20%) or the governance risk prevalence rate (18%).[255] Across these three measures, one can see a generally consistent pattern over time: risk prevalence rates mostly increased during the pre-BRI period (2000-2013) and mostly decreased during the BRI period (2014-2021). Some of

[254] In Figures 3.3, 3.4, and 3.5, we define the risk prevalence rate as the annual percentage of China's grant- and loan-financed infrastructure project portfolio (measured in constant 2021 USD) facing a given type of risk. In Figures A45, A46, and A47, we redefine the risk prevalence rate as the annual percentage of China's grant- and loan-financed infrastructure *projects* facing a given type of risk.

[255] If the ESG risk prevalence rate is redefined as the annual percentage of China's grant- and loan-financed infrastructure *projects* with significant environmental, social, or governance risk exposure, the same pattern holds: the environmental risk prevalence rate is substantially higher (22%) than the social risk prevalence rate (14%) or the governance risk prevalence rate (7%).

the largest declines are observable during the late BRI period (2018-2021).[256] However, these declines should be interpreted with caution, as they could be the result of (a) newly approved projects not having progressed to phases of the project lifecycle when ESG risks typically materialize, (b) actual improvements in the ESG risk profile of China's overseas infrastructure project portfolio, or (c) some combination of these factors.[257]

Figure 3.3



Notes: Projects are recorded in the years when they secured financial commitments from China, although the ESG risks that they encountered may have materialized after the financial commitment year. The presence of significant environmental risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3.

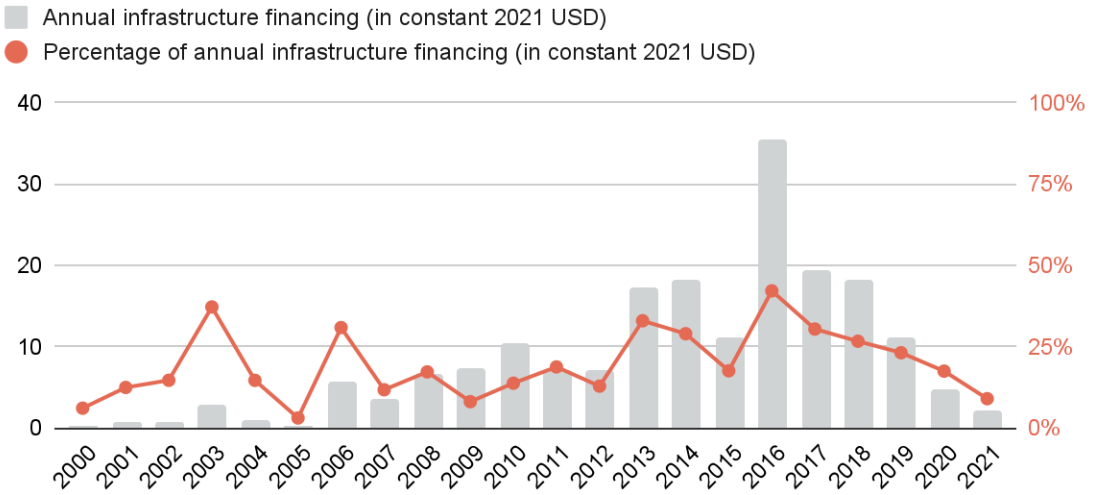
[256] During the late BRI period, the total number of Chinese grant- and loan-financed infrastructure projects with significant environmental risk exposure, social risk exposure, and governance risk exposure also apparently declined (see Figures 3.3, 3.4, and 3.5).

[257] Given that the probability of ESG risk detection increases as an infrastructure project progresses from the financial commitment phase to the implementation phase and the completion phase, still another possibility is that the apparent declines in ESG risk prevalence during the late BRI period reflect measurement imprecision.

Figure 3.4

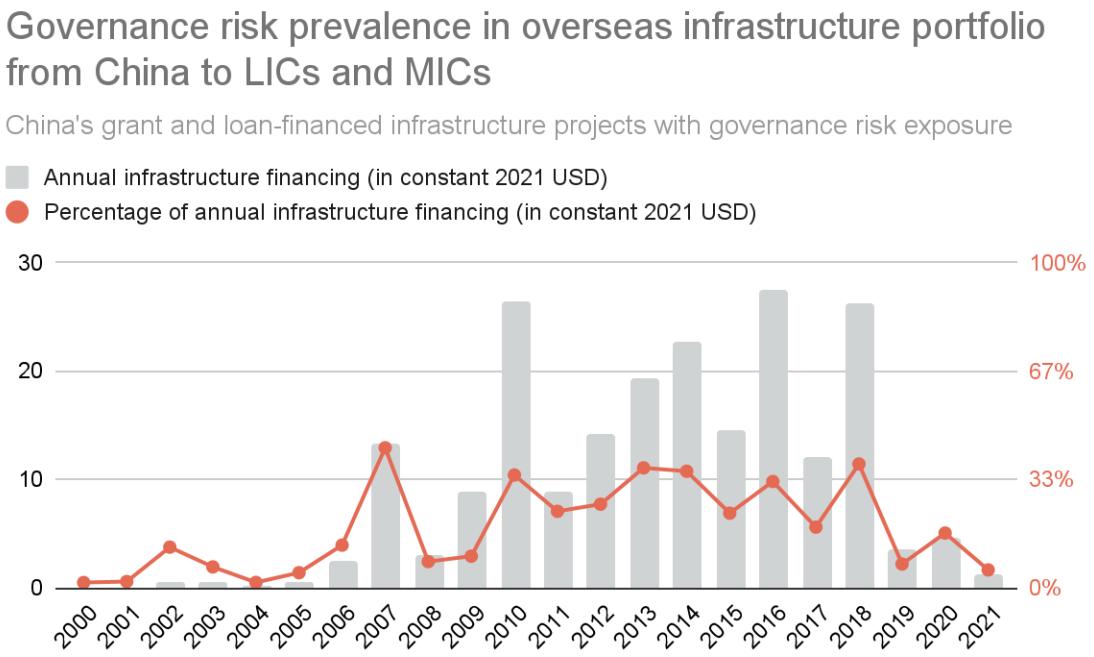
Social risk prevalence in overseas infrastructure portfolio from China to LICs and MICs

China's grant and loan-financed infrastructure projects with social risk exposure



Notes: Projects are recorded in the years when they secured financial commitments from China, although the ESG risks that they encountered may have materialized after the financial commitment year. The presence of significant social risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3.

Figure 3.5



Notes: Projects are recorded in the years when they secured financial commitments from China, although the ESG risks that they encountered may have materialized after the financial commitment year. The presence of significant governance risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3.

Table A12 provides country-level summary statistics on the number and monetary value of Chinese grant- and loan-financed infrastructure projects between 2000 and 2021 with significant environmental, social, and governance risk exposure. It also provides a country-by-country breakdown of the overall ESG risk prevalence rate over the same time period. Analysis of the country-level data from Table A12 demonstrates that the ESG risk in China's overseas infrastructure project portfolio is disproportionately concentrated in certain regions (see Table A10). For example, only 16.9% of China's grant- and loan-financed infrastructure project portfolio (measured in constant 2021 USD) was located in South and Central America between 2000 and 2021, but 38% of its portfolio with significant governance risk exposure was concentrated in the

same region during the same time period.[258] ESG risk in Beijing's overseas infrastructure project portfolio is also unevenly distributed across countries with different per capita income levels (see Table A11). Governance risk is again a case in point. 37.1% of China's grant- and loan-financed infrastructure project portfolio (measured in constant 2021 USD) was located in upper-middle income countries (UMICs) between 2000 and 2021.[259] Yet a staggering 52.5% of its portfolio with significant governance risk exposure was concentrated in such countries.[260] Table A12 provides evidence that a small subset of large aid and credit recipients—including Venezuela, Malaysia, and Argentina—contributed to the disproportionate concentration of governance risk exposure in UMICs.

In Figure 3.6, we identify global hotspots by fusing data on the environmental, social, and governance risk exposure of Chinese grant- and loan-financed infrastructure projects with point, polygon, and line vector data (described in Chapter 1) that capture the geographic footprints of these projects. To do so, we first create a 200 km x 200 km grid covering every LIC and MIC in the 3.0 version of AidData's GCDF dataset. We then use the point, polygon, and line vector data to assign every geocoded infrastructure project to one of more of these grid cells.[261] We subsequently assign each grid cell a gradation of color—along a "heat" spectrum—based on the cumulative monetary value of Chinese grant- and loan-financed infrastructure projects with environmental, social, or governance risk exposure in that geographical area between 2000 and

[258] Table A10 demonstrates that environmental risk exposure was disproportionately concentrated in Central and Eastern Europe: whereas 13% of China's grant- and loan-financed infrastructure project portfolio (measured in constant 2021 USD) was located in the region between 2000 and 2021, 20.5% of its portfolio with significant environmental risk exposure was concentrated in Central and Eastern Europe during the same 22-year period. By contrast, social risk exposure was disproportionately concentrated in Asia: whereas 36.4% of China's grant- and loan-financed infrastructure project portfolio (measured in constant 2021 USD) was located in the region between 2000 and 2021, 42.3% of its portfolio with significant social risk exposure was concentrated in Asia during that 22-year period (see Table A10).
[259] According to Table A11, lower-middle income countries (LMICs) and low-income countries (LICs) received 26.8% and 25.3%, respectively, of China's grant- and loan-financed infrastructure project portfolio (measured in constant 2021 USD) during the 2000-2021 period. However, 35.8% of its portfolio with significant social risk exposure was concentrated in LMICs—and 37.8% of its portfolio with significant social risk exposure was concentrated in LICs—between 2000 and 2021.
[260] Only 15.8% of China's grant- and loan-financed infrastructure project portfolio (measured in constant 2021 USD) with significant social risk exposure—and 25.6% with significant environmental risk exposure—was located in UMICs (see Table A11).
[261] If a project falls across multiple grid cells, we assume the monetary value of the commitment for the project is evenly distributed within the project's line or polygon. Thus, the total financial commitment value for the project is split up among grid cells based upon the percentage of the project's area that falls within each grid cell.

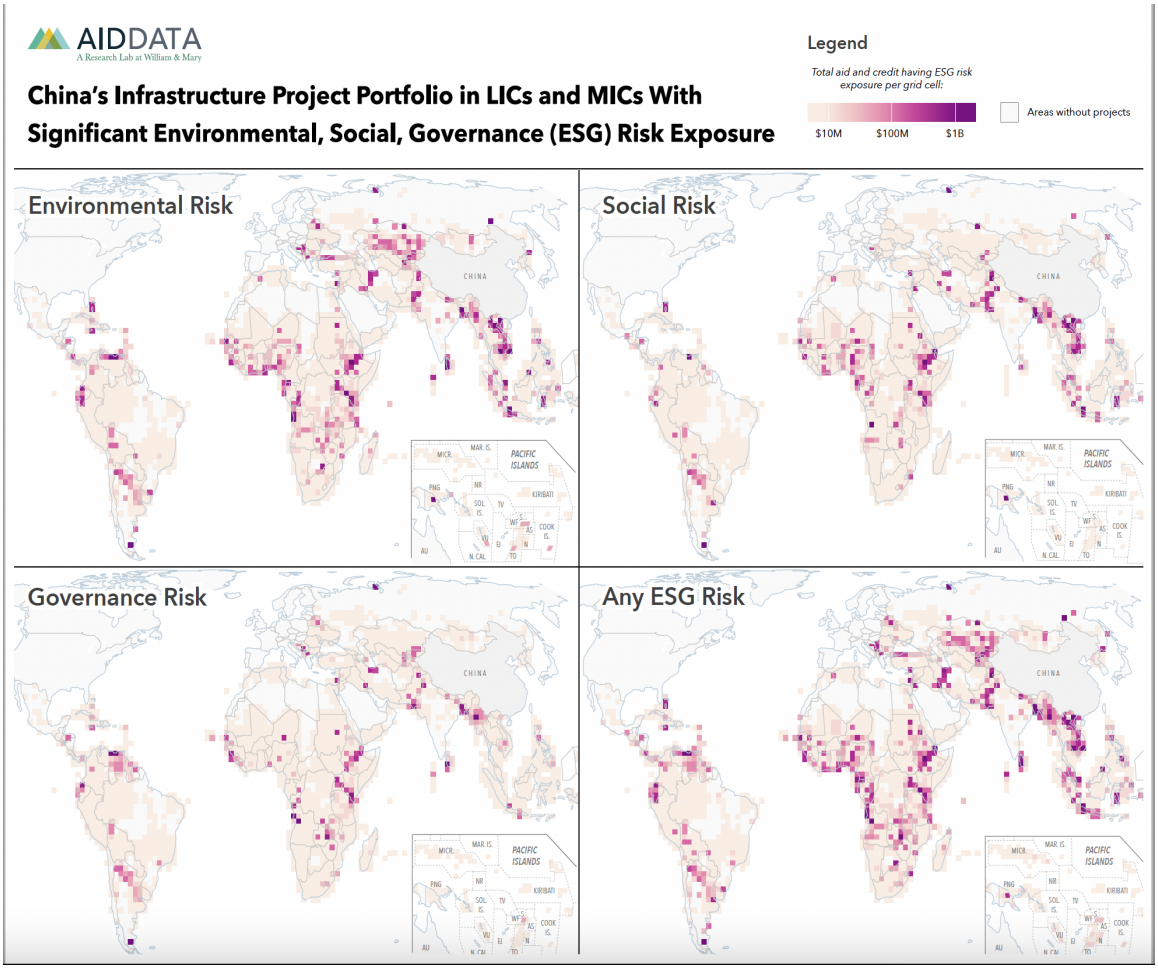
2021.[262] Whereas light pink grid cells represent areas where China has a relatively low level of risk exposure in its infrastructure project portfolio, dark purple grid cells represent areas where China has a relatively high level of risk exposure in its infrastructure project portfolio.

The map in the upper-left hand corner of Figure 3.6 demonstrates that Beijing has a particularly high level of environmental risk exposure in the Tropical Andes (including Venezuela, Ecuador, and Peru), the Southern Cone (including Argentina), East Africa (including Ethiopia, Kenya, and Uganda), West Africa (including Ghana, Togo, Benin, Nigeria, and Cameroon), Central Asia (including Kazakhstan, Kyrgyzstan, and Tajikistan), and Southeast Asia (including Laos, Cambodia, Vietnam, and Indonesia). The geographical distribution of social risk exposure, as depicted in the map in the upper-right hand corner of Figure 3.6, is broadly similar, although the hotspots are less concentrated in Central Asia and more concentrated in Ethiopia, Kenya, Pakistan, and Southeast Asia. The map in the bottom-left hand corner of Figure 3.6 also demonstrates that Beijing has a particularly high level of governance risk exposure in the Tropical Andes, East Africa, and South Asia—including Zambia, Bangladesh, and Argentina (three countries for which we provide in-depth case study evidence in Chapter 4). Finally, in the bottom-right hand corner of Figure 3.6, we collapse all three categories of risk exposure into a single map, such that each grid cell captures the extent to which Chinese grant- and loan-financed infrastructure projects in that area encountered significant environmental, social, *or* government risks.

[262] In Figure A62, we replicate Figure 3.6 but scale the level of risk exposure in a given grid cell according to the cumulative count of Chinese grant- and loan-financed infrastructure projects rather than the cumulative monetary value of Chinese grant and loan commitments for the same projects.

Figure 3.6

A global map of China's infrastructure project portfolio in LICs and MICs with significant environmental, social, governance (ESG) risk exposure



Notes: This map presents the geographical areas where China's grant- and loan-financed infrastructure project portfolio (measured in constant 2021 USD) has significant environmental, social, or governance (ESG) risk exposure. Darker (purple) colors represent areas where the portfolio has high levels of risk exposure and lighter (pink) colors represent areas where the portfolio has lower levels of risk exposure. Environmental risk exposure, social risk exposure, and governance risk exposure are based on the project-level composite measures that are described in Section 2 of Chapter 3.

Section 3: Measuring the stringency of ESG safeguards in China's infrastructure project portfolio with new sources of contractual evidence

Although Beijing clearly faces a wide array of ESG risks in its overseas infrastructure project portfolio, little is known about the safeguards that it has put in place to manage and mitigate these risks. Another blind spot is whether and how Chinese state-owned lenders have strengthened or weakened their ESG safeguards over time.

The 3.0 version of AidData's GCDF dataset provides a unique opportunity to fill this evidentiary gap.[263] As part of the primary source identification work that was undertaken to support the construction of the dataset, AidData obtained a large cache of unredacted infrastructure financing agreements via official sources in LICs and MICs, including government registers and gazettes, aid and debt information management systems, and parliamentary oversight institutions. These grant and loan agreements represent "high-value sources," in that they 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.

Another important feature of the 3.0 version of AidData's GCDF dataset—and an improvement over the 2.0 version—is that it makes these unredacted agreements available for the full range of financial instruments that Beijing uses to bankroll infrastructure projects in the developing world, including:

1. Bilateral grants and interest-free loans issued by China's Ministry of Commerce (MOFCOM)

2. Bilateral loans issued by China Eximbank

[263] The 3.0 version of the GCDF dataset provides stable URLs to hundreds of unredacted grant, loan, debt forgiveness, debt rescheduling, and escrow account agreements. AidData published a subset of these financing agreements in March 2021 when the *How China Lends* report was first published (Gelpern et al. 2021, 2022). However, the 3.0 dataset provides the full set of agreements retrieved by AidData.

3. Bilateral loans issued by China Development Bank (CDB)

4. Bilateral loans issued by Chinese state-owned commercial banks, such as ICBC, China Construction Bank, and Bank of China

5. Syndicated loans issued by China's policy banks (China Eximbank and CDB) and state-owned commercial banks

6. Syndicated loans issued by Chinese state-owned banks and multilateral institutions

7. Grants and loans that China has channeled via multilateral institutions

8. Supplier's credits issued by Chinese state-owned companies

These eight types of financing agreements, which account for 90% of China's grant- and loan-financed infrastructure project portfolio in the developing world between 2000 and 2021, include widely divergent ESG terms and conditions (see Tables A5 and A8).[264] However, variation in de jure ESG safeguard stringency has never been systematically documented across agreement types. Nor has previous research demonstrated how Beijing's use of these different types of agreements—with varying levels of de jure ESG safeguard stringency—has changed with the passage of time.

In order to overcome these obstacles, we developed a standardized set of coding criteria related to ESG risk management that can be applied to any type of Chinese loan contract or grant agreement that supports an overseas infrastructure project.[265] These 26 criteria, which are described in Section A-8 and Table A3 in the Appendix, include 8 focused on environmental safeguards,

[264] These 8 financial instrument types were used by China to support 90.2% of its grant- and loan-financed infrastructure project portfolio in LICs and MICs between 2000 and 2021. The remaining 9.8% of the portfolio consisted of projects supported by more "exotic" financial instrument types (e.g., Engineering, Procurement, Construction and Financing (ECPDF) agreements). The 3.0 version of the GCDF dataset does not include many unredacted financing agreements for these projects, so we exclude them from our analysis.

[265] Environmental and social safeguards are typically inapplicable to projects that do not involve the construction, rehabilitation, or expansion of infrastructure, although there are some exceptions to this general rule (most notably, projects that involve natural resource extraction without infrastructure components).

7 focused on social safeguards, and 11 focused on governance safeguards. They are broadly aligned with the OECD Council Recommendation on Common Approaches for Officially Supported Export Credits and Environmental and Social Due Diligence, the IFC's Performance Standards on Environmental and Social Sustainability, the Uniform Framework for Preventing and Combating Fraud and Corruption, the OECD Council Recommendation on Bribery and Officially Supported Export Credits, and the OECD Council Recommendation on Public Procurement.[266] The criteria are organized into three groups: those that identify the presence or absence of (1) rules or standards to establish behavioral expectations related to ESG risk management and mitigation, (2) oversight mechanisms for monitoring compliance with those behavioral expectations; and/or (3) enforcement mechanisms for sanctioning noncompliance with those behavioral expectations (e.g., indemnification, withholding disbursements).

To construct our coding sample, we first identify all of the records (nearly 300) in the 3.0 version of the GCDF dataset that include unredacted loan contracts and grant agreements. We then remove all of the loan contracts and grant agreements that do not support infrastructure projects. We subsequently eliminate all loan contracts and grant agreements that do not correspond to one of the 8 primary infrastructure financing agreement types. As shown in Section A-10, we then prune the remaining sample of loan contracts and grant agreements to identify 3 agreements for each of the 8 financial instrument categories[267] that provide broad geographical coverage (across Africa, Latin America and the Caribbean, Asia and the Pacific, Central and Eastern Europe, and the Middle East) and income bracket coverage (across upper-middle income countries, lower-middle income countries, low-income countries, and least developed countries), and temporal coverage (over our 22-year period of study). For each financial instrument category, we also seek to identify agreements

[266] The OECD Council Recommendation on Common Approaches for Officially Supported Export Credits and Environmental and Social Due Diligence was previously known as the OECD Revised Council Recommendation on Common Approaches on the Environment and Officially Supported Export Credits.

[267] For one of the eight financial instrument categories ("syndicated loans issued by Chinese state-owned banks and multilateral institutions"), we were only able to identify two infrastructure project financing agreements.

issued before and after the late BRI period,[268] given that Beijing has made many rhetorical commitments to strengthen ESG protections since late 2017.

Although we do not select infrastructure financing agreements for coding purposes through a random sampling procedure and our coding sample represents a small part of China's grant- and loan-financed infrastructure project portfolio in LICs and MICs, our findings demonstrate that *ESG terms and conditions are highly standardized by infrastructure financing instrument*, which gives us confidence that we are capturing meaningful differences in de jure ESG safeguard stringency across the main financial instruments that Beijing uses to bankroll overseas infrastructure projects.[269] We also find relatively little variation in ESG terms and conditions across countries in different regions and income brackets (see Table A4 in the Appendix).[270] In this respect, our findings are consistent with the first study to ever systematically evaluate the terms and conditions governing China's loan contracts with overseas borrowers. Gelpern et al. (2022: 16) conclude that "our analysis of [100] contracts shows that Chinese lending terms are highly standardized by lender and instrument, and do not exhibit significant variation by [...] region or income bracket."

The contract-level data from our coding sample are provided in Table A8 of the Appendix. In order to convert the contract-level data into categorical measures of safeguard stringency for each financial instrument type, we first make binary determinations of whether there is any evidence that each financial instrument type (before or after the late BRI period) established any (a) rules or standards that create behavioral expectations related to ESG risk management and mitigation, (b) oversight mechanisms for monitoring compliance with those

[268] For two of the eight financial instrument categories ("supplier's credits issued by Chinese state-owned companies" and "syndicated loans issued by China's policy banks and state-owned commercial banks"), we relied on infrastructure financing agreements that were issued in 2022 (in lieu of agreements issued between 2018 and 2021) to ensure adequate coverage during the late BRI period (see Tables A5, A6, and A7 in the Appendix for more details).
[269] The agreement-level ratings that are reported in Table A8 demonstrate that most of the observed heterogeneity in ESG safeguard stringency is across financial instrument types rather than across agreements within a given financial instrument type. See also Tables A6 and A7.
[270] Our coding sample underrepresents China's infrastructure financing to some regions and income brackets and overrepresents its infrastructure financing to other regions and income brackets (see Section A-10). The external validity of our sample would be a concern if China's infrastructure financing agreements varied systematically by region or income bracket. However, we do not find much evidence that China's infrastructure financing agreements differ significantly by region or income bracket (see Table A4 in the Appendix).

behavioral expectations, or (c) enforcement mechanisms for sanctioning noncompliance with those behavioral expectations. Based upon these determinations, which are reported in Table A8, we assign high, medium, or low environmental, social, and governance safeguard ratings to each financial instrument type using the following criteria:

- Low: No rules and standards exist and there are no mechanisms for monitoring compliance or sanctioning noncompliance.

- Medium: Rules and standards exist, but there are no mechanisms for monitoring compliance or sanctioning noncompliance.

- High: There is a mechanism for monitoring compliance and/or a mechanism for sanctioning noncompliance.

Our application of the standardized coding criteria to the sample of grant and loan agreements produces a set of summary ESG ratings for the 8 financial instrument categories over two time periods: the pre-BRI and early BRI period (2000-2017) and the late BRI period (2018-2021).[271] These summary ratings, which measure the strength of ESG safeguards in a de jure rather than a de facto sense, are provided in Table 3.1 and they call attention to several important patterns and trends.[272] First, among the infrastructure financing instruments at Beijing's disposal, policy bank (China Eximbank and CDB) loan agreements offer the weakest ESG safeguards.[273] This was certainly true before the BRI was

[271] Beyond the fact that some Chinese financiers have published environmental policies and standards on their websites and others have not, Narain et al. (2020) does not document any safeguard variation across Chinese state-owned creditors that finance overseas infrastructure projects. However, Narain et al. (2020) does not systematically evaluate the safeguard provisions contained in the financing agreements of Chinese state-owned creditors. Nor does the study capture any of the changes that took place during the late BRI period (2018-2021).

[272] The "High," "Medium," and "Low" designations are not comprehensive measurements of ESG safeguard stringency vis-à-vis international standards, such as PS6. They only provide measurements of whether ESG rules and standards exist and whether there are mechanisms in place for monitoring compliance or sanctioning noncompliance. A potentially productive avenue for future research would be to construct "distance-to-frontier" safeguard stringency measures that are based on PS6 or an analogous set of international standards that are broadly encompassing.

[273] China Eximbank's infrastructure loan agreements received low environmental, social, and governance safeguard ratings. CDB's infrastructure loan agreements received low environmental and social safeguard ratings, but a medium governance safeguard rating—due to the fact that two out of the three CDB contracts in the coding sample included anti-corruption and anti-money laundering requirements as well as requirements to prepare and submit financial statements in accordance with International Financial Reporting Standards (IFRS) or the Generally Accepted Accounting Principles (GAAP) of the Financial Accounting Standards Board (FASB).

launched, and it remained largely true during the early and late BRI periods.[274] Second, China's state-owned commercial banks have strong de jure ESG safeguards in their overseas loan agreements. They not only apply such safeguards when they issue bilateral loan agreements, but also when they participate in syndicated loan agreements. Third, strong ESG safeguards consistently apply to the grants and loans that the PBOC and China's Ministry of Finance channel to LICs and MICs via multilateral institutions. They also apply to syndicated loans that involve multilateral institutions, which highlights a fourth (broader) finding from Table 3.1: the fact that syndicated loans have consistently stronger de jure ESG safeguards than bilateral loans. Given that all participants in a syndicated loan agreement for an infrastructure project must agree to a common set of contractual terms and conditions, including applicable ESG safeguards, one might think that a "least common denominator" dynamic could go into effect. But Table 3.1 indicates that the opposite is true: syndicate participants seem to defer to the lending institution(s) with the strongest preference(s) for ESG risk mitigation.[275]

Table 3.1

De jure ESG safeguard stringency in China's overseas infrastructure portfolio by type of financing instrument

Financing Instrument	Environmental Safeguards		Social Safeguards		Governance Safeguards	
	Pre/Early BRI	Late BRI	Pre/Early BRI	Late BRI	Pre/Early BRI	Late BRI
Bilateral China Eximbank loan	Low	Low	Low	Low	Low	Low
Bilateral CDB loan	Low	Low	Low	Low	Medium	Medium
Bilateral MOFCOM loan or grant	Low	Medium	Low	Medium	Low	High
Bilateral Chinese state-owned commercial bank loan	High	High	High	Low	High	High
Syndicated loan with Chinese and multilateral bank participants	High	High	High	High	High	High

[274] These findings are consistent with those of Narain et al. (2020, 2022).
[275] The apparent benefit of including a multilateral institution or a state-owned commercial bank in a lending syndicate is that it can lead every other member of the syndicate to adopt their (stronger) safeguards.

Financing Instrument	Environmental Safeguards		Social Safeguards		Governance Safeguards	
	Pre/Early BRI	Late BRI	Pre/Early BRI	Late BRI	Pre/Early BRI	Late BRI
Syndicated loan with Chinese state-owned commercial banks and/or policy banks	High	High	High	Low	High	High
PBOC/MOF grant or loan channeled through multilateral institutions	High	High	High	High	High	High
Supplier's credit from Chinese SOE	Low	High	Low	Low	Low	High

Notes: The safeguard stringency scores for each type of grant-giving and lending instrument are based on the analysis described in Section A-9 of the Appendix.

Several changes that took place during our period of study (2000-2021) also merit discussion. MOFCOM's grant and interest-free loan agreements had weak ESG safeguards prior to the late BRI period. However, we see evidence of MOFCOM shifting toward stronger de jure ESG protections between 2018 and 2021. The same pattern is evident in supplier's credit agreements issued by Chinese state-owned enterprises: formal ESG safeguard stringency increased with the passage of time.[276] Table 3.1 also provides evidence that, during the late BRI period, China's state-owned commercial banks watered down their social safeguards.[277] During the pre-BRI and early BRI periods, these financial institutions had mechanisms in place to monitor compliance and/or sanction noncompliance with domestic and international social laws and standards.[278] Their bilateral loan agreements *and* syndicated loan agreements made financial disbursements conditional upon certification of compliance with social laws and standards, or required borrowers to financially compensate (indemnify) lenders for any losses or liabilities resulting from actual or alleged violations of social

[276] Although the environmental and governance safeguards that apply to supplier's credits strengthened during the late BRI period, the social safeguards that apply to supplier's credits did not.
[277] Table 3.1 provides evidence that China's state-owned commercial banks weakened the social safeguards that apply to their bilateral loans and their syndicated loans during the late BRI period.
[278] In the sample of financing agreements that we evaluated, social laws and standards were given expansive definitions, including (a) laws, rules, and regulations in borrower countries related to work, social security, industrial relations, occupational health and safety, public participation, property ownership (formal and traditional), and the protection and empowerment of indigenous peoples and ethnic groups; the projection, restoration, and promotion of cultural heritage and archaeological artifacts; and the resettlement or economic displacement of persons; (b) the OECD Revised Council Recommendation on Common Approaches on the Environment and Officially Supported Export Credits; (c) the Equator Principles; (d) UN treaties and conventions on human rights; and (e) international labor agreements.

laws and standards. Yet, for reasons that we do not yet understand, these safeguards vanished during the late BRI period.

The next step in our analysis is to apply the ESG safeguard stringency ratings from Table 3.1 to China's entire grant- and loan-financed infrastructure project portfolio in the developing world. We do so by first mapping all loans and grants for active, completed, suspended, or canceled infrastructure projects in the 3.0 version of the GCDF dataset to one of the 8 financial instrument categories (whenever possible). Then, we assign the aggregate ESG safeguard stringency ratings—reported in Table 3.1—to the infrastructure loans and grants in the 3.0 version of GCDF dataset that use the same loan or grant instrument.[279]

[279] To map individual grants and loans for infrastructure projects to our taxonomy of infrastructure financing instruments (consisting of 8 loan and grant-giving instruments), we use a combination of the funding agency, implementing agency, co-financing agency, receiving agency, number of lenders, flow type, and supplier's credits fields in the 3.0 version of the GCDF dataset. These 8 financial instrument types cover 90.2% of China's grant- and loan-financed infrastructure project portfolio in LICs and MICs between 2000 and 2021. We do not assign de jure ESG safeguard stringency ratings to the remaining 9.8% of the portfolio, which represents infrastructure projects financed with other types of financial instruments. As such, whenever we report portfolio-level summary statistics related to the application of de jure ESG safeguards, we disregard projects for which de jure ESG safeguard stringency ratings could not be reliably assigned (i.e., 9.8% of the LIC and MIC portfolio).

Figure 3.7

Notes: The safeguard stringency ratings for each grant-giving and lending instrument are based on Table 3.1 and explained in Section A-9 of the Appendix.

Figure 3.7 presents the *estimated percentage* of China's grant- and loan-financed infrastructure project portfolio in LIC and MICs with strong de jure environmental, social, and governance safeguards in place between 2000 and 2021. One can see a marked shift toward stronger ESG protections during the late BRI period (2018-2021). By the eighth full year of BRI project implementation (2021), approximately 57% of China's grant- and loan-financed infrastructure project portfolio in LIC and MICs had strong de jure environmental, social, and governance safeguards in place.[280] This represents a major departure from past practice: at the turn of the century, China's *entire* grant- and loan-financed infrastructure project portfolio in LIC and MICs had weak de jure environmental, social, and governance safeguards in place.

[280] Table A12 provides country-level summary statistics on the percentage of China's grant- and loan-financed infrastructure project portfolio with strong de jure ESG safeguards between 2000 and 2021.

Figure 3.8.1: Environment

De jure environmental safeguard stringency in China's overseas infrastructure portfolio

Percentage of China's grant- and loan-financed infrastructure project portfolio (by constant 2021 USD) to LICs and MICs

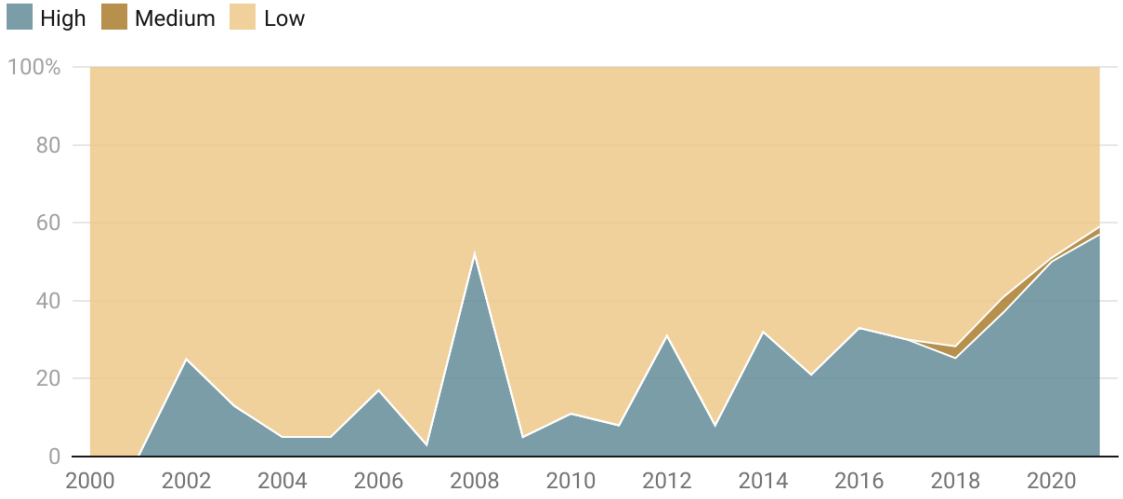


Figure 3.8.2: Social

De jure social safeguard stringency in China's overseas infrastructure portfolio

Percentage of China's grant- and loan-financed infrastructure project portfolio (by constant 2021 USD) to LICs and MICs

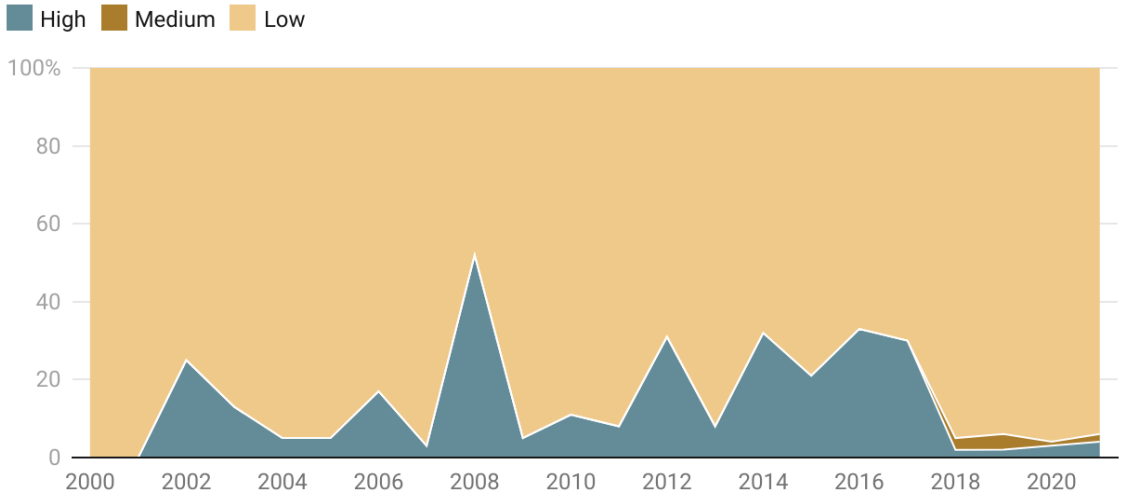
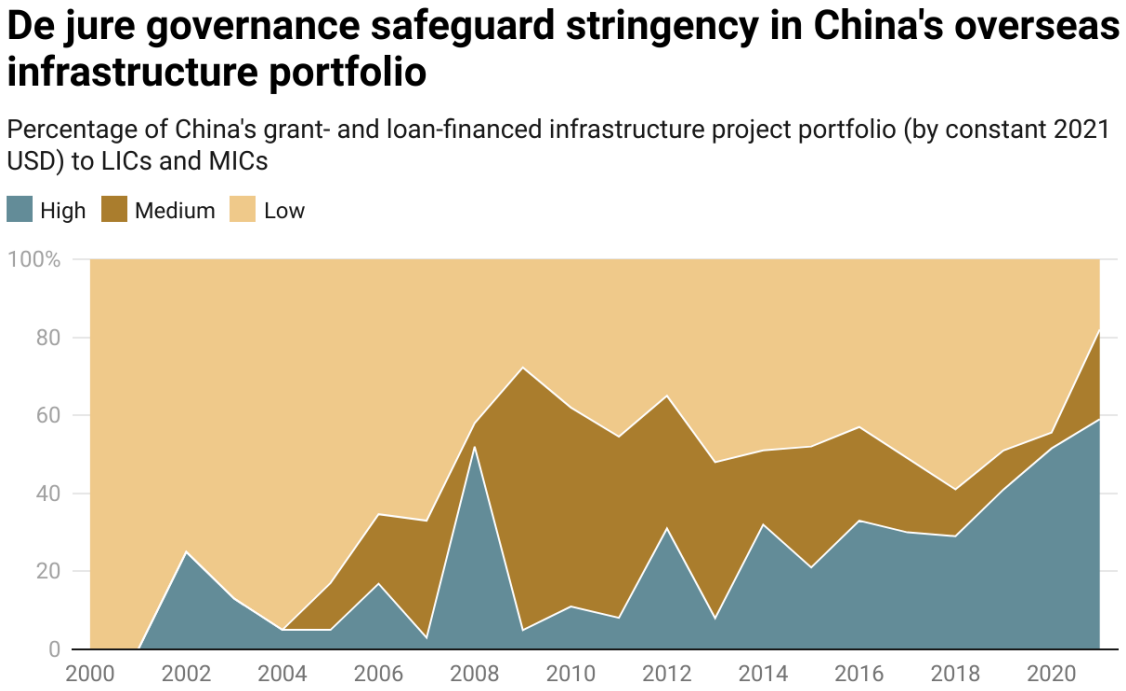


Figure 3.8.3: Governance



Notes: The safeguard stringency ratings for each grant-giving and lending instrument are based on Table 3.1 and explained in Section A-9 of the Appendix.

However, Beijing has not demonstrated comparable levels of enthusiasm for all types of ESG safeguards during the late BRI era. Figure 3.8 demonstrates that 37% of the infrastructure project portfolio was subjected to strong de jure environmental safeguards from 2018 to 2021, as compared to 20% during the previous eighteen-year period (2000-2017). Similarly, 40% of the infrastructure project portfolio was subjected to strong de jure governance safeguards from 2018 to 2021, as compared to 20% during the previous eighteen-year period (2000-2017).

Yet Beijing demonstrated far less interest in applying stringent social safeguards to its overseas infrastructure project portfolio during the late BRI era. Between 2018 and 2021, it *shielded* an increasing proportion of its grant- and loan-financed infrastructure project portfolio from these types of safeguards (see Figure 3.8). While the proximate explanation for this change during the late BRI era was the removal of social safeguard enforcement mechanisms from the loan contracts of China's state-owned commercial banks (see Table 3.1), the

underlying reason why it took place is a mystery. One possibility—potentially deserving attention in future research—is that China's aversion to strong de jure social safeguards is related to its own disconcerting experience with the World Bank's social safeguards during the late 1990s and early 2000s (see Box 3a).[281]

Box 3a: China's experience with the application of World Bank social safeguards to the Western Poverty Reduction Project in Qinghai

In 1997, the World Bank started working with China's provincial government in Qinghai on the design of a $40-million loan for the Western Poverty Reduction Project. The purpose of the project was to resettle approximately 60,000 poor farmers to a new irrigation tract. The resettlement area was located in central Qinghai, more than 500 kilometers from the border of the Tibet Autonomous Region. However, in 1999, a transnational advocacy network—consisting of Tibet NGOs (including the Tibet Information Network and the International Campaign for Tibet) and multilateral development bank monitors (such as the Bank Information Center and the Center for International Environmental Law)—launched a campaign to prevent the World Bank's Board of Directors from green-lighting the project. They claimed, with support from the U.S. Congress and U.S. Treasury, that approval of the project would be tantamount to bankrolling genocide (by diluting Tibet's culture with 60,000 ethnic Chinese). They also claimed that the World Bank had failed to comply with its own social safeguards policy—by classifying a project as "Category B" when it should have been classified as "Category A."[282]

When the Board of Directors voted to conditionally approve the project in June 1999, a group of campaigners hung a "World Bank Approves China's Genocide in Tibet" banner outside World Bank headquarters. Robert Wade, who investigated claims about the project on behalf of the World Bank's Inspection Panel, recounts that "[t]he NGOs put together a formidably effective campaign network. They established websites to share information and provide sample protest letters to the Bank which could be emailed directly from the site or printed out and faxed. The Tibet lobby sponsored rock concerts in cities around the world, with prepared postcards, fax machines and email facilities on hand. The result was a deluge of letters, postcards, emails and faxes the like of which the Bank had never seen, mainly from the U.S. and Europe. The Western media, both press and TV, lined up behind the critics. Reports in leading newspapers like The Financial Times, The New York Times and The Washington Post read as though taken straight from NGO handouts. They repeated the NGOs' portrait of the project in the same language, often not distinguishing between what the NGOs claimed and what they, the journalists, reported as fact. Many reported as fact, for instance, that the move-in area was the birthplace of the Dalai Lama, which is simply false […]. Yet for all their claims to speak for Tibetans and for all

[281] It is, however, worth noting that there was never much support in Beijing for strong social safeguards across our entire 22-year period of study (2000-2021).
[282] Category A projects pose the most severe environmental and social risks; they often involve large-scale infrastructure, industrial-scale chemical manufacturing, or natural resource extraction activities. The World Bank subjects these projects to its most stringent ESG safeguards, but it also acknowledges that the risks these projects pose can be difficult or impossible to fully mitigate. Category B projects also pose significant environmental and social risks, but the World Bank expects that it can reasonably and readily mitigate all or most of these risks during implementation (Buchanan et al. 2018).

their denunciation of the consultation process, the NGOs never produced evidence that local people did not want the project beyond a few very brief and anonymous letters sent to the Tibet NGOs by people claiming to live near the move-in area" (Wade 2009: 32).

In July 2000, the World Bank's Board of Directors convened to decide if it would approve the project. The discussions dragged on for multiple days, with developing country representatives advocating for project approval and certain developed country representatives calling for project cancellation. The issue was ultimately resolved when China's Executive Director withdrew the project proposal from consideration. Beijing announced that the project would proceed with an alternative source of funding.

Of course, Beijing's critics and rivals might question whether any of the "fine print" in its overseas infrastructure financing agreements even matters if ESG safeguards are not put into practice. To gauge whether China's de facto application of ESG safeguards matches the de jure ESG safeguards in its financing agreements, we leverage the detailed qualitative information that AidData has collected about how projects were designed and implemented in practice. The "cradle to grave" narratives in the 3.0 version of the GCDF dataset include detailed descriptions of efforts to mitigate ESG risks before, during, and after project implementation—for example, by adopting environmental management plans (EMPs) that respond to the findings and recommendations of an environmental impact assessment or by providing financial compensation to project-affected persons (PAPs).

To make effective use of this qualitative information, we use a set of systematic search and categorization procedures (described in Section A-7 in the Appendix) to identify the subset of infrastructure projects for which there is evidence of efforts being undertaken by Chinese financiers or implementing agencies to mitigate environmental, social, or governance risks before, during, or after project's implementation. Between 2000 and 2021, we find evidence that de facto ESG risk mitigation efforts were undertaken to support at least 210 infrastructure projects in 66 LICs and MICs supported by grants and loans from China.[283] The estimated cumulative value of China's grant- and loan-financed infrastructure project portfolio supported by de facto ESG risk mitigation efforts increased from $55 million in 2000 to $86 billion in 2021 (see Figure A48).

[283] The "at least" qualifier is important because of our inability to address "false negatives" that may affect our keyword-search based measures (see Section A-7 in the Appendix).

According to Figure 3.9, the percentage of Chinese grant- and loan-financed infrastructure projects in the developing world supported by a de facto ESG risk mitigation effort steadily increased from 2% in 2000 to 18% in 2021, which is broadly consistent with China's increasing use of strong de jure ESG safeguards over the same twenty-two year period.[284] However, Figure 3.9 also highlights an important shift that took place over time: although de jure and de facto risk mitigation efforts mostly moved in tandem during the pre-BRI era (2000-2013), the "delta" between de jure and de facto risk mitigation efforts widened during the BRI era (2014-2021).[285] By 2021, the gap between how Beijing applied ESG safeguards in principle and in practice was substantial: 57% of its infrastructure project portfolio in LICs and MICs benefited from strong de jure ESG safeguards, yet there was evidence of de facto ESG risk mitigation efforts being undertaken in only 18% of the portfolio (see also Box 3b).[286]

[284] In the Appendix, we present a different version of this graph (Figure A50) that measures the annual percentage of China's grant- and loan-financed infrastructure *projects* in LICs and MICs supported by (a) one or more de facto ESG risk mitigation efforts and (b) strong de jure ESG safeguards. It too shows that Beijing's de jure risk mitigation efforts generally outpaced its de facto risk mitigation efforts.

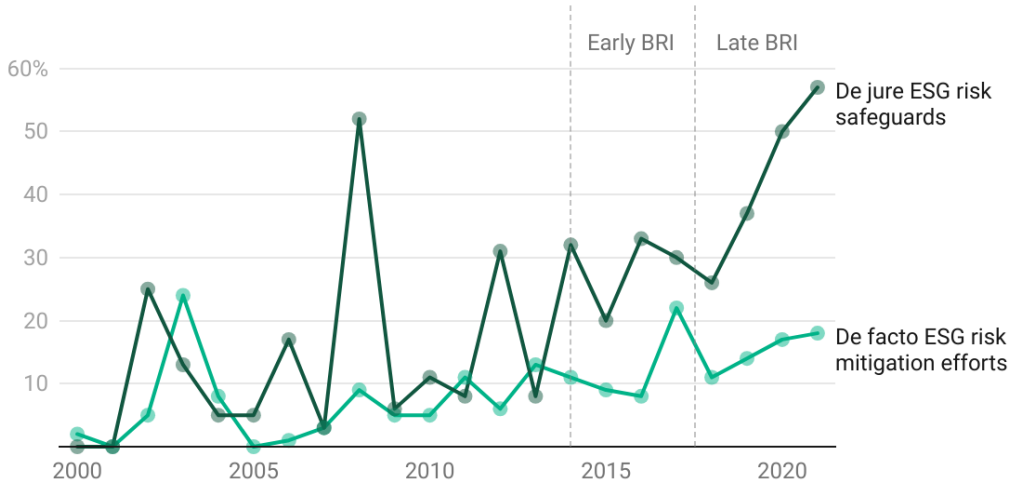
[285] Figure 3.9 treats an infrastructure project's financial commitment year as the year in which ESG risk mitigation efforts were undertaken. However, given that the probability of ESG risk mitigation measures being undertaken and detected increases as a project progresses from the financial commitment phase to the implementation phase (and the completion phase), it may also be useful to treat an infrastructure project's commencement (implementation start) year or its completion (implementation end) year as the year in which ESG risk mitigation efforts were undertaken. We do so in Figures A51 and Figure A52. However, these two figures do not show substantially smaller (or larger) gaps between de jure and de facto ESG risk mitigation efforts. In Figure A51, the average annual percentage point difference between infrastructure projects with strong de jure ESG safeguards and infrastructure projects that involved de facto ESG risk mitigation efforts based on the completion year is 10%. In Figure A52, it is 13.2% based on the commencement year. In Figure 3.9, it is 12%.

[286] An important caveat is that our measure of whether any effort was undertaken to mitigate ESG risks before, during, or after project's implementation almost certainly underestimates the true level of risk mitigation effort (due to the previously-mentioned "false negative" challenge).

Figure 3.9

Infrastructure project portfolio with de jure vs. de facto ESG risk mitigation

Percentage of China's grant- and loan-financed infrastructure project portfolio (by constant 2021 USD) to LICs and MICs



Notes: De facto ESG risk mitigation efforts are measured using the methodology that is described in Section A-8. Strong de jure ESG safeguards are defined in Section A-9 of the Appendix.

Box 3b: De jure versus de facto application of ESG safeguards to the Lahore Orange Line Metro Train Project

The Lahore Orange Line is Pakistan's first-ever urban mass rail transit project. Since its inauguration in October 2020, the average level of daily ridership (178,714) on the 27-km metro line has remained below capacity, but transformed the megacity's public transport landscape (Hasnain 2023). During President Xi Jinping's April 2015 visit to Pakistan, the project was grandfathered into the China-Pakistan Economic Corridor (CPEC) as a "gift from China" (Khan 2018). But it was ultimately financed by China Eximbank with a mix of concessional and non-concessional loans, including a $1.2 billion preferential buyer's credit with a 2% interest rate, an RMB 1.2 billion government concessional loan with a 2% interest rate, and a $203 million buyer's credit loan with a 5.2% interest rate.[287] Pakistan's government used the loan proceeds to partially finance a $1.63 billion commercial contract between CR-NORINCO—a joint venture of China State Railway Group Co. Ltd. (CR) and China North Industries Corporation (NORINCO)—and Punjab Mass Transit Authority. CR-NORINCO, in turn, hired local contractors to assist with a variety of activities, including the project's environmental impact assessment

[287] For more details, see Project ID#54420, 53820, 37280 in the 3.0 version of AidData's GCDF dataset.

(EIA), which was conducted by a local state-owned engineering services company (NESPAK) prior to commencement of construction in August 2015 (NESPAK 2015b).

NESPAK's "comprehensive and complete" studies, which included the EIA and a 37-page environmental management plan (EMP), were deemed by third-party evaluators to be "compliant with international codes and standards" (NESPAK v. Mumtaz 2017). The EMP identified—and suggested corrective measures for—a series of risks related to land acquisition and resettlement, flora and fauna, air quality and noise level, public utilities, seismic hazard, and the health and safety of workers (NESPAK 2015a). After recognizing that several heritage sites, as defined by the Antiquities Act of 1975 ("Act"), would be affected by construction, NESPAK affirmed the need "to avoid any interference with cultural heritage site(s) and public property as far as possible" (NESPAK 2015b). Noting that heightened noise levels could affect the structural integrity of cultural heritage sites, it called upon contractors to employ "noise barriers during construction" (NESPAK 2015a). Even though the Act prohibits construction activity within 200 feet of heritage sites, based on these plans, the Director General (DG) of Archeology issued a No Objection Certificate (NOC) in November 2015, "giving permission to carry on construction within prohibited limits of 200 feet of protected antiquities" (Mumtaz v. Punjab 2016).

Lahore's iconic 17th-century monument, Chauburji, was built by Mughal Emperor Shahjehan for his beloved daughter Jahanara Begum and served as an entrance to a royal garden, is shown here with the Orange Line in the background. It is one of 11 heritage sites affected by the project's construction activities.
Photo Credit: Anam Hussain/AlJazeera

At the time, all environmental and social requirements under local laws appeared to have been met, giving CR-NORINCO and its local subcontractors the go-ahead to proceed with implementation. However, when construction crews began marking sites for demolition and

earthworks in October 2015, it became apparent to local communities and civil society groups that "construction work [would] be carried out within 95 feet of Shalimar Gardens" and several other heritage sites (Ghani 2015). Almost immediately, a group of prominent environmental lawyers, urbanists, and rights advocates petitioned the Lahore High Court (LHC), arguing that the issuance of the NOC was "not only arbitrary, malafide, patently illegal, without lawful authority but also without application of independent mind" (Mumtaz v. Punjab 2016). Before issuing the NOC, the DG of Archeology allegedly did not consider Pakistan's commitments to international conventions for heritage conservation and was pressured by the government "to issue NOC within two days time without consulting any independent experts" (Mumtaz v. Punjab 2016).

After the government failed to provide satisfactory responses to these concerns, in January 2016, the LHC ordered an immediate suspension of project activities near 11 heritage sites. It also asked the authorities to report on their adherence to all de jure requirements related to land acquisition, noise levels, and solid waste management (Shaukat and Tanveer 2016). The court order threw the provincial government into a frenzy, as it anticipated long implementation delays that could prevent the project from reaching completion ahead of the July 2018 election. It immediately engaged experts to conduct separate Structural and Heritage Impact Assessments (SIA and HIA) and re-issued the NOC in July 2016—before the LHC issued its full verdict the following month. The matter was finally settled by the Supreme Court of Pakistan (SCP) when it rejected the government's revised NOC on the same grounds, questioning the integrity of the government's actions that clearly sought to remove this roadblock.

After several additional hearings and engagements with international experts to ascertain the true dangers from vibrations to the integrity of historic buildings, the SCP finally authorized the project's resumption in December 2017 on the condition that its 31-item strong list of requirements would be implemented (NESPAK v. Mumtaz 2017). Within days, "Shehbaz speed" was on full display, as construction around these sites resumed after a delay of nearly two years.[288] Notwithstanding these efforts, the Sharif administration was unable to complete the project by the end of its term, ultimately allowing its chief political rivals from the Pakistan Movement for Justice party to cut the red ribbon in October 2020.

The saga of this project during the early BRI period demonstrates that even when strong de jure ESG safeguards are in place, the de facto implementation of such safeguards can falter or fail for a wide variety of reasons. In some cases, local officials may be incentivized to prioritize speed over safety. In other cases, they may lack technical knowhow to enforce standards or may not fear penalties for non-compliance.

[288] Lahore is the capital of the Punjab province and the political power base of the then-incumbent Pakistan Muslim League party. Its leadership, including then-Prime Minister Nawaz Sharif and his younger brother, Punjab Chief Minister Shehbaz Sharif, belong to the city's business elite. Since first coming to power in the mid-1980s, the Sharifs' political strategy has hinged on flagship infrastructure projects, such as major new international airports and inter-city motorways. During his first tenure in office after returning from exile in 2008, the younger Sharif delivered the Lahore Bus Rapid Transit (BRT) at "Shehbaz speed" within 10 months (Majid et al. 2018; Express Tribune 2016). His party was rewarded with a resounding electoral victory in the 2013 elections, which it attributed to the BRT.

What then can we conclude based upon the available evidence? First, it is increasingly common for Chinese donors and lenders to include ESG safeguard provisions in their infrastructure financing agreements with LICs and MICs. These provisions are broadly compatible with international ESG safeguards, such as the OECD Council Recommendation on Common Approaches for Officially Supported Export Credits and Environmental and Social Due Diligence, the IFC's Performance Standards on Environmental and Social Sustainability, the Uniform Framework for Preventing and Combating Fraud and Corruption, the OECD Council Recommendation on Bribery and Officially Supported Export Credits, and the OECD Council Recommendation on Public Procurement. Second, many of these de jure provisions go far beyond identifying rules and standards related to ESG risk management; a rapidly expanding percentage of China's overseas infrastructure project portfolio is underpinned by financing agreements that include mechanisms for monitoring compliance and/or sanctioning noncompliance with those ESG rules and standards. Third, China's de facto risk mitigation efforts are on the rise. Fourth, there is a growing gap between how ESG safeguards are applied to China's overseas infrastructure projects in principle (de jure) and in practice (de facto), which is not unexpected given that ESG risk mitigation only recently became a priority for Beijing.

Section 4: Do ESG safeguards produce a project performance payoff or penalty?

Given that Beijing has recently taken significant measures to mitigate ESG risks in its overseas infrastructure project portfolio, an important question is whether these course corrections are compatible with the country's reputation for speed and convenience. China did not become the Global South's go-to banker for big-ticket infrastructure because of a happy accident. It earned the position by addressing a key source of unmet demand among LICs and MICs: financing for infrastructure without overly complex and cumbersome ESG safeguard policies

and procedures (Dollar 2016; Swedlund 2017; Parks 2019; Humphrey and Michaelowa 2019; Zeitz 2021; Horigoshi et al. 2022).[289]

In 2015, the G-24—a group of countries that work together to coordinate the positions of developing countries on international monetary and financial issues—gave voice to the frustrations of LICs and MICs in a report entitled *Infrastructure Finance in the Developing World:*

> *"One aspect of the business practices of the World Bank and major [regional multilateral development banks] that has a particularly strong impact on infrastructure investment is environmental and social safeguard policies. Safeguards comprise procedures and restrictions on different types of lending operations meant to 'safeguard' the project from having negative impacts on the environment and social groups. Safeguards were first instituted at the World Bank in the 1990s, and the other major [regional multilateral development banks] followed suit in subsequent years. The World Bank's safeguards are still considered the most comprehensive and rigorous, but the safeguards of the AsDB, IADB, and AfDB have been gradually tightened over the years such that the differences between them are relatively small, particularly on the hot-button issues of environmental assessment and resettlement. As a project undergoes the initial screening process, MDB staff members determine whether it triggers any of the MDB's applicable safeguards. Should that be the case, a separate series of special requirements must be followed before the loan can be approved and disbursed. The most frequently triggered safeguards in the case of the World Bank relate to environmental assessment and involuntary resettlement, and most frequently affect investment projects in the transportation, energy,*

[289] According to David Dollar, who served as the World Bank's country director for China (2004-2009) and the U.S. Treasury Department's economic and financial emissary to China (2009-2013), "[the] procedures developed by the World Bank are the gold standard of environmental and social safeguards in infrastructure projects. However, they have had a number of unintended consequences. It has become time-consuming and expensive to do infrastructure projects with the World Bank, and as a result, developing countries have turned to other sources of funding. [...] Given this situation, the emergence of China as a major funder of [...] infrastructure projects has been welcomed by most developing countries. China is seen as more flexible and less bureaucratic. It completes infrastructure projects relatively quickly so that the benefits are seen sooner" (Dollar 2016).

and urban sectors. The required procedures are extraordinarily detailed and specific, and in many cases [...] extremely difficult for borrowers and even staff to fully understand. Requirements often include time-consuming, lengthy studies to be undertaken by third-party experts (usually at the government's cost), lengthy consultations with affected parties (sometimes including unelected non-governmental organizations), extensive mitigations measures, and lengthy mandatory prior public disclosure and comment periods during which time the project cannot move ahead. These requirements supersede whatever national laws may be in place in the borrowing country—a particularly troubling point of principle for many borrowing countries, beyond the practical impacts of safeguards" (Humphrey 2015).

China, which is a member of the G-24 and the World Bank's largest borrower, appreciated these concerns (see Box 3a) and used them as a way to differentiate its offering to the global infrastructure financing market. Under the banner of "South-South cooperation," it emphasized its solidarity with the Global South and offered LICs and MICs an alternative model of development that prioritized the rapid installation of "hardware" over "software" investments that focus on policies and institutions.[290] Beijing's message resonated—so much so that it became the developing world's financier of first resort for highways, railroads, dams, bridges, seaports, airports, power plants, and electricity grids, while the MDBs downsized their infrastructure departments and programs due to a lack of borrower demand.[291] Several years ago, Chris Humphrey of ETH Zurich's Center for Development Cooperation and Katharina Michaelowa of University of Zurich published interview evidence from three African countries on the changing nature of borrower demand for infrastructure financing. They found that:

"[o]ne issue which officials in all three countries noted as limiting their own demand for infrastructure lending from the World Bank and to a

[290] At the Belt and Road Forum for International Cooperation in 2017, Xi Jinping described the BRI as "a new option for other countries and nations who want to speed up their development *while preserving their independence*" (Belt and Road Forum for International Cooperation 2017, emphasis added).
[291] In 2010, the World Bank's Independent Evaluation Group found that "[t]wo thirds of [World Bank] managers interviewed reported that some clients had avoided or were dropping a [World] Bank project because of safeguard policies" (IEG 2010: 73).

lesser degree the AfDB is the 'hassle factor' implicit in these types of projects from project design rules and environmental and social safeguards. Officials from all governments concurred that the World Bank is particularly difficult. 'For hydroelectric and railroads, we don't even talk to them, we just go straight to the Chinese,' said an Ethiopian official. Discussing a major gas pipeline project, a Tanzanian official said, 'The Chinese are a bit more expensive, but they are a lot easier and a lot faster for this kind of project. We didn't even send a request to the World Bank for support, we went straight to the Chinese.' Even in Malawi, with only small amounts of Chinese finance, officials were experiencing these dynamics with a planned new coal-fired power plant, to be funded by the Chinese at market-based interest rates. 'The World Bank and AfDB wouldn't fund it because the powerful shareholders would not agree to that kind of thing for environmental reasons. So we went with the Chinese.'" (Humphrey and Michaelowa 2019: 23)

In light of LIC and MIC demand for low levels of "hassle factor," Beijing's pivot toward a more stringent ESG safeguard regime raises the question of whether it will undermine the value proposition that it has traditionally used to differentiate itself from competitors in the global infrastructure financing market. To better understand the implications of Chinese lenders and donors adopting stronger ESG safeguards, we use the 3.0 version of AidData's GCDF dataset to compare the performance of Chinese government-financed infrastructure projects with and without strong ESG safeguards. We do so with six outcome measures: (1) the percentage of projects that run behind schedule (2) the average length of commencement delays, (3) the average length of completion delays, (4) the average amount of time it takes to reach completion, (5) the frequency and value of project suspensions and cancellations, and (6) ESG risk prevalence rates.

We begin by comparing the percentage of China's infrastructure project portfolio with and without strong de jure ESG safeguards that ran behind schedule. We classify a project as "behind schedule" if its actual implementation start date took place 3 months or more after its originally scheduled implementation start date, and/or if its actual completion date took place 3

months (or more) after its originally scheduled completion date. Figure A58 demonstrates that China's grant- and loan-financed infrastructure projects in LICs and MICs are equally as likely to run behind schedule when strong de jure ESG safeguards are in place as they are when strong ESG safeguards are not in place: 74% of infrastructure projects with strong de jure ESG safeguards ran behind schedule, and 75% without strong de jure ESG safeguards ran behind schedule.

Next, we examine the *average length* of commencement delays for China's overseas infrastructure projects that are subject to ESG safeguards with varying levels of stringency. Figure A59 provides evidence that China's overseas infrastructure projects encounter slightly shorter commencement delays when they are undertaken with strong ESG safeguards (47 days shorter, on average, than China's overseas infrastructure projects without strong safeguards). The fact that infrastructure projects with strong ESG safeguards take slightly *less* time to launch than those without such protections is consistent with the old adage that "an ounce of prevention is worth a pound of cure." It also implies that Beijing may be able to implement strong ESG safeguards without losing its competitive edge. As a general rule, MDB-financed infrastructure projects with strong ESG safeguards face *substantially longer* commencement delays. Charles Kenny of the Center for Global Development estimates that ''Category A'' World Bank projects—environmentally and socially sensitive projects subjected to the organization's most stringent safeguards—take 7.4 years (2,689 days), on average, to move from the proposal stage to the disbursement (project commencement) stage.[292]

The principle of "an ounce of prevention is worth a pound of cure" also evidently applies to completion delays in Chinese grant- and loan-financed infrastructure projects. Figure A60 provides evidence that China's overseas infrastructure projects face slightly *shorter* completion delays when strong ESG safeguards are in place (91 days less, on average, than China's overseas infrastructure projects without strong ESG safeguards).[293] A separate, but closely

[292] The findings reported in Kenny (2023) are specific to the 2010-2017 time period. In 2010, a study by the World Bank's Independent Evaluation Group (IEG) also revealed that the average cost of safeguards for a Category A project at the World Bank is $19 million (IEG 2010).
[293] These findings are likely related to the findings on commencement delays. ESG safeguards often require that contractors and their host country counterparts take a series of time-consuming actions—such as conducting environmental impact assessments (EIAs) and preparing resettlement action plans

related, insight from the 3.0 version of AidData's GCDF dataset is that it takes an average of 3.2 years (1,163 days) to complete an infrastructure project without strong ESG safeguards, and it takes 8 fewer days (1,155 days) to complete an infrastructure project with strong ESG safeguards (see Figure A61).[294] These findings do not suggest that China's reputation for speed is in jeopardy.

What then can we conclude about the "speed of implementation" differences between infrastructure projects with and without strong ESG safeguards? The most important point is that they are not large, which means that there is not much evidence to support the idea that ESG safeguards impose a significant project performance penalty. The conventional wisdom is that ESG risk mitigation measures substantially impede infrastructure project implementation, thereby undermining a key component of the value proposition (speed) that China has traditionally used to differentiate itself from its competitors in the global infrastructure financing market (Swedlund 2017; Parks 2019; Humphrey and Michaelowa 2019; Zeitz 2021). However, our findings do not support this argument. Quite the opposite: they suggest that China can reduce the ESG risk profile of its overseas infrastructure portfolio if it is willing to accept slightly longer project implementation timelines (measured in dozens of days rather than hundreds or thousands of days).[295]

Another potential way that the performance of Beijing's overseas infrastructure project portfolio might vary based on ESG safeguard stringency is the likelihood of project suspension or cancellation. The latest version of AidData's GCDF dataset demonstrates that infrastructure projects with strong de jure ESG safeguards are substantially *less* vulnerable to suspension and cancellation after the finalization of a Chinese grant or loan agreement. According to Figure 3.10, while 74 Chinese grant- and loan-financed infrastructure projects (worth $43 billion) with weak de jure ESG safeguards have been suspended or canceled

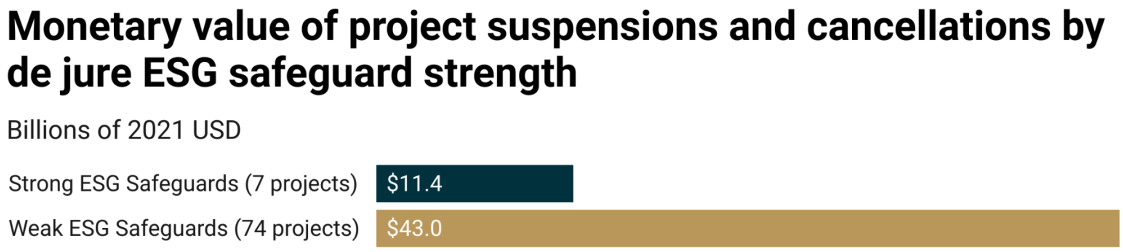
(RAPs)—during the pre-implementation phase of a project, which can eliminate implementation obstacles that would otherwise delay completion.

[294] By way of comparison, it takes World Bank and Asian Development Bank projects, on average, 6 years to move from the commencement stage to the completion stage (see Bulman et al. 2017: 362).

[295] This finding is relevant to the loan repayment challenges that we document in Chapter 2 because the speed of implementation can affect a project's revenue generation potential and thus a borrower's ability to meet its loan repayment obligations. The CDB-financed Jakarta-Bandung High-Speed Railway Construction Project, which is running over-budget and behind schedule, is a case in point. Since it was financed through a limited recourse project finance transaction and the railway is not yet in operation, the borrower is unable to make debt service payments via railway revenues (Malik and Parks 2021; Kuo 2021).

since 2000, only 7 Chinese government grant- and loan-financed infrastructure projects (worth $11 billion) with strong de jure ESG safeguards have been suspended or canceled since 2000.[296] These findings suggest that the application of more stringent ESG safeguards may help rather than hinder Beijing's efforts to de-risk its overseas infrastructure project portfolio in the developing world.

Figure 3.10



Notes: Strong and weak de jure ESG safeguards are defined in Section A-9 of the Appendix.

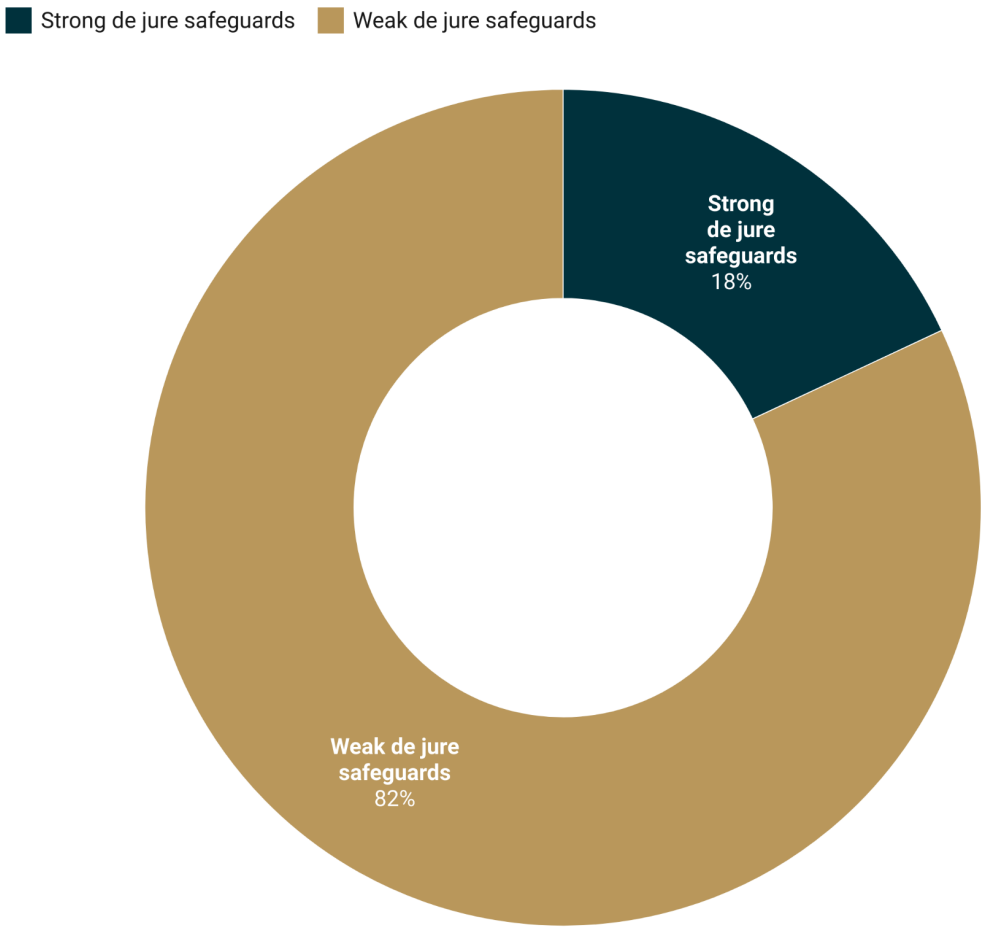
Finally, we can use the 3.0 version of AidData's GCDF dataset to determine whether ESG risk prevalence rates in China's overseas infrastructure project portfolio vary according to ESG safeguard stringency. Figure 3.11 compares the percentage of China's grant- and loan-financed infrastructure project portfolio with significant ESG risk exposure across two cohorts: projects with and without strong de jure ESG safeguards. Whereas 82% of projects that lacked strong de jure ESG safeguards faced significant ESG risks, only 18% of projects with such safeguards encountered similar risks.[297] Figures A53, A54, and A55 in the Appendix demonstrate that these patterns are equally applicable to all three types (environmental, social, and governance) of ESG safeguards.

[296] Our findings are consistent with those of Lu et al. (2023b). They find that Chinese-financed power plant projects posing higher levels of environmental risk are more likely to be suspended.
[297] Figure A49 tracks the same two cohorts over time. Notwithstanding a sharp increase in the percentage of the infrastructure project portfolio subjected to strong de jure ESG safeguards during the late BRI period, it shows that the same empirical pattern is generally consistent across the 2000-2021 period.

Figure 3.10

Proportion of infrastructure project portfolio facing significant ESG risk exposure by level of safeguard stringency

Percentage of China's grant- and loan-financed infrastructure project portfolio (by constant 2021 USD) to LICs and MICs facing significant ESG risk exposure



Notes: Strong and weak de jure ESG safeguards are defined in Section A-9 of the Appendix. The presence of significant ESG risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3.

Section 5: Decoding Beijing's ESG risk mitigation strategy

In the remainder of this chapter, we will analyze the 3.0 version of AidData's GCDF dataset to better understand how Beijing is seeking to manage and

mitigate ESG risks in its infrastructure project portfolio. We see evidence of Chinese state-owned financiers taking four ESG risk mitigation efforts to:

1. Defund the bilateral development finance institutions with the weakest safeguards

2. Support bilateral lenders and donors with the strongest safeguards

3. Outsource risk management via syndication and multilateralization

4. Unwind relationships with high-risk countries and double down on relationships with low-risk countries

Risk mitigation strategy #1: Defund the bilateral development finance institutions with the weakest safeguards

Most of Beijing's official statements and publications about de-risking its overseas infrastructure project portfolio are anodyne and difficult to interpret. The "Green Development Guidelines for Foreign Investment and Cooperation" that China's Ministry of Commerce and Ministry of Ecology and Environment issued in July 2021 state that "[t]he greening of outbound investment and cooperation must be guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era. In the process, we must implement the spirit of the 19th CPC National Congress and the 2nd, 3rd, 4th and 5th Plenary Sessions of the 19th CPC Central Committee, Xi Jinping Thought on Ecological Civilization and the decisions of the CPC Central Committee and the State Council. We must stay committed to the new development concept, striving for the strong awareness of green development, efficient use of resources, strict protection of the environment and effective control of carbon emissions. We should work to showcase China's leadership in global endeavor toward green transition and our commitment to building the world into a better and cleaner place and laying the groundwork for a new development paradigm" (MOFCOM and MEE 2021).

However, when you cut through the flowery rhetoric used by Chinese politicians and bureaucrats by following the money, a stark reality emerges: Beijing is

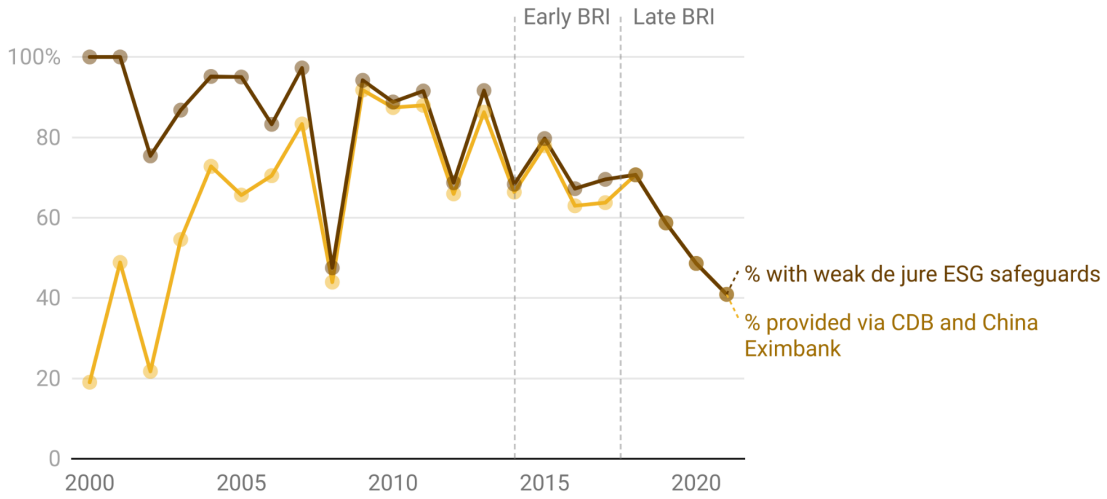
entrusting a shrinking proportion of its overseas infrastructure project portfolio to the country's policy banks (CDB and China Eximbank), which have particularly weak de jure ESG safeguards (see Table 3.1 and Table 3.2). Figure 3.12 plots two trends over time: the percentage of Chinese grant- and loan-financed infrastructure projects with weak de jure ESG safeguards and the percentage of China's infrastructure project portfolio financed via bilateral loans from the country's policy banks from 2000 to 2021. Beijing's reliance upon policy bank financing for infrastructure projects in LICs and MICs plummeted from 86% in 2013 to 41% in 2021.[298] The year-on-year changes that took place during this period also track very closely with year-on-year changes in the percentage of China's overseas infrastructure project portfolio bankrolled by institutions with weak de jure ESG safeguards (see Figure 3.12).

[298] This 45 percentage point decline obscures some differences across the two policy banks. Whereas the percentage of China's infrastructure project portfolio in LICs and MICs financed via CDB declined from 39.79% in the pre-BRI period (2000-2013) to 11.61% during the late BRI period (2018-2021), the percentage financed via China Eximbank actually increased from 38.06% to 48.75% across these two periods (see Table 3.2). However, upon closer inspection, one can see that the percentages of China's infrastructure project portfolio in LICs and MICs financed via CDB *and* China Eximbank declined (for the most part) over the course of the late BRI period. Figures A56 and A57 demonstrate that the percentage of the portfolio financed via China Eximbank fell from 58.7% in 2018 to 18.3% in 2021 and the percentage of the portfolio financed via CDB fell from 11.9% in 2018 to 4.3% in 2020 before ticking back up to 22.5% in 2021.

Figure 3.12

Composition of infrastructure project portfolio: reliance upon the policy banks and weak de jure ESG safeguards

Percentage of China's grant- and loan-financed infrastructure project portfolio (by constant 2021 USD) to LICs and MICs



Notes: Weak de jure ESG safeguards are defined in Section A-9 of the Appendix.

Table 3.2

China's grant- and loan-financed infrastructure portfolio by type of financing instrument over time

Contract Category	Pre-BRI (2000-2013)	Early BRI (2014-2017)	Late BRI (2018-2021)
Bilateral China Eximbank loan	38.06%	43.84%	48.75%
Bilateral CDB loan	39.79%	23.93%	11.61%
Bilateral MOFCOM loan or grant	2.64%	2.68%	3.10%
Bilateral Chinese state-owned commercial bank loan	5.14%	9.38%	8.84%
Syndicated loan with Chinese and multilateral bank participants	0.80%	2.17%	1.45%
Syndicated loan with Chinese state-owned commercial banks and/or policy banks	8.86%	16.91%	20.39%
PBOC/MOF grant or loan channeled through multilateral institution	0%	0.12%	0.89%

Contract Category	Pre-BRI (2000-2013)	Early BRI (2014-2017)	Late BRI (2018-2021)
Supplier's credit from Chinese SOE	4.71%	0.77%	4.97%
Total	100%	100%	100%

Notes: This table presents the shares of China's grant- and loan-financed infrastructure project portfolio (measured in constant 2021 USD) in LICs and MICs delivered via 8 financial instrument categories across three different time periods: (1) the pre-BRI period from 2000 to 2013, (2) the early BRI period from 2014 to 2017, and (3) the late BRI period from 2018 to 2021.

Risk mitigation strategy #2: Support bilateral lenders and donors with the strongest safeguards

Across the various bilateral instruments that Beijing has at its disposal to bankroll infrastructure projects in the developing world, CDB and China Eximbank loans offer the weakest de jure ESG safeguards. Rather than relying on these policy banks, Beijing is increasingly turning to a different set of financial institutions—with lending and grant-giving instruments that include a more stringent set of de jure ESG safeguards—to finance infrastructure projects in LICs and MICs.

In Section 3 of Chapter 3, we discovered that bilateral loans from the country's state-owned commercial banks, supplier's credits from the country's state-owned enterprises, and MOFCOM grants and interest-free loans have stronger de jure ESG safeguards than CDB and China Eximbank loans (see Table 2.1 in Chapter 2). This finding begs the question: has Beijing increased its use of these bilateral infrastructure financing instruments? Table 3.2 above demonstrates that it has in fact done so, albeit in an incremental way: whereas the proportion of China's infrastructure project portfolio in LICs and MICs financed through these instruments amounted to 12.49% during the pre-BRI period (2000-2013) and 12.83% during the early BRI period (2014-2017), it jumped up to 16.91% during the late BRI period.

Risk mitigation strategy #3: Outsource risk management via syndication and multilateralization

Another strategy that Beijing could pursue to de-risk its overseas infrastructure project portfolio is outsourcing risk management to multilateral institutions,

which are widely considered to be norm-setting, industry leaders in the design and implementation of ESG safeguards (Park 2010; Martin et al. 2015; Buntaine 2016; Brauneder et al. 2018; Buchanan et al. 2018; Narain et al. 2020, 2022).

One path to multilateralization is to directly entrust the management of grants and loans to an intergovernmental organization. For example, through its $2 billion trust fund at the African Development Bank (known as the Africa Growing Together Fund) and its $2 billion trust fund at the Inter-American Bank (known as the China Co-Financing Fund for Latin America and the Caribbean), the PBOC has fully delegated project design, preparation, implementation, and supervision responsibilities (including ESG safeguard application) to the multilateral institutions.

Another multilateralization option is to participate in syndicated loan agreements that are arranged by multilateral institutions. Many of these agreements have an A/B structure, whereby an MDB serves as the lender-of-record and keeps a part of the loan for its own account (the "A-loan") while selling participation in the remainder of the loan (the "B-loan"). A common feature of A/B syndicated loan agreements with multilateral arrangers is that all B-loan participants yield authority to the A-loan provider for risk mitigation purposes (Esty and Megginson 2003; Bae and Goyal 2009; Hainz and Kleimer 2012; Broccolini et al. 2021; Lu et al. 2023a).

According to Table 3.2 above, Beijing has modestly increased its reliance upon multilateral institutions over time. The proportion of China's infrastructure project portfolio in LICs and MICs financed via syndicated loans with multilateral participants and PBOC/MOF loans and grants entrusted to multilateral institutions rose from 0.8% during the pre-BRI period (2000-2013) to 2.34% during the late BRI period (2018-2021). Despite the small size of this increase, it is noteworthy because PBOC and MOF grants and loans entrusted to multilateral institutions and syndicated loans with Chinese bank and multilateral institution participants have the most stringent ESG safeguards in our sample of infrastructure financing agreements (see Table 3.1 in Section 3).

Syndicated loans with Chinese policy bank and state-owned commercial bank participants may be analogous to syndicated loans with multilateral participants if all members of the syndicate generally defer to the lending institution(s) with the strongest preference(s) for ESG risk mitigation. Consistent with this expectation, Table 3.1 above provides evidence that the ESG safeguards of state-owned commercial banks do indeed prevail over those of the policy banks in syndicated loan arrangements.[299]

Beijing has also intensified its use of these bilateral infrastructure financing instruments over time. Figure 3.13 presents the percentage of Chinese grant- and loan-financed infrastructure projects with strong de jure ESG safeguards in conjunction with the percentage of China's infrastructure project portfolio financed via syndicated loans with Chinese policy bank and state-owned commercial bank participants from 2000 to 2021. Beijing's use of these types of syndicated loan arrangements for infrastructure projects in LICs and MICs has increased dramatically—from 0% in 2000 to 41% in 2021—and in tandem with the usage of strong de jure ESG safeguards.[300] The year-on-year changes that took place over this twenty-two year period track closely with year-on-year changes in the percentage of China's overseas infrastructure project portfolio bankrolled by institutions with strong de jure ESG safeguards.

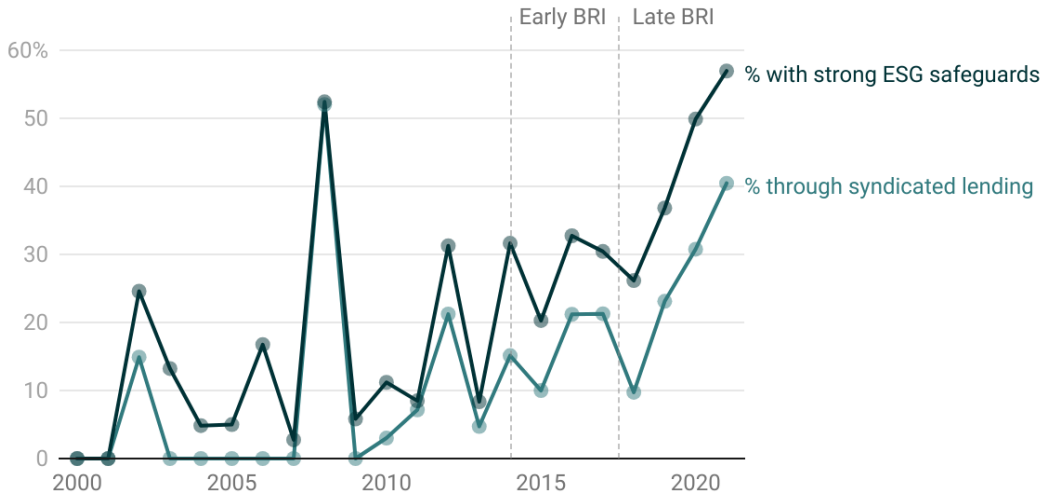
[299] Sufi (2007) demonstrates that lead arrangers reduce the costs of due diligence for all other syndicate participants.

[300] According to Table 3.2 above, the percentage of China's infrastructure project portfolio in LICs and MICs financed via syndicated loans involving state-owned policy banks and commercial banks increased from 8.86% during the pre-BRI period (2000-2013) to 16.91% during the early BRI period (2014-2017) and 20.39% during the late BRI period (2018-2021).

Figure 3.13

Composition of infrastructure project portfolio: use of syndicated loans and strong de jure ESG safeguards

Percentage of China's grant- and loan-financed infrastructure project portfolio (by constant 2021 USD) to LICs and MICs

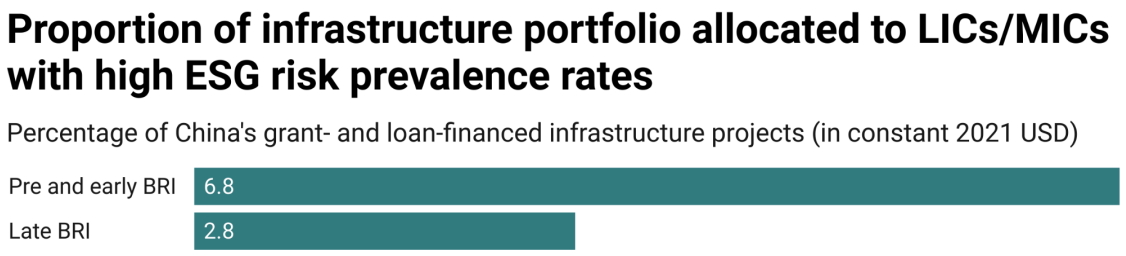


Notes: Strong de jure ESG safeguards are defined in Section A-9 of the Appendix.

Risk mitigation strategy #4: Unwind relationships with high-risk countries and double down on relationships with low-risk countries

One additional way to reduce the ESG risk profile of an infrastructure project portfolio is to use information about the past performance of host countries to guide future lending and grant-giving activities. That is to say, once a donor or lender has identified the subset of infrastructure projects in its portfolio that have presented significant ESG risks, it may seek to identify where these projects are geographically concentrated so that it can identify host countries posing especially high levels of ESG risk and redirect funding for future infrastructure projects elsewhere. This reallocation—or "selectivity"—practice is followed by several major MDBs, including the Asian Development Bank and the World Bank (Buntaine 2011, 2015, 2016).

Figure 3.14



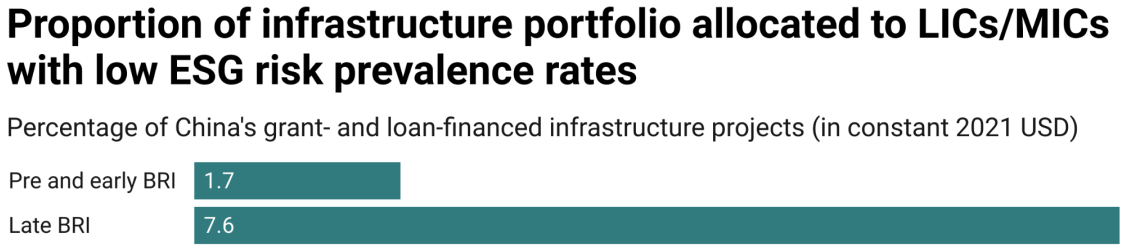
Notes: This figure compares the overall percentage of China's infrastructure financing to LICs and MICs that was allocated to countries with high ESG risk prevalence rates in two time periods: (1) the pre-BRI and early BRI period (2000-2017) and (2) the late BRI period (2018-2021). Countries with a high ESG risk prevalence rate are defined as those where at least 75% of China's grant- and loan-financed infrastructure project portfolio between 2000 and 2017 faced significant ESG risks. The presence of significant ESG risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3.

In order to gauge whether Beijing moved in this direction during the late BRI era, we first create two cohorts of host countries: countries where at least 75% of China's grant- and loan-financed infrastructure project portfolio had significant ESG risk exposure between 2000 and 2017 and countries where less than 75% of China's grant- and loan-financed infrastructure projects had significant ESG risk exposure between 2000 and 2017. We then compare Beijing's provision of infrastructure financing to these two cohorts between 2018 and 2021. Figure 3.14 demonstrates that 2.8% of infrastructure financing from Beijing during the late BRI era was directed to 9 LICs and MICs where at least 75% of China's grant- and loan-financed infrastructure project portfolio had significant ESG risk exposure between 2000 and 2017. By way of comparison, Beijing allocated a substantially larger proportion (6.83%) of its grant- and loan-financed infrastructure project portfolio to the same 9 countries between 2000 and 2017. This pattern is consistent with the idea that Beijing has rebalanced the cross-country allocation of aid and credit to reduce the ESG risk profile of its overseas infrastructure project portfolio.

Given that China has scaled back infrastructure spending in countries where its projects have faced particularly high levels of ESG risk exposure, another way that it could seek to recalibrate its portfolio is by ramping up support for infrastructure projects in countries where its projects have faced particularly low

levels of ESG risk exposure. Figure 3.15 provides evidence that Beijing has in fact moved in this direction. More specifically, it demonstrates that during the late BRI period (2018-2021) 7.6% of infrastructure financing from China was directed to 6 LICs and MICs where less than 10% of Chinese grant- and loan-financed infrastructure projects had significant ESG risk exposure between 2000 and 2017. This represented a significant increase in late BRI era spending for low-risk countries, as Beijing allocated only 1.73% of its grant- and loan-financed infrastructure project portfolio to the same 6 countries between 2000 and 2017.

Figure 3.15



Notes: This figure compares the overall percentage of China's infrastructure financing to LICs and MICs that was allocated to countries with low ESG risk prevalence rates in two time periods: (1) the pre-BRI and early BRI period (2000-2017) and (2) the late BRI period (2018-2021). Countries with a low ESG risk prevalence rate are defined as those where less than 10% of China's grant- and loan-financed infrastructure project portfolio between 2000 and 2017 faced significant ESG risks. The presence of significant ESG risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3.

Section 6: Is Beijing course-correcting or virtue-signaling?

When Beijing first signaled interest in subjecting its overseas infrastructure project portfolio to more stringent ESG safeguards, critics and rivals were quick to question its sincerity. Jonathan E. Hillman of the Center for Strategic & International Studies (CSIS) penned an op-ed, in which he argued that China was engaged in a "greenwashing effort." He wrote that "Xi knows that China is vulnerable on environmental issues. At a gathering of world leaders in Beijing last year, 'green' and 'sustainable' were the salt and pepper in his speech about the next phase of BRI. To address criticism, China unveiled no less than 11 new, green initiatives under BRI, all of which are voluntary, and none of which are

binding or transparent" (Hillman 2020b). Kelly Sims Gallagher and Qi Qi of Tufts University wrote that "Chinese government rhetoric about greening the BRI is laudable, but it has yet to make any substantive changes toward that goal" (Sims Gallagher and Qi 2021). The U.S. and its allies also rejected the notion that Beijing's overseas infrastructure projects had robust ESG protections in place. In November 2019, the U.S., Japan, and Australia announced that they were joining forces to establish a "Blue Dot Network" that would "evaluate and certify nominated infrastructure projects based upon adherence to commonly accepted principles and standards" and "promote market-driven, transparent, and financially sustainable infrastructure development in the Indo-Pacific region and around the world." More recently, the U.S., the U.K., and the other members of the G7 have promoted a Partnership for Global Infrastructure and Investment (PGII)—previously known as the Build Back Better World (B3W) initiative—that they characterize as an alternative to the BRI and an option for countries that want to undertake infrastructure projects in strict accordance with internationally accepted ESG safeguards.[301]

However, this chapter demonstrates—with many new sources and types of evidence—that Beijing is not simply engaging in an international virtue-signaling exercise. It has taken meaningful steps to de-risk its overseas infrastructure project portfolio by ramping down the international lending activities of banks that lack strong ESG risk management guardrails, ramping up the provision of infrastructure financing via institutions that have strong ESG safeguards in place, gradually unwinding aid and credit relationships with LICs and MICs that present high level of ESG risk, and redirecting new infrastructure financing to lower-risk countries. At the same time, it is still at a relatively early stage in its journey from ESG skeptic to advocate and it will likely take many years—potentially even decades—to close the gap between the de jure and de facto application of ESG safeguards.[302]

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[301] In September 2023, the U.S., France, Germany, Italy, the EU, India, the UAE, and Saudi Arabia also announced plans to develop an India-Middle East-Europe Economic Corridor (IMEC).

[302] It is also important to keep in mind that, as of 2021, 40% of Chinese infrastructure financing to LICs and MICs was still being channeled via bilateral CDB and China Eximbank grants and loans. This is significant, since this chapter provides evidence that CDB and China Eximbank have for the most part not reformed/modernized their de jure ESG safeguards in a way that is comparable to the practices of multilateral institutions, state-owned commercial banks, or the lead arrangers of syndicated loans.

We do not see evidence of Chinese development finance institutions uniformly complying with international ESG safeguards. Rather, we see evidence that some Chinese lenders and donors are gradually and selectively harmonizing their ESG safeguard policies and practices with those of traditional donors and lenders.[303] These changes should give pause to Beijing's competitors in the global infrastructure financing market. The G7 and some MDBs are currently trying to convince would-be partners in the developing world that (a) the BRI is a low-quality infrastructure option (privileging speed and convenience over safety and long-term sustainability) and (b) they can provide alternative, high-quality financing options for countries that want to undertake infrastructure projects based on strict adherence to "international best practice" ESG safeguards. However, this black-and-white branding strategy may lack resonance with its target audience, as LICs and MICs have already made it very clear that they have low levels of appetite for "gold standard" ESG safeguards. They want financing partners that can quickly design and implement big-ticket, high-impact infrastructure projects without unreasonably high levels of ESG risk.[304] The evidence in this chapter suggests that Beijing may be better-positioned to answer this call than its competitors realize. It is now delivering large-scale infrastructure projects with increasingly robust ESG safeguards but without the lengthy implementation delays that often hobble similar projects backed by G7 members and MDB

[303] There are reasons to believe that this approach of gradual and selective harmonization will be a longer-term process. On July 16, 2021, China's Ministry of Commerce and the Ministry of Ecology and Environment issued "Green Development Guidelines for Overseas Investment and Cooperation," which recommend that project sponsors and contractors comply with international standards or Chinese standards when the laws and regulations of host countries are vague or weak.
[304] On this point, see Humphrey 2015; Dollar 2016; Swedlund 2017; Humphrey and Michaelowa 2019; and Zeitz 2021.

Chapter 4: Reputational Rehabilitation on the Belt and Road

Section 1: China's quest for soft power during the BRI era

Great powers use aid and credit to expand their global influence.[305] These tools of economic statecraft can be particularly useful for winning support from developing countries. During the Cold War, the Eastern and Western blocs used grant-giving and lending instruments to promote their competing ideologies and strengthen alliances around the world (Heurlin 2020). China's BRI stands out as another striking example of this approach during the 21st century. Beijing has attempted to bolster its global influence by offering demand-responsive infrastructure financing and rapid project delivery to developing countries (Dreher et al. 2022). Prior to the unveiling of the BRI, Beijing tried to keep a relatively low profile as an international donor and lender, adhering to Deng Xiaoping's "hide your capabilities and bide your time" principle. However, the BRI marked an important shift. China became more proactive about cultivating its brand and broadcasting positive messages about its overseas activities. It did so by placing signage at project sites, organizing high-profile ceremonies to celebrate the commencement and completion of projects, cultivating relationships with journalists to encourage positive media coverage of project accomplishments, and forging content-sharing partnerships with radio stations, television channels, and newspapers (Custer et al. 2018, 2019; Wellner et al. 2023).

Washington sees the BRI as Beijing's attempt to "reshape the international order [and] [...] the rules of the road" by "us[ing] its economic power to coerce countries" (White House 2022). The 2022 U.S. National Security Strategy emphasizes the importance of "out-competing China" and calls upon government agencies to "partner with, support, and meet the economic and development needs of partner countries" (White House 2022). However, given the difficulty of competing dollar-for-dollar with Beijing, Washington is

[305] On this point, see Goldsmith et al. (2014), Blair et al. (2022a), Wellner et al. (forthcoming), and Asmus et al. (forthcoming).

increasingly aware of the fact that it will need to carefully select countries, sectors, and delivery instruments that offer the greatest return on investment.

U.S. policymakers have also demonstrated interest in understanding the causes and consequences of BRI backlash—and Beijing's response to it. On its 10th anniversary, the BRI faces an array of reputational challenges in host countries where enthusiasm for the initiative has waned. Debt repayment challenges (discussed in Chapter 2) and ESG problems related to infrastructure project implementation (discussed in Chapter 3) have led a growing number of LICs and MICs to reevaluate the risks and rewards of continued participation in Beijing's "project of the century" (Horigoshi et al. 2022).

In this chapter, we seek to explain when, where, and how Chinese grant- and loan-financed projects have become reputational assets or liabilities for China. We also examine how Beijing has recalibrated its strategies and tactics in countries where it has encountered public antipathy, unfavorable media sentiment, or insufficient support among governing elites. With data on public opinion, media sentiment, elite support, and Chinese grant and loan commitments during the first eight years of the BRI era (2014-2021), we use an "action-reaction" framework to examine how soft power gains and losses in LICs and MICs during the early years of the initiative (2014-2017) influenced Beijing's responses in the so-called "BRI 2.0" era (2018-2021).

The pursuit of soft power for foreign policy advantage

States frequently use non-coercive tools—or so-called soft power instruments—to win the support of foreign countries on issues of major national importance (Nye 2004; Goldsmith and Horiuchi 2012; Goldsmith et al. 2014; Guiso et al. 2009; Rose 2016, 2019).[306] For China, these issues include Taiwan, Tibet, Xinjiang, Falun Gong, human rights, and maritime claims in the South China Sea (Flores-Macías and Kreps 2013; Kastner 2016; Strüver 2016, 2017; Custer et al. 2018).

[306] A popular definition of soft power is "the ability to achieve goals through attraction rather than coercion" (Nye 2004: x).

Maintaining international support for the BRI is also a key priority. In October 2021, we observed Beijing's readiness to manage reputational risk related to its flagship, global infrastructure initiative. Within two days of the release of an AidData report on public debt exposure to China, a leading English daily in Pakistan, *Dawn*, wrote a hard-hitting editorial calling for greater transparency in the planning and financing of the China-Pakistan Economic Corridor (CPEC). Five days later, in response, two Cabinet-level ministers conducted a live press conference on national television in which they presented a point-by-point response to the editorial and the report (Malik et al. 2021; Dawn 2021). During subsequent meetings with senior officials in Pakistan, we learned that the press conference was organized in part due to pressure from the Chinese embassy, which had expressed frustration at the "public relations impacts" resulting from a rare instance of negative press coverage about the CPEC.[307]

Beijing uses a wide array of soft power investments—including scholarship programs that allow foreign nationals to study in China, training programs that expose foreign government officials to China's policy positions, junkets for foreign journalists to visit China and learn about its experiences and perspectives, and political party outreach and capacity building activities—to rally international support for its priorities and policy positions. According to Dong and Chapman (2008: 162), China has provided thousands of university scholarships to African students each year with the aim of "training future leaders [...] who might serve as opinion leaders once back in their home countries." In an analysis of Beijing's effort to cultivate relationships with African political parties, Aiping (2015) finds that African countries frequently dispatch delegations to China to learn more about its model of economic development and system of governance, and that the Communist Party of China (CPC) uses these exchanges to extol the virtues of the ruling party maintaining internal stability to promote long-run economic growth and development.

[307] Gelpern et al. (2022: 26, emphasis added) report a similar episode involving "a video obtained and released by investigative journalists that revealed the terms of Ecuador's multi-billion dollar oil-backed debt to CDB. The release of the video shortly after the deal was signed prompted public debate about the new borrowing [...]. In response, the head of CDB's Resident Mission in Ecuador wrote to his counterpart in Ecuador's Ministry of Finance, complaining about the borrower's apparent breach of [a] confidentiality letter, called on the Ecuadorian government to launch a leak investigation and demanded that it take measures *to mitigate the reputational damage to CDB caused by the video*. The CDB letter also implicitly threatened to withhold future financing if the borrower did not adequately address the incident."

Anecdotal evidence suggests that these soft power investments may be effective. Consider, for example, the cohort of countries that agreed to abstain on a key UNGA vote related to Russia's invasion of Ukraine.[308] On March 2, 2022, UNGA passed a resolution condemning Russia's aggression and calling on it to "immediately, completely and unconditionally withdraw all of its military forces from the territory of Ukraine." 141 countries voted in favor of the resolution, 5 countries voted against it, and another 35 countries abstained. China abstained and many of its largest aid and credit recipients—including Angola, Bangladesh, Bolivia, Burundi, Central African Republic, Congo-Brazzaville, Cuba, El Salvador, Ethiopia, Gabon, Guinea, Iran, Kazakhstan, Kyrgyzstan, Laos, Mongolia, Mozambique, Namibia, Pakistan, South Africa, Sri Lanka, Sudan, Tajikistan, Togo, Uganda, Uzbekistan, Vietnam, and Zimbabwe—followed suit (White and Holtz 2022).

Yet great powers do not use soft power instruments merely to secure international support on discrete policy issues. They also strive for deeper ideological alignment and widespread admiration of their economic development and governance models (Repnikova 2022). Effective, long-term soft power projection requires *attractional* influence: resonant ideas and values that shape how governing elites in other countries diagnose problems, think about cause-and-effect relationships, identify desirable policy outcomes, assign priority among competing objectives, and determine how policies should be formulated and implemented (Kroenig et al. 2010; Atkinson 2010).

For many of China's target audiences in the Global South, its model of economic development is attractive because of its apparent success: it successfully lifted 680 million people out of poverty in a generation (Ravallion 2009; Lin and Wang 2014).[309] China's model, which prioritizes the rapid installation of large-scale physical infrastructure via state-led investment, is central to the way that it

[308] Another interesting example is the policy position that many African governments take on China's treatment of Uyghurs living in Xinjiang Province. Rather than jumping on the Western bandwagon and criticizing China for its alleged human rights abuses, African governments increasingly push back, arguing that "Western forces [are] hyping up the so-called Xinjiang-related issues [to] serve their own ulterior motives" (Olewe 2021).

[309] According to Halper (2010), "China's governing model is more appealing to the developing world and some of the middle-sized powers than America's market-democratic model. Given the choice between market democracy and its freedoms and market authoritarianism and its high growth, stability, improved living standards, and limits on expression—a majority in the developing world and in many middle-sized, non-western powers prefer the authoritarian model."

administers its overseas grant-giving and lending program (Ansar et al. 2016).[310] This approach supposedly allows countries to leapfrog the process of establishing liberal institutions and democratic values, which were prerequisites for economic and social progress in Western countries (Naughton and Tsai 2015).

For political leaders seeking reelection within four- to five-year cycles and autocrats vying for legitimacy on the basis of performance, China's model of economic development can be especially compelling. Arthur Mutambara, Zimbabwe's former Deputy Prime Minister, told the *Wall Street Journal* in 2011 that "China is my favorite country. [...] China's model is telling us you can be successful without following the Western example" (Wonacott 2011). Several years earlier, Abdoulaye Wade, the former President of Senegal, admonished Western aid agencies and multilateral development banks for their insensitivity to the conditions facing policymakers in developing countries and praised China's model: "China's approach to our needs is simply better adapted than the slow and sometimes patronizing post-colonial approach of European investors, donor [agencies] and nongovernmental [organizations]. [...] I am a firm believer in good governance and the rule of law. But when bureaucracy and senseless red tape impede our ability to act—and when poverty persists while international functionaries drag their feet—African leaders have an obligation to opt for swifter solutions" (Wade 2008).

The effectiveness of China's soft power instruments

But China's soft power playbook goes beyond bankrolling and building big-ticket infrastructure projects. Not unlike Western powers, it deploys a toolkit that includes cultural diplomacy through Confucius Institutes, exchange diplomacy using student scholarships and journalist visits, and elite-to-elite

[310] An important feature of China's model is its "portfolio approach." Chin and Gallagher (2019: 256) explain that "[w]hereas Western-backed [development finance institutions] and [multilateral development banks] conduct individual project financing, China's policy banks, at home and abroad, take a [...] portfolio approach and finance what they refer to as 'strategic credit spaces' where bundles of loans or lines of credit are issued for an array of coordinated and corresponding projects." Coordinated public investment strategies have a rich intellectual history related to "big push" theory (Rosenstein-Rodan 1943) and "growth pole" theory (Perroux 1950; Hirschman 1958). According to Chin and Gallagher (2019: 251), "[s]ome in the senior ranks of the Chinese state policy banks have drawn inspiration from ["big push" theory], including the former chief economist at the China Development Bank [CDB], Lixing Zou, who saw CDB as having played such a coordinating role within the Chinese growth miracle."

diplomacy in the form of leadership visits (Benabdallah 2021; Custer et al. 2018). Beijing has also put in place a well-resourced strategic communications strategy with "distinctive" Chinese characteristics (Shambaugh 2015; Snow 2022). It has dramatically expanded the global reach of official media organizations, such as Xinhua News Agency and China Radio International.[311] China's messaging operations are, in turn, buttressed by content-sharing partnerships with local media, which republish stories carrying official Chinese narratives (Custer et al. 2019).

A growing body of statistical evidence suggests that China has effectively utilized soft power instruments to influence public opinion, media sentiment, and the foreign policy priorities of governing elites, albeit with varying degrees of success (Brazys and Dukalskis 2019; Eichenauer et al. 2021; Blair et al. 2022a; Dreher et al. 2022; Wellner et al. forthcoming, 2023; Asmus et al. forthcoming). Wellner et al. (forthcoming) find that, on average, the completion of each additional Chinese development project leads to a 3 percentage point increase in public support for the Chinese government in the short term, although this effect erodes over time.[312] Brazys and Dukalskis (2019: 557) provide evidence that geographical proximity to an active Confucius Institute "significantly and substantively improves the tone of media reporting about events relevant to China."

The authorities in Beijing reportedly value more favorable media sentiment and public sentiment because they believe it can "filter up and influence elite policy to be more amenable to [their own] interests" (Brazys and Dukalskis 2019: 567). However, Beijing also seeks to directly influence the foreign policy priorities of governing elites. Dreher et al. (2022) provide evidence that a 10% increase in voting alignment with China in the UN General Assembly yields a 276% increase

[311] In Africa, its primary export, CGTN Africa, has been less successful in bringing China's message to the world than BBC Africa due to a lack of quality staffing (Zhang and Ong'ong'a 2021).
[312] Building upon these model results, Wellner et al. (2023) estimate the country-specific magnitudes of these public opinion effects by assuming a counterfactual scenario in which the Chinese government equally distributed development projects across all countries. If Cambodia received 30 Chinese development projects (the average number of projects over the 2006-2017 period of study) rather than the 91 that it actually received, the authors estimate that China would have suffered a 12.55 percentage point loss of public support in that country.

in aid and credit from China, on average.[313] These results suggest that Beijing, like some of its rivals, uses its foreign aid and credit to encourage and/or reward countries to support its foreign policy positions.[314]

Yet much remains unknown about China's soft power strategy in the Global South. Is Beijing responsive to soft power gains or losses vis-à-vis the U.S.? What types of reputational liabilities or assets lead to competitive responses? Where, when, and how is Beijing using its development finance instruments to make soft power gains?

Leveraging the broad temporal and geographical coverage of the 3.0 version of AidData's GCDF dataset, we examine these questions with an "action-reaction" framework. Based on China's prior responses to changes in public opinion, media sentiment, and elite support in LICs and MICs, we seek to anticipate where and how China will mount competitive responses in the future.[315] We place special emphasis on understanding how China allocates limited competitive resources across "safe bet," "toss-up," and "moonshot" countries.

Section 2: Vying for soft power: China's play for public opinion, media sentiment, and elite support

Our action-reaction framework evaluates Beijing's aid and credit allocation decisions during the late BRI period (2018-2021) after it observed various changes on three measures of soft power during the early BRI period (2014-2017): public support for the Chinese government, as measured via the

[313] We thank Axel Dreher, Andreas Fuchs, Austin Strange, and Mike Tierney for generating and sharing supplementary evidence derived from a statistical model in the fifth chapter of their book *Banking on Beijing*.
[314] Previous research demonstrates that foreign powers other than China use aid and credit to influence the foreign policy positions of developing countries (Alesina and Dollar 2000; Kuziemko and Werker 2006; Vreeland and Dreher 2014; Rose 2018).
[315] China's system of governance is often characterized as "fragmented authoritarianism," where multilevel power centers exist, each with their own listening posts, interests, and decision-making processes, which can make it difficult to generate unified positions and approaches (Mertha 2009). Analysts have also argued that "fragmented authoritarianism" affects the execution of China's overseas development program, where multiple stakeholders associated with the state (companies, banks, diplomatic missions, etc.) are advancing their own interests without necessarily following a coherent strategy organized by a central coordinating agency (Ye 2021, Lee 2020). A key objective of this chapter is to probe the plausibility of the hypothesis that Beijing is capable of formulating coherent responses to the competitive (soft power) challenges that it faces in the Global South.

Gallup World Poll (GWP); the favorability of media coverage related to the Chinese government, as measured via the Global Database of Events, Language, and Tone (GDELT); and elite support for China's foreign policy positions, as measured via UNGA voting alignment with China.

In Chapter 1, we documented that, in the Global South, these three soft power metrics moved in varying directions over the first eight years of the BRI (2014-2021). During the early BRI period, the contest for international public opinion between Washington and Beijing remained neck and neck. However, public support for China fell sharply by 16 percentage points between 2019 and 2021. In terms of media favorability, after years of maintaining a competitive edge, Beijing lost significant ground to Washington during the late BRI period; its favorability advantage over Washington shrank to a razor-thin margin. China did relatively well at maintaining elite support for its foreign policy positions, as measured by the extent to which LICs and MICs aligned their UNGA votes with China. However, we also identified some grounds for concern in BRI participant countries, as governing elites in this cohort took foreign policy positions (in UNGA) that were increasingly out of alignment with those of China during the late BRI period.

Our analysis in Chapter 1 also revealed that, while the battle for hearts and minds between China and the U.S. was a "toss-up" during the early BRI period, it became significantly more competitive during the late BRI period. Washington made more reputational gains at Beijing's expense—than vice-versa—during this period. This was especially true in the contest for international public opinion, where almost 85% of the country-level changes in public opinion represented relative losses for China.

We now extend the analysis by focusing on the *relative gains and losses* experienced by both powers on an annual basis across three soft power measures during the early BRI period. We designed our analytic approach in recognition of two realities. First, great power competition for soft power is generally considered to be a zero-sum game by the participants.[316] Second,

[316] For example, in an empirical examination of competition between China and India in 2,333 provinces across 123 countries between 2007 and 2014, one study finds that an "increase in the probability of a new Indian Exim Bank loan in response to new Chinese development projects is more pronounced when

events ("shocks") at local, regional, and global levels can simultaneously affect overseas support for all great powers.[317] To address these realities, we first measure absolute year-on-year (YoY) changes to our three measures of soft power at the country level (single delta) for each great power (China and the U.S.). We then measure the difference (double delta) between the changes that China experienced and the changes that the U.S. experienced (see Box 4a). These double delta measures allow us to identify when and where China experienced (a) larger losses (or smaller gains) than the U.S., and (b) larger gains (or smaller losses) than the U.S.[318]

This methodological approach also makes it easier to think about how Beijing allocates scarce resources across different categories of countries to advance its soft power objectives. When a great power allocates scarce resources in pursuit of grassroots, media, or elite support, it must make *risk-adjusted reward calculations*—by balancing the magnitude of a potential soft power gain in a given jurisdiction against the likelihood of success in that setting (Asmus et al. forthcoming). As a general rule, it can make smaller gains in places where the probability of success is high (safe bet territory), or it can venture into more challenging places where the probability of success is low (moonshot territory) but the opportunity to make a large gain (at the expense of a rival) is high.[319] In recognition of this tradeoff, we organize our analysis around four cohorts: safe bet countries, toss-up countries that lean toward China, toss-up countries that lean toward the U.S., and moonshot countries (based on the data sources and methods described in Box 4a).

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popular opinion in the recipient country is *relatively more favorable about India than about China*" (Asmus et al. forthcoming: 26, emphasis added). The same study provides evidence that this effect "is driven by the difference in public sentiment toward India and China rather than by the absolute levels of public support for India in these countries" (Asmus et al. (forthcoming: 26-27).

[317] For instance, when a country suffers from a major natural disaster induced by global climate change and levels of foreign assistance are lacking, public resentment can increase toward all outside forces, as well as domestic institutions.

[318] Table A13 provides the country-specific double delta scores for each soft power measure.

[319] Vadlamannati et al. (2023: 16) provide evidence that the "BRI prompts the largest positive U.S. response when China is engaged with the target country but not yet dominant." The existing empirical literature does not provide conclusive evidence about whether Beijing follows a strategy of balancing, bandwagoning, or hedging.

Box 4a: How AidData measures relative gains and losses in Chinese soft power

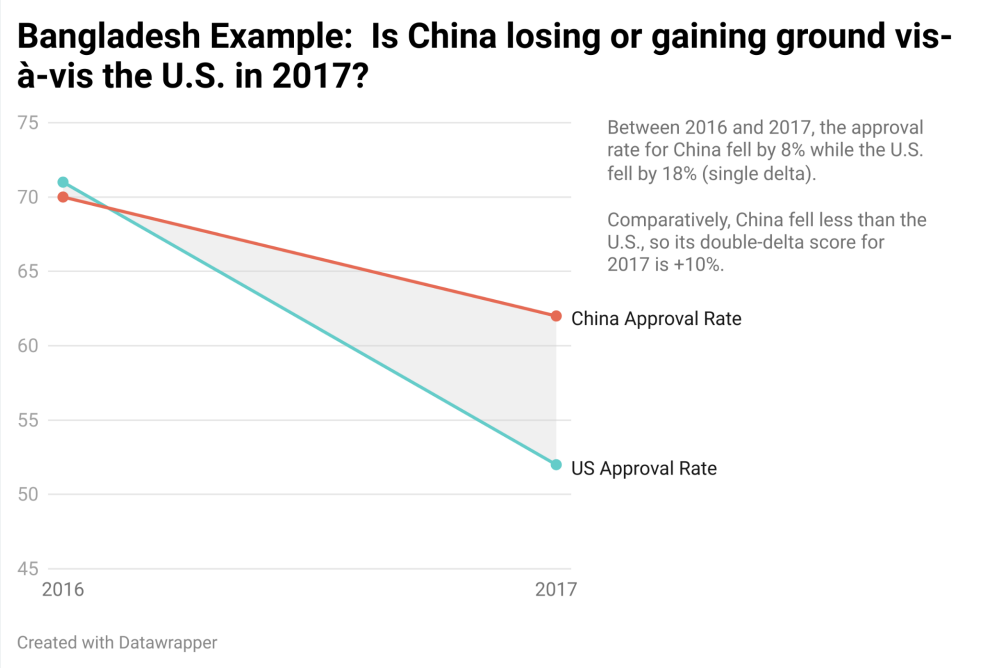
For all three measures of soft power in LICs and MICs (public opinion, media sentiment, and elite support), we adopt an identical approach to measure relative gains and losses by China vis-à-vis the U.S. at the host country level. In order to explain our method of measurement, we describe how it is applied to one soft power indicator (public opinion) and one host country (Bangladesh). We take the following steps:

Step 1: Use Bangladesh's annual public approval ratings (from GWP) to calculate the year-on-year change (single delta: t_0 - t_1) for China and the U.S. for each year of the early BRI period.

Step 2: Calculate the difference between the "single delta" in China's public approval rating and the "single delta" in the U.S. public approval rating for each year. The resulting "double delta" (China-U.S.) measure provides an indication of whether and to what extent China gained or lost ground at the expense of the U.S. The larger the size of a (positive) double delta, the greater the size of the gain that China made at the expense of the U.S.—or vice versa. Figure 4.1 provides a visual representation of how this calculation works for one soft power indicator (GWP) in Bangladesh between 2016 and 2017.

Figure 4.1: Bangladesh example: Is China losing or gaining ground vis-à-vis the U.S. in 2017?

Figure 4.1



Step 3: Calculate the average annual relative change (i.e., average annual double delta) in public approval over the early BRI period (2014-2017). Averaging over the 2014-2017 period effectively measures whether China gained more ground overall than the U.S.—or vice versa—during the

early BRI period. Table 4.1 provides the full calculation for Bangladesh, where 1.6 is the final score for Bangladesh during this time period.

Table 4.1

Bangladesh example: Calculating an average double-delta score for soft power measures

Year	China Approval Rate	China Single Delta	U.S. Approval Rate	U.S. Single Delta	China-U.S. Double Delta
2013	69.6	-	66.2	-	-
2014	47.5	-22.1	44.9	-21.3	-0.817
2015	55.6	+8.1	55.5	+10.6	-2.52
2016	70.4	+14.8	70.5	+15.0	-0.164
2017	62.0	-8.4	52.1	-18.4	+9.99
Average (2014-17)	58.8	-1.9	55.7	-3.5	1.6

Safe Bets (75-100th percentile)	Toss-Ups - Leaning China (50-74.9th percentile)	Toss-Ups (25-49.9th percentile)	Moonshots (0-24.9th percentile)

Step 4: Repeat this process for all country-year pairings, rank countries based on their average annual double delta values during the early BRI period, and divide the global distribution of LICs and MICs into four categories:

- Safe bets: The top quartile (75th to 100th percentile) of countries where China made the largest gains at the expense of the U.S. during the early BRI period.

- Toss-ups (leaning China): Countries that fall between the 50th to 74.9th percentile represent competitive jurisdictions where China made relatively small gains at the expense of the U.S. during the early BRI period.[320]

- Toss-ups: Countries that fall between the 25th to 49.9th percentile represent competitive jurisdictions where China made negligible gains at the expense of the U.S. during the early BRI period—or the U.S. made relatively small gains at the expense of China during the early BRI period.

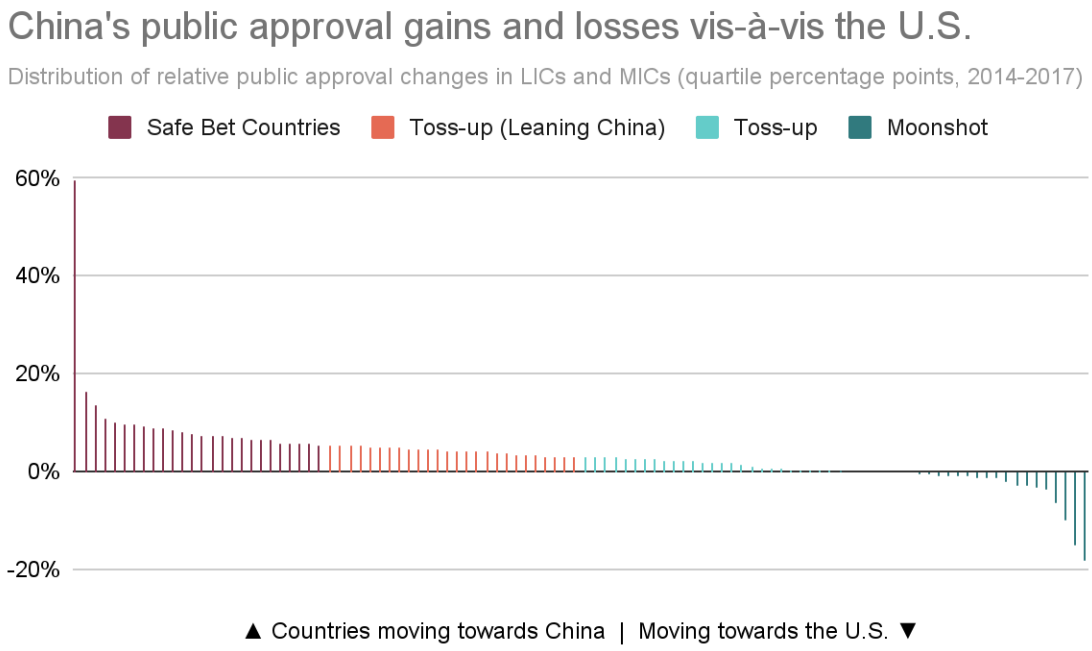
- Moonshots: The bottom quartile (0 to 24.9th percentile) of countries where the U.S. made the largest gains at the expense of China during the early BRI period.

Public opinion

To understand China's public opinion gains and losses vis-à-vis the U.S. during the early BRI years, we first rank-order 104 LICs and MICs (for which GWP data are available) according to our double delta measure (see Figure 4.2). The observed values on this measure range from -18 pp in Malaysia to +60 pp for Libya. We then calculate a percentile ranking for each country in the global distribution. These rankings are subsequently used to assign each country to one of four categories (described in Box 4a): safe bets (75th to 100 the percentile), toss-up leaning China (50th to 74.9th percentile), toss-up (25th to 49.9th percentile), and moonshots (0 to 24.9th percentile).

[320] The "Toss-ups (leaning China)" category description is admittedly imperfect when applied to the elite (UNGA voting) alignment measure, since the U.S. made gains at the expense of China in a substantial number of the countries that fall within the category.

Figure 4.2



Notes: The relative change calculation is based on the "double delta" measure that is described in Box 4a. Based on its position in the global distribution, each country is assigned to one of four categories: safe bet, toss-up (leaning China), toss-up, or moonshot (as described in Box 4a).

As Figure 4.2 demonstrates, during the early BRI years, China achieved gains at the expense of the U.S. in two-thirds of all host countries with GWP public opinion data. The average double delta in this cohort was +3 pp. There are several reasons why the U.S. may have suffered soft power losses during this period. One is President Trump's election and the "America First" agenda, which brought about a period of global retrenchment. Another is President Xi's contrasting approach, which sought to establish "win-win" partnerships and new "connectivities" with the Global South through the BRI (Rolland 2017).[321]

[321] Before and after his 2016 electoral victory, President Trump's fiery "America First" rhetoric and divisive personal views raised worldwide concerns about his country's commitment to maintaining global leadership. His electoral agenda included proposals to impose tariffs on Chinese imports into the U.S. for "protecting American jobs" which raised concerns about a new "trade war" that would ultimately hurt developing countries (Kucik 2017). At the same time, Xi was seeking to position China as a leader on the world stage. When he first introduced the BRI, he focused on creating "win-win" partnerships with host countries through big-ticket infrastructure projects.

Notwithstanding Beijing's overall success in making public opinion gains at the expense of Washington, there were some notable exceptions. Negative double deltas in Malaysia (-18 pp), Vietnam (-10 pp) and Niger (-2 pp) indicate significant relative losses for China. During the same period of time, China registered large, positive double deltas in Jamaica (+16 pp), Namibia (+10 pp), and Egypt (+8 pp). In at least two-thirds of countries, we see evidence of robust competition between Washington and Beijing, with average double delta values in the -5 to +5 pp range.

While every country context is unique, public approval levels appear to be sensitive to certain factors, such as changes of government from pro-China incumbents to new political leaders who view Beijing with greater skepticism (e.g., Malaysia), ongoing or worsening territorial disputes with China (e.g., Vietnam), and major changes in levels of aid or lending from a great power (e.g., Jamaica). The case studies in Section 4 demonstrate that the extent to which policymakers in Beijing use development finance and public diplomacy tools to respond to such changes depends on their perceptions of the strategic value of a given country.

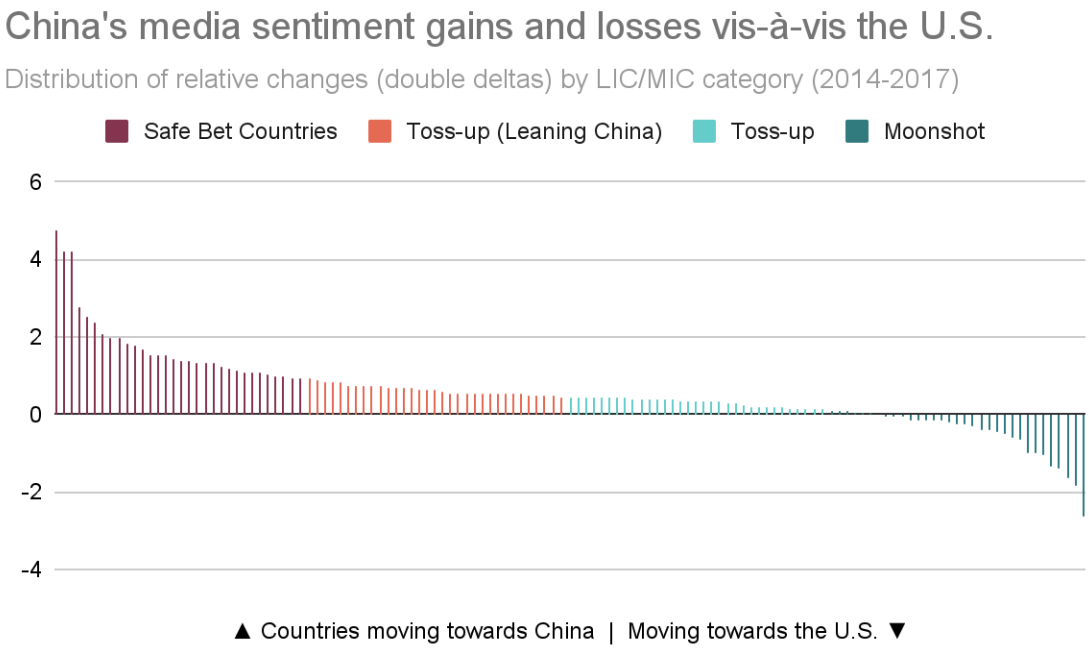
Media sentiment

We follow the same double delta approach to measure the media sentiment gains and losses that China achieved vis-à-vis the U.S during the early BRI period.[322] According to Figure 4.3, Beijing achieved gains at the expense of Washington in 79.4% of (104 out of 131) host countries for which GDELT data are available. This pattern is consistent with previous research that suggests the launch of the BRI, together with Beijing's strategy of ramping up public diplomacy efforts, including grassroots media management, generated more positive media coverage about China's government (Custer et al. 2019; Brazys and Dukalskis 2019).

[322] As we describe in Box 1b in Chapter 1, we restrict our analysis to media coverage about Chinese and American governments, rather than the countries overall, to ensure that we focus on the activities of the official sector. In most host countries, an array of Chinese and American private companies and nonprofits engage in activities that are wholly or partially independent of their home country's official policies and approaches.

Figure 4.3 also demonstrates that China achieved the biggest relative gains in the Democratic Republic of the Congo (+2.8 pp), Vanuatu (+1.8 pp), and Tajikistan (+1.5 pp), while its largest relative losses took place in Comoros (-2.6 pp), Tunisia (-1.4 pp), and Dominica (-1 pp). Across the entire global distribution, the average double delta size during the early BRI period was +0.54.

Figure 4.3



Notes: The relative change calculation is based on the "double delta" measure that is described in Box 4a. Based on its position in the global distribution, each country is assigned to one of four categories: safe bet, toss-up (leaning China), toss-up, or moonshot (as described in Box 4a).

Elite support

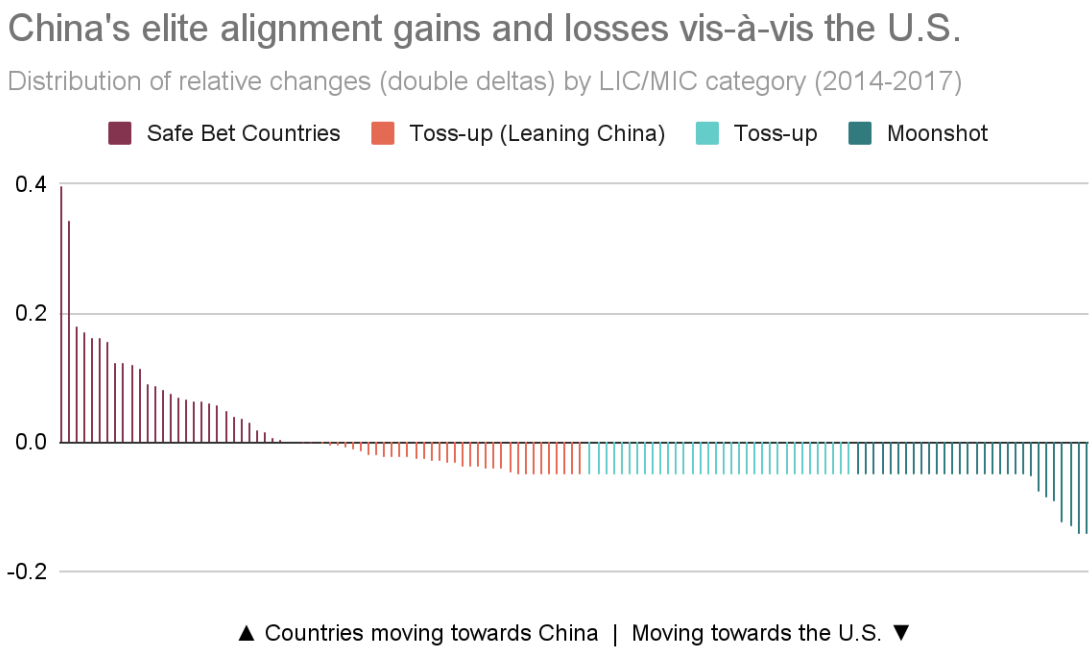
As a member of the Global South, China's voting patterns in the UNGA are closely aligned overall with those of developing countries—especially on issues related to human rights and national sovereignty (Fung and Lam 2022).[323] However, as Figure 4.4 demonstrates, unlike public approval and media

[323] More often than not, we find that China and the U.S. vote differently at the UNGA. Since 2000, they have only taken the same position on 14.5% of all resolutions. This misalignment becomes worse in certain issue areas, such as a 7.8% alignment on human rights resolutions and a 4.6% alignment on the Palestinian conflict. There is much closer alignment, 19.5%, between China and the U.S. on resolutions concerning nuclear weapons and materials and arms control and disarmament, consistent with their nuclear statuses.

sentiment where Beijing achieved significant gains at Washington's expense during early BRI years, UNGA voting alignment is a measure of soft power for which we observe the opposite trend: governing elites in LICs and MICs moved their foreign policy positions into closer alignment with China in only 28% of the 107 countries (for which UNGA voting alignment data are available).[324] China experienced soft power losses vis-à-vis the U.S in India (-0.14 pp), Pakistan (-0.12 pp), Brazil (-0.09 pp), Venezuela (-0.05 pp), Mali (-0.16 pp) and Rwanda (-0.14 pp). The countries that handed relative soft power gains to China included the Pacific island nations of Kiribati (0.4) and Micronesia (0.34), and several mid-sized countries in Latin America including Panama (0.18) and Paraguay (0.12).

At the same time, these changes are important to understand in their correct context. The vast majority of LICs and MICs remained far more strongly aligned with China than the U.S. in the UNGA in *absolute* terms. Across all UNGA votes cast between 2000 and 2021, we find that LICs and MICs on average aligned with China 75.6% of the time, as compared to 23.1% with the U.S.

Figure 4.4



[324] Across the global distribution, the average double delta "idealpoint" distance was -0.02.

Notes: The relative change calculation is based on the "double delta" measure that is described in Box 4a. Based on its position in the global distribution, each country is assigned to one of four categories: safe bet, toss-up (leaning China), toss-up, or moonshot (as described in Box 4a).

Section 3: From observations to reactions

Having measured the soft power gains and losses that China experienced during the early BRI period, we now turn our attention to the second part of our action-reaction framework: Beijing's late BRI responses to soft power changes during the early BRI period. We do so by analyzing a new feature of the 3.0 version of AidData's GCDF dataset: development finance commitment data for all LICs and MICs between 2018 and 2021.

Quantifying Beijing's strategic prioritization: The expectation versus reality framework

The next step in our analysis is to determine if there is evidence of Beijing strategically allocating aid and credit during the late BRI period to pursue its soft power objectives. We do so by analyzing whether Beijing favored or disfavored any specific soft power country cohorts between 2018 and 2021, relative to a reference point of aid and credit allocations that are based on the cross-country distribution of economic need.[325] In cases where we observe large differences between the expected size of Chinese development finance commitments (based on economic need) and the observed size of Chinese development finance commitments, we argue that such differences may reflect strategic decisions by Beijing to prioritize or de-prioritize a country for soft power purposes.

[325] The cross-country aid allocation literature generally uses two variables to measure economic need: income and population size (e.g., Alesina and Dollar 2000; Dreher et al. 2022). However, income is used to account for varying levels of economic need across HICs and LICs/MICs. Given that our analysis is exclusively focused on LICs/MICs (i.e., only countries with relatively low levels of income), we rely on population size to capture cross-country differences in economic need.

Table 4.2

Expected versus observed allocation of Chinese development finance by soft power cohort

Category	Public Opinion			Media Sentiment			Elite Support		
	Expected (%)	Observed (%)	*Difference (pp)*	Expected (%)	Observed (%)	*Difference (pp)*	Expected (%)	Observed (%)	*Difference (pp)*
Safe Bets	15	17	*+2*	10	9	*-1*	7	30	*+22*
Toss-Up - Leaning China	18	48	*+29*	19	48	*+29*	17	23	*+6*
Toss-Up	22	15	*-7*	36	35	*-1*	28	16	*-12*
Moonshot	43	16	*-27*	34	7	*-27*	47	31	*-16*

Notes: This table illustrates which soft power cohorts (safe bet, toss-up leaning China, toss-up, and moonshot) received relatively more or less development finance from China during the late BRI period (2018-2021) compared to an expected allocation. The expected percentages for each cohort and soft power measure (public opinion, media sentiment, and elite support) are based on a hypothetical scenario in which China allocated development finance to each cohort on a non-strategic basis (i.e., based only on the population size of each cohort). The observed percentages represent the actual percentages of China's ODA and OOF portfolio allocated to each soft power cohort during the 2018-2021 time period. The differences between expected and observed allocations therefore provide an indication of how much China may have prioritized or deprioritized each cohort based on strategic considerations.

To put this framework into practice, we follow a three-step process. First, we assign each LIC and MIC (with available data) to a safe bet, toss-up (leaning China), toss-up, or moonshot category based on its position within the global distribution of relative gains and losses experienced by China during the early BRI period. We follow this procedure for each of the three measures of soft power, which results in each country being assigned to a different category for each measure of soft power. For example, Morocco falls within the safe bet category for the measure of public opinion, but it falls within the moonshot category for the media sentiment measure and the toss-up (leaning China) category for the elite support measure.

Second, we create measures of the expected level of development finance from China based on the size of each host country's population. We first average the

population size of each host country over the 2018-2021 time period, and then estimate each host country's share of the total population across all LICs and MICs that received development finance commitments from China over the same time period.[326] We then multiply these country-specific shares by the total size of China's international development finance portfolio (measured in constant 2021 USD) during the late BRI period. For example, host countries that fall within the safe bets category (on the public opinion metric) are home to only 14.9% of the total population across all LICs and MICs, so we expect the same percentage of China's portfolio of international development finance commitments during the late BRI period (14.9% of $368.8 billion, or $54.9 billion) to be allocated to the 26 countries in the safe bets category. (See Table A14 in the Appendix for more details).

Third, for each of the four categories across every soft power metric, we measure the size of the gap between the expected size and actual size of development finance commitments from China. Consider again the global distribution of public opinion gains and losses that China experienced during the early BRI period and the countries that fall within the safe bets category. With the 3.0 version of AidData's GCDF dataset, we calculate total development finance commitments from China to this cohort of 26 countries during the 2018-2021 period. This figure amounts to $62.2 billion, which represents 17% of China's portfolio of international development finance commitments during the late BRI period. The $7.2 billion delta between the actual size and expected size of Chinese development finance commitments represents a +2 pp difference for countries in the safe bets category (see Table 4.2), which suggests that Beijing may have prioritized this group of countries for soft power purposes. However, one can also see in Table 4.2 that there is substantially stronger evidence of Beijing prioritizing the toss-up (leaning China) category (+29 pp difference) and de-prioritizing the moonshots category (-27 pp difference) for soft power purposes.

[326] Between 2018 and 2021, the 3.0 version of AidData's dataset captures development finance commitments to 138 countries and territories.

Decoding Beijing's soft power playbook

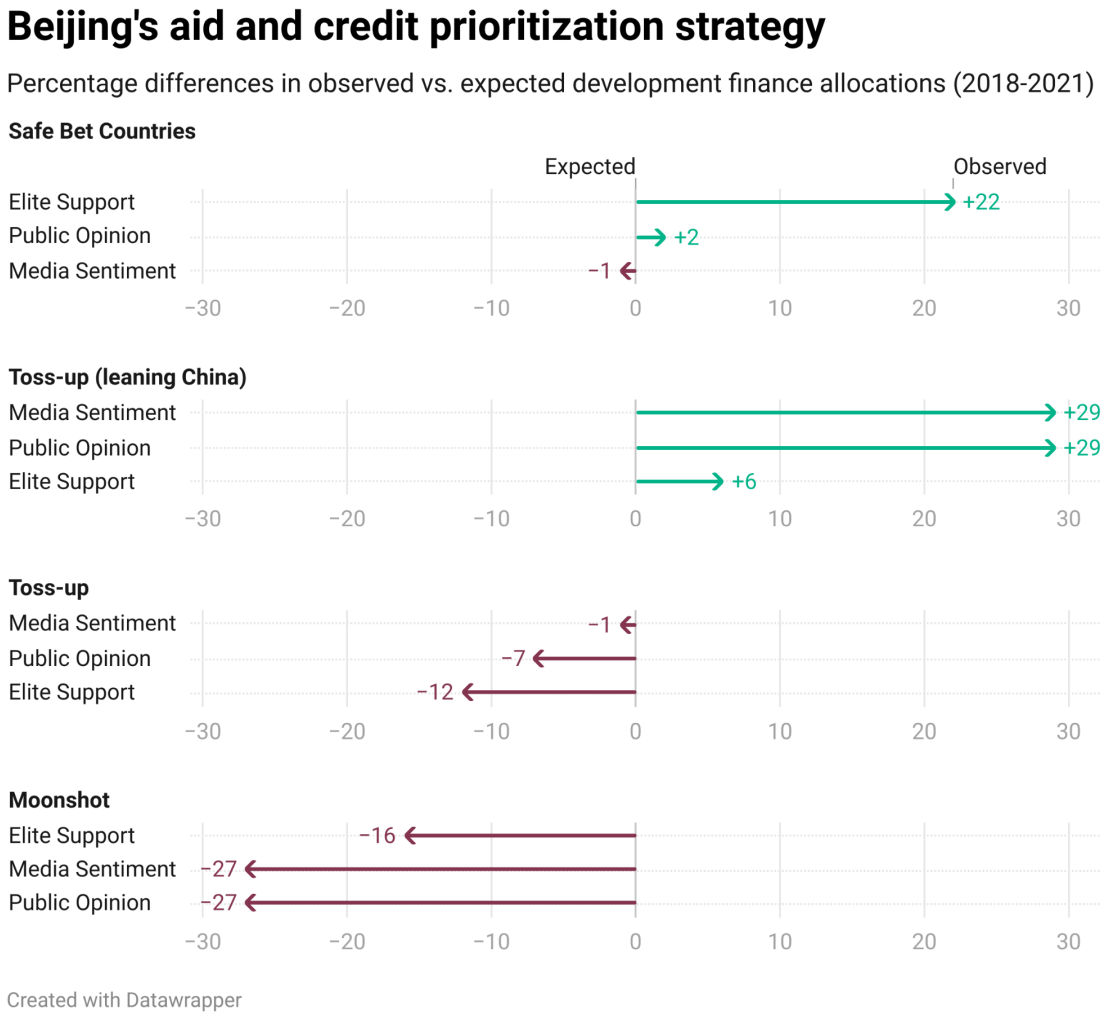
Table 4.2 provides five key insights regarding how Beijing allocates aid and credit in response to soft power gains and losses. Together, these insights help decode Beijing's playbook for competing with Washington for expanded influence in the Global South.

First, across all three measures of soft power, China devoted nearly two-thirds of its entire international development finance portfolio during the late BRI period to countries belonging to the two toss-up categories. Table 4.2 also demonstrates that Beijing prioritized toss-up countries that lean toward it. This is true across all three measures of soft power, which suggests that Beijing's foreign policy braintrust is monitoring soft power gains and losses and redirecting aid and credit at pivotal moments to battleground countries where it has a modest advantage.[327]

Second, across all three measures of soft power, we find large negative deltas between expected and observed development finance allocations to countries in the moonshot category (see Table 4.2 and Figure 4.5). This pattern suggests that Beijing is relatively risk-averse when it comes to the pursuit of soft power. Rather than prioritizing audacious attempts to lure countries out of Washington's orbit, Beijing devoted few resources between 2018 and 2021 to countries that moved in Washington's direction during the early BRI period. The fact that China deprioritized countries where it had recently suffered soft power losses vis-à-vis its principal rival reveals how key decision-makers in Beijing approach risk-reward calculations more generally. Moonshot countries are "high risk, high reward" opportunities, in that they represent jurisdictions where the magnitudes of soft power gains can be large (due to relatively low baseline levels of support for China) but the probabilities of success are low. Figure 4.5 suggests that Beijing's soft power investment strategy is not focused on such countries but rather on countries where the odds of success are higher—even if the size of the gains that can be realized are less substantial.

[327] As we will soon explain, there is some evidence that, in order to safeguard its geopolitical interests in Bangladesh (where it forged a robust partnership with Prime Minister Sheikh Hasina), Chinese state-owned financiers and implementation agencies accelerated the pace of project commencement and completion ceremonies during election season.

Figure 4.5



Notes: This figure provides a visual representation of the "Difference (pp)" columns from Table 4.2 by focusing on the categories of countries which Beijing prioritized or deprioritized during the late BRI period, in apparent response to soft power gains and losses vis-à-vis the U.S. The line labeled 0 represents situations where there is no difference between the expectation and reality of Beijing's aid and credit allocation. The positive or negative values represent categories where spending exceeds and fails to meet expectations, respectively.

Third, in the contest for international public opinion, China has shown a low tolerance level for reputational risk. During the late BRI period, it devoted two-thirds of its international development finance portfolio to toss-up countries and assigned special priority to the subset of toss-up countries that lean toward

China (see Table 4.2).[328] By contrast, it directed only 16% of its international development finance portfolio during the late BRI period to moonshot countries.[329] These resource allocation patterns suggest that China is less interested in competing in countries where its principal rival has momentum on its side and more interested in shoring up public support in countries with favorable baseline conditions. Zambia is an example of a country that Beijing showered with aid and credit when it was relatively pro-China. However, as we explain in Section 4 of this chapter, after the government defaulted on its external debt obligations in November 2020, China's public approval rating plummeted (by -9.2 pp) and the U.S. public approval rating remained mostly unchanged (-0.3 pp). Beijing's provision of aid and credit to Zambia all but halted, completing a dramatic full-circle turn since the heyday of Beijing's engagement in the country during the early BRI period.

Fourth, in the quest for favorable media coverage, China strongly disfavors countries in the safe bet and moonshot categories. It devoted only 16% of its international development finance portfolio during the late BRI period to such countries. Instead, it focused 83% of its international development finance portfolio during the late BRI period on countries in the two toss-up categories. These spending patterns suggest that Beijing is neither interested in high-risk, high-reward opportunities nor low-risk, low-reward opportunities when it comes to the pursuit of favorable media coverage. Instead, it appears to be doubling down in competitive jurisdictions where it "has the wind at its back." Figure 4.5 provides evidence of a large positive delta (+29 pp) between expected and observed Chinese development finance allocations to countries in the toss-up (leaning China) category. In the case of Bangladesh, where China experienced media sentiment gains at the expense of the U.S., average annual commitments tripled from $994 million during the early BRI period to over $3.3 billion in the late BRI period, despite challenges associated with COVID-19. In the context of growing strategic competition in the Indo-Pacific, Beijing's partnership with

[328] For context, the same set of countries that were classified as toss-up (leaning China) or toss-up in our analysis received 21% of China's total development finance portfolio in the pre-BRI period (2000-2013), and 28% during the early BRI period (2014-2017).
[329] For context, the same set of countries that were classified as moonshot in our analysis received 31% of China's total development finance portfolio in the pre-BRI period (2000-2013), and 12% during the early BRI period (2014-2017).

Prime Minister Sheikh Hasina's 15-year old government strengthened significantly.[330]

Fifth, in the international contest for elite support, China shows relatively little interest in toss-up countries. Table 4.2} demonstrates that Beijing allocated only 39% of its international development finance portfolio during the late BRI period to these highly competitive jurisdictions. It directed the remaining 61% of the portfolio to countries in the moonshot category (i.e., jurisdictions where the U.S. made soft power gains at its expense) and safe bets category (i.e., jurisdictions where China made soft power gains at the expense of the U.S.).[331] These spending patterns suggest that Beijing is confident its tried-and-true strategy of trading cash for foreign policy concessions can work in any number of settings. As we explain in Section 2, the case of Argentina is consistent with the notion that Beijing is willing to work with friendly governments, regardless of their ideological commitments or political viewpoints.

Section 4: Country case studies

In Section 3, we learned that there is no one-size-fits-all approach in China's soft power playbook. Beijing tailors its strategy to local conditions in host countries, while accounting for recent competitive gains and losses. However, policymakers and analysts still lack a clear understanding of how China adapts its aid and credit allocation based on local contextual factors. To gain greater insight, we turn our attention to three case studies: Zambia (a toss-up country, leaning toward China during the early BRI period on the public opinion measure), Bangladesh (a toss-up country, leaning toward China during the early BRI period on the media sentiment measure), and Argentina (a safe bet country during the early BRI period on the elite support measure).[332]

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[330] During this time, Prime Minister Sheikh Hasina has presided over both stellar economic development performance and growing authoritarianism. Most of the late-BRI financing has focused on large-scale infrastructure projects related to transportation and energy.
[331] According to Table 4.2, the largest positive delta (+22 pp) between expected and observed Chinese development finance allocations to countries is observed in the safe bets category.
[332] For each soft power measure, we selected a country that fell within a category (safe bet, toss-up, and moonshot) that China prioritized during the late BRI period. To maximize generalizability, we also selected countries from different regions and with varying levels of economic development.

Zambia case study: From reputational assets to reputational liabilities

In terms of public opinion changes during the early BRI period, Zambia falls into the toss-up (learning China) category of countries that moved closer to China than the U.S., but not enough to be classified as a safe bet. During the early BRI period (2014-2017), China's average annual development commitments to Zambia jumped to $1.93 billion, as compared to only $230 million during the pre-BRI period (2000-2013). We investigate the factors that shaped China's engagement with Zambia during the early and late BRI periods in this case study.

Vying for influence: The limits of Chinese soft power in Zambia

On her March 2023 trip to Zambia as U.S. Vice President (VP), where she last visited as a child to see her Indian grandfather, Kamala Harris declared her administration's sincere and steadfast commitment to Africa. "Our presence here is not about China," she said. "It's about an independent understanding of the intertwined histories of our nations, and our mutual commitment to democratic principles, and a recognition and understanding of what it means to engage in smart investments and the potential for the future of the entire globe." As proof, she announced over $7 billion in commitments from the U.S. private sector to various African countries. Most of the investments focused on advanced technologies, such as artificial intelligence (AI) for improved weather prediction, electric vehicle assembly plants, and biofertilizer facilities (White House 2023).

In the early days of the Biden administration, an effort was set in motion to launch a major counter-initiative to China's BRI (Sanger and Landler 2021). As the White House was ironing out the details of PGII (rebranded from Build Back Better World), Africa's lukewarm condemnation of the Russian invasion of Ukraine accelerated U.S. efforts to secure more support from African leaders. In response to a March 2022 UN General Assembly Resolution (GA/12407) that condemned Russian aggression, only 51% of African countries voted with Washington (as compared to 81% for the rest of the world). A significant number

of African countries abstained, as China did, or decided not to vote at all (White and Holtz 2022).

Keen to reset foreign relations after his predecessor's Chinese-backed infrastructure spending spree, Zambia's Hichilema administration decided to break away from its neighbors—Zimbabwe and South Africa—and vote in favor of the UNGA resolution (Obe and Vandome 2022). Weeks later, Hichilema was rewarded with an invitation to the White House to meet VP Harris, the first by a Zambian leader in nearly three decades. At this meeting and the December 2022 U.S.-Africa Leaders Summit, U.S. officials did not put China on the agenda, focusing instead on messaging around their offerings to Africa. By contrast, during the previous (Trump) administration, senior officials directly criticized China's activities in Zambia. In December 2018, national security advisor John Bolton claimed that "China is now poised to take over Zambia's national power and utility company in order to collect on Zambia's financial obligations" (Bolton 2019). A year later, speaking at a UN meeting for African leaders, Secretary Pompeo advised that "[c]ountries should be wary of authoritarian regimes and their empty promises," because "[t]hey breed corruption, dependency and instability, not prosperity, sovereignty and progress" (Paravicini 2020).[333]

Though the Biden administration moved away from its precedessor's rhetoric, China's growing influence in Africa, particularly in mineral-rich regions such as Zambia's copperbelt, remained a point of concern among U.S. government officials, and it loomed over VP Harris' trip. At the news conference with VP Harris in Lusaka, President Hichilema clarified his position on the U.S.-China strategic competition. "When I'm in Washington, I'm not against Beijing," he said. "And when I'm in Beijing, I'm not against Washington" (White House 2023). Soon after his August 2021 landslide victory over incumbent Zambian President Edgar Lungu, Hichilema struck a cordial tone with both powers, seeking improved ties with each (Obe and Vandome 2022). But he later discovered—during months of contentious restructuring negotiations with creditors from the Paris Club, China, and private bondholders following the

[333] Many African leaders complained about American neglect, indifference, or even disdain during the Trump administration.

country's November 2020 sovereign default—that resolving Zambia's debt issues would require delicate management of U.S.-China tensions.

From a soft power perspective, Beijing encountered the limitations of its state-led overseas development financing model before Hichilema came to power. Despite warnings from the International Monetary Fund that "the pace of borrowing needs to be slowed down significantly," the Patriotic Front (PF) presidencies of Michael Sata and Edward Lungu oversaw a period of "profligacy and theft of the ruling elite" that increased public debt from 32% of GDP in 2012 to 120% by 2020 (The Economist 2020). Chinese state-owned creditors played a major role in bankrolling the country's borrowing binge for big-ticket infrastructure projects. From 2000 to 2011, China's average annual lending commitments to Zambia amounted to only $178.3 million. However, between 2012 and 2018 (during the Sata and Lungu administrations), its average annual lending commitments soared to $932 million.

Efforts to construct, expand, and rehabilitate large-scale infrastructure—including roads, airports, power plants, transmission lines, and water and sanitation systems—with Chinese credit continued until late 2018, when the country's debt-to-GDP ratio surpassed 90%. This development triggered alarm around the world and particularly in Beijing because of its high level of exposure to non-performing loans. China also witnessed a sharp decline in its public approval rating once it turned off the credit tap: whereas 79.5% of Zambians approved of the Chinese government in 2017, this figure dropped by 12.9 percentage points (to 66.6%) in 2021.[334]

Therefore, an important lesson from this case study is that Beijing's strategy of buying soft power through the supply of credit-driven development projects has limitations. This is likely true of any BRI participant country, but the risks are especially high in poorly-governed countries with long histories of corruption and financial mismanagement. Beijing's experience in Zambia also calls attention to the fact that its rivals are well-positioned to make inroads with governing elites and the general public in such countries.

[334] Approval ratings are taken from the Gallup World Poll. China's lending commitments to Zambia in 2019 and 2020 amounted to only $143.7 million.

Why is Zambia relevant to great power competition?

China's development finance portfolio in Zambia is among its most well-known globally, due to the country's widely-reported debt crisis. But there is much more to the story of China in Zambia than the latter's debt repayment struggles. With the world's 7th largest copper reserve, a mineral that is needed for advanced technologies to fuel the green energy transition, Zambia is a high-value target in the great power competition between China and the U.S. (S&P Global 2022).

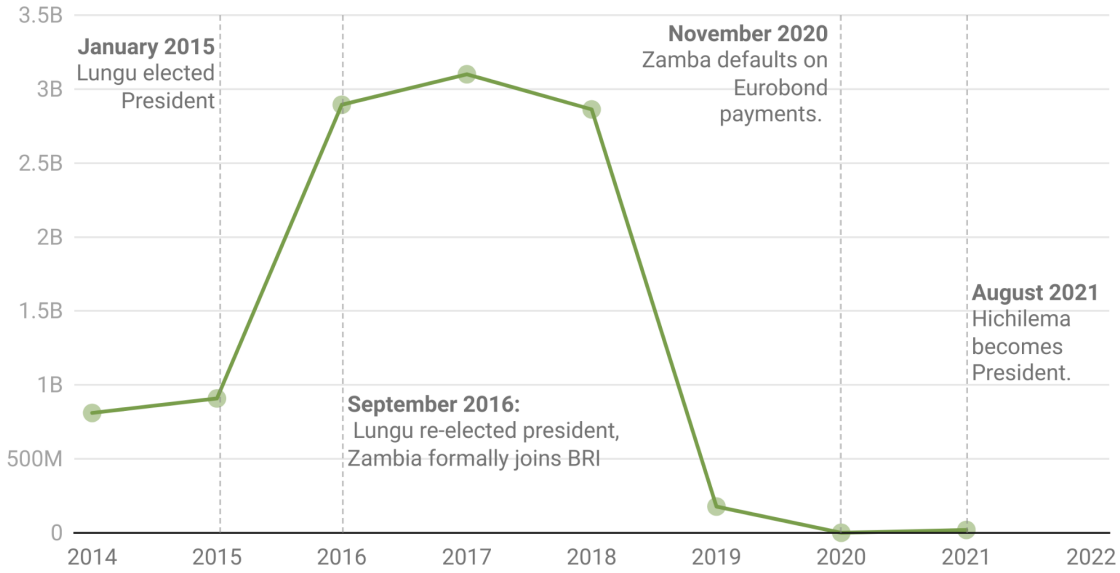
Within years of declaring independence from Britain, Zambia became home to China's first-ever foreign assistance megaproject, the iconic TAZARA Railway that links Zambia's copperbelt heartland to Tanzania's port of Dar es Salaam (Dreher et al. 2022). Today, China is Zambia's largest trading partner, responsible for buying over 75% of its main export, copper (The Growth Lab at Harvard University 2023). China is also one of Zambia's largest foreign creditors and donors. Between 2000 and 2021, it issued grants and loans to Zambia worth $13.7 billion. Beijing financed $10.03 billion in infrastructure projects during the BRI era (2014-2021), including major intercity and urban highways, hydropower stations and accompanying transmission lines, international airports, communications systems, hospitals, universities, coal-fired power plants, and water supply systems.[335]

[335] China's footprint in Zambia's healthcare system goes beyond hospitals and equipment, with medical teams from Hunan province serving on 22 tours in Zambia since 1978.

Figure 4.6

Official financial flows from China to Zambia, 2014-2021

Constant USD 2021 billions

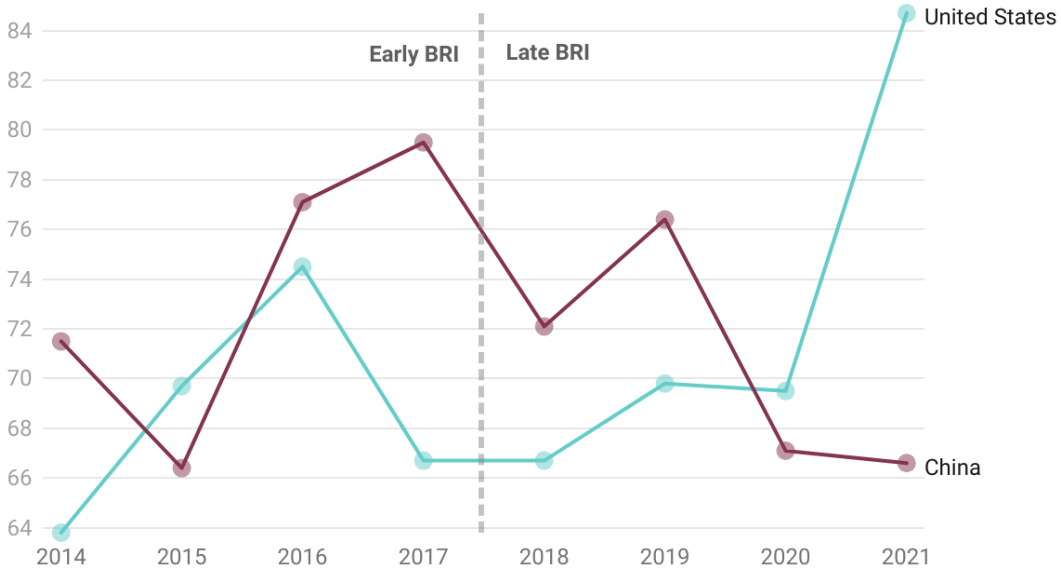


Notes: AidData relies on OECD-DAC measurement criteria to make ODA and OOF determinations (as described in Section A-2 of the Appendix).

Figure 4.7

China versus the U.S. in Zambia: Public approval rates

Annual approval rates in Zambia between 2014-2021 (Gallup World Poll)



Given China's extensive engagements with Zambia for more than seven decades, it is not surprising that 72% of Zambians approved of the Chinese government during the BRI era (see Figure 4.7 above). However, Beijing enjoyed only a two percentage point advantage over its primary competitor (Washington) during this period, despite the fact that Chinese development finance commitments ($17.47 billion) dwarfed U.S. development finance commitments ($3.40 billion). During the BRI era, U.S. development finance remained relatively stable[336]—both in volume and composition—but Washington saw its public approval rating in Zambia soar throughout early and late BRI periods, from 63.8% in 2014 to 84.7% in 2021 (see Figure 4.7}).[337] China, on the other hand, saw its public approval rating steadily decline during the late BRI period.

[336] With an average annual allocation of only $423 million, U.S. development finance ranged from a low of $399 million in 2019 to a peak of $548 million in 2017.
[337] Given the relative stability of aid flows from Washington, Zambian public opinion appears to be primarily driven by changes in the White House. After peaking at 92.5% during the first year of the Obama administration, it subsequently fell to just 66.7% in 2017 after Trump took office, in line with the "Trump effect" that hurt U.S. popularity globally.

Supplementary data from Afrobarometer suggest that, during the late BRI period, Zambians re-evaluated the wisdom of following China's state-centric and infrastructure-focused development model as an alternative to the West's rights, freedoms, and market institutions-based approach. When Afrobarometer surveyed Zambians in 2014-2015 about the country they considered to be the "best model for development," 32% chose China and 23% picked the U.S. However, by 2019-2021, when the link between poorly-executed Chinese megaprojects and Zambians' economic woes had been laid bare, Beijing's nine-point advantage had flipped in favor of Washington, with only 22% respondents expressing a preference for China's model and 31% choosing the U.S. model. This represented a reversal of fortune for China at the end of its decade-long partnership with the ruling party (the Patriotic Fund, or PF) , which started with President Sata's May 2013 Beijing visit.

The Patriotic Fund's infrastructure binge

The PF's relationship with Beijing began in outright hostility during the unsuccessful 2006 presidential campaign of a fiery former trade unionist, Michael Sata, whose abrasive politics earned him the nickname "King Cobra" (Kimenyi and Copley 2014). By orienting his campaign around a new agenda of Sino-skepticism, he rallied support against the 15-year rule of the Movement for Multi-Party Democracy (MMD), arguing that Chinese investors were "coming just to invade and exploit Africa" (French 2011). At one point, he even suggested that, if elected, he would recognize the Republic of China (Taiwan) as a "sovereign state" (Mupuchi 2006). China's Ambassador in Lusaka responded by threatening that Chinese investment would be "put on hold [...] until the uncertainty surrounding our bilateral relationship with Zambia is cleared"—that is, until Sata's electoral loss was confirmed (Shacinda 2006). After two unsuccessful presidential bids, Sata relaxed his rhetoric during a successful 2011 presidential campaign by stating his appreciation for the benefits of Chinese investment in Zambia while insisting that foreign mining companies abide by local laws to protect workers (Mfula 2011; Shukla 2021).

Sata's April 2013 visit to China reset Sino-Zambian relations. According to the 3.0 version of AidData's GCDF dataset, Beijing issued grant and loan

commitments worth $810.2 million for nine new projects in 2013. In the same year, it started delivering five additional projects worth $111.6 million, and it completed delivery of a $7.4-million equipment supply project for the upkeep of the TAZARA railway. Unlike the MMD-era, when China's largest financial commitments were earmarked for sports stadiums, the focus shifted toward infrastructure projects ostensibly designed to generate economic growth. This type of engagement continued until Sata's death in October 2014. Over the course of the Sata presidency, Beijing issued grant and loan commitments worth $1.6 billion for high-profile projects, including upgrades to the Lusaka airport, improvements to the Lusiwasi hydroelectric power plant, the construction of new power transmission lines, and road rehabilitation activities. For a country where less than half the population has electricity access and paved road density is among the world's lowest, China's willingness to bankroll infrastructure projects with significant economic growth potential was a welcome departure from the OECD-DAC's emphasis on health, education, and governance projects.[338]

After Sata's death, his Minister of Justice and Defence Edward Lungu won a highly contested election in January 2015 to complete the remainder of his term. Anticipating an election the following year, Lungu visited China in March 2015 to accelerate the momentum behind new infrastructure projects. In the run up to Lungu's August 2016 re-election, Chinese grant and loan commitments tripled from $910 million in 2015 to $2.9 billion in 2016. As in prior years, the bulk of the money supported physical infrastructure, including more airports, roads, and water supply systems. However, this time around, China also committed $468 million for ICT (information and communications technology) sector activities, including the installation of CCTV cameras and smart city projects. These types of "AI-enabling" tools are reserved for Beijing's closest allies, especially in countries where political systems are turning more authoritarian, such as in Kenya and Pakistan where they have been deployed against political opponents (Bouey et al. forthcoming).

[338] According to the CIA's World Factbook, with an area of 752,618 square kilometers, Zambia is the world's 40th largest county, but its road network of 67,671 kilometers is the 70th most extensive in the world. However, only 14,888 kilometers, or 28%, of Zambia's roads are paved. This means that its paved road density is only 0.02 kilometers per square kilometer, significantly lower than other developing countries like India (0.7) and Brazil (0.6).

Beijing doubled down on its support for Zambia during the Lungu administration—perhaps because it thought that a stable and pro-China government could serve as a de facto insurer for its project and investments. China's popularity soared during this period. Public approval for China, as measured by the Gallup World Poll, rose from 66.4% in 2015 to its highest ever level of 79.5% in 2017.

After narrowly winning re-election with 50.4% of the vote in August 2016, Lungu was quick to announce that "President Xi Jinping has expressed confidence in my leadership." He reiterated his resolve to further deepen his engagements with China to "empower businessmen and benefit every Zambian" (Shaban 2016). In the following year, Chinese grant and loan commitments amounted to $3.1 billion, half of which was a loan for the 750 MW Kafue Gorge hydropower project.

Then, in September 2018, Lungu visited China to attend the Forum on China-Africa Cooperation (FOCAC) summit where he formally signed up his country to participate in the BRI. Beijing responded by providing an additional $2.9 billion of aid and credit for roads ($1.4 billion), power transmission lines ($499 million), cement plants ($445 million), public housing ($229 million), and university construction ($208 million).[339]

When reputational assets become liabilities

As Chinese state-owned entities lent record amounts to Zambia, the IMF sounded the alarm about the composition and sustainability of Zambia's external debt burden (International Monetary Fund 2017). Between 2011 and 2016, public and publicly guaranteed (PPG) external debt skyrocketed from 8.4% of GDP to 36.5%. The share of central government debt owed to private creditors—which was provided on mostly non-concessional terms—increased to 50%. The share of central government debt owed to MDBs—which was provided on mostly concessional terms—shrank from 60% to 20.5%. The IMF warned that the "pace of borrowing needs to be slowed significantly" to align

[339] Throughout this period of high infrastructure activity, China's signature public health engagements continued through medical team visits, equipment and medical supplies donations, and interventions to combat infectious diseases (Dolan et al. 2023).

with the country's "absorptive capacity" through more stringent standards for "the selection, procurement, and monitoring of infrastructure projects." (International Monetary Fund 2017). Despite these warnings and Zambia's past experiences with debt distress, the Zambian government and its external creditors failed to pump the brakes (International Monetary Fund 2023).

Reports emerged that Zambian government agencies pressured the Ministry of Finance to sign-off on politically advantageous but commercially non-viable projects (Mutati 2016). In one instance, a senior government official dealing with the Mbala-Nakonde road alleged that "the [Chinese] contractor had already secured the agreement with the Ministry of Finance when they came to us. We just negotiated about the details of design, not the amount of the loan" (Lee 2018). Zambia's rush to launch as many high visibility projects as possible was a function of political economy considerations. Thin electoral victory margins in the country's presidential elections "create powerful incentives to use public works to reward constituencies" (Brautigam 2021).

A review of China's ODA and OOF portfolio in Zambia reveals that 19 out of 21 projects identified as having ESG challenges faced governance-related concerns, such as overpricing, corruption, and financial mismanagement (see Table A12).[340] In July 2019, then-opposition leader and future president Hakainde Hichilma claimed that "the debt that was acquired for just one project, Lusaka-Ndola (Dual Carriageway) road, which should cost US$400 million[...] is costing US$1.2 billion." He argued that Zambians "are giving [projects] to China in the corrupt way, which is costing us too much of taxpayers' money" (Ncube 2019).[341] In 2022, Dr. Mbita Chitala, the former chairman of the Board of Directors of ZESCO (Zambia's state-owned power utility), published a book entitled *Corporate Capture: The Political Economy of Electricity Management in Zambia 2014-2021 (How Not to Manage a State Enterprise)*. In it, he claimed that large segments of the China Eximbank-financed Smart Zambia National ICT Development Project were completely unnecessary and designed to enrich senior government officials. He recalled that "the whole project was a

[340] Between 2000 and 2021, the ESG risk prevalence rate in China's grant- and loan-financed infrastructure project portfolio was 56% in Zambia (see Table A12).
[341] The Sata government also launched an investigation of the 750MW Kafue Gorge hydropower project to determine if adequate transparency and financial controls were in place to monitor performance.

conspiracy to defraud Zambia" because Huawei was proposing solutions that were "inferior to ZESCO existing network" and located in towns that were already served (Chitala 2022).[342]

By late 2018, the Zambian government was cash-strapped and Beijing's development project portfolio began to suffer. The Zambian government was increasingly unable to meet its financial commitments to Chinese contractors and creditors. For example, after CDB issued a $469-million loan in December 2015, the Copperbelt Urban Roads Project faced a series of implementation delays until the state-owned engineering, procurement, and construction (EPC) contractor, China Henan International Cooperation Group Company (CHICO), abandoned the project due to insufficient payments by the Zambian government. The 750 MW Kafue Gorge hydropower project, the country's single largest energy sector project, faced severe implementation challenges when the borrower—a wholly state-owned special purpose vehicle known as Kafue Gorge Lower Power Development Corporation Limited—defaulted on its loan repayment obligations to ICBC and China Eximbank.[343] In both cases, senior government officials claimed that Lusaka would come up with the cash needed to complete the projects. The 750 MW Kafue Gorge hydropower project was not completed until April 2023—approximately 13 years after Sinohydro, the EPC contractor, signed an MOU to complete the project on a

[342] Dr. Chitala claims in his book that Zambia's Secretary to the Cabinet Dr. Roland Msiska and later Dr. Simon Miri and his deputy, former Deputy Finance Minister and Bank of Zambia Governor Patrick Mvunga, placed extraordinary pressure on ZESCO (the country's state-owned power utility) to accept an on-lending agreement for Phase II of the Smart Zambia National ICT Development Project. He writes that "it was obvious that some people had either already benefited from the deal or were being prevented from benefitting. Some of the members of the [ZESCO] management expressed genuine fear of the situation and requested for my protection." He also writes that "[t]he President [of Zambia] advised me to cancel [an upcoming ZESCO Board] meeting which I gratefully did as I had planned to resign from the Board if the Board members resolved in the affirmative to accept the on-lent loan. […] I had earlier made up my mind that if the board accepted that [ZESCO] receive the USD 392 million as on lent to [ZESCO] by the Ministry of Finance knowing that [ZESCO Limited could not accommodate the loan on its balance sheet and further knowing that the loan was essentially a way of defrauding Zambia, I would respectfully resign as chairman and board member of ZESCO Limited. […] It was common knowledge that the more than US$ 60 million that the Ministry of Finance released as its 15% counterpart contribution funding for the loan was not only wrongly released but was also grossly abused and that many people may have received bribes on that deal and hence the pressure on ZESCO to accept the USD 392 million on-loan let instructions. […] It was apparent that since government money had been expended without any work to show for, this would add to the other scandals that the Auditor General used to publish as examples of abuse of public office of trust or common theft of public resources by politicians and public servants" (Chitala 2022).

[343] Given that the loan was insured by Sinosure, the EPC contractor (Sinohydro Corporation Ltd.) sought compensation through an indemnity payment. In January 2021, Sinohydro Corporation Ltd. filed an insurance claim with Sinosure, which in turn made an indemnity payment (worth $57.23 million) to Sinohydro Corporation Ltd. in May 2021. See Project ID#92289 and #57536 in the 3.0 version of AidData's GCDF dataset.

build-operate-transfer basis. The Copperbelt Urban Roads Project was indefinitely suspended. The Lusaka-Ndola (Dual Carriageway) Road Project suffered a similar fate.

Between 2019 and 2021, new grant and loan commitments from China were virtually non-existent. After providing average commitments worth $3 billion between 2016 and 2018, Beijing sharply reduced its average annual commitments to $66 million from 2019 to 2021. If China's bid to accumulate soft power requires demonstrating that its economic development model is effective and sustainable, Zambia represents a spectacular failure. Projects that were supposed to be reputational assets—and spur Chinese-led economic growth for Zambians—became reputational liabilities.

The limitations of infrastructure financing for soft power accumulation

The Zambian case illustrates the limitations of China's strategy of using large-scale infrastructure projects to expand its influence overseas. This outcome was not completely of China's making. Nor was it inevitable. Rather, it was due to overborrowing for projects whose feasibility was based on either optimistic or "graft ridden" projections (The Economist 2018). For instance, the new terminal at Lusaka's Kenneth Kaunda Airport was designed to accommodate "an improbable ten-fold increase in passenger traffic," and at $360,000 per kilometer, the average price tag of roads built between 2011 and 2018 was "more than twice the African average" (The Economist 2018). Had the Zambian government or Chinese creditors followed more robust due diligence requirements (see relevant discussion in Chapters 2 and 3), these pitfalls could have been minimized or otherwise avoided. However, these factors ultimately led to the downfall of the entire model, resulting in massive losses for the Lungu administration, China's reputation, and above all else, the people of Zambia.

Going forward, Beijing might be able to reverse the reputational losses that it has suffered if it follows through on a June 2023 debt relief commitment and if local economic conditions improve. In addition, several previously stalled infrastructure projects—those that were delayed due to COVID-19 and financial distress—will soon reach completion and potentially increase public support for

China. Beijing could also consider sending high-ranking CPC officials or even organize a state visit by President Xi to reset and deepen ties with Lusaka. However, as compared to his predecessor, President Hichilema appears to be playing a careful balancing act in his relations with China and the U.S., and he will likely tread carefully.

Bangladesh case study: Stability in authoritarianism

Bangladesh, like Zambia, is a competitive jurisdiction that we classified as a toss-up (leaning China) country. During the early BRI period, China made modest media sentiment gains there at the expense of the U.S. It also dramatically increased the provision of aid and credit to Bangladesh during the late BRI period. Whereas average annual ODA and OOF commitments from China to Bangladesh were only $994 million between 2014 and 2017, this figure soared to $3.4 billion between 2018 and 2021. This unprecedented spending increase coincided with a period of political stability, particularly after Prime Minister Sheikh Hasina won her second consecutive electoral victory in 2018. It also coincided with a period of rising authoritarianism.

China's late BRI era foray into Bangladesh

In May 2021, Chinese Ambassador Li Jiming issued a stern warning to Bangladesh's elites. In response to reports that Dhaka might join the Quadrilateral Security Dialogue (the Quad)—an informal coalition between the U.S., Japan, Australia, and India—he said that such a move would inflict "substantial damage" on Sino-Bangla relations. This uncharacteristically blunt remark provoked strong pushback from Bangladesh's Foreign Minister A.K. Abdul Momen. "We are an independent and sovereign state. We decide our foreign policy," he said. He also clarified that Dhaka was neither approached by the members of the Quad nor was its participation in the Quad a possibility under active consideration (Islam 2021).

This diplomatic spat highlights Bangladesh's desire to delicately balance relations with the U.S. and its closest regional partner (India), while bolstering its "strategic partnership" with China (Ministry of Foreign Affairs of the People's Republic of China 2016). Bangladesh is located in the strategically vital Indo-Pacific region, serving as a gateway between South Asia and Southeast Asia. For China, it is an entry point to the Bay of Bengal, and its proximity to Myanmar increases its strategic value to the U.S. and its Quad allies.

Since Prime Minister Sheikh Hasina's assumption of power in 2009, Bangladesh has made tremendous economic and social development progress: extreme

poverty has been reduced by half; life expectancy has risen by 6 years; the average economic growth rate has exceeded 7%; and per capita income has risen by 3.5 times (United Nations 2022; Trotsenburg 2023). At the same time, Sheikh Hasina has effectively turned Bangladesh into a single-party system, ushering in a period of authoritarianism.[344] Between 2009 and 2022, the country's position on the Reporters Without Borders' Media Freedom Index fell from 121 to 162 out of 180 countries (Reporters Without Borders 2023). Its overall performance on Freedom House's Freedom in the World Index tumbled by a quarter, with political rights eroding by nearly one-third (Freedom House 2022, 2023).

For the U.S. and its allies, Bangladesh's positive economic development trajectory, democratic backsliding, and geostrategic position presents a policy conundrum. Bangladesh's concentration of power in one person, lack of tolerance for political dissent, and singular focus on infrastructure-driven, export-led economic growth is strikingly similar to Beijing's own. Yet, the Quad is seeking to expand its footprint in the Indo-Pacific and has reportedly reached out to Bangladesh about the possibility of a regional "economic partnership" (Kishida 2023).

Beijing is evidently aware that Bangladesh is a competitive jurisdiction where it cannot afford to rest on its laurels. In a recently published op-ed, the Chinese Ambassador to Bangladesh announced that "China is set to bring more development opportunities to Bangladesh," predicting that the country's exports to China would grow significantly after Beijing announced duty-free market access to most Bangladeshi products (Wen 2023). In other statements, he has accused the U.S. of pressuring Dhaka to deviate from its longstanding position of neutrality in great power competitions. In April 2023, the Bangladeshi Ministry of Foreign Affairs released its first-ever "Indo-Pacific Outlook," restating the "political dictum" of the country's founding father Sheikh

[344] The rise of authoritarianism, which began during Sheikh Hasina's second term (2009-2014) and was reinforced during her third term (2014-2019) with the Digital Security Act of 2018, has continued during her fourth term (2019-present). The opposition party (BNP), which accuses the government of using the judicial system to silence its critics and hatching plans to rig the January 2024 election, claims that the future of multi-party democracy is in jeopardy (Amnesty International 2023; Paul 2023).

Mujib ur Rehman ('Friendship toward all, malice toward none") as a guiding principle (Ministry of Foreign Affairs of Bangladesh 2023).

As we previously noted, Bangladesh was selected as a case study country because it fell in the toss-up (leaning China) category during the early BRI period (according to the media sentiment analysis described in Section 2). However, on multiple dimensions of soft power, Bangladesh remains a toss-up country, leaning toward neither China nor the U.S.. Both powers—as well as India—are actively vying for influence there (Asmus et al. forthcoming). Beijing has responded to its recent soft power gains in Bangladesh by doubling down on the provision of aid and credit. This outcome was likely made possible by several factors related to Bangladesh's domestic political and economic environment: a dominant single party government in-charge of a centralized governance system, a strong focus on rapid delivery of highly visible physical infrastructure projects, and proactive debt management.

Sheikh Hasina's rise and the end of political instability

Within months of independence from Pakistan in 1971, the ruling Awami League (AL) party started moving Bangladesh's nascent political system toward a single-party system. But a combination of factors—including economic mismanagement, rising political repression, and growing concern about the country's future—led to multiple military coups and dictatorships from 1975 to 1990 (Riaz 2016). After a return to democracy, the period from 1991 to 2008 was marred by political crises, dysfunctional governance, and frequent violent clashes between supporters of Sheikh Hasina's AL and Khaleda Zia's Bangladesh Nationalist Party (BNP) (Mannan 2018).

A key source of infighting was the bitter history of animosity between the two leaders, originating in the 1975 *coup d'etat* against the government of Sheikh Hasina's father, Sheikh Mujib ur Rehman (the country's founder). Military officers not only assassinated Sheikh Mujib, but also all three of Sheikh Hasina's brothers, two of her sisters-in-law, and her mother. After the coup, Khaleda Zia's husband General Zia ur Rahman emerged as a key military and political leader, eventually becoming president two years later and forming the BNP, which he led until his

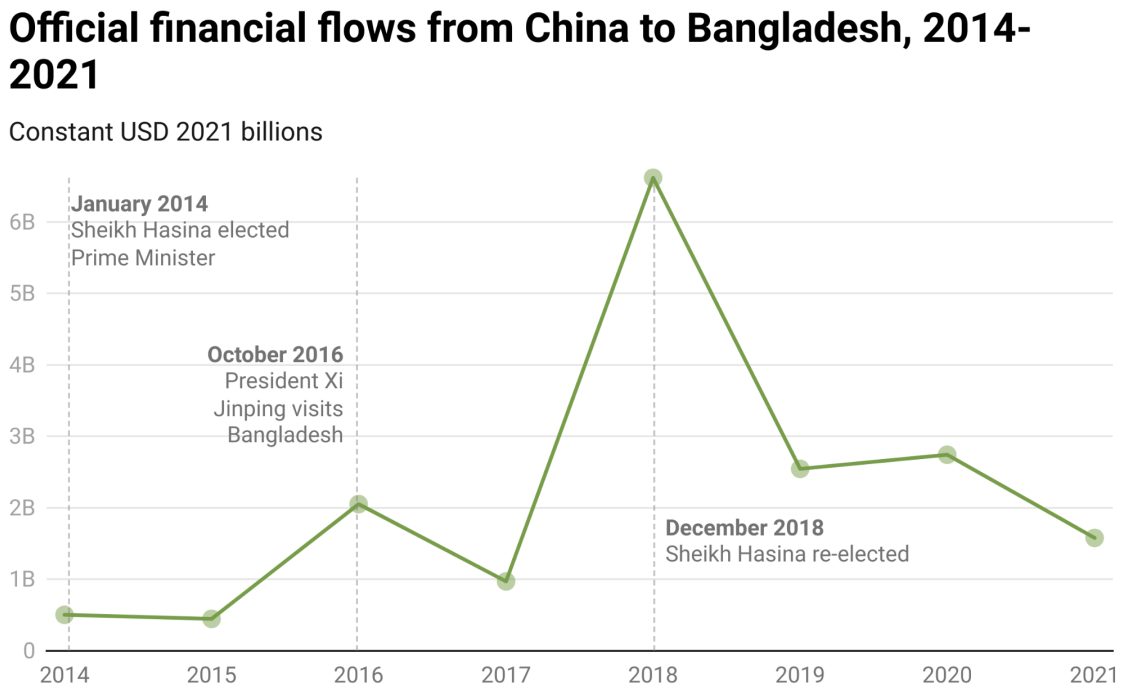
assassination in 1981. The tremors from these events still reverberate in Bangladesh's politics, as AL seeks to fulfill Sheikh Mujib's desire to run the country as a single-party democracy.

Between 1991 and 2006, Zia served two terms in office and Hasina served one term in office. This era represented an electorally competitive period, albeit one marked by frequent political and constitutional crises (Vaughn 2008). Then, prior to the elections scheduled for early 2007, the military intervened and appointed a technocratic interim government to oversee fresh elections. These were eventually held in December 2008, leading to Sheikh Hasina's AL return to power, which she has held onto ever since. She has steadily solidified her grip on the political system, stifling opposition forces and retaining power through heavy-handed authoritarian measures to control the media and judiciary (The Economist 2023).

The soft power benefits of development finance

Between March 1971 (when the country gained its independence) and December 2008, Bangladesh's largest foreign aid and credit providers were Japan, the U.S., and the U.K. China did not maintain an especially large development finance program during this period. However, during the BRI era, Beijing issued grant and loan commitments worth $17.5 billion, making it Dhaka's single largest development partner. In 2006, China also surpassed India and the U.S. to become Bangladesh's largest trading partner, with $4.7 billion in total flows. One might assume that the combination of high trade volumes and unprecedented levels of aid and credit for highly visible infrastructure projects led to rapid soft power accumulation for China. However, in reality, the relationship between development finance and soft power has not been straightforward for several reasons.

Figure 4.8

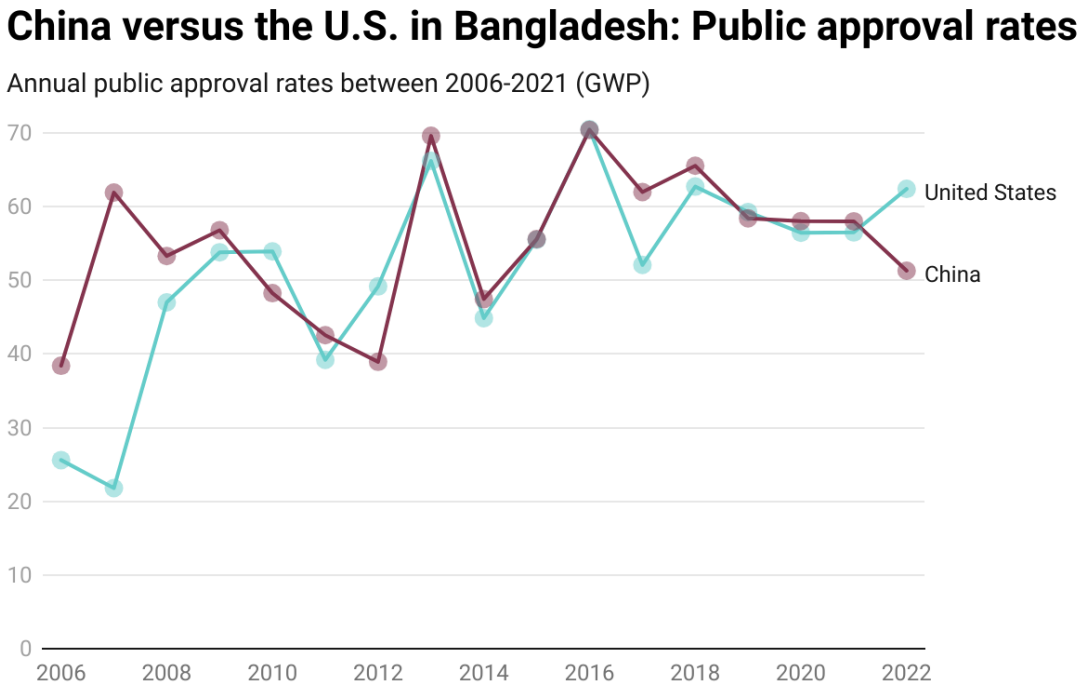


Notes: AidData relies on OECD-DAC measurement criteria to make ODA and OOF determinations (as described in Section A-2 of the Appendix).

According to the 3.0 version of AidData's GCDF dataset, China issued grant and loan commitments worth $20.8 billion for 138 projects in Bangladesh between 2000 and 2021 (see Figure 4.8).[345] That made Bangladesh one of China's 20 largest aid and credit recipients in the developing world and its 7th largest recipient in Asia. China's ODA and OOF commitments to the country soared from $3.3 billion during the pre-BRI period (2000-2013) to $17.5 billion during the early and late BRI period (2014-2021). During the BRI era, the project portfolio was largely focused on the construction and rehabilitation of power plants, transmission lines, highways, and bridges.

[345] China's ODA and OOF commitments to Bangladesh during this 22-year period focused on four sectors: energy ($10.3 billion), transport ($6.3 billion), industrial development ($1.9 billion), and ICT infrastructure ($1 billion). Beijing also supported a large number of education, health, and emergency response projects (with relatively small financial commitments), particularly in crisis years such as the COVID-19 period.

Figure 4.9



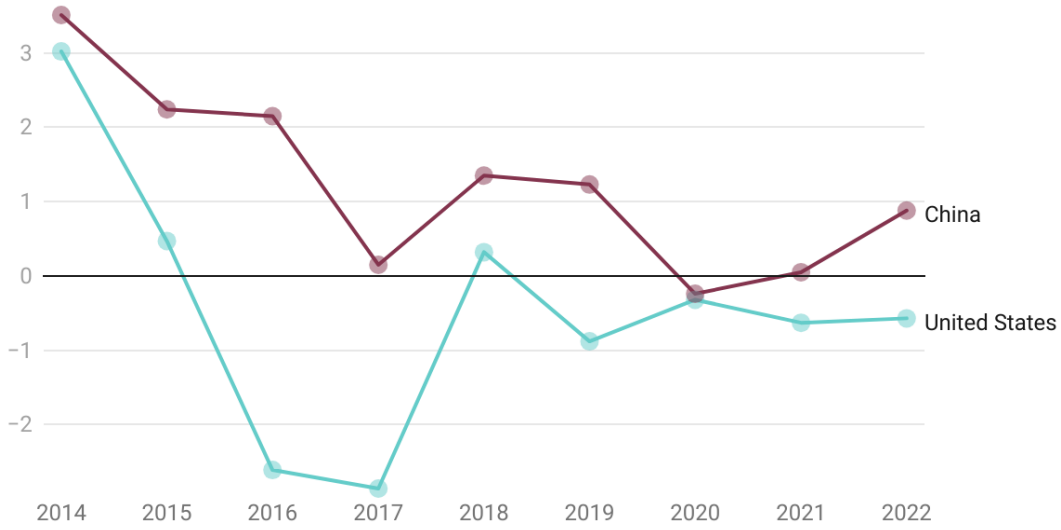
Given the unprecedented scale of these financial commitments and the highly visible nature of the infrastructure projects undertaken during the BRI era, it is not surprising that Beijing has made some public opinion and media sentiment gains since 2014. The average level of public approval for the Chinese government was 49% between 2006 and 2013 (see Figure 4.9). Then, during Sheikh Hasina's second and third consecutive terms in office (from 2014 to 2018 and from 2019 to 2022), Beijing saw its average public approval rating increase to 60% and 56%, respectively.

The U.S. and China generally enjoyed similar levels of public support in Bangladesh during the BRI era (see Figure 4.9). However, shortly after Donald Trump came to power, the U.S. suffered an 18 percentage point decline in its public approval rating (from 70% in 2016 to 52% in 2017), which gave China a 10% percentage point advantage over the U.S. in 2017. Beijing's advantage was nevertheless short-lived. By 2022, Washington saw its public approval rating rise to 62%, thereby opening up an 11 percentage point advantage over Beijing in 2022.

Figure 4.10

China versus the U.S. in Bangladesh: Media sentiment scores

Average media sentiment scores (GDELT) from news articles about China and the U.S.



Notes: The data are drawn and processed from the GDELT 1.0 Event Database (related to government actors from mainland China or the U.S.). See Box 1b in Chapter 1 for more details.

In terms of the competition for favorable media coverage, the GDELT data indicate that, during Sheikh Hasina's 2014-2018 term, the average tone of media sentiment about China (+1.88) was significantly more positive than the average tone of media sentiment (-0.33) about the U.S. (see Figure 4.10). However, between 2019 and 2022, China's average media sentiment score declined to +0.48.[346] One potential reason why media coverage about China may have become less favorable during the late BRI period is that $10 billion (or nearly 38%) of Beijing's development finance portfolio in Bangladesh encountered significant ESG problems (see Table A12), including social and governance challenges associated with the design and implementation of multiple coal-fired

[346] With scores of +4.7 and +3, China's largest media sentiment advantage over the U.S. came in 2016 and 2017. Since then (2018-2022), the average tone of media sentiment about China has fallen to +1.1. This finding is consistent with empirical evidence that suggests the soft power benefits of Chinese development projects are short-lived, with a significant fading away of reputational benefits in the medium- to long-term (Wellner et al. forthcoming).

power generation plants.[347] The U.S. also saw its average media sentiment score deteriorate (to -0.6) during the 2019-2022 period, though the decline that it experienced was smaller than the one experienced by China. As a result, the media sentiment gains that Beijing made at the expense of Washington during the early BRI period were *partially* reversed during the late BRI period (see Figure 4.10).

The foundations of Beijing's partnership with Sheikh Hasina

The rapid rise of Chinese development finance during the BRI era was facilitated by Beijing's strong partnership with Sheikh Hasina's AL government, which grew as she strengthened her grip on power. Since December 2008, the centralization of political power has resulted in higher levels of administrative certainty and created an enabling environment for Beijing to bankroll and build big-ticket infrastructure projects.

Table 4.3

Development finance commitments from China to Bangladesh by executive administration

Political Administration	Annual average development finance (ODA and OOF) from China during each administration (USD 2021 millions)	ODA % from China
BNP's Khaleda Zia (2002 - 2006)	175	72%
Military-appointed Fakhruddin Ahmed (2007-2008)	71	100%
Sheikh Hasina I (2009-2013)	381	47%
Sheikh Hasina II (2014-2018)	2,191	20%
Sheikh Hasina III (2019-present)	2,290	7%

Notes: This figure provides a summary of Chinese ODA and OOF commitments to Bangladesh during each executive administration in Bangladesh since 2002. Exact commitment dates in the 3.0 version of AidData's

[347] Between 2000 and 2021, the ESG risk prevalence rate in China's grant- and loan-financed infrastructure project portfolio was 59% in Bangladesh (see Table A12).

GCDF 3.0 were compared to election dates and political transition dates to categorize each ODA/OOF-financed project according to the chief executive that was in power at the time of the commitment. "ODA % from China" displays the proportion of China's development portfolio that is classified as ODA and that was committed during each executive administration. AidData relies on OECD-DAC measurement criteria to make ODA and OOF determinations (as described in Section A-2 of the Appendix).

As Table 4.3 demonstrates, the volume and composition of Chinese development finance in Bangladesh have changed significantly over the course of the last five administrations. Financial commitment amounts have soared since the military-backed interim government of 2007-2008, but the proportion of Chinese development finance provided via ODA (grants and highly concessional loans) has fallen sharply, which reflects Beijing's growing focus on larger-scale, revenue-generating projects, such as power plants and tolled bridges.

Between 2000 and 2008, under the government of Bangladesh National Party (BNP) leader Khaleda Zia and the military-backed technocratic government of Fakhruddin Ahmed, average annual Chinese development finance commitments amounted to only $175 million and $71 million, respectively (see Table 4.3). During this period, 82% of total commitments, or $1.2 billion, supported just seven large projects, including a transmission line, fertilizer plant, and bridge. Beijing also supported smaller projects to promote public goodwill, such as cycle relief activities, scholarships to study in China, and the China-Bangladesh convention center as a monument of friendship.

The nature of Beijing's engagement in Bangladesh began to shift during the late years of Sheikh Hasina's second term (2009-2013), with average annual commitments ($381 million) more than doubling those issued to the two previous two governments (see Table 4.3). With a greater focus on "bankable" infrastructure, the share of Chinese development finance provided via ODA dropped to 47%. Project sizes also increased. Beijing issued loans worth $697 million for a fertilizer factory and $595 million for 3G mobile and national internet broadband network upgrades, power plants, and an urban water treatment plant.

But the most dramatic changes took place after Sheikh Hasina's 2013 visit to Beijing, at which time a major new focus on power generation and transport connectivity was agreed upon at the highest levels. With greater political stability and confidence in her political longevity, Beijing agreed to green-light a set of transformative investments that could help Sheikh Hasina meet the ambitious goals she set for export-led economic growth as a means of lifting millions out of poverty. China's own development model aligned with her vision, which may explain why its average annual development finance commitment grew by a factor of seven (to $2.2 billion) between 2014 and 2018 (see Table 4.3).

The conventional wisdom is that China dramatically scaled back its overseas lending commitments during the late BRI period due to the COVID-19 pandemic and rising concerns about debt sustainability (see Chapter 2). However, Beijing behavior in Bangladesh belies this claim. On average, between 2019 and 2021, Sheikh Hasina's government accepted $2.3 billion per year in new ODA and OOF commitments from China, which enabled the rapid progress (or completion) of high-profile projects such as the Padma Bridge, the Dhaka elevated expressway, and several power plants (see Table 4.3 and Table 4.4). From Sheikh Hasina's perspective, these are arguably the most politically advantageous undertakings supported by China: Padma Bridge sits within her home district and political constituency; the Dhaka expressway improves urban mobility for the country's political and business elite; and new power plants could eliminate crippling power shortages affecting all Bangladeshis.[348]

The best of all worlds: Single-party governance, proactive debt management, and insatiable infrastructure demand

Despite widespread international condemnation of growing authoritarianism and alleged human rights abuses during her 15-year term in office, Asia's "iron lady" is poised to fulfill her late father's vision of turning Bangladesh into a one-party state (The Economist 2023). During recent media interactions, Sheikh Hasina has claimed that her AL party is the only legitimate political force in the country that

[348] In Chapter 3, we discuss the governance risks associated with siting development projects in the home districts of political leaders. Also see Dreher et al. (2019, 2022).

should be allowed to contest elections because the main opposition BNP was created by erstwhile military dictators. Her critics argue that, under her watch, Bangladesh's economic progress has become solely reliant on nepotistic textile industrialists, and her team is out of fresh ideas to tackle deep rooted structural problems, such as corruption.[349] Irrespective of these challenges, with major opposition parties in disarray and dissenting voices in civil society largely silent, today she is predicted to win the January 2024 election.[350]

Table 4.4

Chinese ODA and OOF infrastructure project milestones during the second half of 2018 in Bangladesh

Project	Commitment Amount (USD 2021 millions)	Activity Type	Month
Padma Bridge Rail Link	2,900	Implementation Started	July 2018
Dasherkandi Sewage Treatment Plant	318	Implementation Started	August 2018
Payra Coal-Fired Power Plant	2,200	Implementation Started	October 2018
Bangladesh-China Friendship Bridge	94	Implementation Started	November 2018
Banskhali Coal-Fired Power Plant	1,300	Financial Commitment	December 2018

Notes: This table identifies Chinese ODA- and OOF-financed infrastructure project milestones in the 6-month period preceding the December 2018 national elections in Bangladesh. The financial commitment amounts only represent those from official sector institutions in China. AidData relies on OECD-DAC measurement criteria to make ODA and OOF determinations (as described in Section A-2 of the Appendix).

Previous research has demonstrated that elections provide powerful incentives for politicians to showcase their performance, and highly visible physical infrastructure projects are ideal for achieving this goal (Marx 2018; Anaxagorou

[349] Bangladesh's perceived level of corruption is among the worst in South Asia (Transparency International 2021).
[350] According to a poll undertaken by the International Republican Institute's (IRI) Center for Insights in Survey Research (CISR) between March 1, 2023 and April 6, 2023, Sheikh Hasina enjoys a 70% public approval rating. However, approval of the opposition increased from 36% in September 2019 to 63% in March/April 2023 (CISR 2023).

et al. 2020). In Zambia, Brautigam (2022) argues that the competitiveness of presidential elections heightens this desire, but in Bangladesh the stakes appear to be high even in relatively uncompetitive elections, such as in 2018 when the main opposition party BNP boycotted them. In the run-up to the December 2018 election, Beijing also seemed to make special efforts to ensure that its favored candidate, Sheikh Hasina, was in the best possible position to win reelection.[351]

In the six-month period leading up to the December 2018 election, Beijing approved, started implementation on, or completed projects backed by grant and loan commitments worth $6.8 billion (see Table 4.4). One of these projects included the 1,320 MW Banskhali coal-fired power plant, which was financed by five Chinese creditors (Agricultural Bank of China, China Development Bank, China Construction Bank, and Bank of China, China Minsheng Bank) and one local creditor (Rupali Bank Limited) through a $1.78 billion syndicated loan. During the same six-month period, Chinese state-owned companies began the implementation of six additional projects backed by financial commitments worth $6.5 billion, including the 1,320 MW Payra coal-fired power plant and the high-profile Padma bridge rail link project. Beijing kept up the momentum after Sheikh Hasina won re-election. During the first six months of her new term in office, Chinese donors and lenders green-lit new projects worth $1 billion; Chinese firms started implementing new projects backed by official financial commitments worth $1.2 billion; and two projects (backed by Chinese loans worth $300 million) were completed (see Table 4.4). As in prior years, the projects were infrastructural in nature (for electricity production and national internet connectivity).

Similar to its relationship with Edward Lungu in Zambia and the Kirchners in Argentina, Beijing's partnership with Sheikh Hasina appears to reflect a preference for working with incumbents who have good reelection prospects—or political longevity for other reasons. From a return-on-investment standpoint, this preference may reflect the fact that Chinese infrastructure

[351] China has previously demonstrated that it is willing and able to fast-track infrastructure projects to help friendly political incumbents (e.g., Jansson 2013).

financiers want their loans repaid on time and with interest.[352] However, given that infrastructure project completion increases public support for China (Wellner et al. forthcoming 2023), Beijing's diplomats likely also have incentives to prioritize collaboration with stable governments that have put in place policies and institutions which facilitate the delivery of large-scale infrastructure projects.[353]

The gateway to South and Southeast Asia

Given its unique locational position and recent geopolitical trends—including the rise of India and growing Sino-U.S. tensions in the South China Sea—Bangladesh will likely remain a key battleground for great power competition in the coming years. From Dhaka's vantage point, growing competition between China and the U.S. in the Indo-Pacific region only offers more opportunities for improving economic growth. Its economy still needs diversification—e.g., through new competitive industries adjacent to its dominant textile industry. This will require investment, skills transfer, and further integration of existing industries into global supply chains. A deepening trade relationship with China, potentially through the planned rail link via Myanmar, could increase economic prosperity through job creation.

From the U.S. perspective, its robust trade ties with Bangladesh and strong alliance with India (Bangladesh's most influential regional partner) may provide opportunities to make inroads. Yet recent events—including vote rigging, voter intimidation, the use of violence, and the targeting of Nobel Peace Prize laureate Muhammad Yunus through the judicial system—have put Washington in a tough position (Miller 2023). As a defender of liberal democracies around the world, Washington may feel compelled to condemn actions that would push Bangladesh further down the path of authoritarianism. On the other hand, it cannot ignore the *realpolitik* consideration that China's influence is expanding in South and Southeast Asia.

[352] Dreher et al. (2022) provide statistical evidence that when Beijing issues loans at or near market rates, it favors countries with high levels of political stability.
[353] Effective public debt management is one such example. Bangladesh currently has a manageable debt-to-GDP ratio of under 20% (World Bank 2023a).

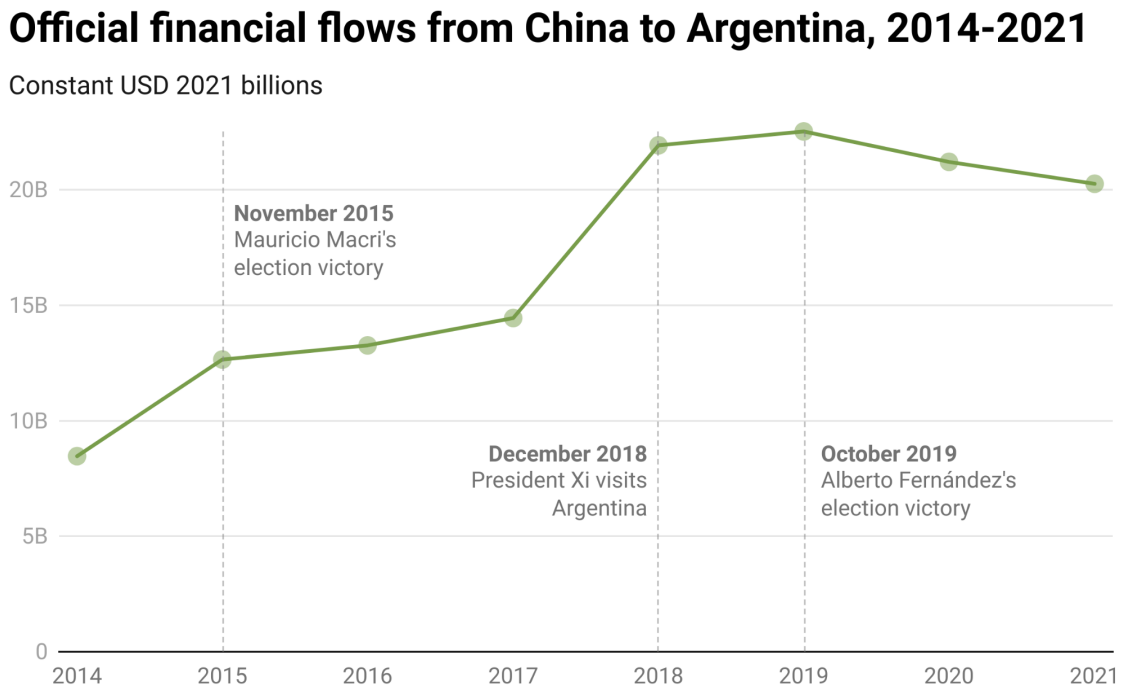
Argentina case study: 'A family affair'—China's generosity and pragmatism

In terms of changes in elite support for China during the early BRI period, Argentina falls into the safe bet category of countries. Its UNGA voting patterns demonstrate that it moved into closer alignment with China than with the U.S. between 2014 and 2017. We also chose to conduct a case study of Argentina because it was richly rewarded by Beijing during the late BRI period—mostly in the form of serial emergency rescue lending that has helped pull the country back from the brink of economic catastrophe.

It is surprising that Argentina—an upper middle-income country with close, if at times strained, relations with the United States—is one of the largest recipients of Chinese aid and credit in the 3.0 version of AidData's GCDF dataset. This was not always the case. Beijing provided loans and grants worth only $4 billion during the pre-BRI era (2000 to 2013). Then, during the BRI era (2014 to 2021), China's official financial flows to Argentina skyrocketed (see Figure 4.11). Average annual financial commitments during this period amounted to $16.8 billion. Beijing bankrolled infrastructure projects such as solar and hydroelectric power plants, irrigation systems, highways, railway lines and locomotives, and even a space monitoring station. However, the vast majority of China's official sector financial flows to Argentina came in the form of currency swap debt from the People's Bank of China (PBOC).[354]

[354] A bilateral currency swap (BCS) agreement is an agreement between the central banks of two countries to exchange cash flows in different currencies at predetermined rates over a specified period of time. The party to the BCS agreement that draws down on the swap line becomes the borrower and its counterparty becomes lender. The currency of the borrower is held as collateral while the lender receives interest on the amount drawn down by the borrower until repayment is made. In principle, swap lines with the PBOC are designed to promote the use of RMB for trade and investment settlement purposes. However, in practice, they are mostly used to provide balance of payments support to borrowers with high levels of outstanding debt to China during periods of financial distress (Horn et al. 2023a, 2023b). Nearly all PBOC swap borrowings carry de jure maturities of less than one year. However, PBOC swap debt is frequently rolled over, resulting in average de facto maturities of 3.5 years (see Box 3a in Chapter 3).

Figure 4.11



Notes: AidData relies on OECD-DAC measurement criteria to make ODA and OOF determinations (as described in Section A-2 of the Appendix).

At the same time, Argentina is geographically and economically proximate to the West. It has been a major non-NATO ally to the United States since 1998 (Center for Latin American and Latino Studies 2022). The U.S. is its third largest export and import market (The Growth Lab at Harvard University 2023). Argentina has close, if complicated, relations with the IMF, which has provided tens of billions of dollars of credit to support the country. Argentina is also a vibrant democracy and one with a highly educated populace.

But Argentina has a history of pursuing strategic ties with ideologically-confounding partners in pursuit of its national agenda. During the late Cold War, the Argentine right-wing military junta had good relations with the Soviet Union to support its inflation-ridden economy (Schumacher 1981). During the modern era of great power competition, Argentina's status as a regional leader in Latin America and a G-20 economy has made it particularly important to both the United States and China, and it has pursued ties with both

nations to benefit itself. Nonetheless, our UNGA-based measure of elite support suggests that Argentina moved into closer alignment with China than the U.S. during the early BRI period. But the story begins a decade before the launch of the BRI.

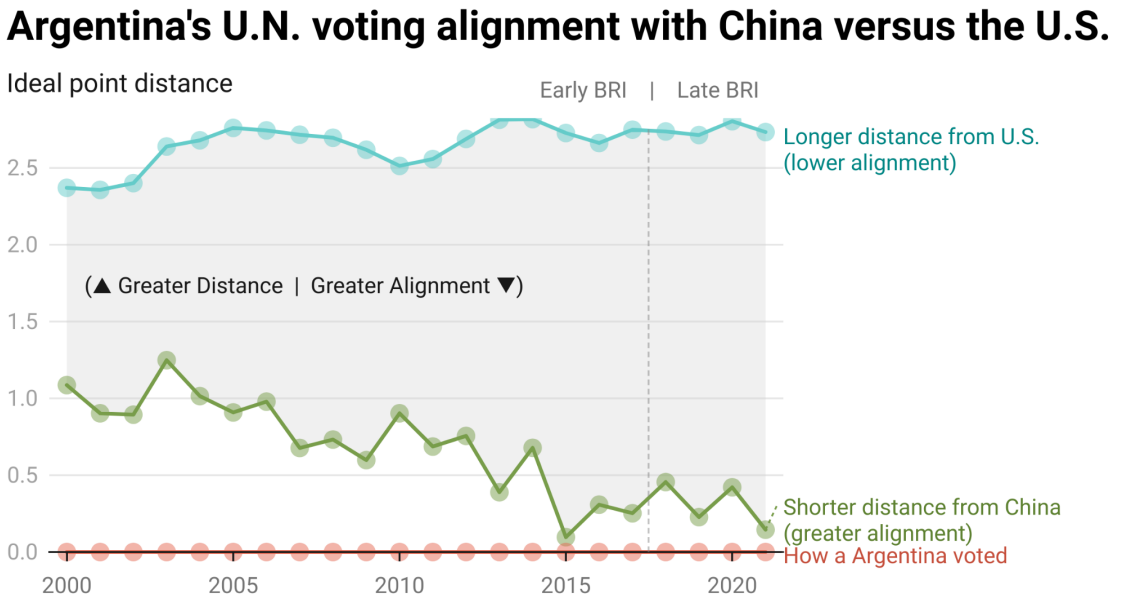
The Kirchners and the BRI

During the 2003-2007 and 2007-2015 Peronist presidencies of Néstor Kirchner and his wife Cristina Fernández de Kirchner (CFK), U.S.-Argentina relations were shaky, inconsistent, and at times tense and hostile, although not cooperation-free (Sullivan and Nelson 2017). The Kirchners' governments deepened ties with American adversaries, including Russia, Venezuela, Iran, and Cuba (Filkins 2015).

While these tensions with the United States grew and U.S. foreign policy focused on the Global War on Terror, the Kirchners deepened Argentina's relationship with China, especially during CFK's second term (Sullivan and Nelson 2016). China became the second largest export and import market for Argentina during the Kirchners' presidencies (The Growth Lab at Harvard University 2023). During CFK's first term (December 2007 to December 2011), official financial commitments from China to Argentina amounted to only $1 billion. However, during her second term (December 2011 to December 2015), official financial commitments from China to Argentina skyrocketed to $23.9 billion.[355]

[355] These figures, as well as other figures that rely on precise dates, only include projects where the commitment dates within a given year are entirely unknown if the relevant measure [presidential term, months before an election, etc.] makes up more than half of the year; so for 2015, since CFK served as president for all but 21 days of the year, AidData includes commitments with entirely unknown dates as under her presidency.

Figure 4.12



** Ideal point distance (from Bailey and others 2017) is a measure of variance between distributions. LICs and MICs with lower variance in their voting patterns compared to China's patterns are "closer together" (i.e. higher alignment).*

Notes: See Box 1b for more detail on this measure.

Figure 4.12 documents trends in Argentina's level of UNGA voting alignment with China and the U.S between 2000 and 2021. The influence of Kirchnerist presidencies is evident. Argentina was never further away from China—from a foreign policy alignment perspective—than in 2003. Then, under the Kirchners' presidencies, Argentina steadily moved into closer alignment with China, a trend that intensified during the early BRI period.

Argentina's ties to China strengthened during CFK's second term, which coincided with the beginning of the BRI. In late 2014, several Chinese state-owned banks green-lit a $4.71-billion syndicated loan for the 1,740 MW Néstor Kirchner and Jorge Cepernic Hydroelectric Power Plant Construction Project (KCHP Project), a twin dam of great personal significance to CFK, as it was named in part after her late husband who died in 2010 (Lucci 2019).[356] CFK

[356] The unredacted loan contract was included in the *How China Lends Dataset, Version 1.0* (Gelpern et al. 2022) and it is accessible in its entirety via https://www.documentcloud.org/documents/20484849-arg_2014_435.

described the project as "the most important hydroelectric project" in Argentina's history and served as its major patron (Watts 2015). The EPC contract was awarded to China Gezhouba Group as part of a wider consortium with two Argentine companies.

The dam project combined Peronist political goals (infrastructure-driven nation-building) with CFK's personal political goals (developing the Santa Cruz Province, the familial and political core of Kirchnerism) and the principles of the BRI (infrastructure to spur global development and trade). Argentina's leadership was well-positioned to leverage large-scale financing from China to support its agenda. For Beijing, the project represented an opportunity to promote the BRI and pursue its soft power objectives.

On July 30, 2014, two days before signing of the loan agreement for the KCHP Project, the Government of Argentina defaulted on its foreign bond repayment obligations (von Hoffman 2014). At the time, Argentina was experiencing a recession, a currency devaluation, and high levels of inflation. Earlier that month, on July 18, 2014, during Xi Jinping's visit to Buenos Aires, the People's Bank of China (PBOC) and the Central Bank of Argentina (BCRA) extended an RMB 70 billion (around $11 billion) bilateral swap agreement for the promotion of trade, use of the renminbi, and the bolstering of Argentina's foreign exchange reserves (Arnold 2023). Later that year, the BCRA activated the swap arrangement, drawing down RMB 14.2 billion between October and December. Then, in 2015, it again drew down RMB 70 billion. The PBOC swap line helped rescue Argentina without any significant involvement from Western powers. This was significant because the default originated from an Argentine refusal to meet an U.S. court-mandated repayment to a "vulture fund" (Shortell 2014).

The fact that China was willing to provide a large amount of credit during a period of crisis convinced some local elites that China could be a viable alternative to the West. After its 2001 default, Argentina had been isolated from international capital markets, so the emergence of China as a major international lender was a major boon, one that would allow the country to reduce its dependence upon the IMF and Western sources of funding. The availability of

Chinese credit could also be leveraged to secure more favorable offers from the West.

Partnership with China also offered domestic benefits that could help CFK's Justicialist Party remain in power. In exchange, China benefited from an administration in Buenos Aires that was more willing to adopt foreign policy positions that it favored. By 2015, the UNGA voting alignment data shows that Argentina's ideal distance from China reached its closest point across the entire 22-year period (at 0.0968).

Given the pro-China orientation of CFK's Justicialist Party, Beijing was willing to support the incumbent by authorizing multiple drawdowns under the PBOC swap line to stabilize the economy.[357] Nevertheless, the Justicialist Party candidate, Daniel Scioli, who had been expected to win by a large margin, lost the 2015 election by 3 percentage points (BBC News 2015). The winner was a conservative businessman, Mauricio Macri. During his campaign, Macri expressed his desire to improve ties with the U.S. and European Union. Macri never directly voiced an anti-China position. In fact, he publicly stated the importance of maintaining good relations. But he did signal that contracts signed by CFK's administration with Chinese companies required review for corruption and insufficient "technical details." CFK's personal involvement in the KCHP Project had been a source of domestic political grievance that the new administration wished to rectify (Center for Latin American and Latino Studies 2022).

After years of heavy financing during CFK's years, from Beijing's perspective, the prospect of an Argentinian repositioning toward the West would be a policy failure. The fact that Macri's accession came in the midst of a wave of new center-right governments across Latin America likely amplified this concern (Center for Latin American and Latino Studies 2022).

China's suspicions about this matter were not ill-founded. Under the Macri administration, U.S.-Argentina relations were much closer than when his

[357] With the country's economic problems a dominant issue during the campaign, inflation running around 25%, and currency reserves declining, Beijing's financial rescue package was useful to governing elites (GBH 2015).

predecessors were in power.[358] Furthermore, in 2018, the Macri administration negotiated the largest IMF loan ever—$57.1 billion—to support the country's economy (Sen 2018).

Relations with China were not straightforward at first. In late December 2015, Macri suspended the twin dam (KCHP) project on environmental grounds (Lucci 2019).[359] This triggered concerns from the Chinese lenders, which had already disbursed $950 million. On March 10, 2016, CDB sent a letter on behalf of the other members of the loan syndicate to Argentina's finance ministry and warned of legal and political consequences of project suspension: *"[the KCHP Project and the Belgrano Railway Modernization Project are] major projects promoted by the Chinese parties in the same period of time in Argentina and each... [of the loan agreements for the two projects] contain 'cross default' provisions."* In effect, CDB told the Argentine authorities that they could not cancel the KCHP project without canceling the Belgrano railway project (Gelpern et al. 2022).[360]

In April 2016, after meeting with Xi in Washington D.C., Macri announced that the KCHP Project would proceed, although it would be modified to minimize negative environmental impacts (Koop 2016). Then, in December 2016, the Supreme Court of Argentina suspended construction until an environmental impact assessment was completed and a public hearing was held. Construction ultimately resumed in March 2018. Macri, after learning of China's determination to see a project personally endorsed by Xi succeed, decided that canceling the project was not worth the potential consequences of alienating or antagonizing a major creditor (Patey 2017). He also took steps to develop a stronger relationship with China while maintaining good relations with the West. During the early BRI years of his presidency, official financial commitments from China to Argentina remained substantial: $13.2 billion in 2016 and $14.4 billion in 2017.

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[358] This was bolstered by the ideological synergy between Macri and Donald Trump. Macri's Argentina supported the Trump administration's campaign against Nicolás Maduro's Venezuela (Wilkinson 2019).
[359] Between 2000 and 2021, the ESG risk prevalence rate in China's grant- and loan-financed infrastructure project portfolio was 44% in Argentina (see Table A12).
[360] The letter can be accessed in its entirety via https://www.dropbox.com/s/q6s26ninx4ldnes/Cross-Default%20Letter%20from%20China%20Development%20Bank%20to%20the%20Government%20of%20Argentina%2010%20March%202016.pdf?dl=0.

The late BRI period under Macri and Fernández

Argentina saw further growth in financial support from Beijing during the late BRI period (2018-2021). Average annual financial commitments from China during this period amounted to $21.4 billion. Most of this funding was provided via PBOC swap line drawdowns for balance of payments support.[361] By the time Macri exited office in December 2019, Argentina's RMB swap debt represented 50.5% of the country's total foreign exchange reserves (see Table 4.5).

Table 4.5

Estimated percentage of Argentina's foreign currency reserves derived from PBOC swap facility

Year	Total reserves (USD billions)	Amounts outstanding under PBOC swap facility (USD billions)	Estimated percentage of reserves originating from PBOC swap facility
2009	$48.01	$0	0%
2010	$52.21	$0	0%
2011	$46.27	$0	0%
2012	$43.22	$0	0%
2013	$30.53	$0	0%
2014	$31.41	$2.32	7.39%
2015	$25.52	$10.78	42.25%
2016	$38.41	$10.07	26.22%
2017	$55.31	$10.75	19.44%
2018	$66.22	$18.96	28.65%
2019	$44.88	$18.60	41.46%

[361] In July 2017, BCRA and PBOC extended the swap line by another three years; then, in December 2018, during Xi's state visit to Argentina, BCRA and PBOC signed a deal to increase the swap line's limit from RMB 70 billion to RMB 130 billion (around $19 billion) (Horn et al. 2023a). This agreement included a stipulation that PBOC could reject currency swap drawdowns if Argentina's IMF standby agreement was suspended or canceled.

Year	Total reserves (USD billions)	Amounts outstanding under PBOC swap facility (USD billions)	Estimated percentage of reserves originating from PBOC swap facility
2020	$39.40	$19.89	50.49%
2021	$39.65	$20.40	51.47%

Notes: This table shows the estimated percentage of Argentina's foreign currency reserves that originated from the PBOC swap facility between 2009 and 2021. The data on total reserves are from the World Bank and include gold reserves. Amounts outstanding under the PBOC swap facility are from Horn et al (2023a). All amounts are reported in nominal USD.

Despite the initial challenges, Macri eventually became a valued partner to China, as demonstrated by the increase in the swap line, Xi's visits, and various trade agreements, including the opening up of China to Argentina's soymeal livestock feed exports in September 2019 and lower barriers to beef and sheep exports (Koop 2018, Bronstein and Heath 2019). Macri took measures to join the China-backed Asian Infrastructure Investment Bank (AIIB) in 2018, which only became official in 2020. Also, while Argentina did not officially join the BRI until the next administration, Macri was one of only two heads of state from Latin America to participate in the first Belt and Road Initiative Forum in 2017 (Center for Latin American and Latino Studies 2022).

Beyond PBOC swap line borrowings, significant collaborative activities with China during Macri's presidency included the General Roca Railway Equipment Acquisition Project, which received a $236-million buyer's credit from CDB and supported a commercial contract with state-owned CRRC Qingdao Sifang; the National Road Line B (Corredor B Toll Road) Project, which was supported by a $1.18-billion syndicated loan from three banks, including the Bank of China and ICBC, to a Argentine-Chinese joint venture responsible for the construction and operation of the road; and the 312 MW Caucharí Photovoltaic Power Plant Project, financed by a $331.5-million China Eximbank loan. Macri's personal pragmatism and the prospect of what China *could* still offer helped foster a good relationship.

China's experience with Macri left Beijing with an optimistic outlook for the future of Argentine-Chinese relations. Despite Macri's pro-Western views and actions and initial caution toward China, under his leadership Argentina grew even closer to China. If China could thrive in Argentina under a conservative,

pro-Western president, then it could thrive under almost any conceivable Argentine president—especially if the Kirchnerists returned to power, who had deepened the relationship in the first place. China had demonstrated during both CFK and Macri's presidencies that it was a reliable, critical partner to the Argentine government for the country's economic stability and willing to negotiate if necessary, leaving little willpower among Argentine elites to alienate or antagonize a valuable partner; thus, China had turned Argentina into a "safe bet" for the foreseeable future.

Macri's center-right government ultimately proved insufficiently popular by the time of the 2019 Argentine general elections, due to economic troubles. The Kirchnerists returned to power with president Alberto Fernández and former president, now vice president, Cristina Fernández de Kirchner (no relation). During his campaign, Fernández often discussed China, arguing that Macri did not appreciate China enough. Additionally, Fernández met with Zou Xiaoli, the Chinese Ambassador in Argentina, and sent several of his foreign policy advisors to the embassy in the weeks prior to the election. Observers expected that under the Fernández administration, relations would be close, with China's projects in the country expected to be boosted (Koop 2019). As a demonstration of the importance of relations, Fernández's government appointed Sabino Vaca Narvaja, son of one of the founders of the Montoneros guerillas and the brother-in-law of CFK's daughter, as ambassador to China and assigned a general to serve as the defense attache, something previously only done for the U.S. (Ellis 2021).

Examining the data on financial commitments from the 3.0 version of AidData's GCDF dataset during the latter half of the late BRI period, there is little evidence of differential treatment across the Macri and Fernández administrations, with Argentina receiving $21.2 billion in 2020 and $20.2 billion in 2021. However, even though relations seemed poised to grow, the Fernández administration's relations with China reportedly stagnated because of issues on the Argentine side (Giusto and Harán 2023). Numerous pledged or committed projects with China never reached implementation because of currency controls, protectionism, bureaucratic bungling, and inconsistent policymaking from Argentina's national leadership (Economist 2023).

An example is the Atucha III Nuclear Plant Project. First pledged in 2014 during CFK's second term, it went through multiple rounds of negotiations with the Macri administration but never made solid progress. Soon after his victory, Fernández announced that the project would proceed. In February 2022, Argentina signed an EPC contract with China National Nuclear Corporation, only for Argentina to ask China to 100% finance the project in April 2022 (as opposed to the standard 85% maximum). More negotiations and requests for modifications followed throughout the year, leaving the project on shaky grounds (Bernhard 2022). Atucha is not an outlier. Between 2018 and 2021, China pledged $664.6 million of additional financing, but none of these pledges had become formal commitments by 2023, and an additional set of projects worth $146 million were suspended.[362]

Even if Fernández was not as interested in strengthening Sino-Argentine ties, Fernández, being a close Kirchner ally, was politically aligned with China. In February 2022, he visited Beijing and signed an agreement to join the BRI (Giusto and Harán 2023). China also issued a statement in support of Argentine claims to the Falkland Islands (known as Las Islas Malvinas in Argentina) (Rey 2022). At the UNGA, he continued the overall pattern established by his predecessors, bringing Argentina into closer voting alignment with China.[363]

The large volume of official financing from China to Argentina—especially in the form of government-sustaining currency swap drawdowns, and in addition to foreign direct investment and trade ties—has made China a critical financial partner for Argentina. During the early BRI period, which saw the last part of CFK's rule and the initially difficult, but soon productive, beginning of the Macri administration, Beijing realized how strong its foothold was, to the point that it could feel confident that Argentine elites would not endanger relations, turning it into a "safe bet" amongst all recipients for friendly elite alignment with China.

[362] In addition to projects that secured financial commitments in the early BRI era—which do not have the excuse of COVID-19 as a delaying factor and had more opportunities to be formally committed—over $2.8 billion of financing that had been pledged never reached implementation and projects worth $11 billion were suspended.
[363] In 2021, he achieved one of the closest ideal distances (0.1452) from China during our entire 22-year period of study.

Based on the close relations under the Macri presidency and political alignment during the Fernández presidency, Beijing appears to have correctly predicted the course of bilateral relations. The overall trend has been one of increasing UNGA voting alignment between China and Argentina and an expanding envelope of Chinese aid and credit.

Entrenchment as a goal of soft power

During the BRI era, in light of good bilateral relations, China has provided meaningful economic support to Argentina. Because the economy is the single most important electoral issue and Argentina's dependency on China is high, major political parties have strong incentives to maintain good relations with Beijing. Macri experienced the downside of being seen as uncooperative toward Beijing, forcing him to course correct toward a friendlier path. But as great power competition between China and the West intensifies, Argentina's ability to maintain good ties with both sides is becoming limited. A case in point is the ongoing U.S. push to sell its own F-16 fighter jets to Argentina, in order to prevent it from purchasing the cheaper Chinese-designed and Pakistani-manufactured JF-17 jets (Buenos Aires Times 2023).

However, a candidate in the Presidential run-off election who received 30% of the popular vote during the first round is far-right populist and libertarian economist Javier Milei. In August 2023, Milei announced his intentions to freeze relations with China, calling its government "an assassin" and describing his proposed foreign policy as a "fight against socialists and statists" (Brandimarte and Tobias 2023). Analysts have compared Milei to Donald Trump and former Brazilian president Jair Bolsonaro, who both used anti-China rhetoric to bolster their electoral campaigns (Shi 2023). Should Milei win the election, Argentina's foreign policy would likely shift into substantially closer alignment with the United States. Beijing may hope that as president Milei would soften his rhetoric on China once in office like Macri did, but regardless, China would likely prefer another candidate.[364]

[364] That being said, in October 2023, center-right candidate Patricia Bullrich announced that she would reverse President Alberto Fernández's decision to join the BRICs bloc if elected. She also told the *Financial Times* that "[w]e believe that in some of the latest [Chinese] loans there are

In the run up to the first-round elections in October 2023, Chinese official sector entities provided additional resources to Argentina, presumably to bolster the campaigns of candidates it deems least problematic. In June 2023, Sergio Massa, the incumbent economy minister and a leading candidate, visited Beijing, where he struck deals on Argentine exports, $3.05 billion in financing for various projects, and, most importantly, an extension and expansion of the PBOC swap line (Alcoba 2023). Based on China's past decision making in Argentina and an empirical pattern of commiting more funds in election years around the world, more agreements and commitments are likely forthcoming (Dreher et al. 2019).

But the same logic of China being too big to push in Argentina may also apply to its relationship with the U.S. Argentina lacks the leverage, or willingness, to become a true American adversary akin to Cuba or Venezuela. Factors like geographic proximity, democratic affinity, and cultural synergy all advantage the U.S. over China. In 2021, 59.48% of Argentinians approved of the U.S. government, according to Gallup, as compared to only 32.65% for China. The economic dimension is also noteworthy. While not nearly as large as China, the U.S. is still one of the major trade partners of Argentina. It is also the single largest shareholder at the IMF, where Argentina is the single largest debtor. Under its new government in 2024, Argentina's foreign policy will have to carefully tread between ties with the U.S. and China, both of which are critical for its future economic prospects.

Section 5: Beijing's approach to reputational risk management

In this chapter, we have provided statistical and case study evidence that China—like other foreign powers—makes adjustments to its international development finance portfolio in response to soft power gains and losses on the ground. It is taking reactive and proactive measures to manage reputational risk.

clauses which we don't know about and we are ready to re-examine them" (Stott and Nugent 2023).

There are five key takeaways from our analysis. First, on three different measures of soft power (that capture gains and losses in public opinion, media sentiment, and elite support), Beijing devoted nearly two-thirds of its entire international development finance portfolio during the late BRI period to "toss up" countries. These countries represent competitive jurisdictions where neither China nor the U.S. opened up an insurmountable lead vis-à-vis its principal rival.

Second, in settings where China recently made reputational gains at the expense of its principal competitor, it doubled down with additional aid and credit—i.e., it sought to maintain and build upon momentum.[365] The fact that Beijing is redirecting aid and credit to battleground countries where it has recently gained advantage challenges a popular belief among Sinologists: that the bureaucratic machinery responsible for Beijing's overseas development program is fragmented, uncoordinated, and inattentive to changing reputational dynamics on the ground.[366]

Third, China does not have much of an appetite for reputational risk. It consistently allocated a lower-than-expected share of its international development finance portfolio to "moonshot" countries (dedicating between 16% and 27% less than expected for each soft power measure, see Figure 4.5). These are countries where its principal rival has momentum on its side. China rarely seeks to woo indifferent or antagonistic countries with aid and credit, but instead prioritizes countries that are already moving in its direction. A separate, but related, point is that, when reputational assets turn into reputational liabilities (as we saw in the Zambia case study), Beijing mostly disengages from discussions about new projects and financial commitments and refocuses on managing risks within its existing portfolio of grant- and loan-financed projects.

Fourth, as case studies of Bangladesh and Argentina demonstrate, political transitions in host countries are critical moments when the nature, level, and pace of China's engagement can change significantly. Beijing understands that it

[365] More specifically, we find that Beiijing prioritized the provision of aid and credit to countries where it had experienced public opinion and media sentiment gains at the expense of the U.S. during the early BRI period, while it deprioritized toss-up countries where the momentum shifted in favor of the U.S. during the early BRI period.

[366] We thank Marina Rudyak for calling our attention to this point.

can make major reputational gains or suffer major reputational losses during these windows, and it has demonstrated a willingness and ability to use instruments of state power to protect its interests when such junctures arise. During the transition from the Kirchner administration to the Macri administration, a consortium of Chinese state-owned policy and commercial banks invoked a cross-default clause in a loan agreement with the Argentine Ministry of Finance to block the newly-elected president from following through on his electoral pledge to suspend environmentally risky projects, which could have jeopardized a $5.5 billion dam construction contract that was previously issued to China Gezhouba Group Company Limited. Conversely, when new leaders come to power and take a less adversarial posture (like Bangladesh's Sheikh Hasina and Zambia's Edward Lungu), our findings suggest that Beijing often seeks to cement bilateral relations by helping incumbents take credit for high-profile projects.[367] It does so by, among other things, approving new financial commitments for projects that were previously under consideration, organizing groundbreaking ceremonies for previously approved projects that had not yet commenced, and providing state-sponsored media coverage of recently completed projects.[368] This strategy is especially relevant in democratic countries where elections are more competitive, as in Zambia where incumbent performance at the ballot box is linked to perceived effectiveness at delivering big-ticket infrastructure projects that can create jobs and stimulate short-term economic growth.

Finally, for those who make and shape policy in Western capitals, a key insight from this chapter is that Beijing tends to disengage rather than double down in countries where there are strong indications of BRI buyer's remorse. These are jurisdictions where Beijing's competitors may be able to lure countries back into the West's orbit by focusing on their own areas of comparative advantage. However, doing so would require that Western powers act quickly when these windows of opportunities arise and adapt their programming to address the unmet needs of partner countries.

[367] On this point, also see Holslag 2011; Jansson 2013; DiLorenzo and Cheng 2019; Dreher et al. 2019; Anaxagorou et al. 2020; Strange 2023; Tang 2021; Kern et al. 2022.
[368] Wellner et al. (forthcoming) demonstrate that the completion of Chinese grant- and loan-financed projects increases public support for the Chinese government *and* the host government.

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Appendix: Supplementary Material

Section A-1: Figures and tables referenced in the report

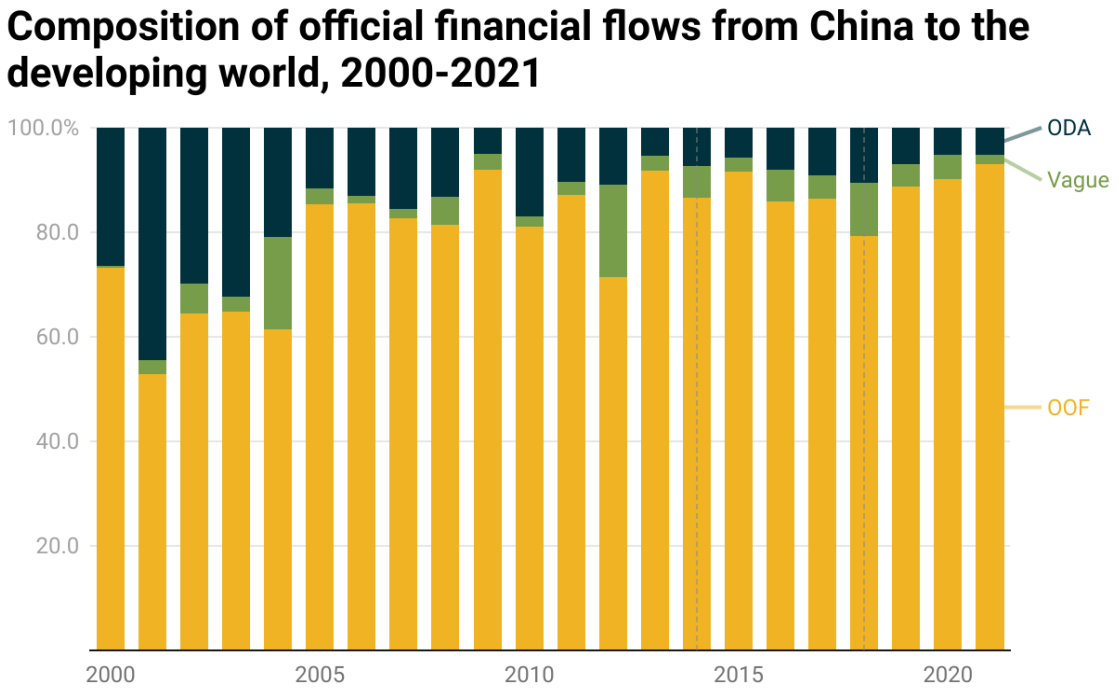
Table A.1

AidData's Global Chinese Development Finance Dataset, Version 3.0 at a glance

AidData Dataset		Global Chinese Development Finance Dataset, Version 2.0 (Published September 2021)	Global Chinese Development Finance Dataset, Version 3.0 (Published November 2023)
Scope & Coverage	Sectors	All	All
	Country Coverage	165 countries globally (including 145 countries with projects identified)	165 countries globally (including 146 countries with projects identified)
	Financiers	334 Chinese official sector donors and lenders	791 Chinese official sector donors and lenders
	Financial Instrument	Loans, grants, scholarships, technical assistance, debt rescheduling, debt forgiveness	Loans (with categorization of 23 distinct loan instruments), grants, scholarships, technical assistance, debt rescheduling, debt forgiveness
Dataset Summary	Number of Records	13,427	20,985
	Number of Fields	70	133
	Sources Publicly Available	91,125 (including 62,750 unique sources)	147,703 (including 99,393 unique sources)
	Total Financial Value	$851 billion (2017 prices)	$1.34 trillion (2021 prices) (excluding short-term "rollover" facilities)
	Timeframe	2000-2017 (with implementation details through 2021)	2000-2021 (with implementation details through 2023)
Project Details	Financial Details	Transaction amount, collateral, interest rate, grace period, maturity, commitment fee, management fee	Transaction amount, collateral, interest rate, default interest rate, grace period, maturity, commitment fee, management fee, insurance fee, first and last loan repayment dates, level of public liability
	Participating Agencies	Funding agencies, co-financing agencies, receiving agencies, implementing agencies, accountable agencies	Funding agencies, co-financing agencies, direct receiving agencies, indirect receiving agencies, implementing agencies, guarantor, insurance provider, collateral provider, security agent/collateral agent
	Implementation Details	Commitment year, status, planned and actual start and completion dates	Commitment date, status, planned and actual start and end dates, deviation from planned start and completion dates,

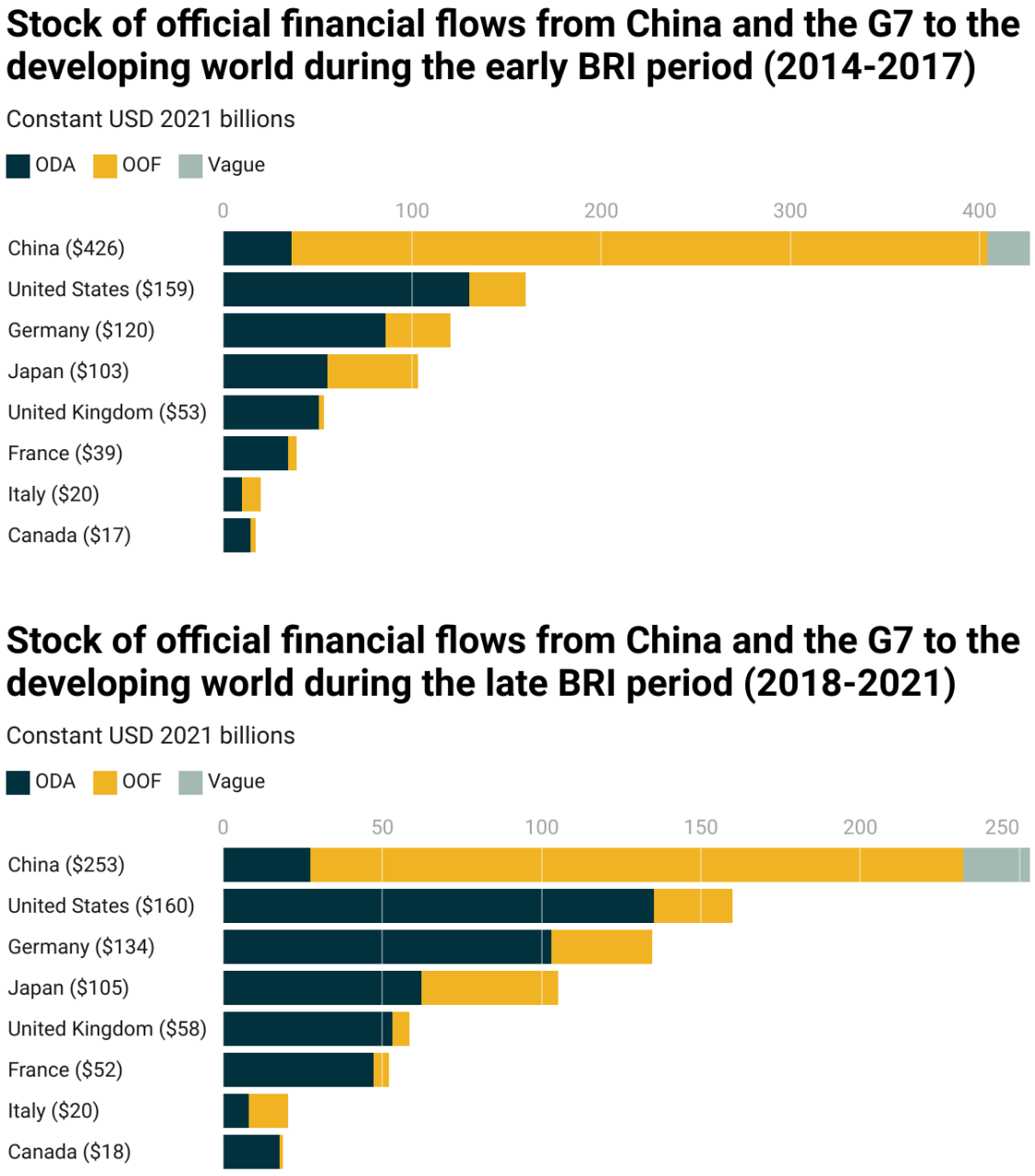
AidData Dataset		Global Chinese Development Finance Dataset, Version 2.0 (Published September 2021)	Global Chinese Development Finance Dataset, Version 3.0 (Published November 2023)
			infrastructure project flag
	Description	Average of 142 words per project	Average of 166 words per project
	OECD Classifications	Sector, flow class	Sector, flow class, recipient country income classification, grant-equivalent measure
	Sub-national Details	3,285 physical locations	9,497 physical locations

Figure A.1



Notes: AidData relies on OECD-DAC measurement criteria to make ODA and OOF determinations (see Section A-2 of the Appendix for details). The Vague (Official Finance) is a residual category for official financial commitments from China that could not be reliably categorized as ODA or OOF because of insufficiently detailed information.

Figure A.2

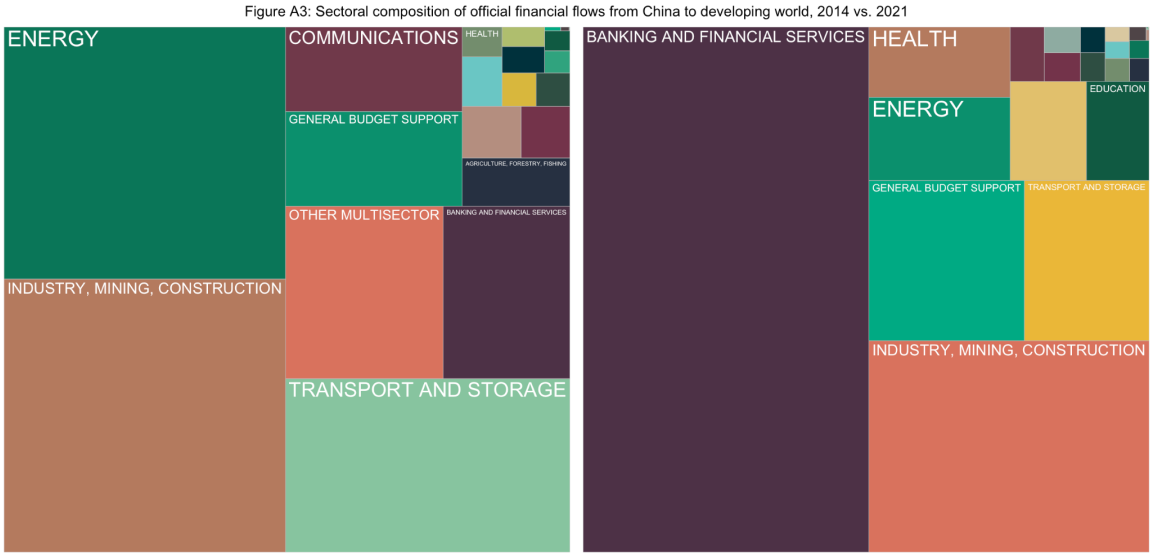


Notes: AidData relies on OECD-DAC measurement criteria to make ODA and OOF determinations (as described in Section A-2 of the Appendix). The Vague (Official Finance) is a residual category for official financial commitments from China that could not be reliably categorized as ODA or OOF because of insufficiently detailed information. G7 ODA and OOF data represent gross disbursements from the

OECD-DAC. This figure excludes short-term "rollover" facilities from the tally of official financial commitments (see Box 2c and Section A-3 in the Appendix).

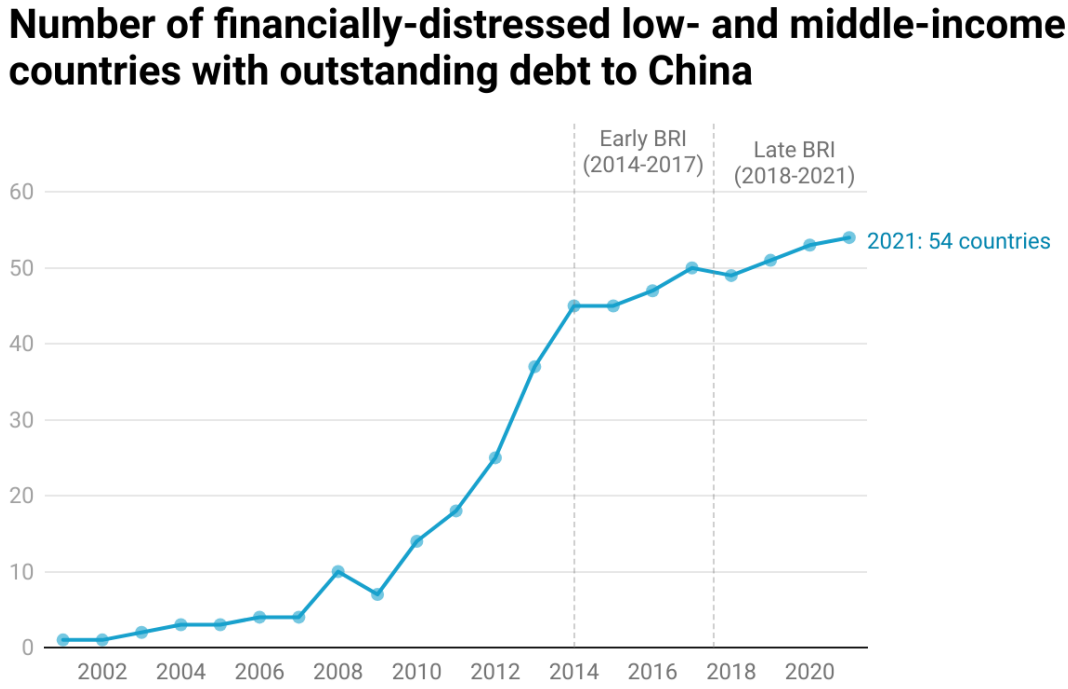
Figure A.3

AidData's Global Chinese Development Finance Dataset, Version 3.0 at a glance



Notes: This figure shows the sectoral composition of Chinese ODA and OOF commitments (measured in constant 2021 USD) in 2014 (left panel) and 2021 (right panel).

Figure A.4

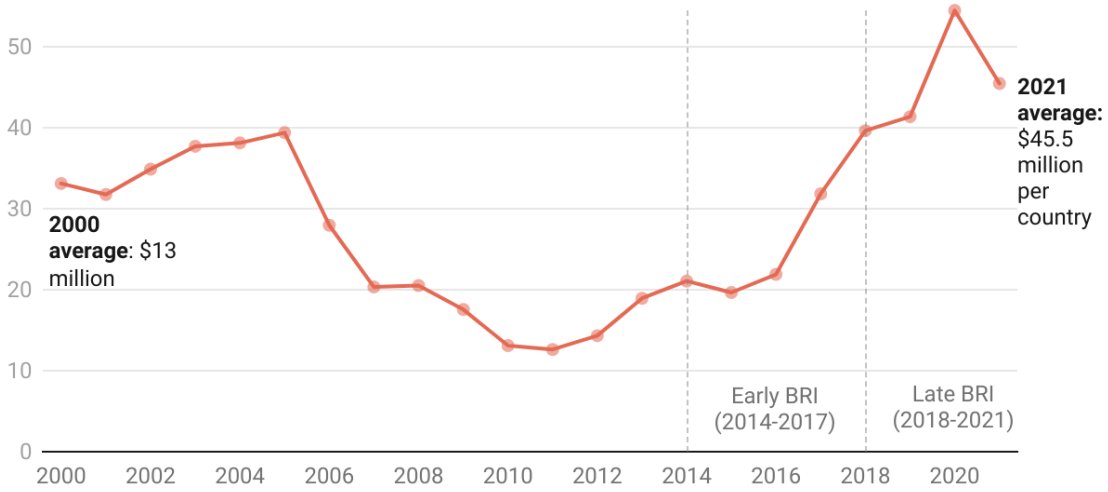


Notes: To determine if a country has "outstanding debt to China," we use the 3.0 version of AidData's GCDF dataset to measure whether in a given year if it had at least one official sector loan from China within its originally scheduled repayment period (i.e., after the expiration of the grace period but before the final maturity date). To determine if a country was experiencing financial distress in a given year, we use the measure that is described in Box 1a. Since 2000 is the first year in which we measure loan commitments in the 3.0 version of the GCDF dataset, we do not capture any outstanding debt to China (loans within their originally scheduled repayment periods) in that year.

Figure A.5

Average value of overdue debt repayments per country to official sector creditors in China

Average per country monetary value (in constant 2021 USD millions) of sovereign (principal and interest) arrears to a subset of official creditors in China



Notes: This figure measures the average per country monetary value (in constant 2021 USD millions) of sovereign arrears to a subset of official sector creditors in China (using data from the World Bank's International Debt Statistics). Sovereign arrears capture principal and interest arrears (i.e., overdue repayments) on PPG debt to China Eximbank, China Development Bank, and China's Ministry of Commerce contracted by a subset of LICs and MICs that participate in the World Bank's Debtor Reporting System (DRS). Years in which a country maintained diplomatic relations with Taiwan are excluded. Each country-year observation is given equal weight in a given year to generate global averages.

Figure A.6

Project life cycle

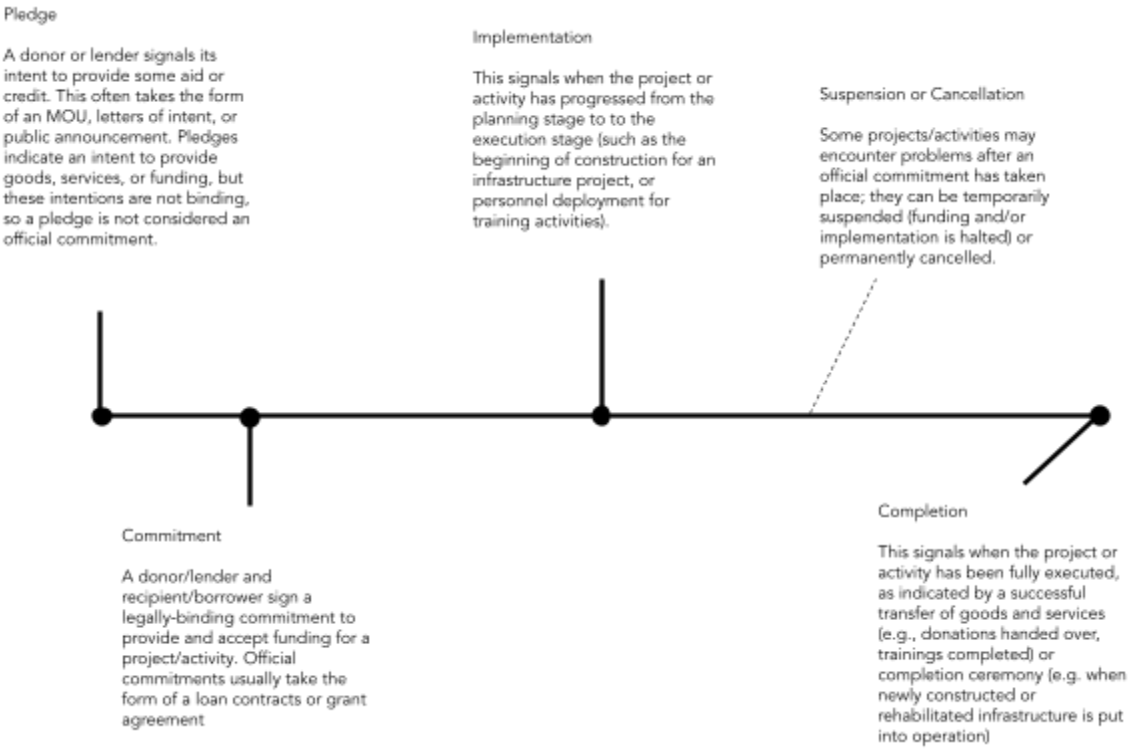
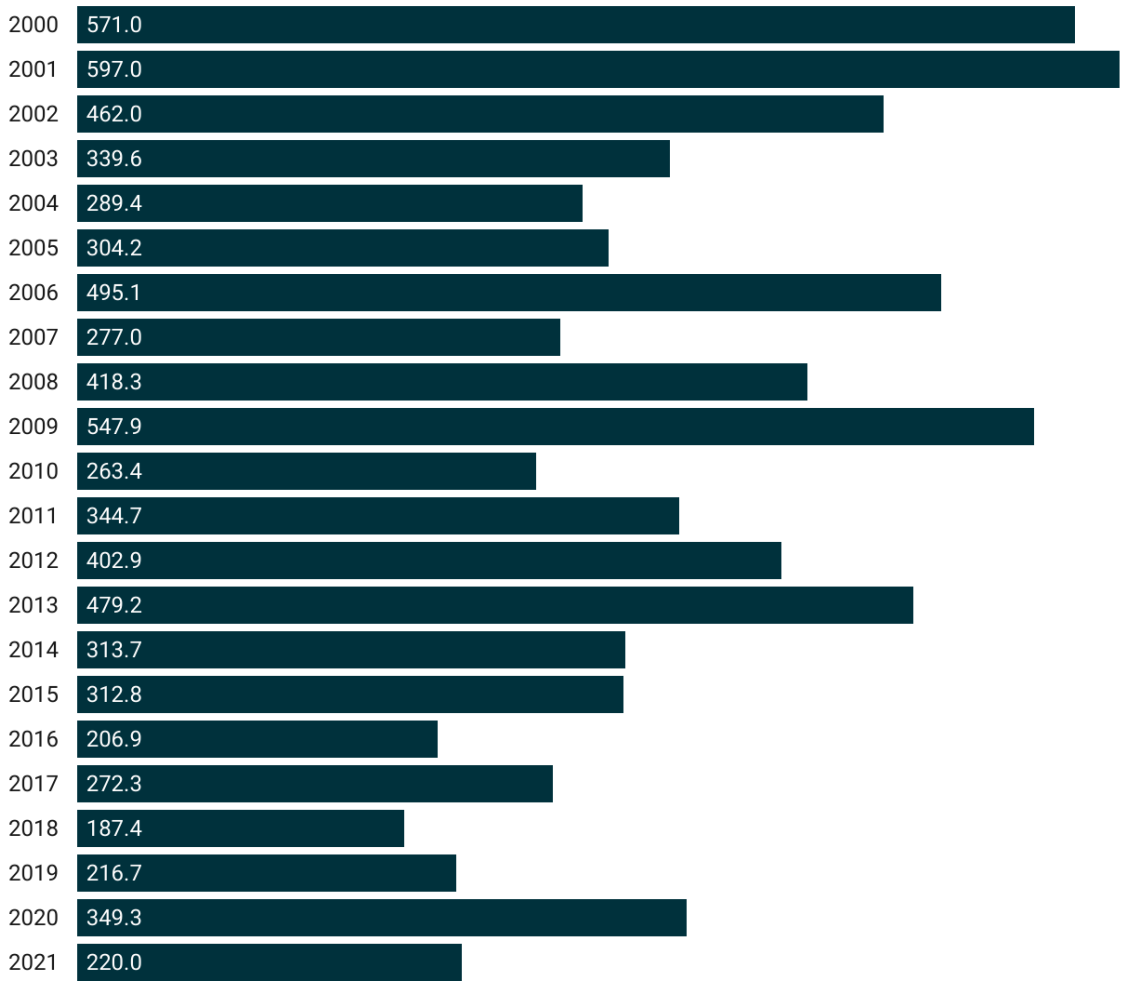


Figure A.7

Average length of completion delays across all Chinese ODA- and OOF-financed infrastructure projects

Average difference between planned completion date and actual completion date (in calendar days)

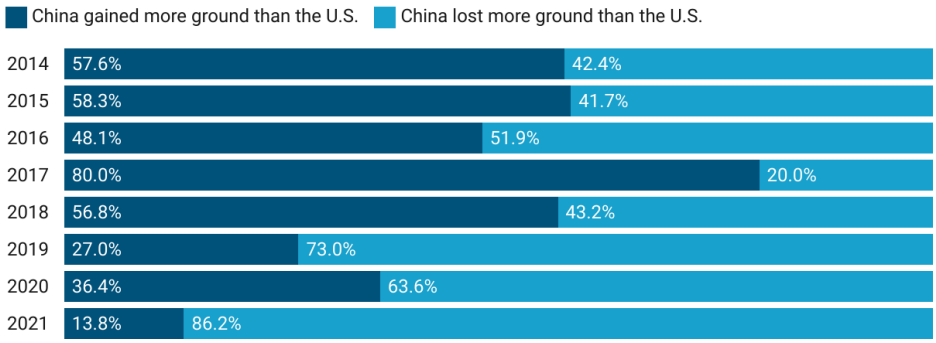


Notes: This graph shows the average length of completion delays (in calendar days) across all Chinese ODA- and OOF-financed infrastructure projects by year that were formally committed, undergoing implementation, or completed. Completion delays are calculated by taking the difference (in calendar days) between the originally scheduled project completion date and the actual project completion date. The data are drawn from the 3.0 version of AidData's GCDF dataset.

Figure A.8

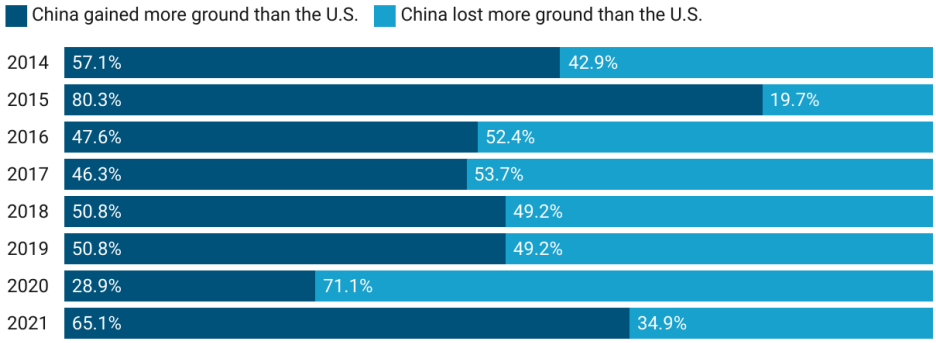
China's public opinion gains and losses vis-à-vis the U.S.

Percentage of developing countries where China gained or lost more ground in public opinion than the U.S. at the country-level (GWP)



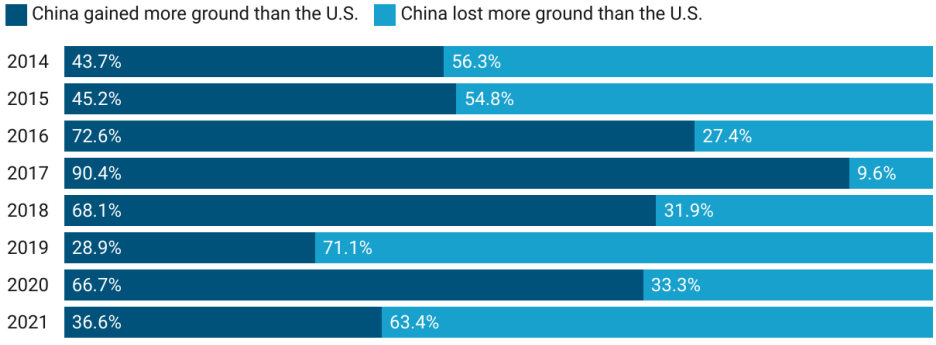
China's media sentiment gains and losses vis-à-vis the U.S.

Percentage of developing countries where China gained or lost more ground in media sentiment average tone than the U.S. at the country-level (Gdelt)



China's elite alignment gains and losses vis-à-vis the U.S.

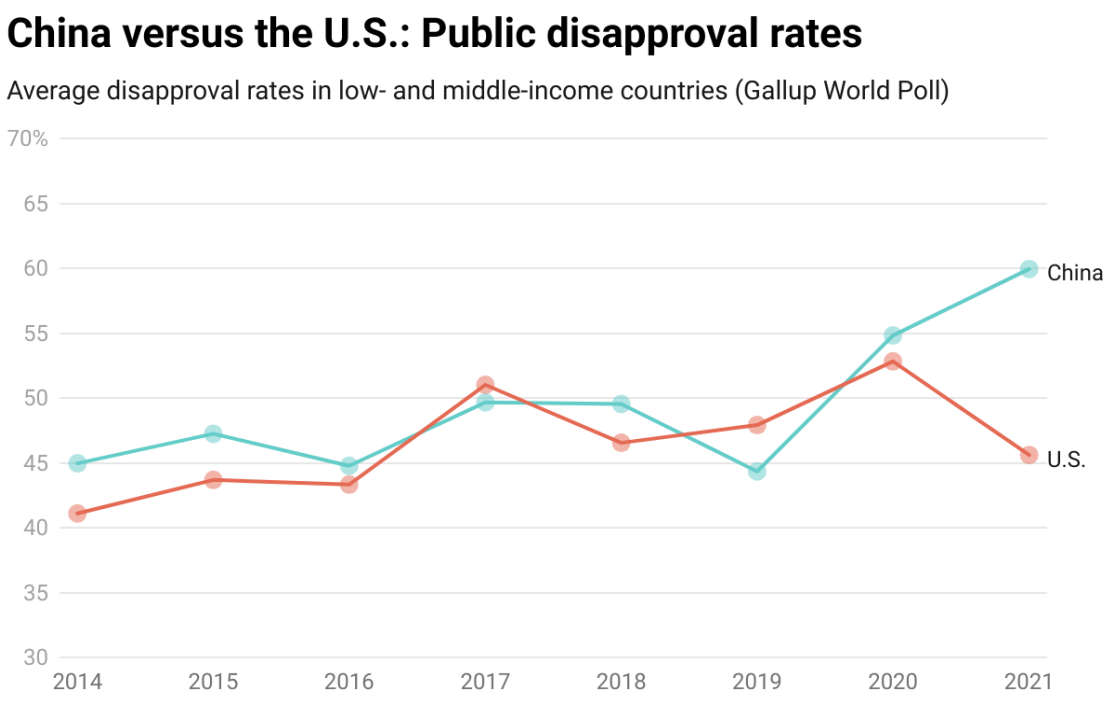
Percentage of developing countries where China gained or lost more ground in UNGA voting alignment than the U.S. at the country-level (UNGA)



Notes: Figure A8 presents the proportion of LICs and MICs in a given year (from 2014-2021) in which China experienced relative gains or losses in public approval, media sentiment, and UNGA voting alignment

vis-à-vis the U.S. To measure the relative gains or losses in popular support, we follow a three-step calculation for each country: (1) calculate the difference between the public approval rating for China in a given year and the prior year; (2) calculate the difference between public approval rating for the U.S. in a given year and the prior year; and (3) calculate the "double difference" between (1) and (2) to determine if China experienced a greater gain or loss in public support than the U.S. in the same country-year. For relative gains and losses in media sentiment and UNGA voting alignment, the same three-step calculation was followed using the average media sentiment score for each country-year from the GDELT 1.0 Event Database (related to government actors from mainland China or the U.S.) and the average "idealpointdistance" estimate between each country and China (or the U.S.) in a given year.

Figure A.9

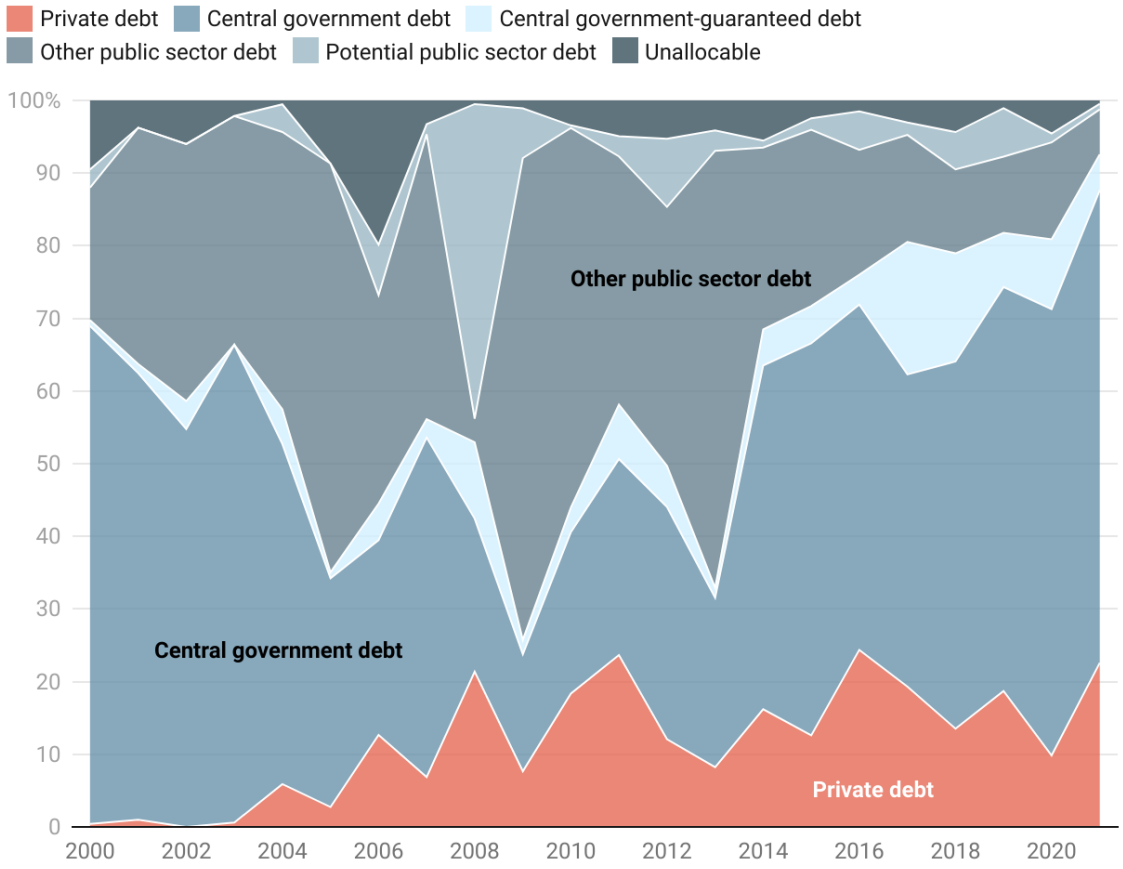


Notes: This graph shows the annual weighted average disapproval rate for China and the U.S. between 2014-2021 from Gallup World Poll. The average disapproval rate is weighted by population size for each country. When surveying respondents, respondents can answer "approve", "disapprove", or "unsure" when asked if they approve of China's or the U.S's leadership. This graph represents the average that answered "disapprove" for each country's leadership. The construction of this variable is described in greater detail in Box 1b.

Figure A.10

Composition of China's overseas lending portfolio by level of public liability

Percentage of official sector lending commitments, including emergency and non-emergency loans from China (in constant 2021 USD) to LICs and MICs, by public liability category



Notes: This graph shows the annual composition of China's overseas lending portfolio (as measured in 2021 constant USD) in LICs and MICs according to the extent to which the host governments may eventually be liable for debt repayment. Central government debt and other public sector debt represent loans where the borrower is a government agency or a wholly- or majority-owned state entity. Central government debt represents loans that have a sovereign guarantee from the host government. Potential public debt represents loans to entities (including special purpose vehicles or joint ventures) where the host government has a minority stake. Private debt captures loans to private entities.

Figure A.11

Proportion of China's overseas lending portfolio provided via buyer's credits

Official sector lending from China to LICs and MICs in the BRI era (2014-2021)

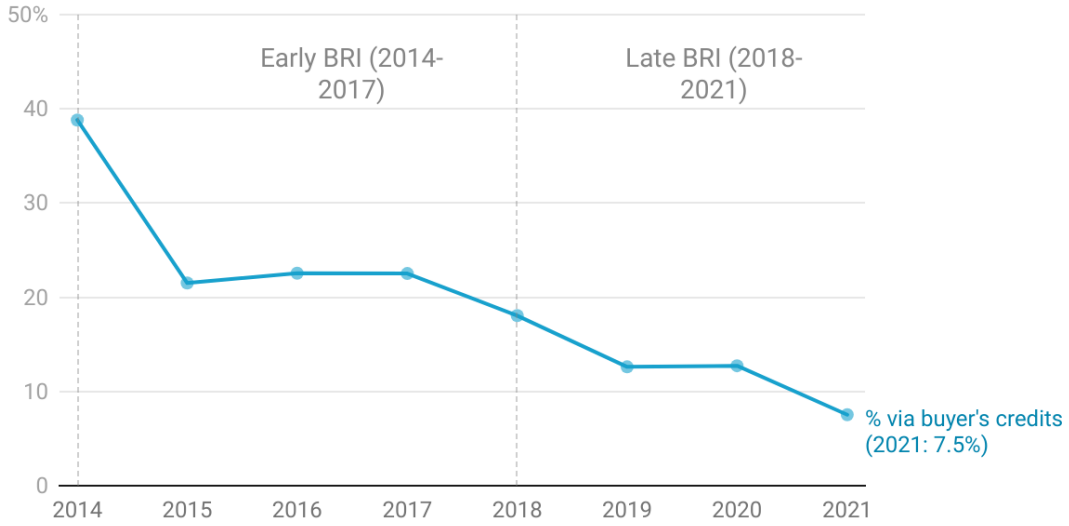
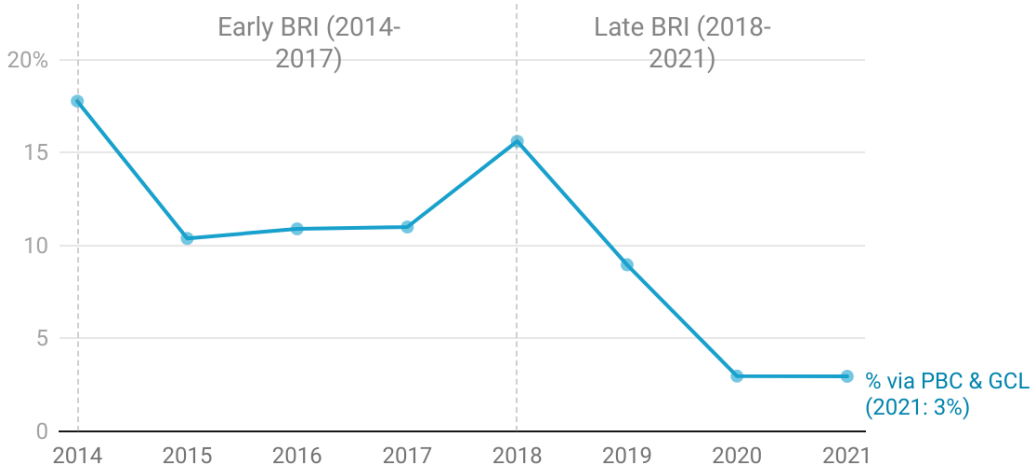


Figure A.12

Proportion of China's overseas lending portfolio provided via Government Concessional Loans (GCLs) and Preferential Buyer's Credits (PBCs)

Official sector lending from China to LICs and MICs in the BRI era (2014-2021)

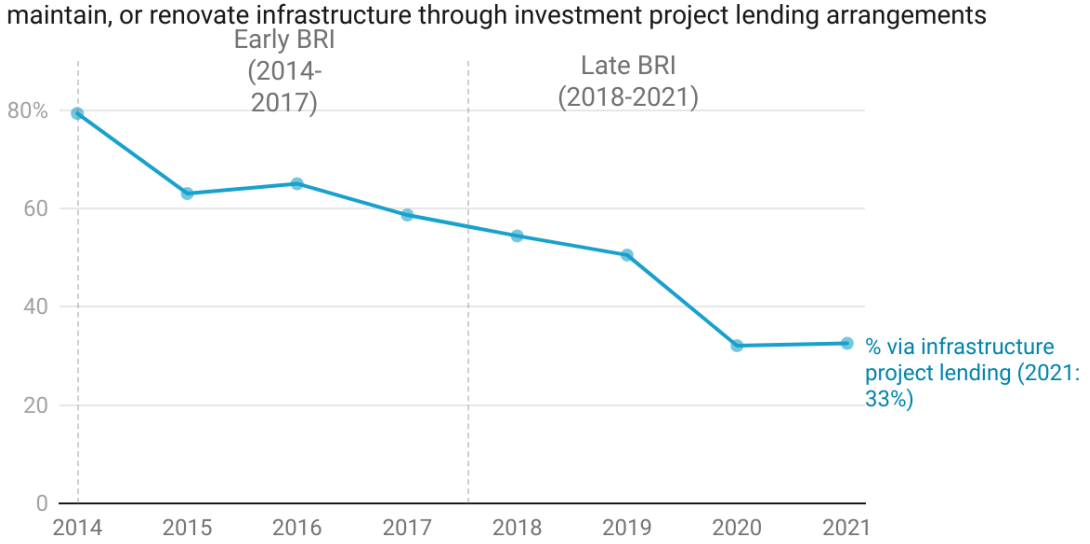


Notes: This graph shows the annual proportion of official sector loan commitments from China (measured in constant 2021 USD) to LICs and MICs provided via Government Concessional Loans (GCLs) and Preferential Buyer's Credits (PBCs from China Eximbank.

Figure A.13

Proportion of China's overseas lending portfolio provided via infrastructure project loans

Official sector lending from China to LICs and MICs in the BRI era (2014-2021) issued to build, maintain, or renovate infrastructure through investment project lending arrangements

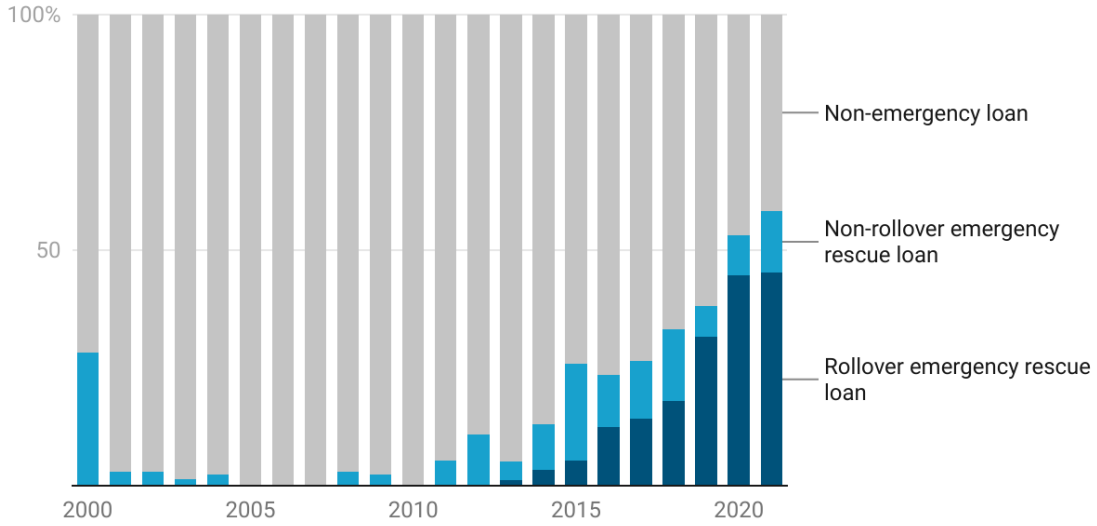


Notes: This graph shows the annual proportion of official sector loan commitments from China (measured in constant 2021 USD) to LICs and MICs that were issued to build, maintain, or renovate infrastructure in the borrowing country. Infrastructure project loans in the 3.0 version of AidData's GCDF dataset are those (a) categorized as investment project loans (IPLs), and (b) explicitly designated as supporting infrastructure (through the "infrastructure" marker).

Figure A.14

Composition of China's overseas lending portfolio by emergency and non-emergency lending instrument

Percentage of official sector lending (in constant 2021 USD) from China to LICs and MICs

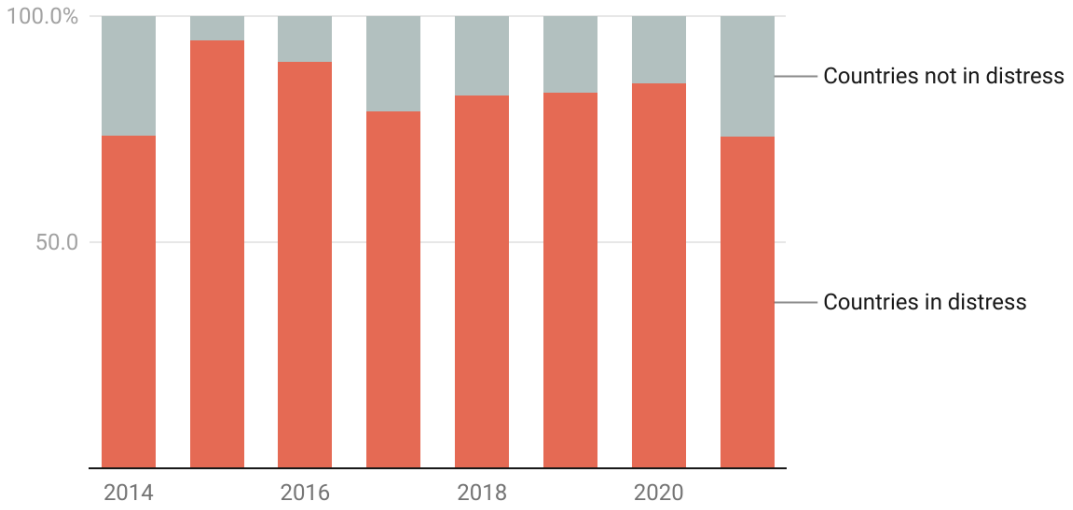


Notes: This figure measures the percentages of China's overseas lending (in constant 2021 USD) to LICs and MICs that consists of emergency rescue loans (ERLs) that are rollovers, ERLs that are not rollovers, and all other types of loans. The "rescue" variable in the 3.0 version of the GCDF dataset is used to identify emergency rescue loans. Rollover ERL amounts are calculated by subtracting the values in the Adjusted Amount (Constant USD 2021) field from the values in the Amount (Constant USD 2021) field. Non-rollover ERL amounts are directly drawn from the Adjusted Amount (Constant USD 2021) field.

Figure A.15

Proportion of RMB-denominated rescue lending to countries in and not in financial distress

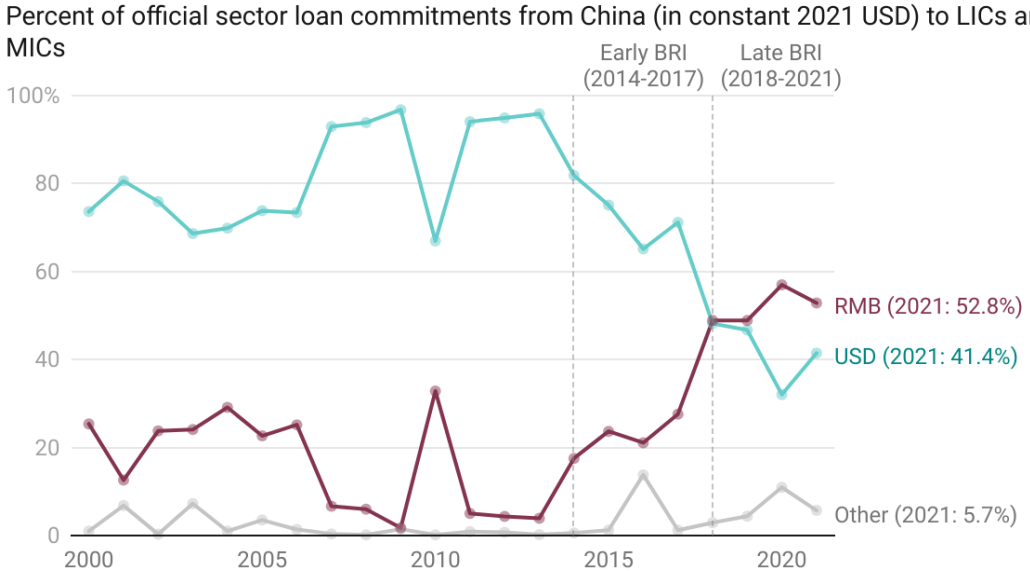
Percentage of official sector rescue lending commitments (in constant USD 2021 billions) from China to LICs and MICs denominated in RMB



Notes: This graph presents the annual proportion of China's RMB-denominated loan commitments (as measured in 2021 constant USD) to two country cohorts between 2000 and 2021: (1) countries in financial distress, and (2) countries not in financial distress. To determine if a country experienced financial distress in a given year, we use the binary measure that is described in Box 1a in Chapter 1.

Figure A.16

Composition of China's overseas lending portfolio by currency of denomination for countries in financial distress

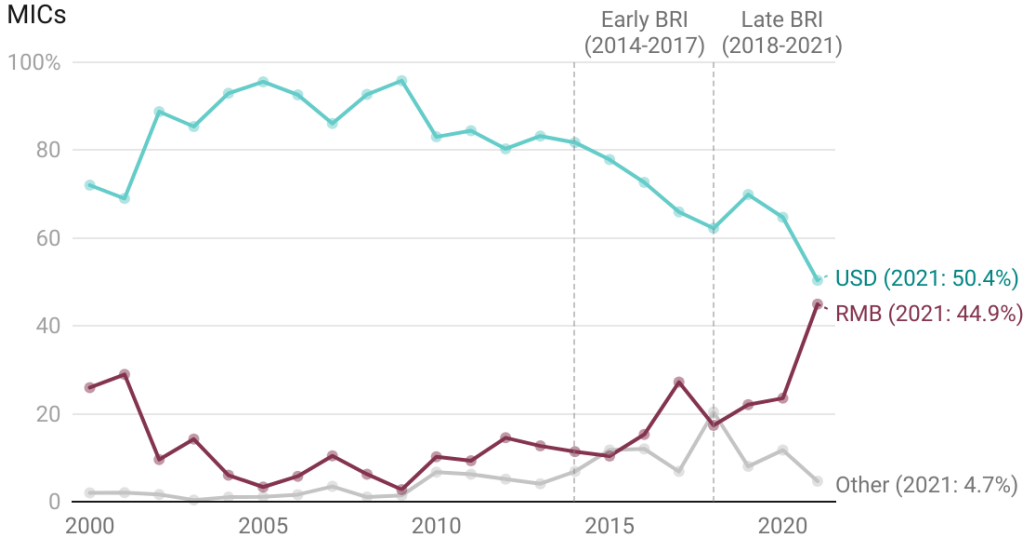


Notes: This figure presents the composition of China's lending portfolio in LICs and MICs (as measured in 2021 constant USD) by the currencies in which the loans were denominated for country-years that were designated as "in financial distress." To determine if a country experienced financial distress in a given year, we use the binary measure that is described in Box 1a in Chapter 1.

Figure A.17

Composition of China's overseas loan portfolio by currency of denomination for countries not in financial distress

Percent of official sector loan commitments from China (in constant 2021 USD) to LICs and MICs



Notes: This figure shows the composition of China's lending portfolio in LICs and MICs (as measured in 2021 constant USD) by the currencies in which the loans were denominated for country-years that were not designated as "in financial distress." To determine if a country experienced financial distress in a given year, we use the binary measure that is described in Box 1a in chapter 1.

Figure A.18

Early versus late BRI: weighted average interest rates

Average interest rates for official sector loans from China to LICs and MICs, weighted by loan commitment value (constant 2021 USD)

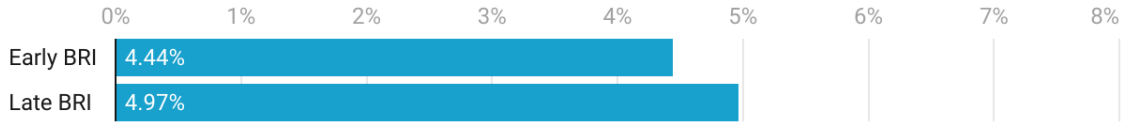


Figure A.19

Early versus late BRI: weighted maturity lengths

Average maturity length (in years) for official sector loans from China to LICs and MICs, weighted by loan commitment value (constant 2021 USD)

Figure A.20

Early versus late BRI: weighted average grant element

Average grant element for official sector loans from China to LICs and MICs, weighted by loan commitment value (constant 2021 USD)

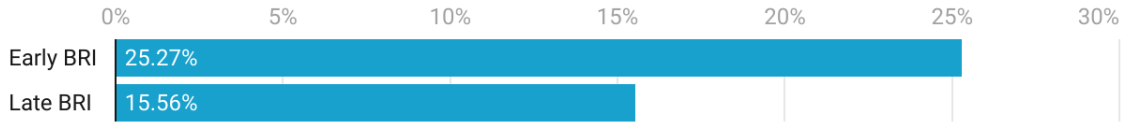
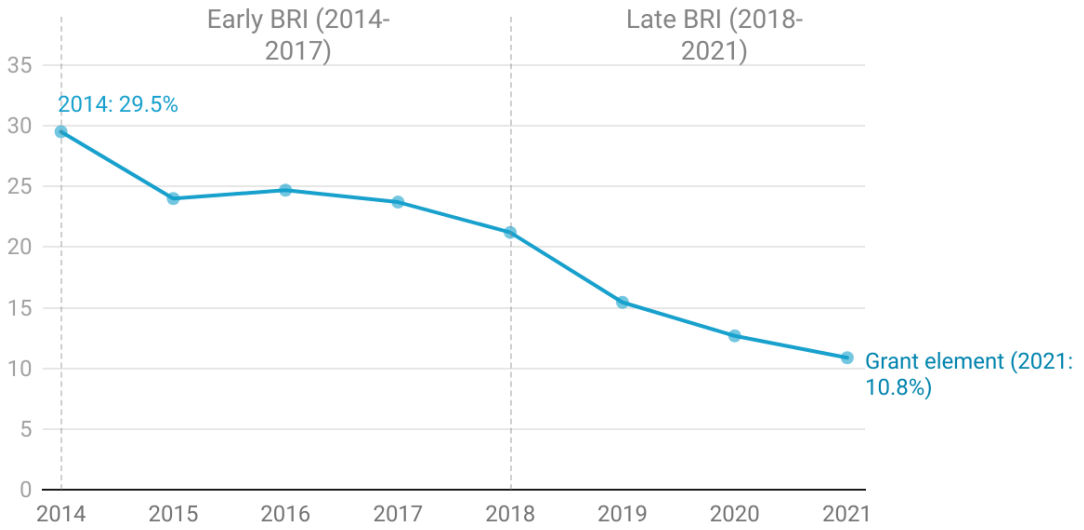


Figure A.21

Weighted average grant element of overseas lending from China

Official sector lending from China to LICs and MICs in the BRI era (2014-2021)

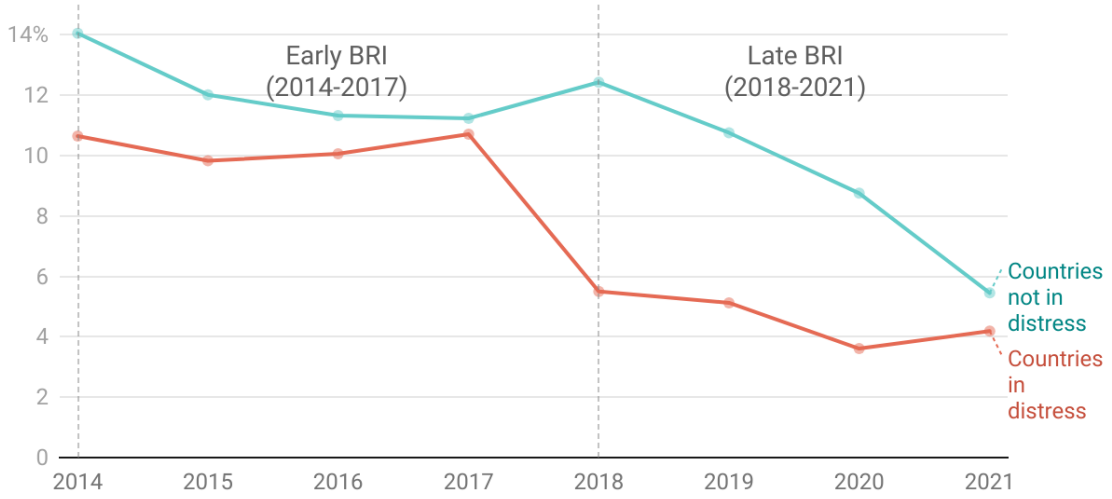


Notes: This graph shows the average grant element of official sector lending from China to LIC and MICs between 2000 and 2021. This grant element is calculated using the Grant Element (OECD cash-flow) variable in the 3.0 version of AidData's GCDF 3.0, which uses a 10% discount rate for all borrowing countries based on the OECD's cash-flow grant element calculation. The annual averages are weighted by the constant 2021 USD values of the loan commitments in each respective year.

Figure A.22

Weighted average maturity lengths for countries in and not in financial distress

Average maturity lengths for official sector loans from China to LICs and MICs, weighted by loan commitment values

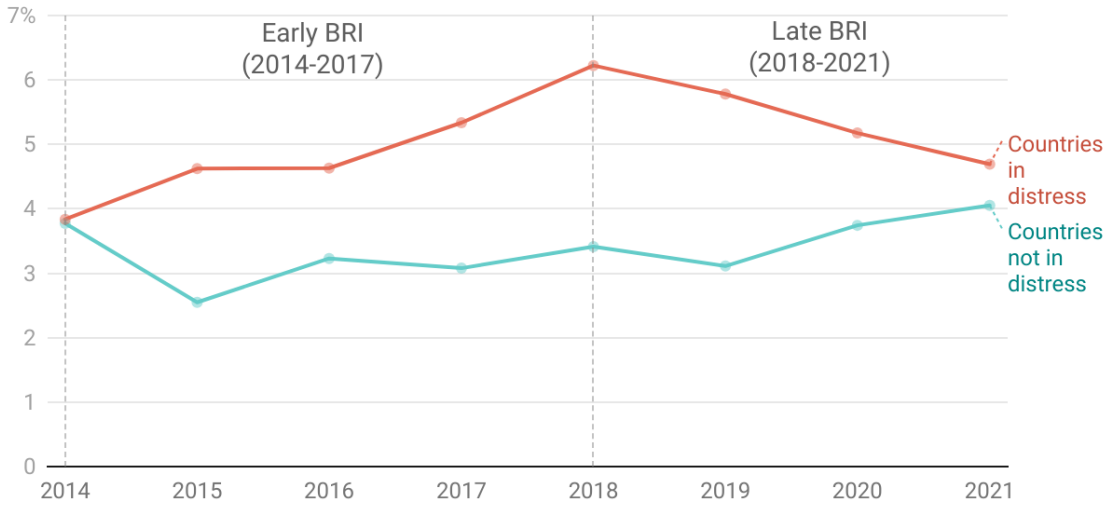


Notes: This graph shows the average maturity length across all official sector loans from China to LICs and MICs between 2000 and 2021 across two cohorts: (1) countries in financial distress and (2) countries not in financial distress. The annual averages are weighted by the constant 2021 USD commitment values of the loans in each respective year. To determine if a country experienced financial distress in a given year, we use the binary measure that is described in Box 1a in Chapter 1.

Figure A.23

Weighted average interest rates for countries in and not in financial distress

Average interest rates for official sector loans from China to LICs and MICs, weighted by loan commitment values

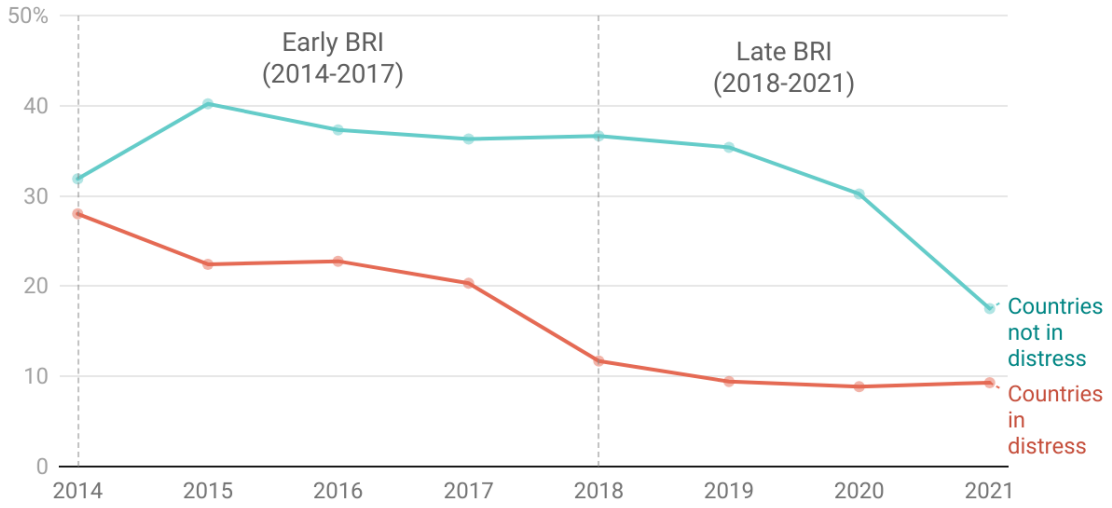


Notes: This graph shows the average interest rate across all official sector loans from China to LICs and MICs between 2000 and 2021 for two cohorts: (1) countries in financial distress and (2) countries not in financial distress. The annual averages are weighted by the constant 2021 USD commitment values of the loans in each respective year. To determine if a country experienced financial distress in a given year, we use the binary measure that is described in Box 1a in chapter 1.

Figure A.24

Weighted average grant elements for countries in and not in financial distress, 2014-2021

Average grant elements for official sector loans from China to LICs and MICs, weighted by loan commitment values



Notes: This graph shows the average grant element across all official sector loans from China to LICs and MICs between 2000 and 2021 for two cohorts: (1) countries in financial distress and (2) countries not in financial distress. To determine if a country experienced financial distress in a given year, we use the binary measure that is described in Box 1a in chapter 1. The grant element is calculated using the Grant Element (OECD cash-flow) variable in the 3.0 version of AidData's GCDF dataset, which uses a 10% discount rate for all borrowing countries based on the OECD's cash-flow grant element calculation. The annual grant element averages are weighted by the constant 2021 USD commitment values of the loans in each respective year.

Figure A.25

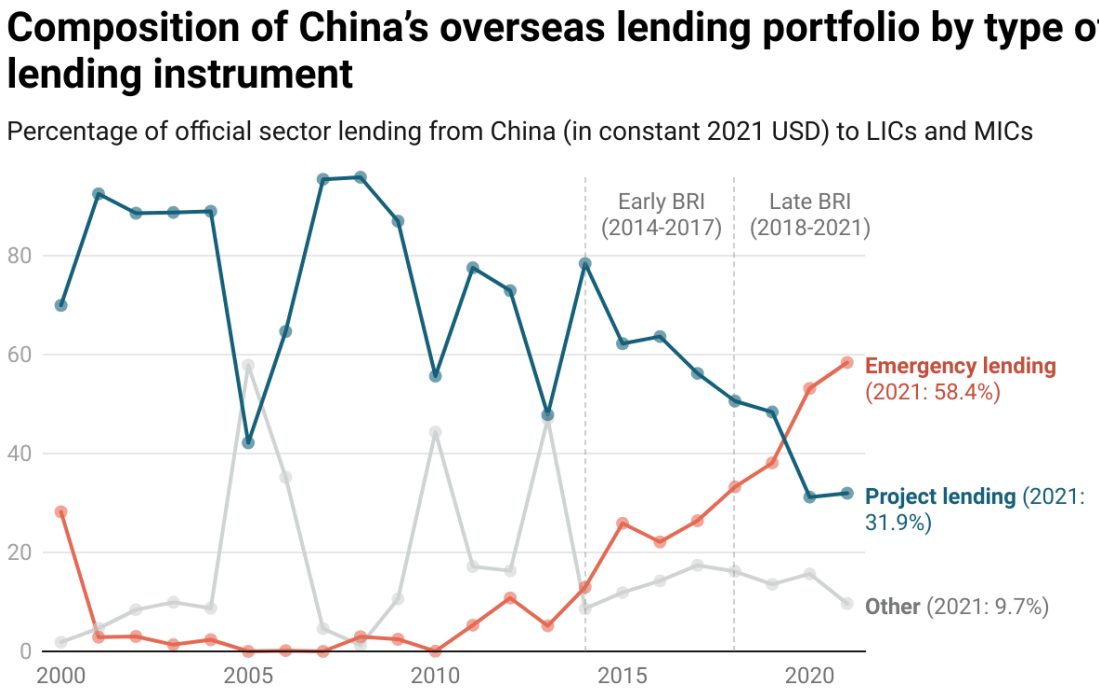
Weighted average grant elements for countries in and not in financial distress, 2000-2021

Average grant elements for official sector loans from China to LICs and MICs, weighted by loan commitment values

Notes: This graph shows the average grant element across China's portfolio of official sector loans to LICs and MICs across two cohorts: countries experiencing financial distress and countries not experiencing financial distress. The grant element is calculated using the Grant Element (OECD cash-flow) variable in the

3.0 version of AidData's GCDF dataset, which uses a 10% discount rate for all borrowing countries based on the OECD's cash-flow grant element calculation. The grant element average is weighted by constant 2021 USD commitment values.

Figure A.26



Notes: This figure shows the annual percentage of official lending commitments (in constant 2021 USD) from China to LICs and MICs that was provided via (1) investment project loans, (2) emergency rescue loans, and (3) all other types of loans. Project loans are defined as those in the 3.0 version of AidData's GCDF dataset that are categorized as investment project loans (IPLs).

Figure A.27

Composition of China's overseas lending portfolio by type of creditor category

Official sector lending from China to LICs and MICs (constant 2021 USD billions)

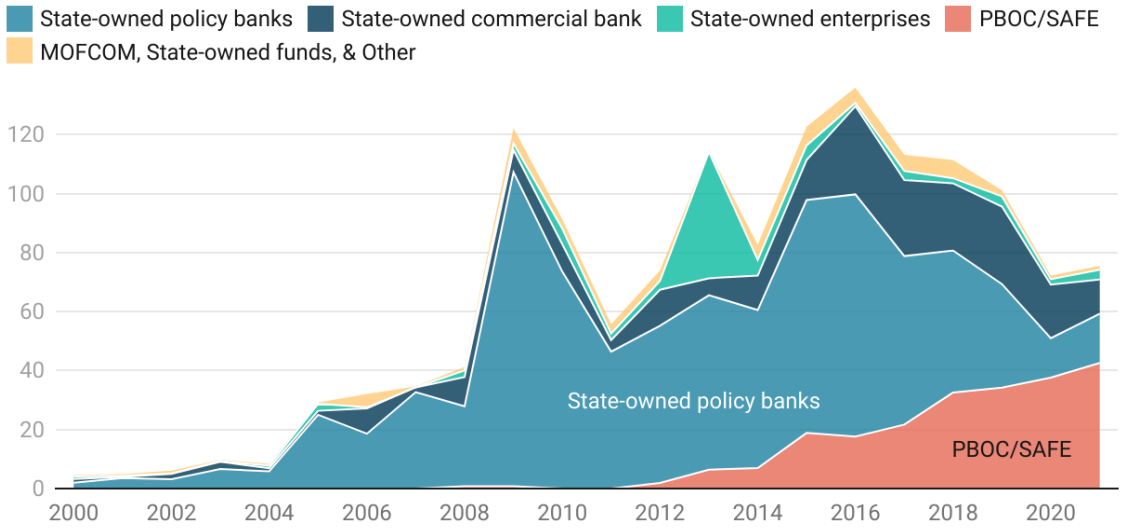
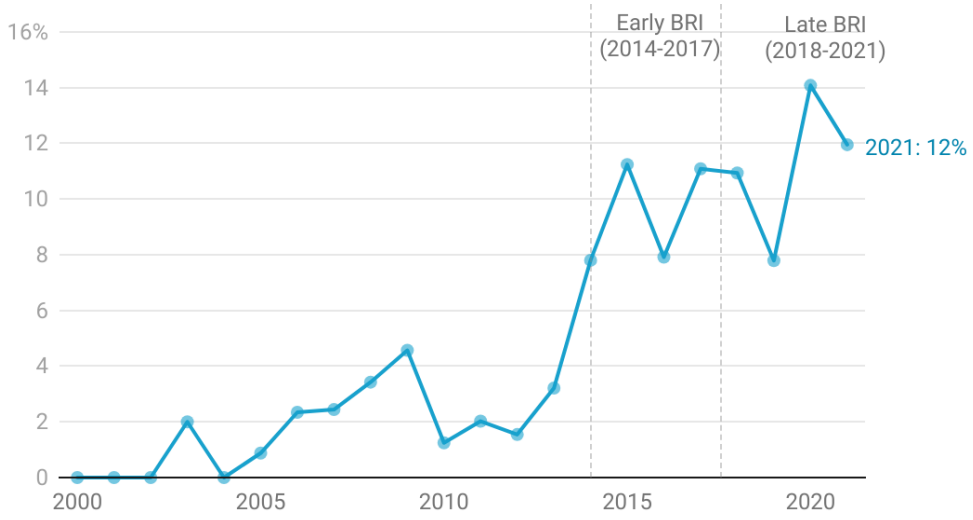


Figure A.28

Proportion of Chinese overseas lending involving a multilateral institution

Percentage of official sector lending from China to LIC and MICs, 2000-2021

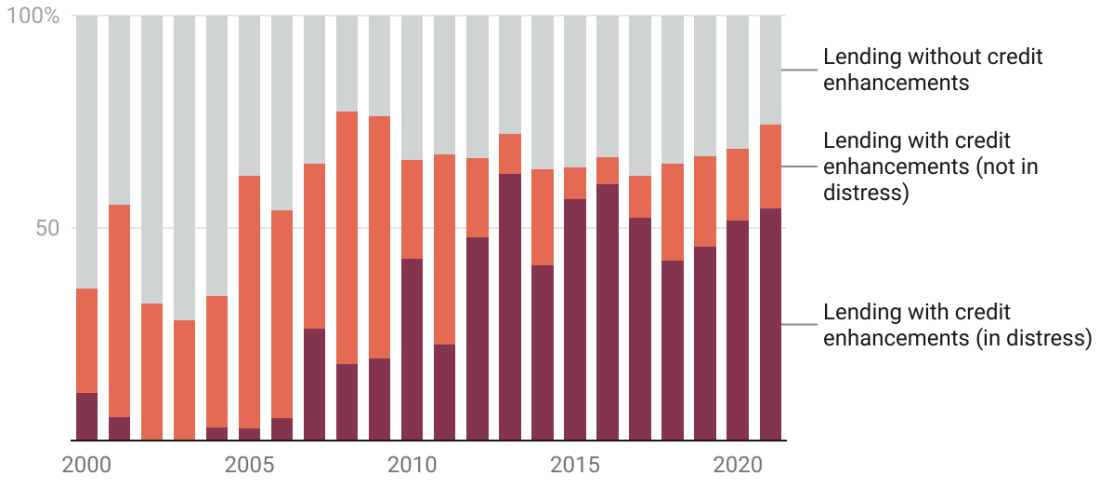


Notes: This graph shows the annual percentage of project loans from official sector creditors in China to borrowers in LICs and MICs that involve multilateral institutions as co-financiers, implementing agencies, or a receiving agency between 2000 and 2021.

Figure A.29

Composition of China's overseas lending with and without credit enhancements to countries in and not in financial distress

Percentage of official sector lending (in constant 2021 USD) from China to LICs and MICs

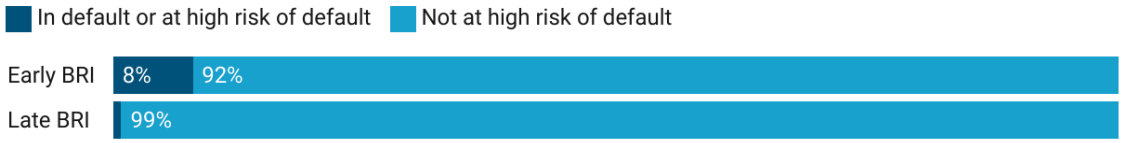


Notes: This graph shows the proportion of China's overseas lending commitments (measured as constant 2021 USD) to LICs and MICs backed by a credit insurance policy, a third-party repayment guarantee, and/or collateral to two cohorts: (1) countries in financial distress and (2) countries not in financial distress. To determine if a country experienced financial distress in a given year, we use the binary measure that is described in Box 1a in Chapter 1.

Figure A.30

Composition of China's non-emergency overseas loan portfolio by repayment risk

Percentage of China's non-emergency rescue lending portfolio (in constant 2021 USD)

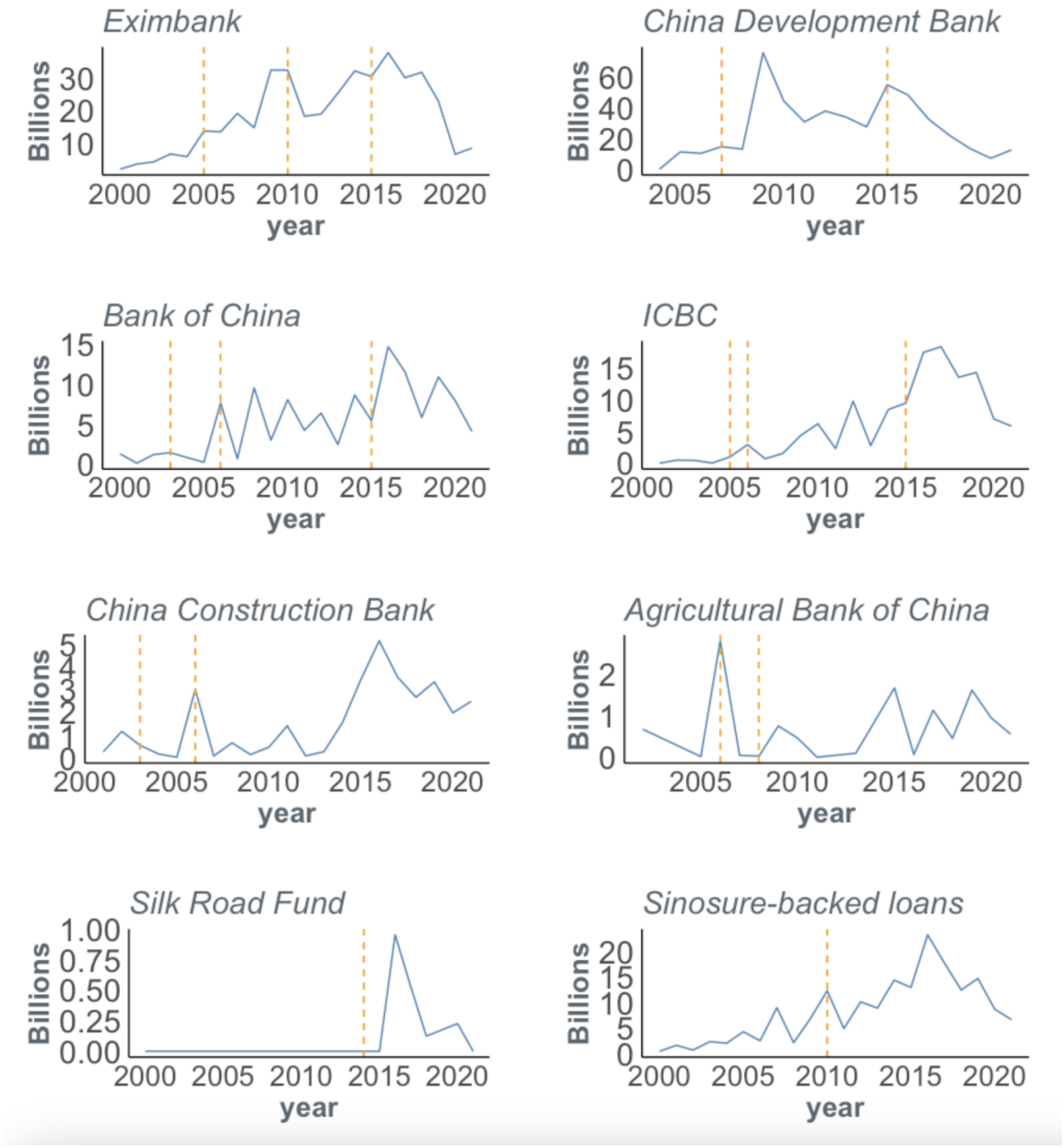


Notes: This graph shows the percentage of China's non-emergency loan commitments between 2000 and

2021 that supported two cohorts: (1) LICs and MICs with scores of 5 or less on the sovrate index; and (2) LICs and MICs with scores above 5 on the sovrate index. The World Bank's sovrate index is a measure of repayment risk that varies from 0 to 21, with higher scores indicating lower levels of sovereign credit risk (Kose et al. 2022). Countries with scores of 0-5 are in default or at a high risk of default (see Box 1a). Official sector Chinese lending commitments are measured in constant 2021 USD. Country-year observations without official sector Chinese lending commitments or sovrate scores are excluded.

Figure A.31

Annual loan commitments to LICs and MICs by financial institution and capital injections from SAFE, 2000-2021

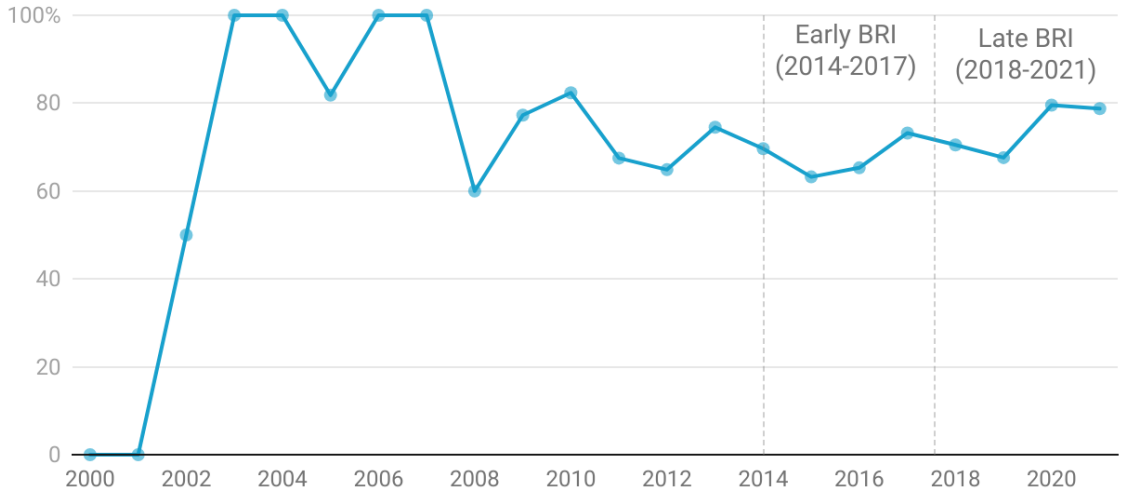


Notes: This table presents annual lending commitments to LICs and MICs (in constant 2021 USD) from selected Chinese state-owned policy banks, state-owned commercial banks, and state-owned funds. It also presents cumulative lending commitments to LICs and MICs (in constant 2021 USD) that are backed by credit insurance from Sinosure. The vertical dashed lines represent years in which a SAFE capital injection is known to have taken place.

Figure A.32

Proportion of China's syndicated overseas lending that involves non-Chinese creditors

Percentage of syndicated loans involving Chinese state-owned creditors and non-Chinese creditors to LICs and MICs

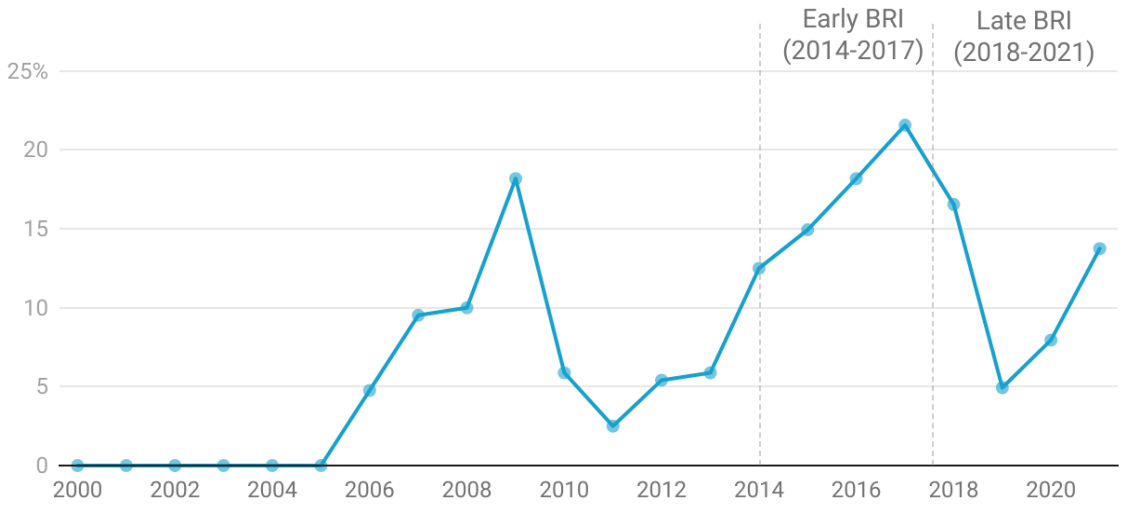


Notes: This graph shows the annual percentage of syndicated loans involving Chinese state-owned creditors (by the number of loans) that also involve non-Chinese creditors.

Figure A.33

Proportion of China's syndicated overseas lending that involves multilateral institutions

Percentage of syndicated loans involving Chinese state-owned creditors and multilateral institutions to LICs and MICs

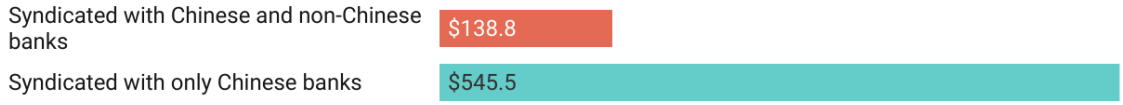


Notes: This graph shows the annual percentage of syndicated loans involving Chinese state-owned creditors (by the number of loans) that also involve multilateral institutions.

Figure A.34

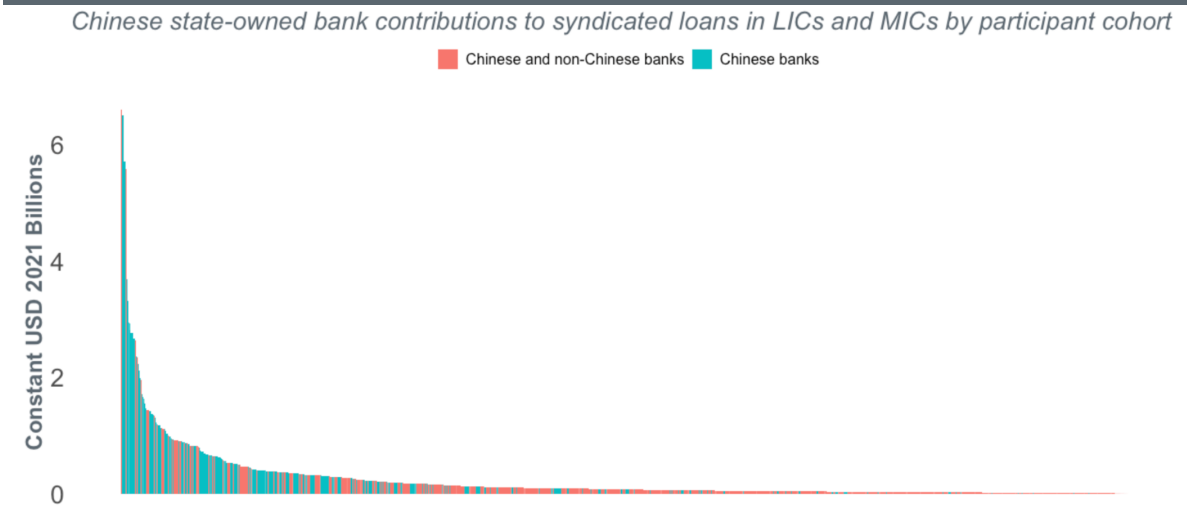
Average financial commitments from Chinese state-owned creditors to different types of syndicated loans

Average monetary commitments to LICs and MICs (constant 2021 USD millions), 2000-2021



Notes: This figure represents the average monetary commitment value size (in constant 2021 USD) from official sector creditors in China that participated in syndicated loans to LICs and MICs across two cohorts: (1) syndicated loans with Chinese and non-Chinese participants, and (2) syndicated loans with only Chinese participants.

Figure A.35



Notes: This figure presents all individual syndicated loans captured in the 3.0 version of AidData's GCDF dataset based on the size of the monetary commitments (in constant 2021 USD) from the official sector creditors in China that contributed to the loans. The color codes correspond to two separate types of syndicated loans: (1) those with Chinese and non-Chinese participants, and (2) those with only Chinese participants.

Figure A.36

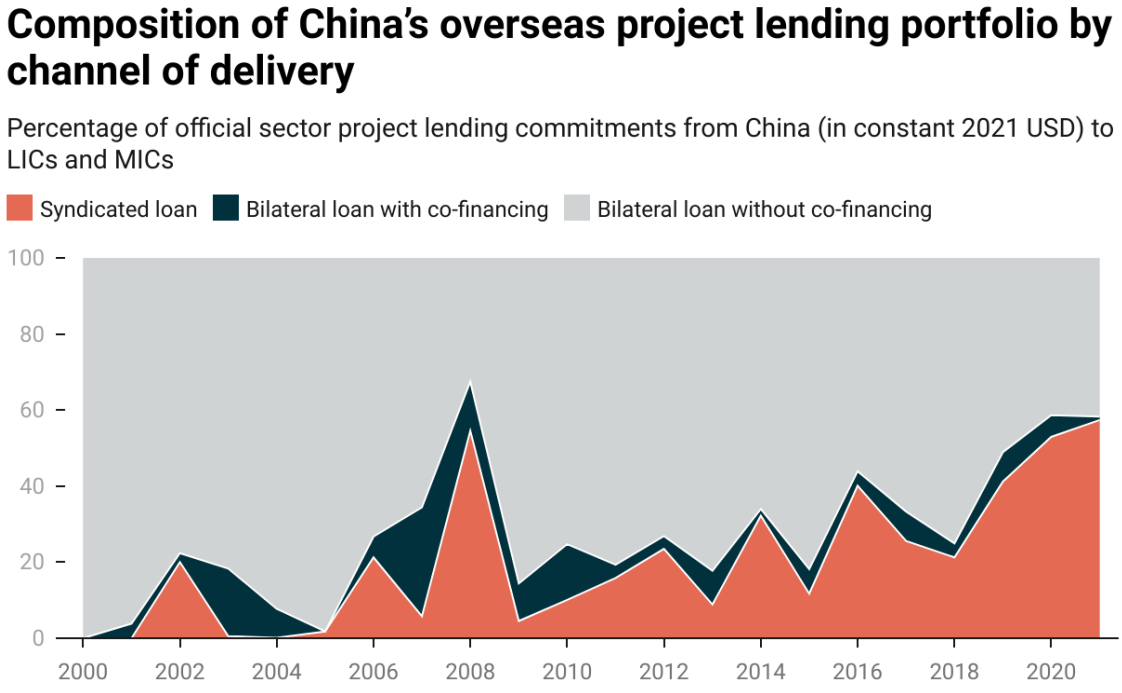


Figure A.37

Official lending commitments by lending institution type, 2000-2021

Percentage of official sector lending from China (in 2021 USD) to LICs and MICs

Row Labels	State-owned policy banks	State-owned commercial bank	State-owned enterprises	State-owned fund	MOFCOM	PBOC/SAFE	Other
2000	44	28	19	NA	7	NA	2
2001	72	9	8	NA	9	NA	2
2002	52	30	2	NA	7	NA	9
2003	68	25	2	NA	2	NA	3
2004	70	12	11	NA	3	NA	5
2005	86	5	8	NA	1	NA	1
2006	58	27	1	NA	1	NA	14
2007	94	5	NA	NA	1	NA	0
2008	66	24	5	NA	0	2	2
2009	87	6	2	3	0	1	1
2010	81	10	6	NA	0	NA	3
2011	83	7	4	NA	0	NA	5
2012	72	16	4	NA	0	3	5
2013	52	5	37	NA	0	6	0
2014	65	14	6	NA	0	8	6
2015	64	11	4	NA	0	15	5
2016	60	22	1	1	0	13	3
2017	51	23	3	0	0	19	4
2018	43	20	2	0	0	29	5
2019	35	26	3	NA	NA	34	2
2020	18	25	2	0	NA	52	1
2021	22	15	4	NA	NA	56	2

Figure A.38

Cumulative percentage of infrastructure portfolio with significant environmental, social, or governance risk exposure

Cumulative percentage of China's grant- and loan-financed infrastructure project portfolio (in constant 2021 USD) to LICs and MICs

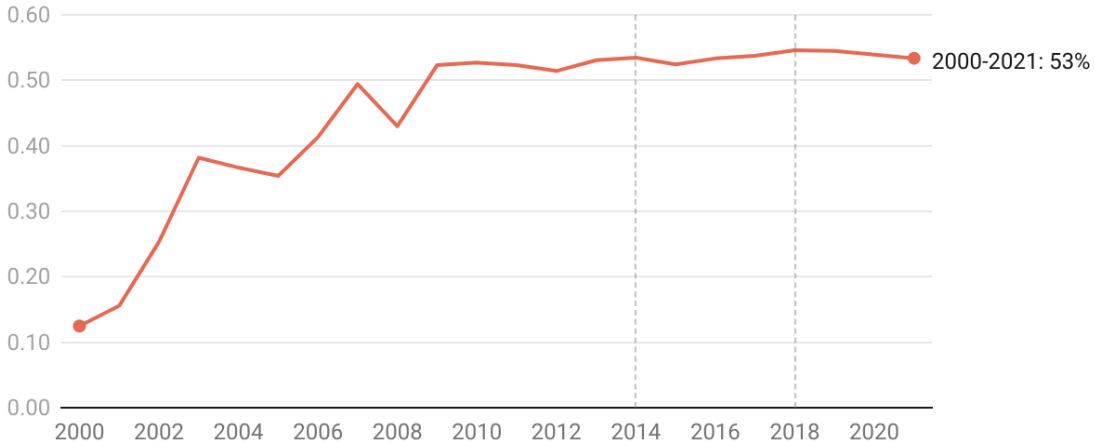
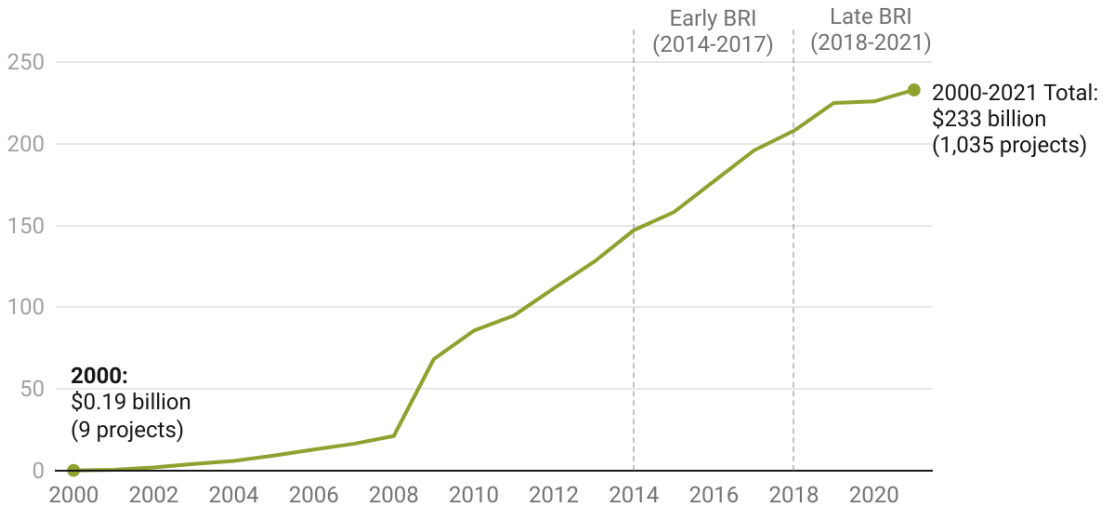


Figure A.39

Infrastructure projects located within environmentally sensitive areas

Cumulative monetary value of Chinese grant- and loan-financed infrastructure projects (constant 2021 USD)

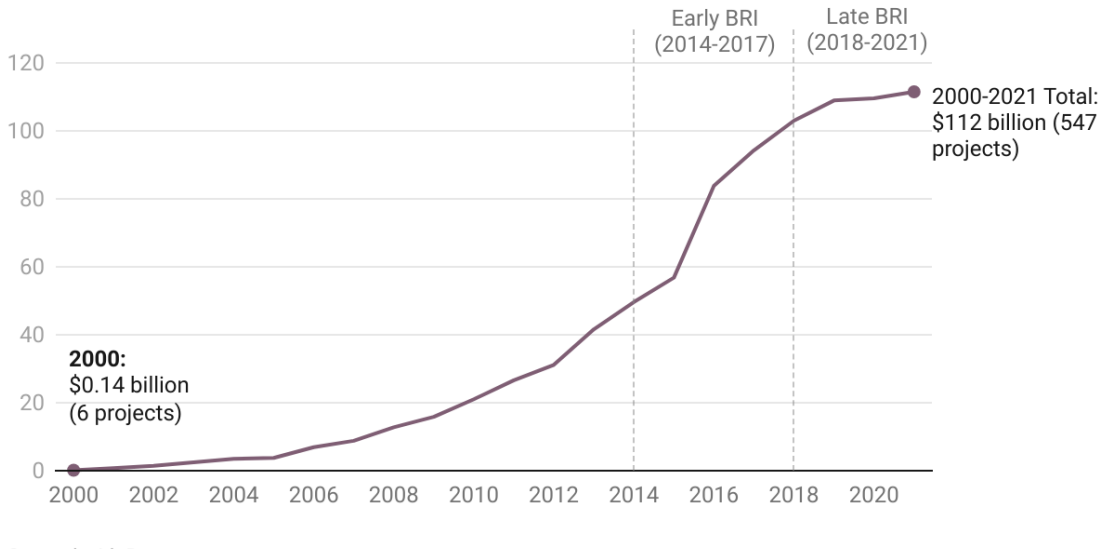


Notes: This figure shows the cumulative number and monetary value (in constant 2021 USD) of Chinese grant- and loan-financed infrastructure projects in LICs and MICs between 2000 and 2021 that are located in environmentally sensitive areas. Section 2 of Chapter 3 describes the methods that were used to identify infrastructure projects in environmentally sensitive areas.

Figure A.40

Infrastructure projects located within socially sensitive areas

Cumulative monetary value of Chinese grant- and loan-financed infrastructure projects (constant 2021 USD)

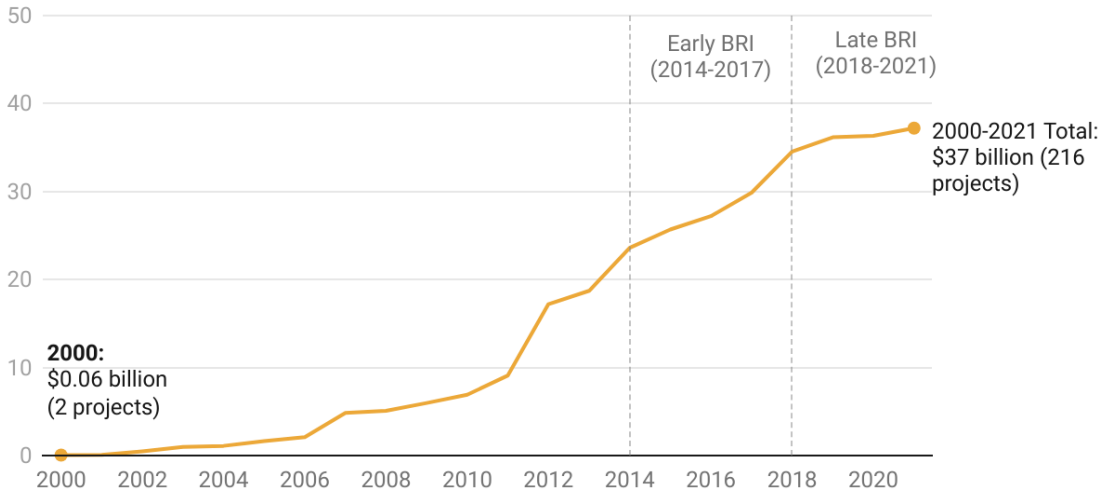


Notes: This figure shows the cumulative number and monetary value (in constant 2021 USD) of Chinese grant- and loan-financed infrastructure projects in LICs and MICs between 2000 and 2021 that are located in socially sensitive areas. Section 2 of Chapter 3 describes the methods that were used to identify infrastructure projects in sociallly sensitive areas.

Figure A.41

Infrastructure projects located in geographical areas vulnerable to political capture and manipulation

Cumulative monetary value of Chinese grant- and loan-financed infrastructure projects (constant 2021 USD)

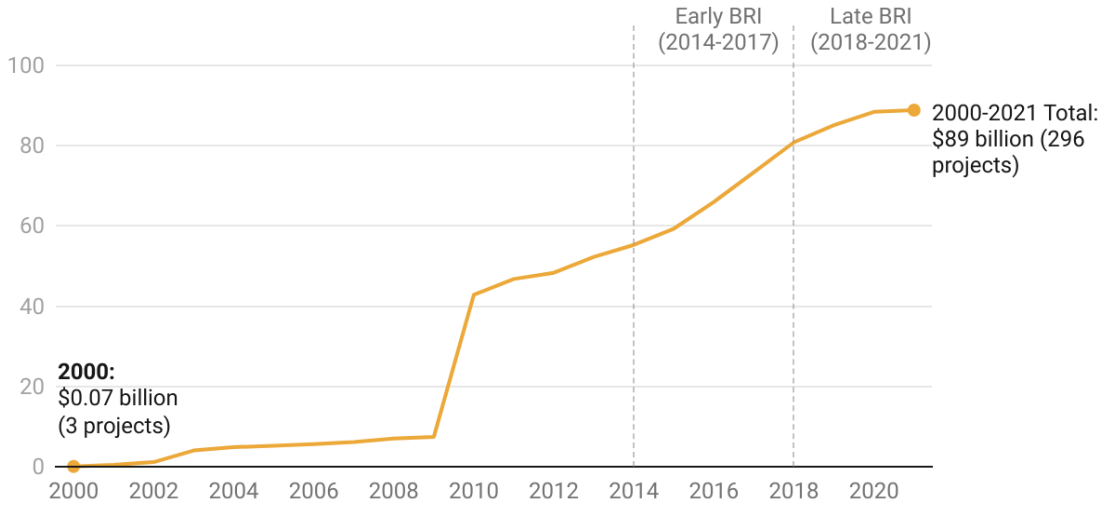


Notes: This figure shows the cumulative number and monetary value (in constant 2021 USD) of Chinese grant- and loan-financed infrastructure projects in LICs and MICs between 2000 and 2021 that are located in areas that are vulnerable to political capture and manipulation. Section 2 of Chapter 3 describes the methods that were used to identify infrastructure projects in geographical areas that are vulnerable to political capture and manipulation.

Figure A.42

Infrastructure projects involving contractors sanctioned for fraudulent and corrupt behavior

Cumulative monetary value of Chinese grant- and loan-financed infrastructure projects (constant 2021 USD)

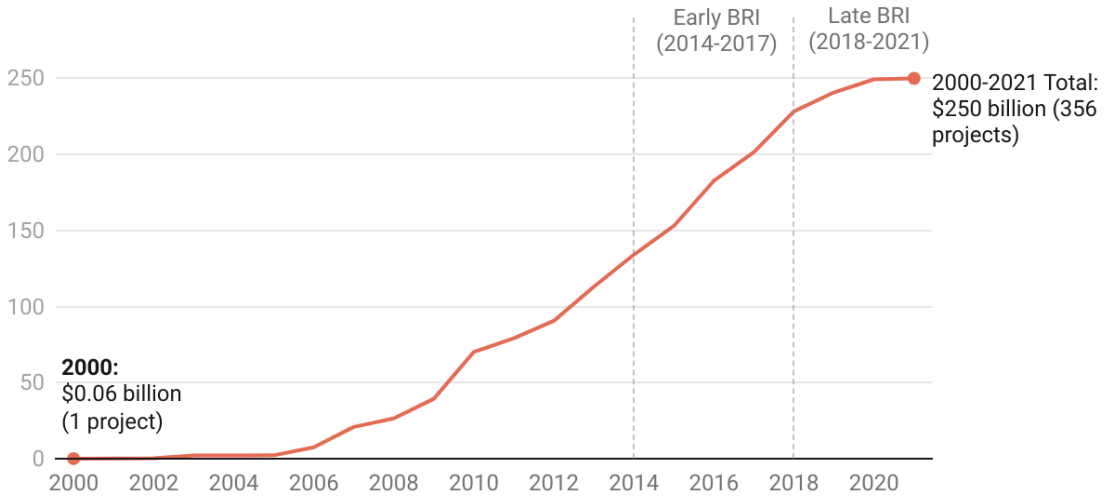


Notes: This figure shows the cumulative number and monetary value (in constant 2021 USD) of Chinese government-financed infrastructure projects in LICs and MICs that relied on contractors sanctioned by other international financiers for fraudulent and corrupt behavior between 2000 and 2021. Section 2 of Chapter 3 describes the methods used to identify infrastructure projects that relied on contractors sanctioned by other international financiers for fraudulent and corrupt behavior.

Figure A.43

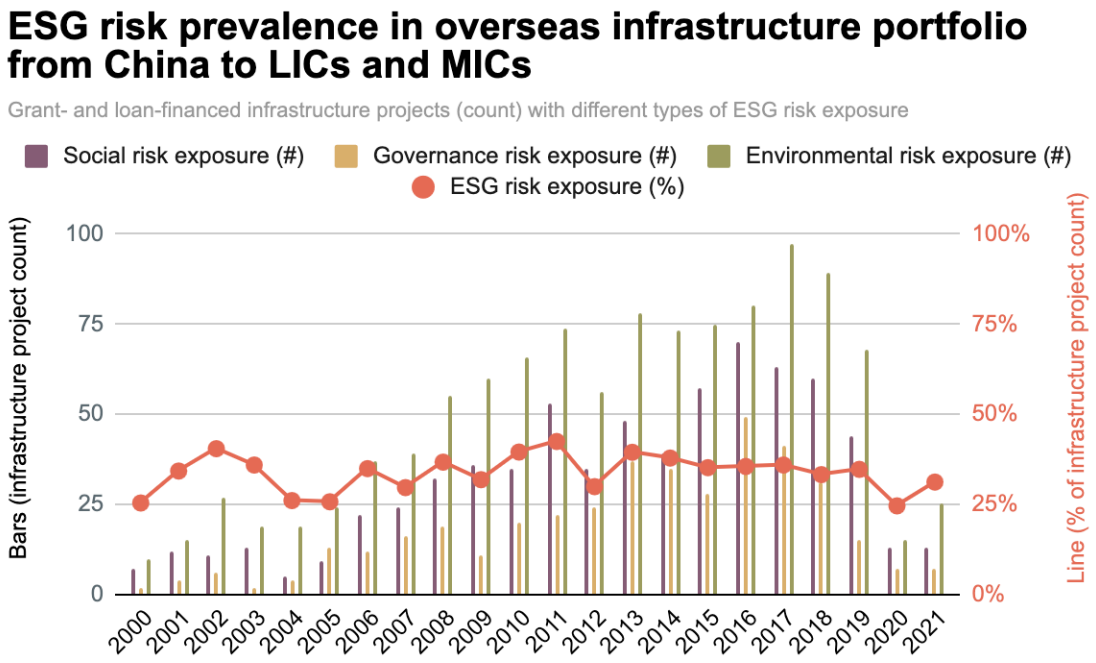
Infrastructure projects that encountered significant environmental, social, or governance challenges over time

Cumulative monetary value of Chinese grant- and loan-financed infrastructure projects (constant 2021 USD)



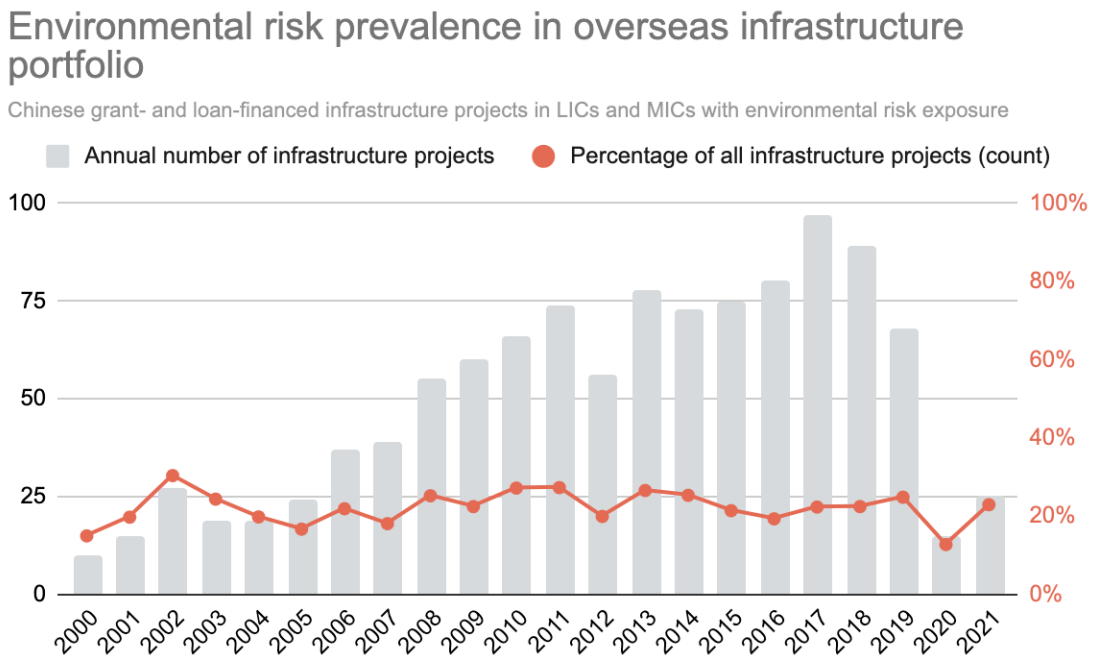
Notes: This figure shows the cumulative number and monetary value (in constant 2021 USD) of Chinese government-financed infrastructure projects in LICs and MICs that encountered significant environmental, social, or governance challenges over time. Whether a project experienced a significant environmental, social, or governance challenge is measured with a binary indicator from AidData that uses the project's description field to determine if there was evidence of a significant environmental, social, or governance challenge before, during, or after implementation. For more details, see Section 2 of Chapter 3.

Figure A.44



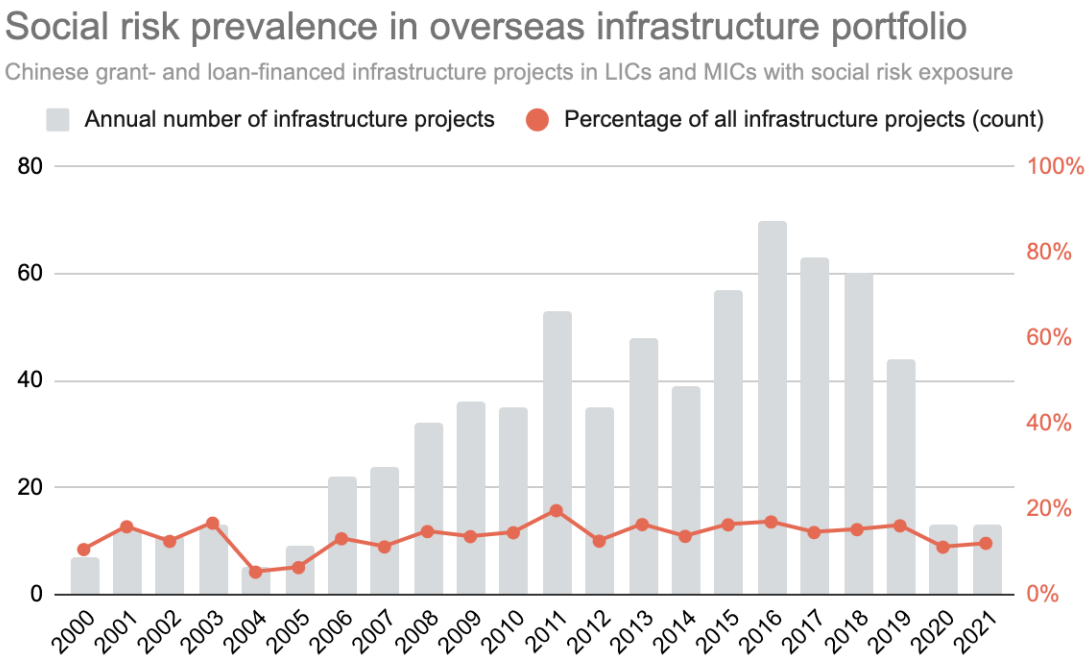
Notes: This figure shows the annual number (bars) and (with a solid line) the annual percentage of the Chinese grant- and loan-financed infrastructure projects (count) in LICs and MICs that encountered significant environmental, social, or governance risks between 2000-2021. Projects are recorded in the years when they secured financial commitments from China, although the ESG risks that they encountered may have materialized after the financial commitment year. The presence of significant ESG risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3.

Figure A.45



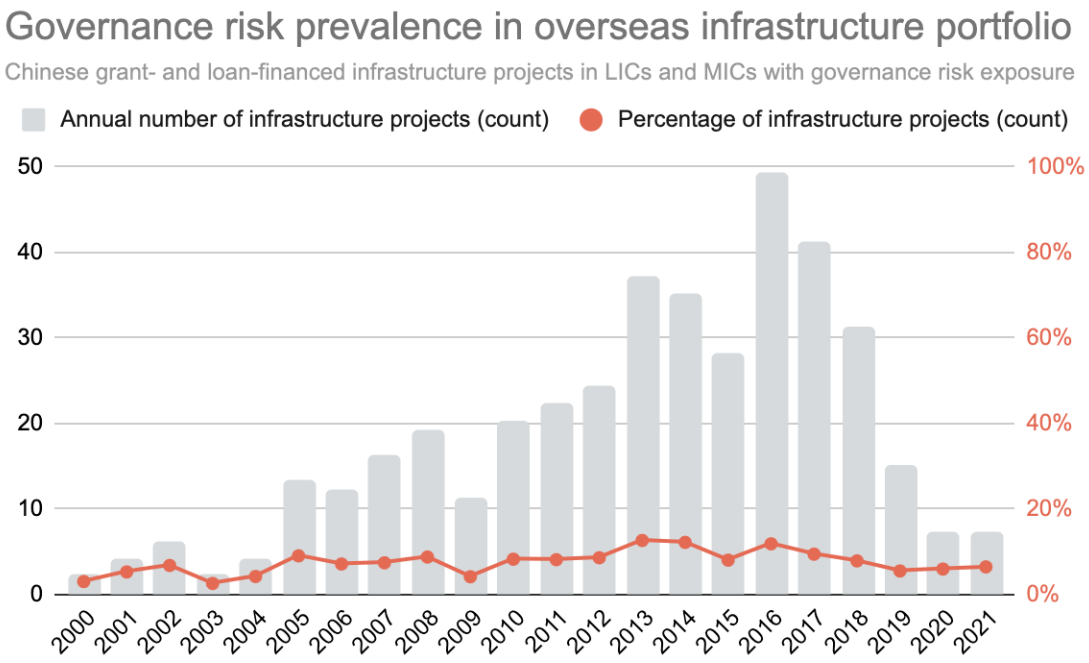
Notes: This figure shows the annual number (bars) and percentage (of project count) of Chinese government-financed infrastructure projects in LICs and MICs that encountered significant environmental risks between 2000-2021. Projects are recorded in the years when they secured financial commitments from China, although the environmental risks that they encountered may have materialized after the financial commitment year. The presence of significant environmental risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3.

Figure A.46



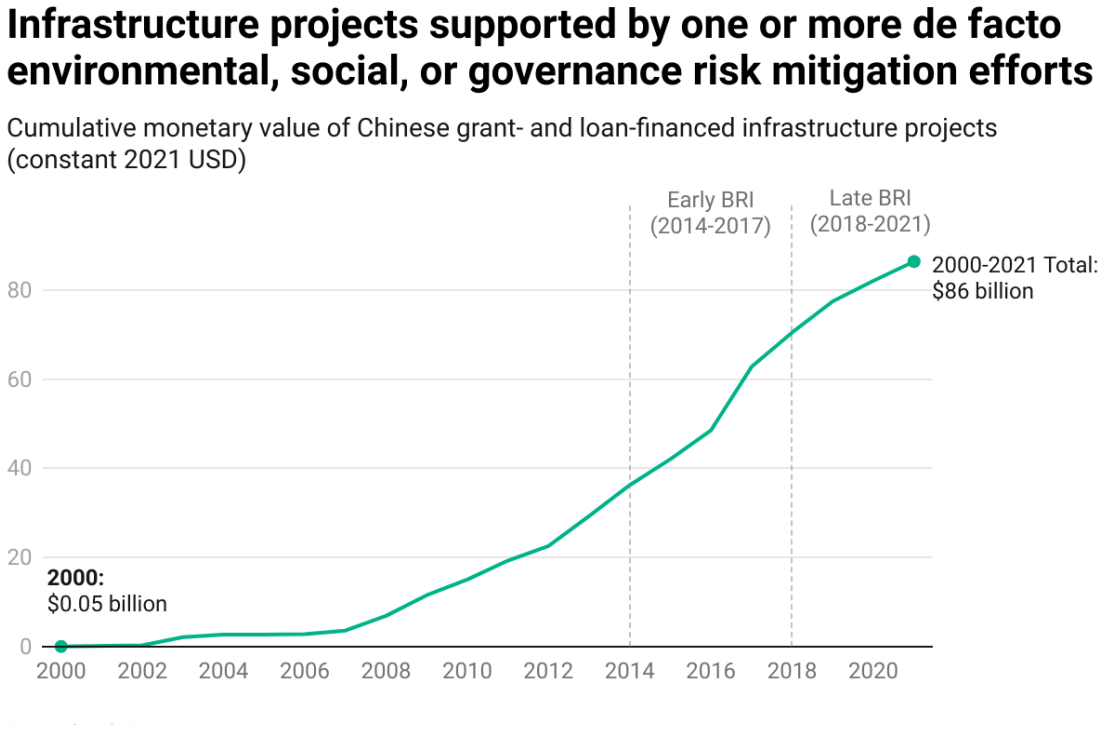
Notes: This figure shows the annual number (bars) and percentage (of project count) of Chinese government-financed infrastructure projects in LICs and MICs that encountered significant social risks between 2000-2021. Projects are recorded in the years when they secured financial commitments from China, although the social risks that they encountered may have materialized after the financial commitment year. The presence of significant social risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3.

Figure A.47



Notes: This figure shows the annual number (bars) and percentage (of project count) of Chinese government-financed infrastructure projects in LICs and MICs that encountered significant governance risks between 2000-2021. Projects are recorded in the years when they secured financial commitments from China, although the governance risks that they encountered may have materialized after the financial commitment year. The presence of significant governance risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3.

Figure A.48

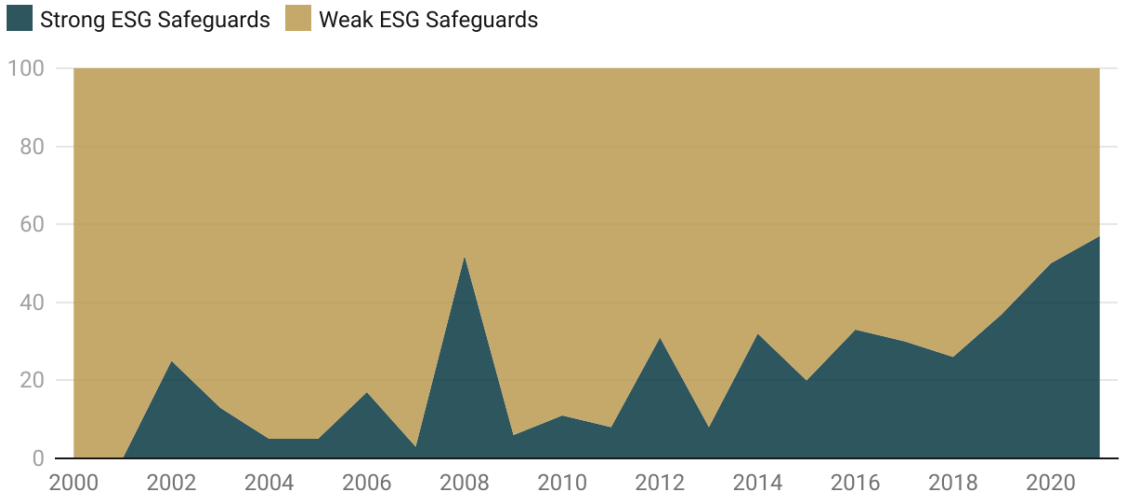


Notes: This figure shows the cumulative monetary value of Chinese grant- and loan-financed infrastructure projects (in constant 2021 USD) supported by one or more de facto environmental, social, or governance risk mitigation efforts (as measured via the keyword search-based method) from 2000 to 2021.

Figure A.49

De jure ESG safeguard stringency in China's overseas infrastructure portfolio with ESG risk exposure

Percentage of China's grant- and loan-financed infrastructure project portfolio (by constant 2021 USD) to LICs and MICs with signficant environmental, social, or governance risk exposure

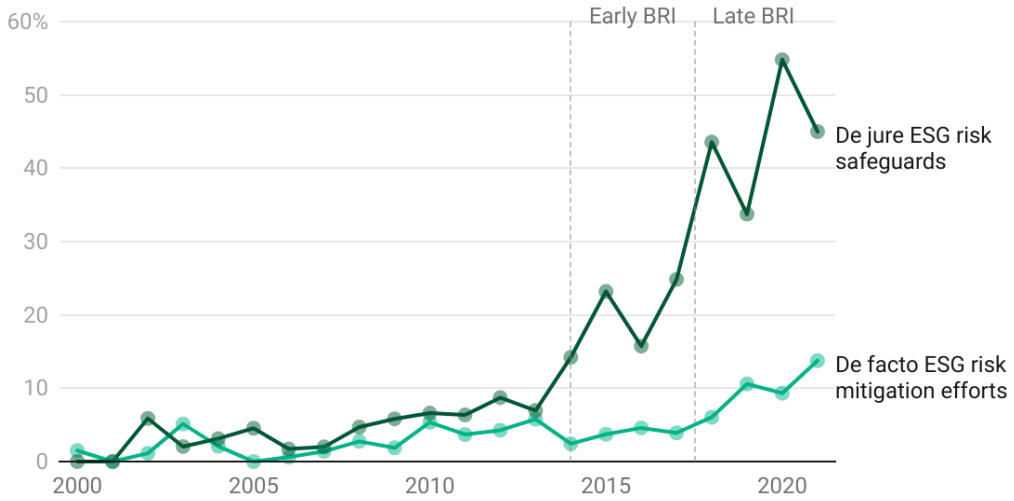


Notes: This figure shows the annual percentage of China's grant- and loan-financed infrastructure project portfolio in LICs and MICs (in constant 2021 USD) that presented significant environmental, social, or governance risks across two cohorts: those with strong de jure ESG safeguards and those weak de jure ESG safeguards. Projects with "strong" de jure ESG safeguards are defined as those with at least two out of three (environmental, social and governance) safeguard stringency metrics that are "high." Projects that do not meet this standard are classified as having "weak" de jure ESG safeguards. The presence of significant ESG risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3.

Figure A.50

Infrastructure project portfolio with de jure vs. de facto ESG risk mitigation

Percentage of China's grant- and loan-financed infrastructure project portfolio (by project count) to LICs and MICs

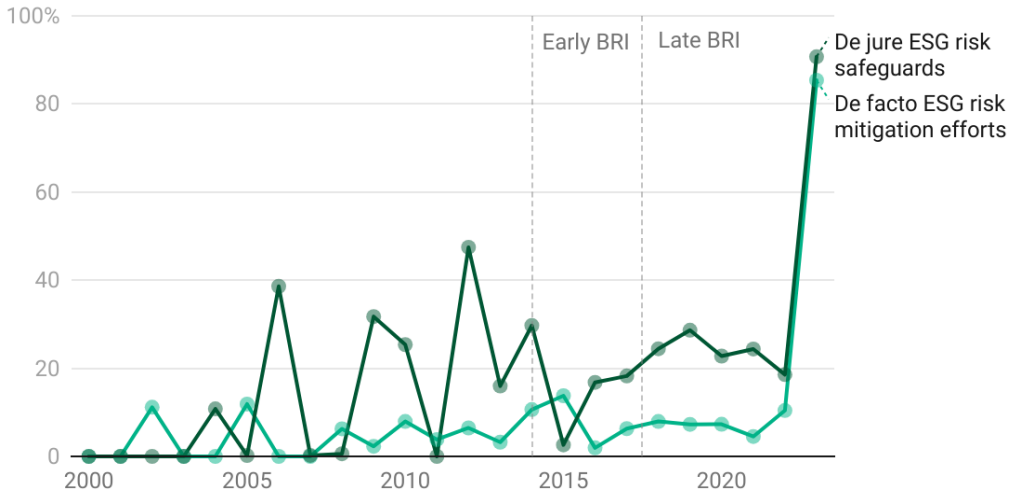


Notes: This figure presents (in bars) the annual percentage of Chinese grant- and loan-financed infrastructure projects (by project count) in LICs and MICs supported by one or more de facto environmental, social, or governance risk mitigation efforts (as measured via the keyword search-based method) from 2000 to 2021. It also presents (with a line) the annual percentage of Chinese grant- and loan-financed infrastructure projects (by project count) in LICs and MICs with strong de jure ESG safeguards. Projects with "strong" de jure ESG safeguards are defined as those with at least two out of three (environmental, social and governance) safeguard stringency metrics that are "high."

Figure A.51

Infrastructure project portfolio with de jure vs. de facto ESG risk mitigation, by year of project completion

Percentage of China's grant- and loan-financed infrastructure project portfolio (by constant 2021 USD) to LICs and MICs

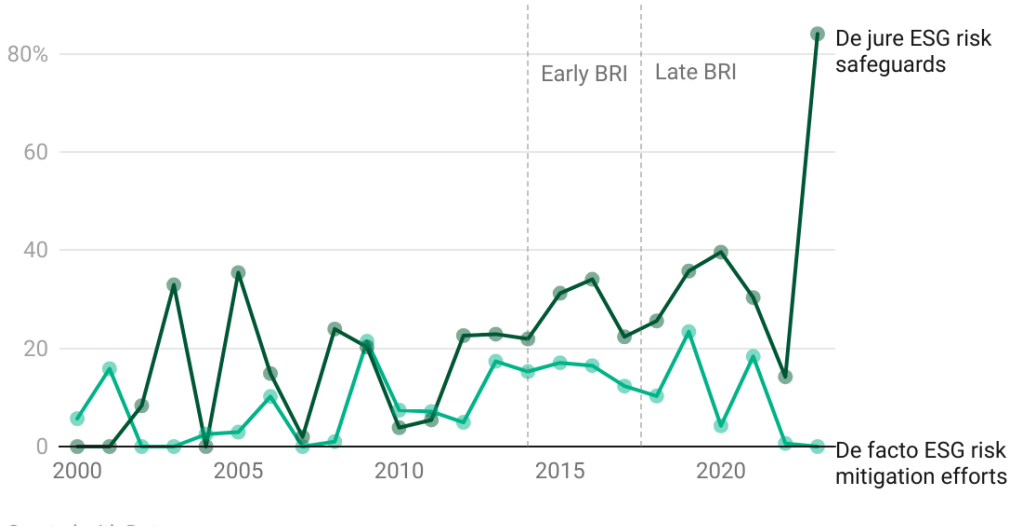


Notes: This figure presents (in bars) the annual percentage of Chinese grant- and loan-financed infrastructure project portfolio (in constant 2021 USD) in LICs and MICs supported by one or more de facto environmental, social, or governance risk mitigation efforts (as measured via the keyword search-based method) from 2000 to 2021. It also presents (with a line) the annual percentage of Chinese grant- and loan-financed infrastructure project portfolio (in constant 2021 USD) in LICs and MICs with strong de jure ESG safeguards. Both measures are based on the year the project was completed (where known) instead of the commitment year. Projects with "strong" de jure ESG safeguards are defined as those with at least two out of three (environmental, social and governance) safeguard stringency metrics that are "high."

Figure A.52

Infrastructure project portfolio with de jure vs. de facto ESG risk mitigation, by year of project commencement

Percentage of China's grant- and loan-financed infrastructure project portfolio (by constant 2021 USD) to LICs and MICs

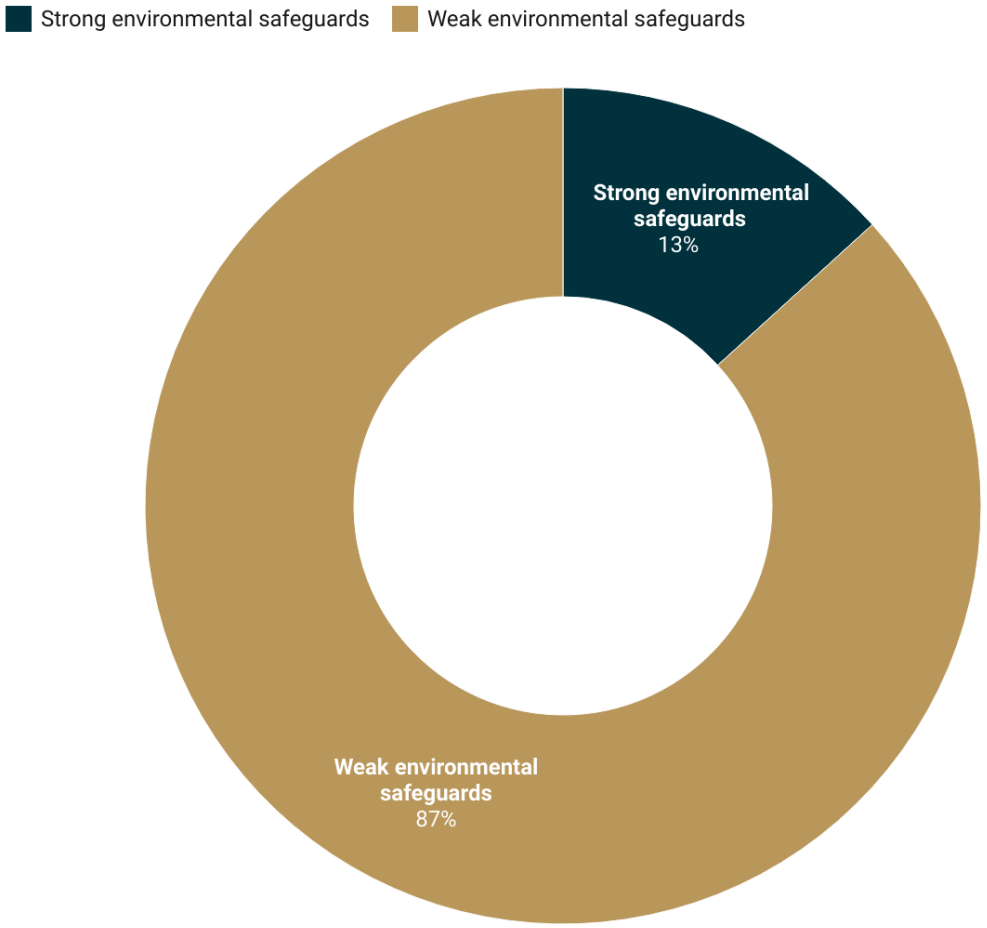


Notes: This figure presents (in bars) the annual percentage of Chinese grant- and loan-financed infrastructure project portfolio (in constant 2021 USD) in LICs and MICs supported by one or more de facto environmental, social, or governance risk mitigation efforts (as measured via the keyword search-based method) from 2000 to 2023. It also presents (with a line) the annual percentage of Chinese grant- and loan-financed infrastructure project portfolio (in constant 2021 USD)) in LICs and MICs with strong de jure ESG safeguards over the same time period. Both measures are based on the year the project began implementation (where known) instead of the commitment year. Projects with "strong" de jure ESG safeguards are defined as those with at least two out of three (environmental, social and governance) safeguard stringency metrics that are "high."

Figure A.53

Proportion of infrastructure project financing facing significant environmental risks by whether the project financing had strong de jure environmental safeguards versus those with weak de jure ESG safeguards

Percentage of Chinese infrastructure financing (constant 2021 USD) in LICs and MICs that face strong environmental risks

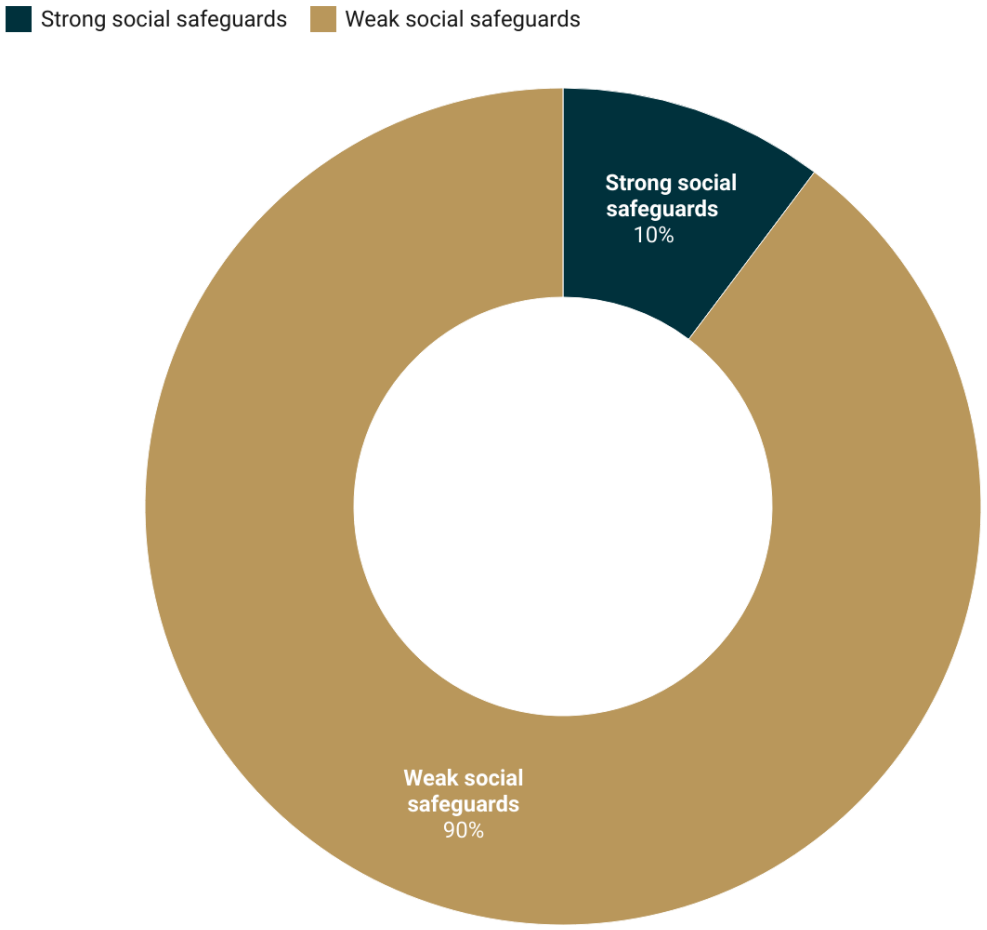


Notes: This figure shows the percentage of Chinese grant- and loan-financed infrastructure project portfolio (in constant 2021 USD) in LICs and MICs from 2000 to 2021 that presented significant environmental risk across two cohorts: (1) projects with strong de jure environmental safeguards, and (2) projects without strong de jure environmental safeguards. Projects with "strong" de jure environmental safeguards are defined as those with a score of "high" on AidData's safeguard stringency scale. Projects that present significant environmental risk are measured with 1/0 project-level composite measure (based on two of the 1/0 input indicators described in Section 2 of Chapter 3: whether the project was located in an environmentally sensitive area and/or whether the project's description field provides evidence of a significant environmental challenge before, during, or after implementation).

Figure A.54

Proportion of infrastructure project financing facing significant social risks by whether the project financing had strong de jure social safeguards versus those with weak de jure ESG safeguards

Percentage of Chinese infrastructure financing (constant 2021 USD) in LICs and MICs that face strong social risks

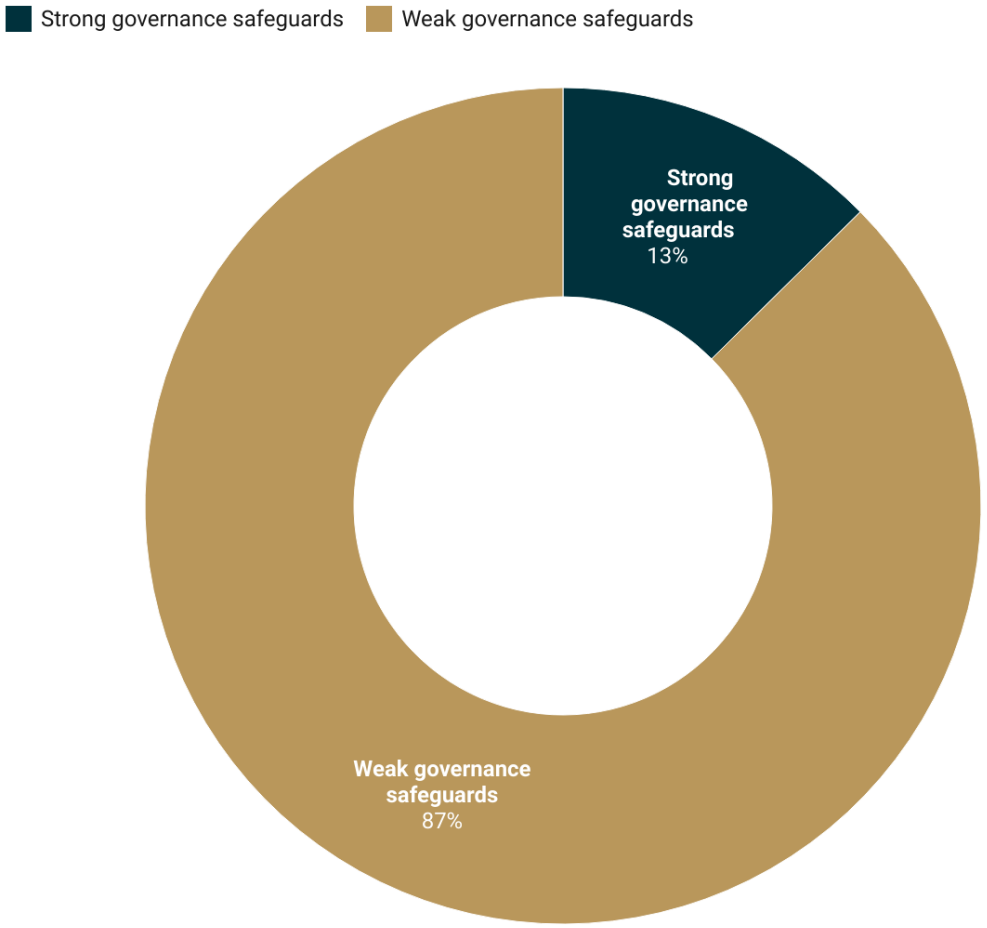


Notes: This figure shows the percentage of Chinese grant- and loan-financed infrastructure project portfolio (in constant 2021 USD) in LICs and MICs from 2000 to 2021 that presented significant social risk across two cohorts: (1) projects with strong de jure social safeguards, and (2) projects without strong de jure social safeguards. Projects with "strong" de jure social safeguards are defined as those with a score of "high" on AidData's safeguard stringency scale. Projects that present significant social risk are measured with 1/0 project-level composite measure (based on two of the 1/0 input indicators described in Section 2 of Chapter 3: whether the project was located in a socially sensitive area and/or whether the project's description field provides evidence of a significant social challenge before, during, or after implementation).

Figure A.55

Proportion of infrastructure project financing facing significant governance risks by whether the project financing had strong de jure governance safeguards versus those with weak de jure ESG safeguards

Percentage of Chinese infrastructure financing (constant 2021 USD) in LICs and MICs that face strong governance risks

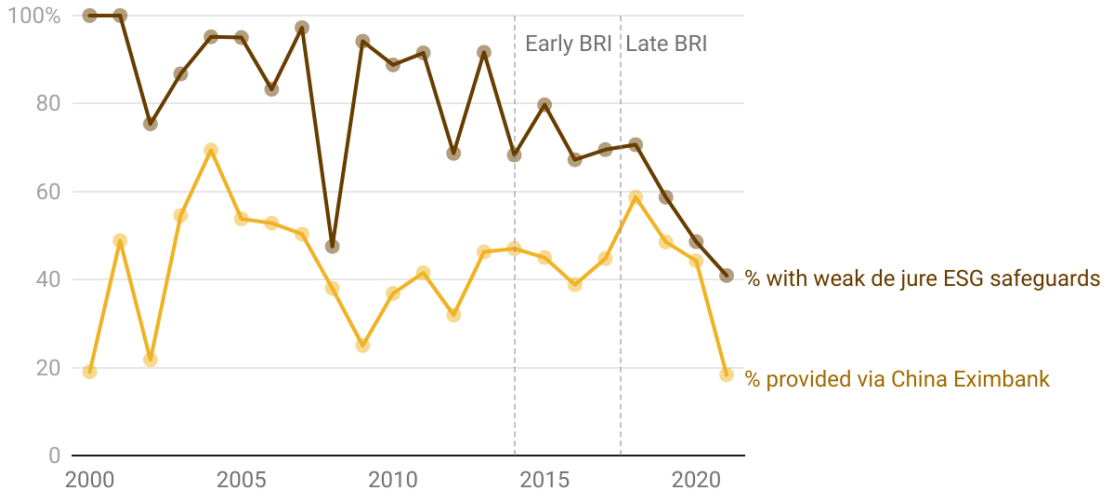


Notes: This figure shows the percentage of Chinese grant- and loan-financed infrastructure project portfolio (in constant 2021 USD) in LICs and MICs from 2000 to 2021 that presented significant governance risk across two cohorts: (1) projects with strong de jure governance safeguards, and (2) projects without strong de jure governance safeguards. Projects with "strong" de jure governance safeguards are defined as those with a score of "high" on AidData's safeguard stringency scale. Projects that present significant governance risk are measured with 1/0 project-level composite measure (based on three of the 1/0 input indicators described in Section 2 of Chapter 3: whether the project was located in an area vulnerable to political capture and manipulation, whether the project relied on contractors sanctioned by other international financiers for fraudulent and corrupt behavior; and/or whether the project's description field provides evidence of a significant governance challenge before, during, or after implementation).

Figure A.56

Composition of infrastructure project portfolio: Reliance on China Eximbank and weak de jure ESG safeguards

Percentage of China's grant- and loan-financed infrastructure project portfolio (by constant 2021 USD) to LICs and MICs

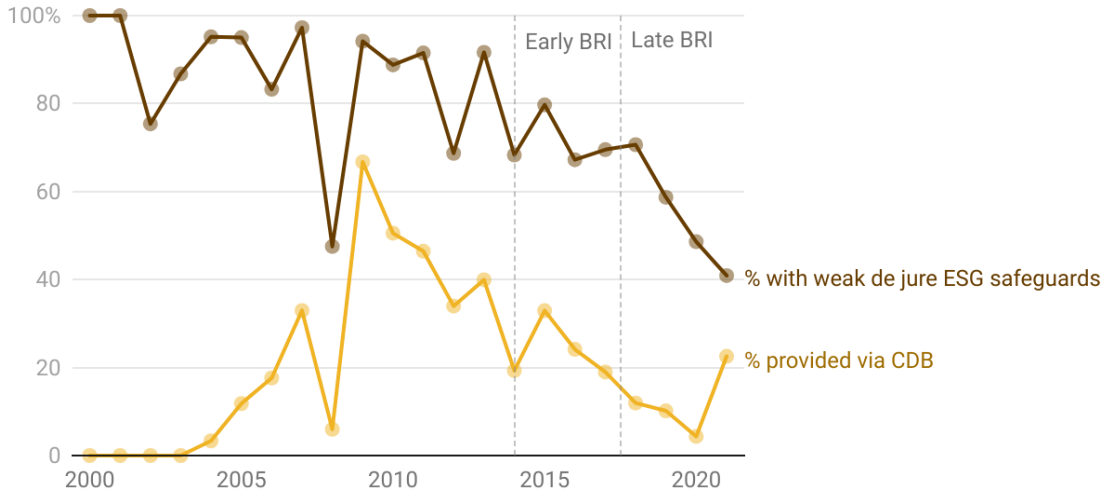


Notes: This figure shows the percent of Chinese grant- and loan-financed infrastructure projects (measured as constant 2021 USD) with weak de jure ESG safeguards as well as the percentage of Chinese grant- and loan-financed infrastructure projects (measured by constant 2021 USD) financed via bilateral loans from China Eximbank. Projects with "strong" de jure ESG safeguards are defined as those with at least two out of three (environmental, social and governance) safeguard stringency metrics that are "high." Projects that do not meet this standard are classified as having "weak" de jure ESG safeguards.

Figure A.57

Composition of infrastructure project portfolio: Reliance on China Development Bank and weak de jure ESG safeguards

Percentage of China's grant- and loan-financed infrastructure project portfolio (by constant 2021 USD) to LICs and MICs



Notes: This figure shows the percentage of Chinese grant- and loan-financed infrastructure projects (measured as constant 2021 USD) with weak de jure ESG safeguards as well as the percentage of Chinese grant- and loan-financed infrastructure projects (measured by constant 2021 USD) financed via bilateral loans from CDB. Projects with "strong" de jure ESG safeguards are defined as those with at least two out of three (environmental, social and governance) safeguard stringency metrics that are "high." Projects that do not meet this standard are classified as having "weak" de jure ESG safeguards.

Figure A.58

Proportion of China's infrastructure project portfolio behind schedule by de jure ESG safeguard strength

Percentage of China's grant- and loan-financed infrastructure project portfolio (in constant 2021 USD)

Notes: This figure presents the percentage of China's grant- and loan-financed infrastructure project portfolio (in constant 2021 USD) that ran behind schedule across two cohorts: projects with strong de jure environmental, social, and governance safeguards and projects with weak de jure environmental, social, and governance safeguards. Projects with "strong" de jure ESG safeguards are defined as those with at

least two out of three (environmental, social and governance) safeguard stringency metrics that are "high." Projects that do not meet this standard are classified as having "weak" de jure ESG safeguards. "Behind schedule" is defined as projects where the actual implementation start date took place 3 months or more after its originally scheduled implementation start date as well as projects where the actual completion date took place 3 months (or more) after its originally scheduled completion date. Only active projects and completed projects that secured official commitments from China are included in the analysis.

Figure A.59

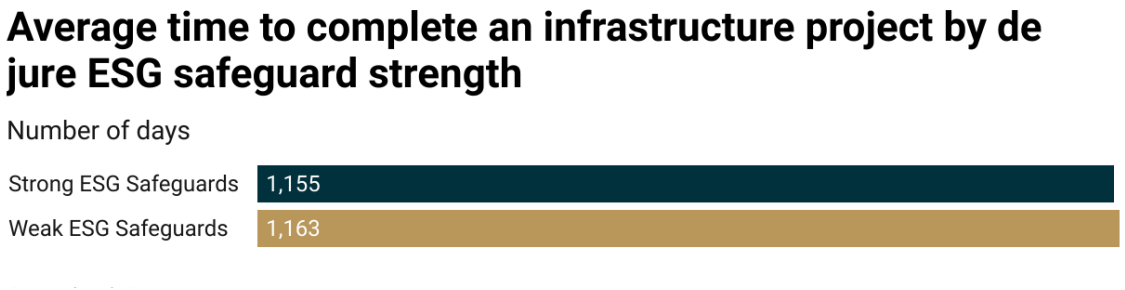
Notes: This figure compares the average length of commencement delays (in days) in China's grant- and loan-financed infrastructure project portfolio across two cohorts: projects with strong de jure environmental, social, and governance safeguards and projects with weak de jure environmental, social, and governance safeguards. Projects with "strong" de jure ESG safeguards are defined as those with at least two out of three (environmental, social and governance) safeguard stringency metrics that are "high." Projects that do not meet this standard are classified as having "weak" de jure ESG safeguards. Commencement delays are calculated by taking the difference (in calendar days) between the originally scheduled project implementation start date and the actual project implementation start date. Only active projects and completed projects that secured official commitments from China are included in the analysis.

Figure A.60

Notes: This figure compares the average length of completion delays (in days) in China's grant- and loan-financed infrastructure project portfolio across two cohorts: projects with strong de jure environmental, social, and governance safeguards and projects with weak de jure environmental, social, and governance safeguards. Projects with "strong" de jure ESG safeguards are defined as those with at least two out of three (environmental, social and governance) safeguard stringency metrics that are "high." Projects that do not meet this standard are classified as having "weak" de jure ESG safeguards Completion delays are calculated by taking the difference (in calendar days) between the originally scheduled project completion

date and the actual project completion date. Only active projects and completed projects that secured official commitments from China are included in the analysis.

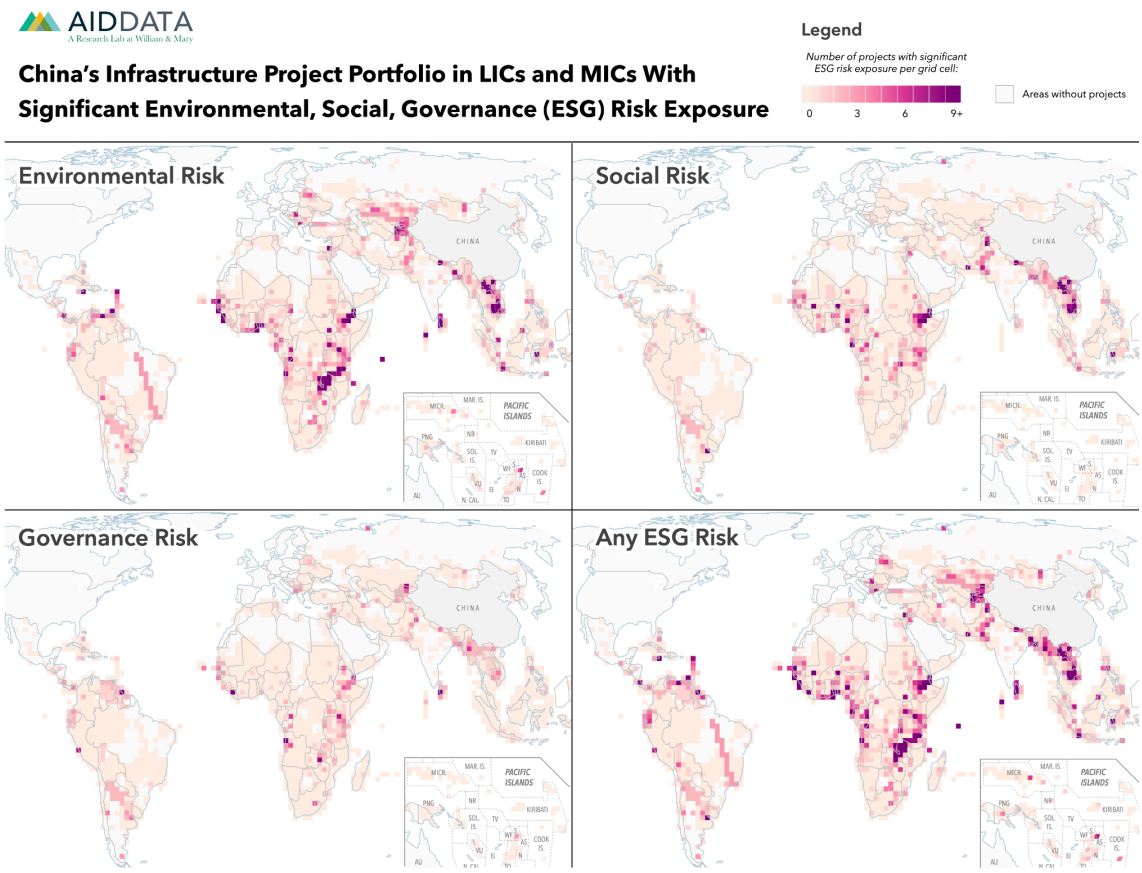
Figure A.61



Notes: This figure compares the average number of calendar days that it has taken to complete Chinese grant- and loan-financed infrastructure projects in LICs and MICs across two cohorts: projects with strong de jure environmental, social, and governance safeguards and projects with weak de jure environmental, social, and governance safeguards. Projects with "strong" de jure ESG safeguards are defined as those with at least two out of three (environmental, social and governance) safeguard stringency metrics that are "high." Projects that do not meet this standard are classified as having "weak" de jure ESG safeguards. The amount of time needed to complete a project is calculated by measuring the number of calendar days between the actual project implementation start date and the actual project completion date. Only active projects and completed projects that secured official commitments from China are included in the analysis.

Figure A.62

ESG map - project count



Notes: This map presents the geographical areas where China's grant- and loan-financed infrastructure project portfolio (measured in project counts) has significant environmental, social, or governance (ESG) risk exposure. Darker (purple) colors represent areas where the portfolio has high levels of risk exposure and lighter (pink) colors represent areas where the portfolio has lower levels of risk exposure. Environmental risk exposure, social risk exposure, and governance risk exposure are based on the project-level composite measures that are described in Section 2 of Chapter 3. If a project falls across multiple grid cells, it is counted in every grid cell that it intersects. In other words, for every grid cell, we count the number of project points, lines or polygons that intersect it.

Section A-2: How AidData measures concessionality and intent

As part of its data collection and classification system, AidData designates each financial and in-kind transfer ("flow") from an official sector institution as Official Development Assistance (ODA) or Other Official Flows (OOF). The OECD's Development Assistance Committee (DAC) has used these designations since 1972 to distinguish between flows from official sector institutions that (a) are provided on concessional terms and that promote and specifically target the economic development and welfare of developing countries (ODA), and (b) are provided on non-concessional terms or do not specifically target

the economic development and welfare of developing countries (OOF). The sum of ODA and OOF is sometimes referred to as Official Financial Flows, Official Financing, or Overseas Development Finance. Many DAC countries, non-DAC countries, and multilateral institutions report the volume and composition of their official sector flows according to these categories and criteria. In alignment with the OECD-DAC's own definitions, AidData classifies each project in the 3.0 dataset as either "ODA-like" or "OOF-like." This unique feature of the 3.0 dataset sets it apart from other publicly available datasets that measure Chinese development finance in that it allows analysts to make "apples-to-apples" comparisons of Chinese development finance and other international sources of development finance (that report their ODA and OOF flow data to the OECD-DAC).

The criteria for whether a flow qualifies as ODA or OOF is determined by the OECD-DAC. It is based on (1) the intent of the flow (whether its primary intent was development or not), (2) the income classification of the receiving country, and (3) the concessionality level of the flow.[369] All grants and in-kind transfers are treated as concessional. However, a "grant element" measure is used to calculate the concessionality level of all loans. This measure, which varies from 0 percent to 100 percent, seeks to capture the generosity of a loan—or the extent to which it is priced below market rates. In principle, any loan provided on entirely non-concessional terms should have a grant element of 0 percent.

While the first two criteria have remained consistent since the concept of ODA was introduced more than five decades ago, the OECD-DAC recently made changes to the third (concessionality) criterion. Until 2017, a loan from an official sector institution to a low-income or middle-income country had to meet a concessionality (grant element) threshold of 25% to qualify as ODA. However, in 2018, the OECD-DAC introduced a tiered system of discount rates and concessionality thresholds based on the income classifications of borrower countries and whether borrowing institutions are official sector or private sector institutions. The 2018 definition of concessionality is based on the following criteria:

- For loans to official sector institutions, the following concessionality thresholds apply:
    - Least-developed countries and low-income countries: a minimum grant element of 45% (calculated using a 9% discount rate).
    - Lower-middle income countries: a minimum grant element of 15% (calculated using a 7% discount rate).
    - Upper-middle income countries: a minimum grant element of 10% (calculated using a discount rate of 6%).
- For loans to private sector institutions, the OECD-DAC maintains the pre-2018 definition of concessionality and requires a grant element of at least 25% (that is calculated using a 10% discount rate).[370]

To ensure comparability between the flows documented in the 3.0 version of the GCDF dataset and the flow data published by the OECD-DAC, AidData has applied these definitions in the following manner:

Intent: AidData codes the intent of each financial and in-kind transfer ("flow"). Flows with "development intent" are those that are primarily oriented toward the promotion of economic development and welfare in the recipient country. Flows with "commercial intent" are those that primarily seek to promote the commercial interests of the country from which the financial transfer has originated (e.g., encouraging the

[369] An additional criteria is that the flow must be provided by official agencies, including state and local governments or their executive agencies. AidData's GCDF 3.0 only tracks official Chinese agencies, so this criteria is always met.
[370] According to the OECD, the method for calculating the ODA grant equivalent for loans to private sector institutions has not yet been formalized, and discussions to do so are currently ongoing at the OECD-DAC. Until an agreement has been formalized, the pre-2018 concessionality definition still applies.

export of Chinese goods and services). Flows with "representational intent" are those that primarily seek to promote a bilateral relationship with another country or otherwise promote the language, culture, or values of the country from which the financial transfer has originated (e.g., the establishment of a Confucius Institute or Chinese cultural center). Flows with "military intent" are those that seek to promote the security interests of the country from which the financial transfer originates or strengthen the lethal force capabilities of military institutions in the recipient country.

ODA Income Classification: AidData reports the income classification group of the borrowing country. Flows to countries not eligible for ODA are automatically assigned to the "OOF-like" category.

Concessionality:

- For flows committed between 2000 and 2017, a flow is classified as "ODA-like" when it (1) has development intent, (2) has a grant element of at least 25% (using a 10% discount rate), and (3) supports a country that is ODA-eligible according to the OECD-DAC's ODA income classification list.
- For flows committed between 2018 and 2021, a flow is classified as "ODA-like" when it (1) has development intent, (2) has a concessionality level that meets the new criteria (established in 2018 definition), and (3) supports country that is ODA-eligible according to the OECD-DAC's ODA income classification list.

By definition, any international official sector flows not classified as ODA-like are classified as OOF-like. The OOF-like flows in the 3.0 version of AidData's GCDF dataset largely consist of export credits and non-concessional loans.

In some cases, we are not able to determine if an international official sector flow would qualify as ODA or OOF because of insufficiently detailed information in source documentation. In such cases, the flow in question is categorized as Vague (Official Finance).

Section A-3: How does AidData measure the cumulative stock of official financial flows from China to LICs and MICs?

As we explain at greater length in Chapter 2, 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. So-called "rollover" emergency rescue loans come in two varieties: (1) those that reach their original contractual maturity dates and secure final maturity date extensions; and (2) those that are repaid on their original contractual maturity dates and reissued (with similar or different face values and borrowing terms) and assigned new maturity dates. However, among serial recipients of short-term emergency rescue loans, it is seldom possible—with publicly available sources of information—to differentiate between those who had their final maturity dates extended and those who fully repaid on their original contractual maturity dates but were reissued new loans.

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

LICs and MICs. Neither the OECD's Creditor Reporting System (CRS) nor the World Bank's Debtor Reporting System (DRS) ask lenders or borrowers to disclose loans with maturities of one year or less. However, most of China's short-term emergency rescue loans have *de facto* maturities that substantially exceed one year (Horn et al. 2023a), which makes it difficult to justify the exclusion of all emergency rescue loans from stock- or flow-based measures of official financial commitments (or lending commitments) from China to LICs and MICs (see Box 2c). At the same time, rollover debt presents an overcounting risk because it straddles a fine line between new lending commitments and maturity extensions of existing lending commitments. This risk is particularly relevant to estimations of the cumulative stock of official financial flows (or lending commitments) from China.

In order to address this challenge, the 3.0 version of AidData's GCDF dataset includes three new variables (fields) that measure transaction amounts without including any rollover amounts from PBOC swap line borrowings or emergency rescue loans from other creditors (with maturities of one year or less).[371] These amounts are reported in their original currencies of denomination, nominal USD, and constant 2021 USD via the "Adjusted Amount (Original Currency)," "Adjusted Amount (Constant USD 2021)," and "Adjusted Amount (Nominal USD)" variables.[372]

Figures 1.3, 1.4, 1.8, 2.8, and A14—as well as Tables 2.1, A15, and A16—use the "Adjusted Amount (Constant USD 2021)" variable to represent the cumulative stock of official financial flows from China to countries or borrowing institutions. The other figures and tables in this report use the "Amount (Constant USD 2021)" field for financial calculations, unless otherwise noted.

Section A-4: Additional details on the BIS-based estimates of China's international lending portfolio

In the section, we provide a step-by-step description of how the BIS-based measures of total outstanding credit from Chinese banks to overseas borrowers are derived. However, before we do so, there are five key caveats and considerations that readers should keep in mind regarding the BIS cross-border lending data.[373] First, the data are represented as amounts outstanding, which is effectively equivalent to cumulative disbursements minus cumulative repayments (i.e., credit stocks rather than credit flows). A separate, but related, point is that cumulative lending commitments usually exceed amounts outstanding.

[371] Whenever possible, for each emergency rescue loan (PBOC swap borrowing) of the rollover variety, we calculate a transaction amount that excludes the rollover amount by taking the difference between the level of outstanding debt in the current year and the previous year. This approach is consistent with the one taken by Horn et al. (2023a) to derive net (new) PBOC swap borrowings. In cases when this approach cannot be applied but there is evidence of the same lender providing a series of short-term emergency rescue loans (with identical face values and de jure maturities of 1 year or less) to the same borrower that are repaid on their original contractual maturity dates and subsequently reissued in consecutive years, we record the face value of the original loan commitment in the first year but not the face values of the loan commitments in subsequent years.

[372] Users of the 3.0 version of AidData's GCDF dataset can estimate "rollover" loan amounts (in their original currencies of denomination) by subtracting the values in the Adjusted Amount (Original Currency) field from the values in the Amount (Original Currency) field. Nominal USD "rollover" loan amounts can be estimated by subtracting the values in the Adjusted Amount (Nominal USD) field from the values in the Amount (Nominal USD) field. Constant 2021 USD "rollover" loan amounts can be estimated by subtracting the values in the Adjusted Amount (Constant USD 2021) field from the values in the Amount (Constant USD 2021) field.

[373] We are grateful to Haonan Zhou of Princeton University for his advice on how to utilize the LBS data from the BIS.

Second, the BIS relies on self-reported data from "internationally active banks," so unlike AidData's GCDF dataset it does not capture overseas credit extended by non-bank institutions (e.g., supplier credits from Chinese companies, loans from China's Ministry of Commerce). Third, the BIS data are reported by state-owned and privately-owned banks, but China's banking sector is dominated by state-owned banks, which are responsible for nearly all of China's overseas lending activities (Horn et al. 2021). Fourth, BIS data can be accessed and analyzed according to the nationality of the reporting institution or the residence of the counterparty, and since a significant proportion of Chinese bank lending to LICs and MICs is channeled through offshore financial centers and foreign affiliates of Chinese banks (Cerutti et al. 2018), it is generally advisable for analysts of China's overseas lending activities to use the BIS data that are organized according to the nationality of the reporting institution. Fifth, BIS data rely on the voluntary disclosure efforts of banks, and Horn et al. (2021) provide evidence of some underreporting to the BIS.[374]

We now provide a detailed explanation of how we derived the BIS-based measures of total outstanding credit from Chinese banks to overseas borrowers. BIS (2022) reports the following breakdown of total outstanding cross-border credit during the second quarter of 2018: $20.27 trillion to HIC borrowers, $4.02 trillion to LIC and MIC borrowers, and $4.76 trillion to offshore financial centers (OFC) borrowers.[375] The LBS data from the BIS also indicate that total outstanding credit from Chinese banks to all overseas borrowers—including those in LICs, MICs, HICs, and OFCs—was $2.15 trillion during the second quarter of 2018.[376] Cerutti et al. (2023) provide complementary evidence from the LBS; they find that, during the second quarter of 2018, Chinese banks were responsible for 2.4% of total outstanding cross-border credit to HIC borrowers, 23.7% of total outstanding cross-border credit to LIC and MIC borrowers, and 13.7% of total outstanding cross-border credit to OFC borrowers.

These figures imply that, during the second quarter of 2018, 22.6% of overseas credit from Chinese banks was directed to HIC borrowers, while 44.3% was directed to LIC and MIC borrowers and 30.3% was directed to OFC borrowers.[377] Given that the total amounts outstanding under Chinese bank loans to overseas borrowers are available from the LBS data, one can use these ratios (22.6%, 44.31%, and 30.33%) to estimate the the total amounts outstanding under Chinese bank loans to HIC borrowers, LIC and MIC borrowers, and OFC borrowers in previous years (2015-2017) and subsequent years (2019-2021).[378] We do so in the third, fifth, and eighth columns of Table 2.1.

However, something important happened in December 2022: the BIS removed OFCs as a country grouping from the statistical tables on its public website and reassigned the countries that were previously assigned to the OFC grouping to the HIC country grouping or the LIC/MIC country grouping.[379] The latest vintage of

[374] More specifically, they find that their own debt stock estimates (based on AidData and other sources) "significantly exceed BIS implied debt stocks for some of the riskiest and most volatile debtor countries worldwide, such as Angola, Equatorial Guinea, Venezuela or Zimbabwe" (Horn et al. 2021: 30).
[375] See https://www.bis.org/statistics/rppb2207/intgraphs/ch1graphA2.htm.
[376] See https://stats.bis.org/statx/srs/table/a7?c=CN&p=20182.
[377] The estimate for AE (HIC) borrowers is based on the following calculation: ($20.27 trillion*0.024)/$2.15 trillion. The estimate for EMDE (LIC and MIC) borrowers is based on the following calculation: ($4.02 trillion*0.237)/$2.15 trillion. The estimate for OFC borrowers is based on the following calculation: ($4.76 trillion*0.137)/$2.15 trillion.
[378] These income bracket-level ratios are very slow-moving over time. See https://www.bis.org/statistics/rppb2304/intgraphs/ch1graphA2.htm.
[379] OFCs are legal jurisdictions that serve as intermediaries of cross-border financial flows and specialize in the provision of banking services to non-residents (Pogliani and Wooldridge 2022). The BIS defines OFCs as "countries with banking sectors dealing with non-residents and/or in foreign currency on a scale out of proportion relative to the size of the host economy" (BIS 1995). The BIS identified 21 OFCs as of 2011:

the LBS data on total outstanding cross-border credit, which relies upon these updated country groupings, is therefore useful in that it has created an alternative way of estimating total outstanding cross-border credit from Chinese banks to LIC/MIC and HIC borrowers.

BIS (2023) provides evidence that total cross-border lending to HIC borrowers was $20.5 trillion, total cross-border lending to LIC and MIC borrowers was $5.48 trillion, and total cross-border lending to other borrowers (that could not be assigned to either the HIC or LIC/MIC category) was $3.4 trillion during the second quarter of 2018.[380] These figures—in conjunction with the aforementioned Cerutti et al. (2023) estimates—imply that during the second quarter of 2018: 22.8% of total cross-border Chinese bank lending was directed to HIC borrowers, while 60.4% was directed to LIC and MIC borrowers, and 21.6% was directed to "other" borrowers (i.e., overseas borrowers that cannot be allocated by counterparty residence).[381]

Here again, since total amounts outstanding under cross-border Chinese bank loans are available from the LBS data, one can use these (22.8%, 60.4%, and 21.6%) ratios to estimate the the total amounts outstanding under Chinese bank loans to HIC borrowers, LIC and MIC borrowers, and "other" borrowers in previous years (2015-2017) and subsequent years (2019-2021). Table 2.1 provides a lower bound estimate ($1.16 trillion) and an upper bound estimate ($1.58 trillion) of total outstanding cross-border credit from Chinese banks to LIC and MIC borrowers as of 2021 as well as a lower bound estimate ($594.6 billion) and an upper bound estimate ($599.9 billion) of total outstanding cross-border credit from Chinese banks to HIC borrowers in 2021.[382] Regardless of whether one uses lower bound or upper bound estimates, Table 2.1 demonstrates that total outstanding credit from Chinese banks to LIC and MIC borrowers effectively doubled between 2015 and 2021 (either from $644 billion to $1.16 trillion or from $878 billion to $1.58 trillion). This topline pattern is remarkably consistent with the GCDF data on China's cumulative overseas lending commitments between 2015 and 2021, which increased (in nominal terms) from $620 billion in 2015 to $1.03 trillion in 2021.[383]

Aruba, Bahamas, Bahrain, Barbados, Bermuda, British Virgin Islands (VG) and West Indies UK, Cayman Islands, Gibraltar, Guernsey, Hong Kong SAR, Isle of Man, Jersey, Lebanon, Liberia, Macao SAR, Mauritius, Netherlands Antilles (Curaçao and Sint Maarten), Panama, Samoa, Singapore, and Vanuatu. The BIS did not identify VG as a stand-alone jurisdiction; instead, it is included in a larger, BIS-defined country grouping called "West Indies UK" that includes Anguilla, Antigua and Barbuda, Montserrat, and St Kitts and Nevis.

[380] See https://www.bis.org/statistics/rppb2304/intgraphs/ch1graphA2.htm.

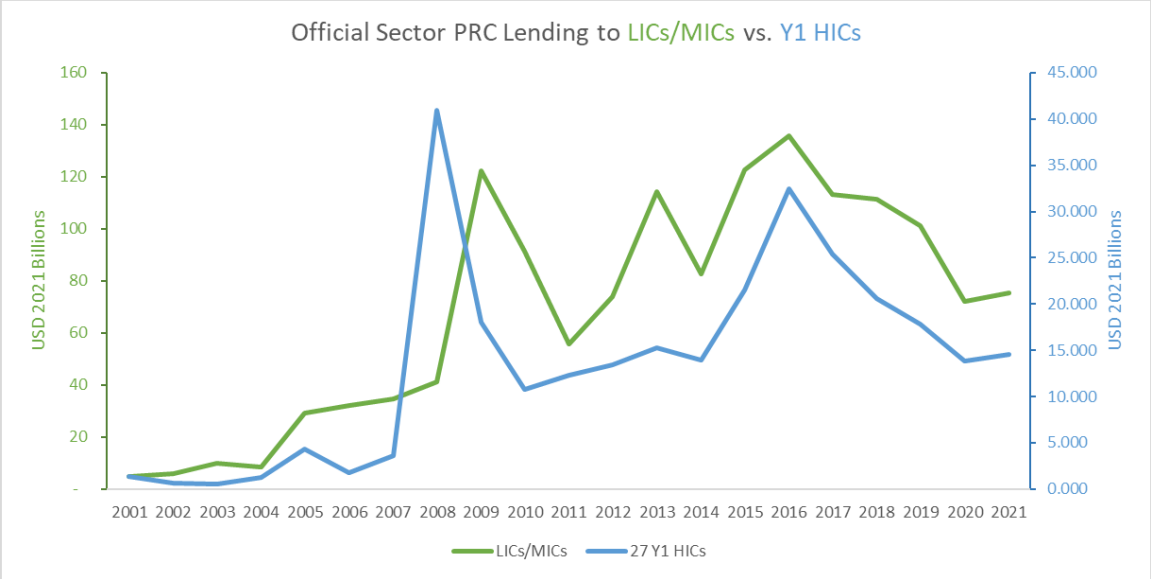
[381] The estimate for AE (HIC) borrowers is based on the following calculation: ($20.5 trillion*0.024)/$2.15 trillion. The estimate for EMDE (LIC and MIC) borrowers is based on the following calculation: ($5.48 trillion*0.237)/$2.15 trillion. The estimate for "other" borrowers is based on the following calculation: ($3.4 trillion*0.137)/$2.15 trillion.

[382] These estimates are reported in the second, third, fifth, and sixth columns of Table 2.1. The EMDE (LIC and MIC) estimates are based on a lower bound assumption (that 44.31% of total cross-border Chinese bank lending was directed to EMDE borrowers) and an upper bound assumption (that 60.4% of total cross-border Chinese bank lending was directed to EMDE borrowers). The AE (HIC) estimates are based on a lower bound assumption (that 22.6% of total cross-border Chinese bank lending was directed to AE borrowers) and an upper bound assumption (that 22.8% of total cross-border Chinese bank lending was directed to AE borrowers). Table 2.1 also indicates that total outstanding cross-border credit from Chinese banks to OFC borrowers in 2021 was approximately $798 billion and total outstanding cross-border credit from Chinese banks to "other" borrowers in 2021 was approximately $568.3 billion. All of these figures are based on aggregate BIS data that measure total outstanding cross-border credit from Chinese banks in the final quarter of each year between 2015 and 2021. See https://stats.bis.org/statx/srs/table/a7?c=CN&p=20154

[383] For comparability's sake, these figures are reported in current (nominal) USD. However, the 3.0 version of AidData's GCDF dataset demonstrates that China's cumulative overseas lending commitments increased from $823 billion in 2015 to $1.3 trillion in 2021 in constant 2021 USD.

To be clear, the time-varying, BIS-based estimates rest upon an important assumption: that the geographic allocation of outstanding credit from Chinese banks across income groups (22.8% to borrowers in HICs, 60.4% to borrowers in LICs/MICs and 21.6% to "other" borrowers) was stable between 2015 and 2021. If this assumption is not true (or at least not for the most part true), an alternative explanation for the major increase in China's total outstanding credit to borrowers in LICs, MICs, HICs, and "other" overseas jurisdictions (captured in the ninth column of Table 2.1)—from $1.45 trillion in 2015 to $2.63 trillion in 2021—could be that lending to borrowers in HICs and/or "other" overseas jurisdictions outpaced lending to LICs/MICs between 2015 and 2021. However, we think that this alternative explanation is implausible. AidData recently collected data on all official sector lending commitments from China to borrowers in 26 HICs and the preliminary summary statistics show that annual lending commitment to HICs declined from 2015 to 2021 (see Figure A63). The data also demonstrate that changes in official sector lending commitments from China to HICs and LICs/MICs have generally moved in tandem over time. Between 2015 and 2021, China's official sector lending commitments to LICs/MICs declined by 38.5%. China's official sector lending commitments to 26 HICs declined by 36.7% over the same six-year period.[384]

Figure A.63



Notes: This figure presents annual lending commitments from official sector institutions in China to two cohorts between 2000 and 2021: (1) the recipient countries captured in the 3.0 version of AidData's GCDF dataset, which covers 165 low-income and middle-income countries, and (2) twenty-seven high-income countries.[385] The data on high-income countries represents preliminary data collected by AidData as part of

[384] Over the next two years, AidData expects to achieve comprehensive coverage of all official sector lending and grant-giving commitments from China to HICs between 2000-2021. Given the important but underappreciated role that OFCs play in China's overseas lending program, AidData also intends to allow users of its data to differentiate between official sector financial flows from China that travel to versus through countries.

[385] The 3.0 version of AidData's GCDF dataset covers a total of 165 countries and territories. It specifically covers all countries that are or have been classified as low- or middle-income countries during the 2000-2021 time period.

an ongoing data collection effort to capture all official sector lending commitments from China to all high-income countries between 2000 and 2021.

Section A-5: How does AidData categorize Chinese lending to different types of borrowers?

The "Level of Public Liability" field in the 3.0 version of AidData's GCDF dataset captures the extent to which the host government may eventually be liable for debt repayment. It is hierarchically and automatically determined based on the following criteria:

1. The loan record is classified as "Central government debt" if it is an official sector loan to a central government institution in the recipient country, measured by whether there is at least one receiving agency (direct or indirect) from the recipient country that is classified as a government agency;
2. If the loan record does not meet the first (1) criterion, it is classified as "Central government-guaranteed debt" if it is an official sector loan to a state-owned entity (e.g., state-owned enterprise and state-owned bank) or privately-owned entity in the recipient country that benefits from a sovereign (central government) repayment guarantee;
3. If the loan record does not meet the first (1) criterion or the second (2) criterion, it is classified as "Other public sector debt" if (a) it is an official sector loan to a state-owned entity (such as a city/municipal government, a state-owned bank, or a state-owned enterprise) in the recipient country that does not benefit from a sovereign (central government) repayment guarantee; (b) it is an official sector loan to a private entity or state-owned entity in the recipient country that is backed by a repayment guarantee from a state-owned entity other than the central government in the recipient country (such as a city/municipal government, a state-owned bank, or a state-owned enterprise), OR (c) it is an official sector loan to a special purpose vehicle (SPV) or joint venture (JV) that is majority-owned by one or more public sector institutions in the recipient country and that does not benefit from a sovereign (central government) repayment guarantee or a repayment guarantee from a state-owned entity other than the central government in the recipient country (such as a city/municipal government, a state-owned bank, or a state-owned enterprise).
4. If the loan record does not meet the first (1) criterion, the second (2) criterion, or the third (3) criterion, it is classified as "Potential public sector debt" if it is an official sector loan to a special purpose vehicle (SPV) or joint venture (JV) borrower that is minority-owned by one or more public sector institutions in the recipient country and that does not benefit from a sovereign (central government) repayment guarantee or a repayment guarantee from a state-owned entity other than the central government in the recipient country (such as a city/municipal government, a state-owned bank, or a state-owned enterprise).
5. If the loan record does not meet the first (1) criterion, the second (2) criterion, the third (3) criterion, and the fourth (4) criterion, it is classified as "Private debt" if it is an official sector loan to a privately-owned entity that does not benefit from a repayment guarantee from a public sector institution in the recipient country (this includes lending to a private entity, or lending to a Joint Venture or Special Purpose Vehicle with no level of host government ownership (i.e., the "JV/SPV Host Government Ownership" variable is set to "No Host Government Ownership";
6. If the loan record does not meet the first (1) criterion, the second (2) criterion, the third (3) criterion, the fourth (4) criterion, or the fifth (5) criterion, then it is classified as "Unallocable" due to a lack of information.

Section A-6: How did we identify projects that rely on contractors sanctioned for fraudulent and corrupt behavior?

As part of our broader effort to measure the nature and extent of governance risk in China's overseas infrastructure project portfolio, we sought to identify the extent to which Chinese lenders and donors relied on contractors formally debarred for fraudulent and corrupt behavior to implement their grant- and loan-financed infrastructure projects in LICs and MICs. Debarment is a type of sanction imposed on firms or individuals, which prohibits the entity in question from participating in future or current project preparation or implementation. MDBs regularly investigate reports of wrongdoing—such as fraud, corruption, and collusion—by entities involved in their projects. If the investigation confirms the firm or individual participated in the alleged wrongdoing, a sanctions board or committee debars that firm or individual, rendering them ineligible to "be awarded or otherwise benefit from a Bank-financed contract."[386] Each debarment is usually enforced for a specific period of time, with the length of debarment proportional to the severity of the wrongdoing in which the firm or individual participated. In extreme cases, a firm or individual may be debarred indefinitely. While MDBs maintain their own list of debarred institutions, a growing group of MDBs have agreed to uphold the debarments from each other's lists (an approach that is known as "cross-debarment").[387]

To identify the subset of Chinese grant- and loan-financed infrastructure projects that pose elevated levels of governance risk, we began by collecting current and historical information on firms that have been debarred by MDBs since 2004 (when the earliest data is available). We collected the name of each firm debarred and the length of each debarment from World Bank Sanctions Systems Annual Reports from 2004-2022. These annual reports provide information on World Bank historical debarment beginning in 2004 as well as any cross-debarments from the other MDBs (the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, the Inter-American Development Bank, and the Asian Infrastructure Investment Bank) beginning in 2010. We then combined this list with a list of current debarments and cross-debarments maintained by the World Bank on its website (World Bank 2023).[388] We subsequently matched the list of debarred firms with a list of all the firms that are (or were) directly involved in Chinese grant- and loan-financed infrastructure projects—specifically, any firm listed as an implementing agency or a receiving agency for a infrastructure project in the 3.0 version of AidData's GCDF dataset. In total, we found 21 formally debarred organizations that were involved in 453 Chinese grant- and loan-financed infrastructure projects.

After isolating the projects that involved debarred organizations, we sought to identify the subset of projects that relied upon debarred organizations while they were still within their debarment periods. We did so by identifying all cases in which there was calendar day overlap between the start and end dates of an organization's debarment period and the commitment, implementation, or completion dates of the project(s) it supported. After eliminating all projects that involved the debarred agency before or after their official debarment periods, we identified 324 Chinese grant- and loan-financed infrastructure projects that

[386] According to the World Bank, debarment is defined as "[t]he sanctioned party is declared ineligible, either indefinitely or for a stated period of time, (1) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner; (2) to be a nominated sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (3) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-Financed Project" (World Bank 2012).
[387] The World Bank, the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, the Inter-American Development Bank, and most recently the Asian Infrastructure Investment Bank have signed the "Agreement on Mutual Enforcement of Debarment Decisions."
[388] We compared similar online resources from the other MDBs participating in cross-debarment and found the World Bank's to be the most comprehensive.

involved the debarred agency during the active debarment period (either as an implementing agency or a receiving agency). Table A2 provides a list of the debarred agencies and associated details.

Table A.2

Annual loan commitments to LICs and MICs by financial institution and capital injections from SAFE, 2000-2021

Firm Name	Grounds for debarment	Beginning of Debarment	End of Debarment	Debarring Institution
China CAMC Engineering Co., LTD.	Fraudulent practices	03/09/2022	10/26/2026	Asian Development Bank
China Energy Engineering Group Hunan Electric Power Design Institute Co., Ltd.	Fraudulent practices	07/01/2019	05/10/2021	World Bank
China First Highway Engineering Co. Ltd	Fraudulent and collusive practices	07/01/2014	06/30/2018	African Development Bank
China First Metallurgical Construction Corporation (CFMCC)	Fraudulent practices	09/28/2011	09/27/2014	World Bank
China Geo-Engineering Corporation	Fraudulent practices	01/28/2009	1/27/2014	World Bank
China International Water & Electric Corp.	Fraudulent practices	09/24/2014	09/24/2017	World Bank
China Jiangsu International Economic And Technical Cooperation Group Ltd.	Fraudulent practices	02/14/2014	2/13/2017	World Bank
China Jiangxi Corporation For International Economic And Technical Cooperation	Fraudulent practices	04/15/2014	4/15/2015	World Bank
China Machinery Industry Construction Group Inc. (also known as SINOCONSTRUCTION)	Fraudulent practices	07/18/2018	07/17/2022	World Bank
China Nuclear Industry Fifth Construction Co. Ltd.	Fraudulent practices	07/19/2018	07/18/2020	World Bank
China Railway 20 Bureau Group Co.	Fraudulent practices	06/26/2017	12/31/2017	World Bank
China Railway Construction Corporation (International) Limited	Fraudulent practices	06/05/2019	02/04/2020	World Bank
China Railway First Group Co. Ltd.	Fraudulent practices	09/18/2019	08/18/2021	World Bank
China State Construction Engineering Corporation (CSCEC)	Fraudulent practices	01/14/2009	1/13/2015	World Bank
China Wuyi Co. Ltd.	Fraudulent and collusive practices	01/14/2009	1/13/2015	World Bank
Shandong Taikai Power Engineering Company Limited	Fraudulent practices	08/18/2015	02/17/2017	World Bank
SNC-Lavalin Group Inc.	Fraudulent and corrupt practices	08/18/2015	02/17/2017	World Bank

Firm Name	Grounds for debarment	Beginning of Debarment	End of Debarment	Debarring Institution
Tractebel Engineering S.A.	Fraudulent and corrupt practices	12/23/2021	09/28/2025	Inter-American Development Bank
Zhengtai Group Co., Ltd.	Fraudulent practices	05/05/2017	08/05/2018	World Bank
Zhonghao Overseas Construction Eng. Co., Ltd.	Fraudulent practices	06/02/2012	06/01/2014	World Bank
Norconsult	Corrupt practices	07/01/2013	12/31/2014	World Bank

Notes: This table lists contractors that (1) were sanctioned by multilateral development banks for fraudulent and corrupt behavior, and (2) during the time of the contractor's debarment, they were identified as a receiving or implementing agency on a Chinese-financed infrastructure project. See Section 2 of Chapter 3 for more details on how these firms were identified. The World Bank, the African Development Bank, the Asian Development Bank, the European Bank for Reconstruction and Development, the Inter-American Development Bank, and the Asian Infrastructure Investment Bank have a formal agreement to cross-debar firms.

Section A-7: How did we identify ESG risks and risk mitigation measures in AidData project descriptions?

In order to support the analysis in chapter 3, we constructed three binary variables that identify whether there is any narrative evidence from the 3.0 version of AidData's GCDF dataset that a given infrastructure project encountered a significant environmental problem, social problem, or governance problem before, during, or after implementation. To do so, we identified a set of keywords for each type of challenge (environmental, social, or governance) that, if present in a project's "description" field within the 3.0 dataset, may indicate the existence of such a problem. We applied these keyword searches to all projects backed by official commitments (including those that were subsequently suspended or canceled) and all implemented and completed projects.[389] After identifying the subset of projects with "description" fields that contain one or more of the pre-specified keywords, we manually reviewed each of the corresponding project descriptions to eliminate "false positives"—e.g., a description that references the keyword "lawsuit" to describe environmental litigation affecting an earlier phase of a project backed by a non-Chinese financier but not the subsequent, Chinese government-financed phase of the project. More specifically, we confirmed or disconfirmed that the projects in question encountered the types of problems that we intended to identify with the prespecified set of keywords. However, at the manual review stage, we did not seek to differentiate between problems that were effectively or ineffectively managed. Nor did we seek to independently evaluate the veracity of any reported instances of harm, wrongdoing, or poor performance. Our goal was to identify which types of problems arose during implementation (regardless of whether a mitigation response was undertaken). However, we were not able to account for "false negatives" (i.e., cases in which a specific type of problem arose during project implementation, but the problem was not

[389] We also restricted our searches to infrastructure projects supported by grant and loan commitments worth $20 million (in constant 2021 USD) or more. Projects supported by larger financial commitments generally have more detailed project descriptions, which provide a stronger basis for the identification of environmental, social, and governance risks and risk mitigation efforts. They also present a lower risk of generating "false negatives."

captured in the "description" field within AidData's 3.0 dataset), so the summary statistics that we report should be treated as lower-bound estimates.

We identified the subset of infrastructure projects that encountered significant environmental problems—before, during, or after implementation—by first applying the following keyword search terms to the infrastructure project descriptions in the 3.0 dataset: disaster, destroy*, destruction, ruin*, despoil, degrad*, pollut*, dispos*, displace*, danger*, hazard*, exploit*, involuntary, unsafe, crack*, substandard, low-quality, deficien*, defect*, ecology*, ecosystem, habitat, biodiverse*, flora, fauna, species, non-native, invasive, pesticide*, chemical*, cancer*, discharge*, emission*, emit*, subcritical, odor, smell. We then reviewed each of the identified project descriptions "by hand" to remove false positives.

We followed an analogous set of procedures to identify those infrastructure projects that encountered significant social challenges and governance problems, respectively. To construct a binary, project-level measure of exposure to social problems, we applied the following keyword search terms: strike*, protest*, riot*, violat*, noncomplian*, non-complian*, involuntary, forced, evict* injur*, noise, vibrat*, nuisance, dead, death, died, kill*, harm*, unsafe, crack*, substandard, low-quality, defect*, deficien*, danger*, indigenous, burial, sacred, spiritual, ritual*, religio*, heritage, overcrowd*, displace*, grievanc*, underserve*, disadvantage*, minorit*, aboriginal, tribe, vulnerab*, marginalize*, ethnic, archaeol*, custom*, manipul*, interfer*, coerc*, discriminat*, intimidat*, workplace, layoff, fired, underpaid, unpaid, wages, "working conditions", abuse*, resettle*, aggrieved, sexual. To construct a binary, project-level measure of exposure to governance problems, we applied the following keyword search terms: misuse*, abuse*, bid-rig*, misappropriat*, mismanage*, steal, theft, stole*, corrupt*, bribe*, graft, fraud*, kickback, siphon*, embezzle*, illicit, illegal, inflat*, overprice*, over-price*, wrongdoing, collusion, collusive, collude*, loot*, plunder*, abuse*, obstructive, defraud*, fictitious, launder*. We then manually reviewed each of the identified project descriptions to remove false positives.

In addition to keywords that are specific to environmental, social, or governance challenges, we identified a set of keywords that could indicate a challenge in any of the three categories. We used these cross-cutting keywords to identify additional projects requiring manual review for a potential environmental, social, or governance challenge. For this "cross-cutting" keyword search, we applied the following search terms: allege*, allegation, criticiz*, alarm, criticism, complain*, controvers*, fiasco, turmoil, breach*, probe*, irresponsib*, audit*, inquiry, scrutin*, uncover*, scandal, dispute*, fined, sued, lawsuit, arbitrat*, adjudicate*, court, litigat*, rescope*, jeopard*, rescind*, revoke*, failure, delay*, threat*, renege*, renegotiat*, "conditions precedent", *indemnif*, adverse, "liable".

We also constructed three binary variables that identify whether there is any narrative evidence from the 3.0 version of AidData's GCDF dataset that efforts were undertaken by Chinese financiers or implementing agencies to mitigate environmental, social, or governance risks before, during, or after project implementation.[390] These variables seek to measure whether ESG risk mitigation measures were undertaken by Chinese financiers or implementing agencies, irrespective of whether or not such measures were successful.[391] Consistent with the approach that was used to identify infrastructure projects that

[390] Here too we restricted our searches to infrastructure projects supported by grant and loan commitments worth $20 million (in constant 2021 USD) or more.
[391] We only sought to identify ESG risk mitigation measures that involved choice or consent from the Chinese side. Therefore, if a Chinese financier or implementing agency was compelled by an entity outside of China to take an ESG risk mitigation measure (i.e., a Chinese company does not implement an

encountered significant ESG challenges, we construct three binary, project-level measures of environmental risk mitigation, social risk mitigation, and governance risk mitigation by applying the following keyword search terms:

- Environmental risk mitigation: remedia*, compensat*; resettle*, reclaim*, reclamation, restor*, restitution, certify*, permit*, feedback, disclosure, amend*, minimize,consent*, FPIC, safeguard, mandat*, mitigat*, heritage, consult*, dialogue, "public hearing", "Environmental Assessment", "EA", "Environmental Impact Assessment", "EIA", "Environmental and Social Impact Assessment", "ESIA", "Resettlement action plan", "RAP", "Environmental Management Plan", "EMP", "Project Affected Persons", "PAPs", "Project-Affected", "Environmental Categorization", "Full Resettlement Plan", "FRP", "compliance certificate", "ECC", "Environmental and Social Policy", "E&S", "Stakeholder Engagement Plan", "SEP", "Due Diligence", "ESDD", "Environmental, Health, Safety and Social Management System", "EHSSMS", "Environmental and Social Action Plan", "ESAP", "ESCP, "protected area", "Equator Principles", desulphurization, desulphurization, "FGD", super-critical, "Initial Environmental Examination", "IEE", "Environmental indemnity", "Environmental claim"
- Social risk mitigation: compensat*; resettle*, reclaim*, reclamation, restor*, restitution, consent*, FPIC, safeguard, mandat*, mitigat*, certify*, permit*, feedback, disclosure, amend*, minimize, heritage, consult*, dialogue, "public hearing", "health and safety", "Resettlement action plan", "RAP", "Full Resettlement Plan", "FRP", "Environmental and Social Impact Assessment", "ESIA", "compliance certificate", "Environmental and Social Policy", "E&S", "Stakeholder Engagement Plan", "SEP", "Due Diligence", "ESDD", "Environmental, Health, Safety and Social Management System", "EHSSMS", "Environmental and Social Action Plan", "ESAP", "ESCP", occupational health, "OHS", "Equator Principles", , "Gender Action Plan", "collective bargaining", "Safeguards Monitoring Report"
- Government risk mitigation: debar*, cross-debarment, sanction*, blacklist*, prosecut*, arrest, convict*, criminal, extradit*, imprison, anticorruption, anti-corruption, value-for-money, freeze, froze*, halt*, suspend*, suspension, cancel*, withheld, withhold, abandon*, postpon*, abeyance, mothball*, forensic, prohibit*, "Open Competitive Bidding", OCB, "International Competitive Bidding", ICB, "Competitive Bidding", IFRS, "International Financial Reporting Standards", "GAAP", "know your customer", "generally accepted accounting principles", "anti-money laundering"

We then manually reviewed each of the identified project descriptions to remove false positives.

Section A-8: How did AidData identify ESG risk mitigation measures in infrastructure financing agreements?

In order to benchmark the ESG risk management provisions in the infrastructure financing agreements of Chinese state-owned lenders and donors, we first developed a standardized set of 26 evaluation criteria (or

Environmental Impact Assessment until it is compelled to do so by a court order issued by a judge in the recipient country), it does not count as an environmental risk mitigation measure because of the absence of choice/consent by the Chinese company. Similarly, if a Chinese company employee is convicted on corruption charges in the recipient country, this does not count as a governance risk mitigation measure because of the absence of choice/consent on the Chinese side.

diagnostic questions). The criteria are organized into three groups: those that identify the presence or absence of (1) rules or standards to establish behavioral expectations related to ESG risk management and mitigation, (2) oversight mechanisms for monitoring compliance with those behavioral expectations; and/or (3) enforcement mechanisms for sanctioning noncompliance with those behavioral expectations (e.g., indemnification, withholding disbursements). 8 of the criteria are specific to environmental safeguards, while 7 are specific to social safeguards, and 12 are specific to governance safeguards.

The criteria that we used to evaluate the 23 contracts in the coding sample are provided below in Table A3 (and organized according to safeguard type and whether the evaluation criteria relates to standards, monitoring, or enforcement).

Table A.3

Criteria to evaluate environmental, social, and governance safeguards in Chinese grant and loan contracts

Question	Question Type	Safeguard Type
Are any environmental clauses or conditions included in the agreement?	Standards	Environmental
Is an Environmental Impact Assessment (EIA) identified as a requirement in the agreement?	Standards	Environmental
Is an Environmental Management Plan (EMP) – or a functional equivalent of an EMP – identified as a requirement in the agreement?	Standards	Environmental
Is the borrower required to report to the lender on its implementation of the EIA recommendations or EMP?	Monitoring	Environmental
Does the agreement include any environmental conditions precedent (for entry into force or initial or ongoing disbursement)?	Enforcement	Environmental
Does the agreement specify that noncompliance with environmental rules, standards or laws is a sufficient basis for the lender to demand early repayment ("prepayment") of the loan or cancel the loan?	Enforcement	Environmental
Does the agreement require compliance with international environmental standards, such as the Equator Principles or the OECD Revised Council Recommendation on Common Approaches on the Environment and Officially Supported Export Credits?	Standards	Environmental
Is the borrower required to indemnify the lenders, guarantors, or insurers ("Finance Parties") against any loss or liability incurred by the Finance Parties as a result of any actual or alleged breach of an environmental law or standard?	Enforcement	Environmental
Are any social clauses or conditions included?	Standards	Social
Is an Environmental and Social Impact Assessment (ESIA) identified as a requirement?	Standards	Social

Is an Environmental and Social Action Plan (ESAP), a Resettlement Action Plan (RAP), or the functional equivalent of an ESAP or RAP identified as a requirement?	Standards	Social
Is the borrower required to report to the lender on its implementation of the ESIA recommendations or RAP?	Monitoring	Social
Does the agreement include any social conditions precedent (for entry into force or initial or ongoing disbursement)?	Enforcement	Social
Does the agreement indicate the penalty of violating social standards/laws leads to demanding early prepayment to close the loan?	Enforcement	Social
Is the borrower required to indemnify the lenders, guarantors, or insurers ("Finance Parties") against any loss or liability incurred by the Finance Parties as a result of any actual or alleged breach of a social law or standard?	Enforcement	Social
Are any governance (e.g., anti-corruption, competitive bidding, audited financial statements, and/or anti-money laundering) clauses or conditions present in the agreement?	Standards	Governance
Are independently audited financial statements required of the borrower?	Standards	Governance
Must the borrower's financial statements comply with International Financial Reporting Standards (IFRS) standards?	Standards	Governance
Does the agreement include any competitive bidding requirements?	Standards	Governance
Are bidding documents or bid evaluation reports subject to prior approval by the lender?	Monitoring	Governance
Does the agreement include any anti-corruption or anti-money laundering requirements?	Standards	Governance
Is the borrower required to indemnify the lenders, guarantors, or insurers ("Finance Parties") against any loss or liability incurred by the Finance Parties as a result of any actual or alleged breach of an anti-corruption or anti-money laundering law or standard?	Enforcement	Governance
Does the lender explicitly reserve the right to prevent or investigate anti-corruption or anti-money laundering crimes?	Monitoring	Governance
Does the borrower affirm that it will seek to ensure that the proceeds from the loan or grant are not used to finance or benefit any internationally sanctioned entity?	Monitoring	Governance
Does the agreement specify that noncompliance with governance rules, standards, or laws is a sufficient basis for the lender to demand early repayment ("prepayment") of the loan or cancel the loan?	Enforcement	Governance
Does the agreement include any competitive bidding, anti-corruption, or anti-money laundering conditions precedent (for entry into force, initial disbursement, or ongoing disbursements)?	Enforcement	Governance

Section A-9: Assigning ESG Safeguard Stringency Ratings to Infrastructure Financing Agreements and the 8 Infrastructure Financing Instrument Categories

To assess the presence or absence of each safeguard type (standards, monitoring, and enforcement) within each infrastructure financing agreement ("contract"), we examine the binary (yes/no) responses to 26 diagnostic questions that are categorized by safeguard type (see Table A8).[392] For each contract, if we identify "yes" responses to any questions related to standards in a given ESG domain (environmental, social, or governance), then we determine rules and standards to be present in that particular ESG domain-contract dyad. Conversely, if we identify "no" responses to all questions related to standards in a given ESG domain (environmental, social, or governance), then we determine rules and standards to be absent in that particular ESG domain-contract dyad. The same criteria are applied to the questions related to monitoring and the questions related to enforcement in a given ESG domain. Table A4 records all of the yes/no determinations at the level of ESG domain-contract dyads.

Then, for each ESG domain-contract dyad, we assign high, medium, or low ratings based upon the following criteria:

- Low: Contracts lacking established standards, monitoring mechanisms, and enforcement mechanisms.
- Medium: Contracts that stipulate standards, but lack monitoring mechanisms or enforcement mechanisms.
- High: Contracts that stipulate standards and incorporate either monitoring mechanisms or enforcement mechanisms.

Table A4 records all of the ESG domain-contract dyad ratings. Next, to account for changes in ESG safeguard stringency within each financial instrument category over time, we segment our ESG domain-contract dyad ratings into two distinct periods: 2000-2017 (pre- and early BRI period) and 2018-2022 (late BRI period). We generate summary (high/medium/low) ratings for the environmental safeguards, social safeguards, and governance safeguards that applied to each financial instrument category over each time period (2000-2017 and 2018-2021). We do so by following a "most frequent designation" decision rule. If the majority of contracts within a financial instrument category share the same rating for a given ESG domain, the most frequent rating designation is applied to the entire financial instrument category. However, in cases where two contracts within the same time period and financial instrument category are assigned different ratings for a given ESG domain, the higher rating is applied to the financial instrument category as a whole.

For various types of analysis, we use the distinction between "strong" and "weak" de jure ESG safeguards. Projects with "strong" de jure ESG safeguards are defined as those with at least two out of three

[392] The "standards" measures seek to identify whether the contract identifies rules or standards that create behavioral expectations related to ESG risk management and mitigation. The "monitoring" measures seek to identify whether the contract identifies oversight mechanisms for monitoring compliance with those behavioral expectations. The "enforcement" measures seek to identify whether the contract identifies enforcement mechanisms for sanctioning noncompliance with those behavioral expectations.

(environmental, social and governance) safeguard stringency ratings that are "high." Projects that do not meet this standard are classified as having "weak" de jure ESG safeguards.

Table A.4

Safeguard stringency ratings for infrastructure financing agreements at the ESG domain-contract dyad level

Financial Instrument Category	Contract	ESG Domain	Standards	Monitoring	Enforcement	Level
Bilateral China Eximbank loan	Mombasa-Nairobi Standard Gauge Railway Project (Kenya)	Environmental	No	No	No	Low
		Social	No	No	No	Low
		Governance	No	No	No	Low
	New Power Plant Project (Antigua and Barbuda)	Environmental	No	No	No	Low
		Social	No	No	No	Low
		Governance	No	No	No	Low
	New Centennial Water Source-Kaliwa Dam Project (Philippines)	Environmental	No	No	No	Low
		Social	No	No	No	Low
		Governance	No	No	No	Low
Bilateral CDB loan	Term Facility for Infrastructure and Social Development Projects (Costa Rica)	Environmental	No	No	No	Low
		Social	No	No	No	Low
		Governance	Yes	No	Yes	High
	Ship Construction Project (Marshall Islands)	Environmental	Yes	No	Yes	High
		Social	No	No	No	Low
		Governance	Yes	No	No	Medium
	Term Facility Agreement for Infrastructure Projects (Ecuador)	Environmental	No	No	No	Low
		Social	No	No	No	Low
		Governance	No	No	No	Low
Bilateral MOFCOM loan or grant	Project for the Realization of the Bridge Renovation on the River Tara (Montenegro)	Environmental	Yes	No	No	Medium
		Social	Yes	No	No	Medium
		Governance	Yes	No	No	Medium
	National Emergency Operations Center (COEN) Project (Peru)	Environmental	No	No	No	Low
		Social	No	No	No	Low
		Governance	No	No	No	Low
	Port Infrastructure Construction Project (Mongolia)	Environmental	No	No	No	Low

Financial Instrument Category	Contract	ESG Domain	Standards	Monitoring	Enforcement	Level
		Social	No	No	No	Low
		Governance	Yes	Yes	No	High
Bilateral Chinese state-owned commercial bank loan	Masindi-Biiso, Kibaale-Kiziranfumbi and Hohwa-Nyairongo-Kyarusesa-Butoole Road Upgrading Project (Uganda)	Environmental	Yes	No	Yes	High
		Social	No	No	No	Low
		Governance	Yes	Yes	Yes	High
	Electrification Project (Ghana)	Environmental	Yes	No	No	Medium
		Social	No	No	No	Low
		Governance	Yes	No	Yes	High
	Patuca III Hydroelectric Plant Project (Piedras Amarillas) Phase II (Honduras)	Environmental	Yes	No	Yes	High
		Social	Yes	No	Yes	High
		Governance	Yes	No	No	Medium
Syndicated loan with Chinese and multilateral bank participants	Ituango Hydroelectric Project (Colombia)	Environmental	Yes	Yes	Yes	High
		Social	Yes	Yes	Yes	High
		Governance	Yes	Yes	Yes	High
	Castellana Wind Power Project (Argentina)	Environmental	Yes	Yes	Yes	High
		Social	Yes	Yes	Yes	High
		Governance	Yes	Yes	Yes	High
Syndicated loan with Chinese state-owned commercial banks and/or policy banks	Works on Construction of the Municipal (Sewage) Infrastructure Project (Serbia)	Environmental	Yes	No	Yes	High
		Social	No	No	No	Low
		Governance	Yes	Yes	Yes	High
	President Dr Néstor Carlos Kirchner and Gobernador Jorge Cepernic Hydropower Project (Argentina)	Environmental	Yes	No	Yes	High
		Social	No	No	No	Low
		Governance	Yes	No	No	Medium
	Queen Elizabeth II Quay at Freetown Port Project (Sierra Leone)	Environmental	Yes	No	Yes	High
		Social	Yes	No	Yes	High
		Governance	Yes	Yes	Yes	High
PBOC/MOF grant or loan channeled through multilateral institutions	Infrastructure Transport Program (PIT) (Costa Rica)	Environmental	Yes	Yes	Yes	High
		Social	Yes	Yes	Yes	High
		Governance	Yes	Yes	Yes	High
	Sustainable Water Supply and Sanitation Program (Rwanda)	Environmental	Yes	Yes	No	High
		Social	Yes	Yes	Yes	High

Financial Instrument Category	Contract	ESG Domain	Standards	Monitoring	Enforcement	Level
		Governance	Yes	Yes	Yes	High
	Water Supply Scheme for Tete Settlement Project (Papua New Guinea)	Environmental	Yes	Yes	Yes	High
		Social	Yes	No	Yes	High
		Governance	Yes	Yes	Yes	High
Supplier's credit from Chinese SOE	Regional Hospitals Project – Lot 3 (Guyana)	Environmental	Yes	No	Yes	High
		Social	No	No	No	Low
		Governance	Yes	No	Yes	High
	Phase 1 Lot 5 Adenta-Dodowa Dual Carriageway Project (Ghana)	Environmental	Yes	No	Yes	High
		Social	No	No	No	Low
		Governance	Yes	No	Yes	High
	Energy Transmission Network Construction Project Associated with the Imboulou Power Plant (Congo)	Environmental	No	No	No	Low
		Social	No	No	No	Low
		Governance	No	No	No	Low

Table A.5

Sample of infrastructure financing agreements used to code the de jure stringency of ESG safeguards

Financial Instrument Category	Commitment Year	Project Title	Lender/Donor	Borrower/Recipient
Bilateral China Eximbank loan	2014	Mombasa-Nairobi Standard Gauge Railway Project [hyperlink]	Export-Import Bank of China	Government of Kenya
	2008	New Power Plant Project [hyperlink]	Export-Import Bank of China	Ministry of Finance and Economy of Antigua and Barbuda
	2018	The New Centennial Water Source-Kaliwa Dam Project [hyperlink]	Export-Import Bank of China	Metropolitan Waterworks and Sewerage System of the Philippines

Financial Instrument Category	Commitment Year	Project Title	Lender/Donor	Borrower/Recipient
Bilateral CDB loan	2008	Term Facility for Infrastructure and Social Development Projects [hyperlink]	China Development Bank	National Bank of Costa Rica
	2013	Ship Construction Project [hyperlink]	China Development Bank	Nereus Navigation Ltd. and Irises Shipping Ltd
	2016	Term Facility Agreement for Infrastructure Projects [hyperlink]	China Development Bank	Government of Ecuador
Bilateral MOFCOM loan or grant	2020	Project for the Realization of the Bridge Renovation on the River Tara [hyperlink]	China Ministry of Commerce	Government of Montenegro
	2014	National Emergency Operations Center (COEN) Project [hyperlink]	China Ministry of Commerce	Government of Peru
	2019	Port Infrastructure Construction Project [hyperlink]	China Ministry of Commerce	Government of Mongolia
Bilateral Chinese state-owned commercial bank loan	2021	Masindi-Biiso, Kibaale-Kiziranfumbi and Hohwa-Nyairongo-Kyarusesa-Butoole Road Upgrading Project [hyperlink]	China Construction Bank	Ministry of Finance, Planning and Economic Development of the Republic of Uganda
	2016	Electrification Project [hyperlink]	Industrial and Commercial Bank of China	Ministry of Finance of Ghana
	2013	Patuca III Hydroelectric Plant Project (Piedras Amarillas) Phase II [hyperlink] [hyperlink]	Industrial and Commercial Bank of China	Empresa Nacional de Energía Eléctrica of Honduras
Syndicated loan with Chinese and multilateral bank participants	2017	Ituango Hydroelectric Project [hyperlink]	People's Bank of China via Inter-American Development Bank, Inter-American Investment Corporation, Inter-American Development Bank	Empresas Públicas de Medellín E.S.P.
	2017	Castellana Wind Power Project [hyperlink]	State Administration on Foreign Exchange (SAFE) via International Finance Corporation, International Finance Corporation, Inter-American Investment Corporation, Inter-American Development Bank, Canadian Climate Fund for the Private	CP La Castellana S.A.U.

Financial Instrument Category	Commitment Year	Project Title	Lender/Donor	Borrower/Recipient
			Sector in the Americas	
Syndicated loan with Chinese state-owned commercial banks and/or policy banks	2022	Works on Construction of the Municipal (Sewage) Infrastructure Project [hyperlink]	Bank of China Hungarian Branch, Bank of China Srbija A.D. Beograd	Ministry of Finance of Serbia
	2014	President Dr Néstor Carlos Kirchner and Gobernador Jorge Cepernic Hydropower Project [hyperlink]	China Development Bank, Industrial and Commercial Bank of China, and Bank of China	Ministry of Economy and Public Finance of Argentina
	2017	Queen Elizabeth II Quay at Freetown Port Project [hyperlink]	Industrial and Commercial Bank of China, Export-Import Bank of China	National Port Development (SL) Limited
PBOC/MOF grant or loan channeled through multilateral institutions	2014	Infrastructure Transport Program (PIT) [hyperlink]	People's Bank of China via Inter-American Development Bank	People's Bank of China via Inter-American Development Bank
	2017	Sustainable Water Supply and Sanitation Program [hyperlink] [hyperlink]	People's Bank of China via African Development Bank	Government of Rwanda
	2019	Water Supply Scheme for Tete Settlement Project [hyperlink]	PRC Poverty Reduction Fund via Asian Development Bank	Government of Papua New Guinea
Supplier's credit from Chinese SOE	2022	Regional Hospitals Project – Lot 3 [hyperlink]	China CAMC Engineering	Ministry of Finance of Guyana
	2018	Phase 1 Lot 5 Adenta-Dodowa Dual Carriageway Project [hyperlink]	Sinohydro Corporation Limited	Government of Ghana
	2005	Energy Transmission Network Construction Project Associated with the Imboulou Power Plant [hyperlink]	China National Machinery & Equipment Import & Export Corporation (CMEC)	Government of Republic of the Congo

Table A.6

Summary of environmental, social, and governance safeguard clauses in the contract sample for the pre-BRI and early BRI period (2000-2017)

	Environmental			Social			Governance		
	Standards	Monitoring	Enforcement	Standards	Monitoring	Enforcement	Standards	Monitoring	Enforcement
Bilateral China Eximbank loan	None	None	None	None	None	None	None	None	None
Bilateral CDB loan	1 of 3 contracts includes compliance and no environmental claims requirement	None	1 of 3 contracts includes Environmental Indemnity clause	None	None	None	Most contracts include anti-money laundering and IFRS requirements	None	1 of 3 contracts treat breaching these requirements as event of default, thus requires indemnification
Bilateral MOFCOM loan or grant	None	None	None	None	None	None	None	None	None
Bilateral Chinese state-owned commercial bank loan	Compliance with Environmental Laws and no Environmental Claims requirements	None	1 of 2 contracts includes issuance of the Certificate of Environmental Compliance as a conditions precedent	1 of 2 contracts includes Compliance with Social Laws requirement	None	1 of 2 contracts includes Compliance with Social Laws as conditions precedent	Anti-corruption and anti-money laundering requirements	None	1 of 2 contracts requires cancellation and mandatory prepayment in the vent of breach
Syndicated loan with Chinese and multilateral bank participants	Requirements to Comply with environmental law and international environmental standards; conduct EIA and EMP	Requires Implementation report of EIA/EMP	Requires environmental conditions precedent; requires cancelation, mandatory pre-payment, or indemnification In events of breach	Requirements to Comply with Sociallaw; conduct ESIA and ESAP;	Requires Implementation report of ESIA/ESAP	Requires Social conditions precedent; requires cancelation, mandatory pre-payment, or indemnification in events of breach	Anti-corruption and anti-money laundering requirements; requires independent audit or compliance with IFRS	Reserve rights to investigate potential breach; requires the proceedings will not benefit sanctioned entities	Cancellation, mandatory prepayment, or indemnification in event of breach
Syndicated loan	2 of 2: EMP,	None	1 of 2	1 of 2 no	None	1 of 2 no social	1 of 2 requires	1 of 2	1 of 2 no

	Environmental			Social			Governance		
	Standards	Monitoring	Enforcement	Standards	Monitoring	Enforcement	Standards	Monitoring	Enforcement
with Chinese state-owned commercial banks and/or policy banks	Environmental law compliance required 1 of 2: international environmental standards (Equator Principles, OECD)		Indemnification and acceleration via Event of Default if environmental laws broken 1 of 2 indemnification if environmental laws broken	social standards 1 of 2 social law compliance required		enforcement 1 of 2 indemnification for breach of social laws or standards	providing information for know your customer checks 1 of 2 requires anti corruption law compliance, independently audited financial statements compliant with IFRS	representation made that neither borrower nor associates are internationally sanctioned	governance enforcement 1 of 2 acceleration via Event of Default for misrepresentation about compliance with anti corruption laws or sanctions by guarantor
PBOC/MOF grant or loan channeled through multilateral institutions	ESMP and EIA (or equivalents) required	presentation of EMAP (or equivalent) to lender, ongoing reporting on social management	1 of 2 conditions precedent, mandatory prepayment/acceleration	RAP and ESMP (or equivalents) required, 1 of 2 requires ESIA	presentation of RAP and ESAP (or equivalents) to lender, ongoing reporting on social management	1 of 2 acceleration/mandatory prepayment for violations, 2 of 2 conditions precedent	Competitive bidding requirements, anti-corruption laws	Bidding documents subject to lender review, 1 of 2 investigation by lender	Acceleration, mandatory prepayment for anti-corruption/anti-money laundering violations, 1 of 2 indemnification for violations
Supplier's credit from Chinese SOE	none	none	none	none	none	none	none	none	none

Table A.7

Summary of environmental, social, and governance safeguard clauses in the contract sample for the late BRI period (2018-2021)

	Environmental			Social			Governance		
	Standards	Monitoring	Enforcement	Standards	Monitoring	Enforcement	Standards	Monitoring	Enforcement
Bilateral China Eximbank loan	None	None	None	None	None	None	None	None	None
Bilateral CDB loan	1 of 3 contracts includes compliance and no environmental claims requirement	None	1 of 3 contracts includes Environmental Indemnity clause	None	None	None	Most contracts include anti-money laundering and IFRS requirements	None	1 of 3 contracts treat breaching these requirements as event of default, thus requires indemnification
Bilateral MOFCOM loan or grant	1 of 2 contracts requires Environmental Impact Assessment (EIA)	None	None	1 of 2 contracts require equal treatment principle	None	None	1 of 2 contracts includes Competitive Bidding requirements; Anti-corruption requirement	Bidding documents subject to lender approval	None
Bilateral Chinese state-owned commercial bank loan	Environmental Laws Compliance and no Environmental Claims Requirement	None	Breach of Environmental Laws is treated as event of default, thus requires indemnification and acceleration	None	None	None	Anti-corruption and anti-money laundering requirements	Reserve rights to investigate potential breach; requires the proceedings will not benefit sanctioned entities	Breach treated as an event of default, condition precedent that the borrowers shall provide all requested evidence to prove compliance
Syndicated loan with Chinese and multilateral bank participants	Requirements to Comply with environmental law and international environmental standards; conduct EIA and EMP;	Requires Implementation report of EIA/EMP	Requires environmental conditions precedent; requires cancelation, mandatory prepayment, or indemnification in events of breach	Requirements to Comply with Social Law; conduct ESIA and ESAP;	Requires Implementation report of ESIA/ESAP	Requires Social conditions precedent; requires cancelation, mandatory prepayment, or indemnification in	Anti-corruption and anti-money laundering requirements; requires independent audit or compliance with IFRS	Reserve rights to investigate potential breach; requires the proceedings will not benefit sanctioned entities	Requires cancellation, mandatory prepayment, or indemnification in event of breach

	Environmental			Social			Governance		
	Standards	Monitoring	Enforcement	Standards	Monitoring	Enforcement	Standards	Monitoring	Enforcement
						events of breach			
Syndicated loan with Chinese state-owned commercial banks and/or policy banks	Compliance with environmental laws and permits	None	None	None	None	None	Compliance with Anti-Corruption and Anti-Money Laundering Laws	Proceeds not to benefit sanctioned entities	Mandatory prepayment for business with sanctioned entities, non-compliance with Anti-Corruption or Anti-Money Laundering Laws
PBOC/MOF grant or loan channeled through multilateral institutions	EMP required	Reporting on EMP progress required	Withdrawal of grant funds for noncompliance	Gender Action Plan (GAP), prevention of involuntary resettlement, labor protections in bidding documents and contracts required	None	Withdrawal of grant funds for noncompliance	Compliance with anti-corruption, anti-money laundering, anti-terrorism finance laws; competitive bidding required	Lender reserves right to investigate corrupt practices	Withdraw grant funds for noncompliance
Supplier's credit from Chinese SOE	Compliance with environmental laws and permits	None	Indemnification and acceleration clauses	None	None	None	Anti-money laundering, anti-corruption and counter terrorism financing law compliance	None	Indemnification and acceleration clauses

Table A.8

Environmental Safeguard Questions

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Grant and Loan Instrument Category ① Bilateral China Eximbank loan ② Bilateral CDB loan ③ Bilateral MOFCOM loan or grant ④ Bilateral Chinese state-owned commercial bank loan	① Kenya (2014)	① Antigua (2008)	① Philippines (2018)	② Costa Rica (2008)	② Marshall Islands (2013)	② Ecuador (2016)	③ Montenegro (2020)	③ Peru (2014)	③ Mongolia (2019)	④ Uganda (2021)	④ Ghana (2016)	④ Honduras (2013)
Are any environmental clauses or conditions included in the agreement?	No	No	No	No	Yes	No	Yes	No	No	Yes	Yes	Yes
Is an Environmental Impact Assessment (EIA) identified as a requirement in the agreement?	No	No	No	No	NA	No	Yes	No	No	No	No	No
Is an Environmental Management Plan (EMP) – or a functional equivalent of an EMP – identified as a requirement in the agreement?	No	No	No	No	NA	No	No	No	No	No	No	No
Is the borrower required to report to the lender on its implementation of the EIA recommendations or EMP?	No	No	No	No	NA	No	No	No	No	No	No	No
Does the agreement include any environmental conditions precedent (for entry into force or initial or ongoing disbursement)?	No	No	No	No	No	No	No	No	No	Yes	No	Yes
Does the agreement specify that noncompliance with environmental rules, standards or laws is a sufficient basis for the lender to demand early repayment ("prepayment") of the loan or cancel the loan?	No	No	No	No	No	No	No	No	No	Yes	No	No
Does the agreement require compliance with international environmental standards, such as the Equator Principles or the OECD Revised Council Recommendation on Common Approaches on the Environment and Officially Supported Export Credits?	No	No	No	No	No	No	No	No	No	No	No	No
Is the borrower required to indemnify the lenders, guarantors, or insurers ("Finance Parties") against any loss or liability incurred by the Finance Parties as a result of any actual or alleged breach of an environmental law or standard?	No	No	No	No	Yes	No	No	No	No	Yes	No	No

Grant and Loan Instrument Category ⑤ Syndicated loan with Chinese and multilateral bank participants ⑥ Syndicated loan with Chinese state-owned commercial banks and/or policy banks ⑦ PBOC/MOF grant or loan channeled through multilateral institutions ⑧ Supplier's credit from Chinese SOE	⑤ Colombia (2017)	⑤ Argentina (2017)	⑥ Serbia (2022)	⑥ Argentina (2014)	⑥ Siena Leone (2017)	⑦ Costa Rica (2014)	⑦ Rwanda (2017)	⑦ Papua New Guinea (2019)	⑧ Guyana (2022)	⑧ Ghana (2018)	⑧ Congo (2005)
Are any environmental clauses or conditions included in the agreement?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Is an Environmental Impact Assessment (EIA) identified as a requirement in the agreement?	Yes	Yes	No	No	Yes	Yes	Yes	No	No	No	No
Is an Environmental Management Plan (EMP) – or a functional equivalent of an EMP – identified as a requirement in the agreement?	Yes	Yes	No	Yes	Yes	Yes	No	Yes	No	No	No
Is the borrower required to report to the lender on its implementation of the EIA recommendations or EMP?	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No
Does the agreement include any environmental conditions precedent (for entry into force or initial or ongoing disbursement)?	Yes	No	No	Yes	No	Yes	No	No	No	No	No
Does the agreement specify that noncompliance with environmental rules, standards or laws is a sufficient basis for the lender to demand early repayment (“prepayment”) of the loan or cancel the loan?	Yes	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes	No
Does the agreement require compliance with international environmental standards, such as the Equator Principles or the OECD Revised Council Recommendation on Common Approaches on the Environment and Officially Supported Export Credits?	No	Yes	No	No	Yes	No	No	No	No	No	No
Is the borrower required to indemnify the lenders, guarantors, or insurers ("Finance Parties") against any loss or liability incurred by the Finance Parties as a result of any actual or alleged breach of an environmental law or standard?	No	Yes	No	Yes	Yes	No	No	No	Yes	Yes	No

Grant and Loan Instrument Category ① Bilateral China Eximbank loan ② Bilateral CDB loan ③ Bilateral MOFCOM loan or grant ④ Bilateral Chinese state-owned commercial bank loan	① Kenya (2014)	① Antigua (2008)	① Philippines (2018)	② Costa Rica (2008)	② Marshall Islands (2013)	② Ecuador (2016)	③ Montenegro (2020)	③ Peru (2014)	③ Mongolia (2019)	④ Uganda (2021)	④ Ghana (2016)	④ Honduras (2013)
Are any social clauses or conditions included?	No	No	No	No	No	No	Yes	No	No	No	No	Yes
Is an Environmental and Social Impact Assessment (ESIA) identified as a requirement?	No	No	No	No	NA	No	No	No	No	No	No	No
Is an Environmental and Social Action Plan (ESAP), a Resettlement Action Plan (RAP), or the functional equivalent of an ESAP or RAP identified as a requirement?	No	No	No	No	NA	No	No	No	No	No	No	No
Is the borrower required to report to the lender on its implementation of the ESIA recommendations or RAP?	No	No	No	No	NA	No	No	No	No	No	No	No
Does the agreement include any social conditions precedent (for entry into force or initial or ongoing disbursement)?	No	No	No	No	No	No	No	No	No	No	No	Yes
Does the agreement indicate the penalty of violating Social standards/laws leads to demanding early prepayment to close the loan?	No	No	No	No	No	No	No	No	No	No	No	No
Is the borrower required to indemnify the lenders, guarantors, or insurers ("Finance Parties") against any loss or liability incurred by the Finance Parties as a result of any actual or alleged breach of an social law or standard?	No	No	No	No	No	No	No	No	No	No	No	No

Grant and Loan Instrument Category ⑤ Syndicated loan with Chinese and multilateral bank participants ⑥ Syndicated loan with Chinese state-owned commercial banks and/or policy banks ⑦ PBOC/MOF grant or loan channeled through multilateral institutions ⑧ Supplier's credit from Chinese SOE	⑤ Colombia (2017)	⑤ Argentina (2017)	⑥ Serbia (2022)	⑥ Argentina (2014)	⑥ Siena Leone (2017)	⑦ Costa Rica (2014)	⑦ Rwanda (2017)	⑦ Papua New Guinea (2019)	⑧ Guyana (2022)	⑧ Ghana (2018)	⑧ Congo (2005)
Are any social clauses or conditions included?	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	No	No
Is an Environmental and Social Impact Assessment (ESIA) identified as a requirement?	Yes	Yes	No	No	No	No	Yes	No	No	No	No
Is an Environmental and Social Action Plan (ESAP), a Resettlement Action Plan (RAP), or the functional equivalent of an ESAP or RAP identified as a requirement?	Yes	Yes	No	No	No	Yes	Yes	No	No	No	No
Is the borrower required to report to the lender on its implementation of the ESIA recommendations or RAP?	Yes	Yes	No	No	No	Yes	Yes	No	No	No	No
Does the agreement include any social conditions precedent (for entry into force or initial or ongoing disbursement)?	Yes	No	No	No	No	Yes	Yes	No	No	No	No
Does the agreement indicate the penalty of violating Social standards/laws leads to demanding early prepayment to close the loan?	Yes	No	No	No	No	Yes	No	Yes	No	No	No
Is the borrower required to indemnify the lenders, guarantors, or insurers ("Finance Parties") against any loss or liability incurred by the Finance Parties as a result of any actual or alleged breach of an social law or standard?	No	Yes	No	No	Yes	No	No	No	No	No	No

Grant and Loan Instrument Category ① Bilateral China Eximbank loan ② Bilateral CDB loan ③ Bilateral MOFCOM loan or grant ④ Bilateral Chinese state-owned commercial bank loan	① Kenya (2014)	① Antigua (2008)	① Philippines (2018)	② Costa Rica (2008)	② Marshall Islands (2013)	② Ecuador (2016)	③ Montenegro (2020)	③ Peru (2014)	③ Mongolia (2019)	④ Uganda (2021)	④ Ghana (2016)	④ Honduras (2013)
Are any governance (eg. anti-corruption, competitive bidding, audited financial statements, and/or anti-money laundering) clauses or conditions present in the agreement?	No	No	No	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes
Are independently audited financial statements required of the borrower?	No	No	No	No	No	No	No	No	No	No	No	No
Must the borrower's financial statements comply with International Financial Reporting Standards (IFRS) standards?	No	No	No	Yes	Yes	No	No	No	No	No	No	No
Does the agreement include any competitive bidding requirements?	No	No	No	No	No	No	Yes	No	Yes	No	No	No
Are bidding documents or bid evaluation reports subject to prior approval by the lender?	No	No	No	No	No	No	No	No	Yes	No	No	No
Does the agreement include any anti-corruption or anti-money laundering requirements?	No	No	No	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes
Is the borrower required to indemnify the lenders, guarantors, or insurers ("Finance Parties") against any loss or liability incurred by the Finance Parties as a result of any actual or alleged breach of an anti-corruption or anti-money laundering law or standard?	No	No	No	Yes	No	No	No	No	No	Yes	No	No
Does the lender explicitly reserve the right to prevent or investigate anti-corruption or anti-money laundering crimes?	No	No	No	No	No	No	No	No	No	Yes	No	No
Does the borrower affirm that it will seek to ensure that the proceeds from the loan or grant are not used to finance or benefit any internationally sanctioned entity?	No	No	No	No	No	No	No	No	No	Yes	No	No
Does the agreement specify that noncompliance with governance rules, standards, or laws is a sufficient basis for the lender to demand early repayment ("prepayment") of the loan or cancel the loan?	No	No	No	Yes	No	No	No	No	No	Yes	Yes	No
Does the agreement include any competitive bidding, anti-corruption, or anti-money laundering conditions precedent (for entry into force, initial disbursement, or ongoing disbursements)?	No	No	No	No	No	No	No	No	No	Yes	No	No

Grant and Loan Instrument Category ⑤ Syndicated loan with Chinese and multilateral bank participants ⑥ Syndicated loan with Chinese state-owned commercial banks and/or policy banks ⑦ PBOC/MOF grant or loan channeled through multilateral institutions ⑧ Supplier's credit from Chinese SOE	⑤ Colombia (2017)	⑤ Argentina (2017)	⑥ Serbia (2022)	⑥ Argentina (2014)	⑥ Siena Leone (2017)	⑦ Costa Rica (2014)	⑦ Rwanda (2017)	⑦ Papua New Guinea (2019)	⑧ Guyana (2022)	⑧ Ghana (2018)	⑧ Congo (2005)
Are any governance (eg. anti-corruption, competitive bidding, audited financial statements, and/or anti-money laundering) clauses or conditions present in the agreement?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Are independently audited financial statements required of the borrower?	Yes	Yes	No	No	Yes	Yes	No	No	No	No	No
Must the borrower's financial statements comply with International Financial Reporting Standards (IFRS) standards?	No	Yes	No	No	Yes	No	No	No	No	No	No
Does the agreement include any competitive bidding requirements?	No	No	No	No	No	Yes	Yes	Yes	No	No	No
Are bidding documents or bid evaluation reports subject to prior approval by the lender?	No	No	No	No	No	Yes	Yes	No	No	No	No
Does the agreement include any anti-corruption or anti-money laundering requirements?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Is the borrower required to indemnify the lenders, guarantors, or insurers ("Finance Parties") against any loss or liability incurred by the Finance Parties as a result of any actual or alleged breach of an anti-corruption or anti-money laundering law or standard?	No	Yes	No	No	No	No	Yes	No	Yes	Yes	No
Does the lender explicitly reserve the right to prevent or investigate anti-corruption or anti-money laundering crimes?	Yes	Yes	No	No	No	Yes	No	Yes	No	No	No
Does the borrower affirm that it will seek to ensure that the proceeds from the loan or grant are not used to finance or benefit any internationally sanctioned entity?	Yes	Yes	Yes	No	Yes	No	No	No	No	No	No
Does the agreement specify that noncompliance with governance rules, standards, or laws is a sufficient basis for the lender to demand early repayment ("prepayment") of the loan or cancel the loan?	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	No
Does the agreement include any competitive bidding, anti-corruption, or anti-money laundering conditions precedent (for entry into force, initial disbursement, or ongoing disbursements)?	No	Yes	No	No	No	Yes	No	No	No	No	No

Section A-10: How does the composition of the coding sample of infrastructure financing agreements compare to the composition of China's entire grant- and loan-financed infrastructure project portfolio in LICs and MICs?

In Chapter 3, we construct a coding sample of 23 infrastructure financing agreements to analyze trends in ESG safeguards in the full grant- and loan-financed infrastructure projects portfolio from China to LICs and MICs. These 23 financing agreements were identified out of a set of nearly 300 unredacted loan contracts and grant agreements included in the 3.0 version of the GCDF dataset. All 23 contracts represent infrastructure financing agreements that correspond to the 8 primary infrastructure agreement types listed in Chapter 3 Section 3. These 8 financial instrument types were used by China to support 90.2% of its grant- and loan-financed infrastructure project portfolio in LICs and MICs between 2000 and 2021. The remaining 9.8% of the portfolio consisted of projects supported by more "exotic" financial instrument types (e.g., EPCF agreements). The 3.0 version of the GCDF dataset does not include many unredacted financing agreements for these projects, so we exclude them from our analysis.

This contract coding sample has broad geographical coverage, income bracket coverage, and temporal coverage (for both the pre- and early BRI period as well as the late BRI period). Table A9 describes the composition of the contract coding sample and the composition of China's entire grant- and loan-financed infrastructure project portfolio (as measured in the 3.0 version of AidData's GCDF dataset) on three dimensions: region, income bracket, and time period.

Table A.9

Composition of coding sample of infrastructure financing agreements versus China's entire grant- and loan-financed infrastructure project portfolio)

	Contract Coding Sample (count)	Full infrastructure project portfolio (% of constant USD 2021 value)
Region		
Africa	34.7% (8)	29%
Latin America and the Caribbean	43.4% (10)	18%
Asia and the Pacific	13% (3)	38%
Central and Eastern Europe	8.2% (2)	11%
Middle East	0%	1%
Income Bracket		
Upper-middle income countries	52.2% (12)	34%
Lower-middle income countries	34.8% (8)	24%

	Contract Coding Sample (count)	Full infrastructure project portfolio (% of constant USD 2021 value)
Low income & least developed countries	13% (3)	34%
Time Period		
Pre- and early BRI (2000-2017)	65% (15)	81%
Late BRI (2018-2022)	35% (8)	19%

Section A-11: ESG risk exposure and de jure ESG safeguard protection in China's overseas infrastructure project portfolio tables

Table A.10

Regional distribution of environmental, social, and governance risk exposure in China's overseas infrastructure project portfolio

Region	Infrastructure projects with ESG risk exposure (%)	Infrastructure projects with environmental risk exposure (%)	Infrastructure projects with social risk exposure (%)	Infrastructure projects with governance risk exposure (%)	Infrastructure projects (%)
Africa	24.66%	26.31%	31.24%	23.29%	27.61%
South & Central America	20.90%	13.87%	12.45%	38.05%	16.92%
Asia	34.26%	35.46%	42.39%	24.74%	36.40%
Europe	16.60%	20.54%	10.13%	11.01%	13.12%
Middle East	2.95%	2.98%	2.75%	2.58%	4.53%
Oceania	0.63%	0.84%	1.04%	0.33%	1.42%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Notes: This table provides a regional breakdown of China's grant- and loan-financed infrastructure project portfolio in LICs and MICs with environmental, social, or governance risk (ESG) exposure (columns 2-5). It also provides a regional breakdown of China's grant- and loan-financed infrastructure project portfolio in LICs and MICs (column 6). ESG risk exposure (column 2) is based on the project-level composite measure that is described in Section 2 of Chapter 3. Likewise, environmental risk exposure, social risk exposure, and governance risk exposure (column 3-5) are based on the project-level composite measures that are described in Section 2 of Chapter 3. All percentages represent percentages of China's grant- and loan-financed infrastructure project portfolio (in constant 2021 USD) between 2000 and 2021 (exposed to one or more types of ESG risk). The regional groupings are defined by the OECD's regional classifications. The "Other" category captures grant and loan commitments for infrastructure projects in countries that were classified as high-income countries as of 2021 and commitments that could not be assigned to one specific country.

Table A.11

Distribution of environmental, social, and governance risk exposure in China's overseas infrastructure project portfolio by host country income level

Income level of host country	Infrastructure projects with ESG risk exposure (%)	Infrastructure projects with environmental risk exposure (%)	Infrastructure projects with social risk exposure (%)	Infrastructure projects with governance risk exposure (%)	Infrastructure projects (%)
Upper-middle income countries (UMIC)	34.30%	25.66%	15.88%	52.51%	37.17%
Lower-middle income countries (LMIC)	23.54%	26.00%	35.89%	12.88%	26.85%
Low-income countries (LIC)	26.61%	28.44%	37.87%	24.74%	25.37%
Other	15.55%	19.91%	10.36%	9.87%	10.61%
Grand Total	100.00%	100.00%	100.00%	100.00%	100.00%

Notes: This table provides an income bracket breakdown of China's grant- and loan-financed infrastructure project portfolio in LICs and MICs with environmental, social, or governance risk (ESG) exposure (columns 2-5). It also provides an income bracket breakdown of China's grant- and loan-financed infrastructure project portfolio in LICs and MICs (column 6). ESG risk exposure (column 2) is based on the project-level composite measure that is described in Section 2 of Chapter 3. Likewise, environmental risk exposure, social risk exposure, and governance risk exposure (column 3-5) are based on the project-level composite measures that are described in Section 2 of Chapter 3. All percentages represent percentages of China's grant- and loan-financed infrastructure project portfolio (in constant 2021 USD) between 2000 and 2021 (exposed to one or more types of ESG risk). The income brackets are defined by the OECD's ODA income categories as of 2021. The "Other" category captures grant and loan commitments for infrastructure projects in countries that were classified as high-income countries as of 2021 and commitments that could not be assigned to one specific country.

Table A.12

Country-by-country distribution of ESG risk exposure and de jure ESG safeguard protection in China's overseas infrastructure project portfolio, 2000-2021

Country	ESG Risk ($)	ESG Risk (% of $)	ESG risk (#)	ESG Risk (% of #)	Environmental risk ($)	Environmental risk (#)	Social risk ($)	Social risk (#)	Governance risk ($)	Governance risk (#)	Strong de jure ESG safeguards (% of $)	Strong de jure ESG safeguards (% of #)
Albania	5	1%	3	33%	0	0	0	0	5	3	0%	0%
Angola	17,670	44%	48	20%	11,691	36	4,602	7	12,083	30	27%	8%
Antigua and Barbuda	246	49%	9	33%	246	9	48	1	66	1	0%	0%
Argentina	10,046	44%	26	53%	9,020	13	9,180	22	8,090	7	90%	82%
Azerbaijan	274	34%	3	30%	0	0	156	1	118	2	98%	60%
Bahamas	3,596	100%	5	83%	3,536	3	3,412	1	61	2	0%	0%
Bangladesh	12,075	59%	27	45%	6,542	15	8,423	15	6,028	11	22%	24%
Barbados	3	2%	1	10%	3	1	0	0	0	0	0%	0%
Belarus	2,367	21%	15	23%	1,863	11	222	1	1,086	5	7%	3%
Benin	1,651	70%	24	56%	1,574	19	917	6	57	1	31%	13%
Bolivia	3,285	98%	11	69%	1,850	8	1,988	4	553	1	0%	9%
Bosnia and Herzegovina	1,381	64%	3	27%	1,136	2	798	1	245	1	0%	0%
Botswana	169	11%	8	42%	169	8	0	0	2	1	83%	7%
Brazil	1,292	16%	11	35%	1,022	10	0	0	270	1	34%	63%

Country	ESG Risk ($)	ESG Risk (% of $)	ESG risk (#)	ESG Risk (% of #)	Environmental risk ($)	Environmental risk (#)	Social risk ($)	Social risk (#)	Governance risk ($)	Governance risk (#)	Strong de jure ESG safeguards (% of $)	Strong de jure ESG safeguards (% of #)
Brunei	2,102	99%	6	86%	2,102	6	0	0	0	0	89%	83%
Bulgaria	162	31%	4	50%	162	2	0	0	0	2	0%	0%
Burkina Faso	118	31%	2	25%	118	2	118	2	0	1	24%	20%
Burundi	1	0%	3	13%	0	0	0	0	1	3	0%	0%
Cabo Verde	143	35%	6	14%	15	3	0	0	134	4	0%	0%
Cambodia	8,665	59%	50	36%	7,258	45	6,001	34	351	4	20%	13%
Cameroon	3,317	39%	15	26%	855	7	2,503	7	172	3	10%	19%
Central African Republic	96	25%	7	29%	0	0	96	7	0	1	0%	0%
Chad	877	51%	9	32%	711	8	877	9	0	0	0%	0%
Chile	164	10%	5	28%	71	1	71	1	93	4	15%	60%
Colombia	1,102	74%	11	69%	557	7	579	5	244	2	42%	57%
Comoros	68	27%	7	35%	68	7	0	0	0	0	0%	0%
Congo (Republic)	3,874	52%	30	38%	3,183	23	864	8	523	6	0%	0%
Cook Islands	36	45%	4	50%	36	4	0	0	0	0	0%	0%
Costa Rica	1,772	99%	10	91%	757	8	0	0	1,028	4	3%	10%
Cote d'Ivoire	2,767	42%	18	28%	1,235	10	2,344	12	102	2	45%	33%
Cuba	218	8%	3	13%	218	3	0	0	184	2	0%	0%
North Korea	57	8%	6	38%	0	2	55	2	2	2	0%	0%

Country	ESG Risk ($)	ESG Risk (% of $)	ESG risk (#)	ESG Risk (% of #)	Environmental risk ($)	Environmental risk (#)	Social risk ($)	Social risk (#)	Governance risk ($)	Governance risk (#)	Strong de jure ESG safeguards (% of $)	Strong de jure ESG safeguards (% of #)
Congo (DRC)	2,519	28%	31	30%	1,260	17	1,401	20	1,171	4	0%	0%
Djibouti	1,048	46%	4	11%	582	2	582	2	1,021	3	3%	5%
Dominica	111	40%	6	23%	81	5	30	1	0	0	0%	0%
Ecuador	6,447	65%	14	35%	5,627	11	2,543	4	3,700	4	18%	20%
Egypt	183	3%	3	7%	183	3	150	2	0	0	60%	27%
El Salvador	185	98%	3	38%	82	1	124	2	61	1	23%	20%
Equatorial Guinea	2,204	26%	4	8%	2,204	4	0	0	0	0	0%	0%
Eritrea	1,927	75%	7	30%	0	0	1,895	4	32	3	65%	13%
Ethiopia	17,845	86%	76	74%	9,510	37	14,507	73	7,482	13	19%	4%
Fiji	338	66%	21	68%	233	20	105	1	0	0	0%	0%
Gabon	2,035	67%	26	62%	1,180	10	1,060	21	0	1	22%	31%
Gambia	182	100%	4	100%	182	4	99	1	99	1	0%	0%
Georgia	49	17%	2	33%	49	2	0	0	0	0	0%	0%
Ghana	1,670	19%	21	27%	1,670	21	0	0	0	0	22%	36%
Grenada	305	67%	16	44%	305	16	0	0	0	0	0%	0%
Guinea	1,760	43%	15	54%	479	14	1,281	1	1,281	1	16%	28%
Guinea-Bissau	120	67%	12	55%	120	12	0	0	62	4	0%	0%
Guyana	358	32%	12	60%	75	2	210	2	269	10	0%	0%

Country	ESG Risk ($)	ESG Risk (% of $)	ESG risk (#)	ESG Risk (% of #)	Environmental risk ($)	Environmental risk (#)	Social risk ($)	Social risk (#)	Governance risk ($)	Governance risk (#)	Strong de jure ESG safeguards (% of $)	Strong de jure ESG safeguards (% of #)
Honduras	336	90%	1	50%	336	1	336	1	336	1	100%	100%
India	352	14%	2	13%	352	2	0	0	0	0	0%	0%
Indonesia	20,912	50%	60	43%	14,423	49	16,586	39	1,285	3	33%	39%
Iran	9,309	37%	13	27%	5,133	5	3,462	7	4,243	4	6%	14%
Iraq	314	5%	3	17%	312	2	0	0	2	1	93%	79%
Israel	2,435	73%	9	90%	2,435	9	0	0	1,181	2	60%	75%
Jamaica	1,852	81%	13	57%	1,378	12	0	0	474	1	0%	0%
Jordan	1,808	85%	6	29%	13	1	1,808	5	0	1	91%	35%
Kazakhstan	12,196	25%	13	21%	10,400	12	2,770	1	1,796	1	45%	31%
Kenya	10,761	82%	41	47%	9,658	28	8,266	18	5,459	14	13%	7%
Kiribati	0	0%	2	29%	0	2	0	0	0	0	0%	0%
Kyrgyzstan	2,831	77%	21	42%	1,726	9	527	6	1,369	12	1%	3%
Laos	13,531	71%	49	35%	11,699	41	13,209	46	12	1	17%	16%
Lesotho	342	76%	8	32%	0	0	193	2	342	8	0%	0%
Liberia	225	59%	16	42%	66	2	0	0	159	14	0%	0%
Libya	0	0%	0	0%	0	0	0	0	0	0	100%	100%
Madagascar	322	44%	4	14%	322	4	0	0	32	1	0%	0%
Malawi	209	23%	5	12%	107	3	0	0	103	3	13%	10%

Country	ESG Risk ($)	ESG Risk (% of $)	ESG risk (#)	ESG Risk (% of #)	Environmental risk ($)	Environmental risk (#)	Social risk ($)	Social risk (#)	Governance risk ($)	Governance risk (#)	Strong de jure ESG safeguards (% of $)	Strong de jure ESG safeguards (% of #)
Malaysia	24,105	94%	19	59%	2,733	10	1,357	5	20,014	4	10%	36%
Maldives	1,516	74%	18	62%	1,516	18	0	0	210	2	30%	29%
Mali	1,023	65%	21	58%	610	4	1,023	21	0	0	0%	0%
Marshall Islands	0	0%	0	0%	0	0	0	0	0	0	65%	22%
Mauritania	509	30%	11	30%	170	3	509	11	0	1	0%	0%
Mauritius	80	8%	1	3%	0	0	0	0	80	1	0%	0%
Mexico	289	32%	4	27%	28	1	261	3	0	0	17%	80%
Micronesia	21	21%	9	32%	21	9	0	0	0	0	0%	0%
Mongolia	1,095	41%	15	42%	933	11	90	2	100	4	3%	3%
Montenegro	1,090	90%	2	50%	0	0	45	1	1,090	2	0%	0%
Morocco	332	30%	1	10%	332	1	332	1	0	0	42%	38%
Mozambique	2,374	43%	9	25%	1,225	5	1,336	4	694	3	29%	12%
Myanmar	8,395	65%	21	23%	3,031	8	3,211	12	4,907	7	4%	11%
Namibia	73	15%	3	9%	73	3	55	1	0	0	0%	0%
Nauru	0	0%	1	25%	0	1	0	0	0	0	0%	0%
Nepal	1,388	89%	40	87%	832	18	1,388	40	256	4	0%	0%
Niger	1,988	51%	18	56%	337	2	1,988	18	1,342	1	0%	0%
Nigeria	6,326	52%	22	47%	3,022	10	4,492	16	787	3	28%	35%

Country	ESG Risk ($)	ESG Risk (% of $)	ESG risk (#)	ESG Risk (% of #)	Environmental risk ($)	Environmental risk (#)	Social risk ($)	Social risk (#)	Governance risk ($)	Governance risk (#)	Strong de jure ESG safeguards (% of $)	Strong de jure ESG safeguards (% of #)
Niue	16	83%	1	25%	16	1	0	0	0	0	0%	0%
North Macedonia	1,346	99%	7	54%	1,032	6	0	0	1,086	3	17%	20%
Oman	0	0%	0	0%	0	0	0	0	0	0	100%	100%
Pakistan	20,448	52%	63	49%	6,373	16	17,887	55	7,380	16	25%	31%
Panama	207	81%	5	71%	123	3	0	0	140	4	100%	100%
Papua New Guinea	2,270	33%	11	22%	1,638	5	1,894	6	633	6	31%	6%
Paraguay	0	0%	0	0%	0	0	0	0	0	0	100%	100%
Peru	454	58%	8	73%	0	0	421	1	34	7	0%	0%
Philippines	2,335	37%	16	36%	1,978	14	491	7	736	4	55%	27%
Russia	63,128	81%	15	42%	42,875	5	15,939	7	19,197	8	13%	32%
Rwanda	26	2%	1	3%	0	0	0	0	26	1	7%	10%
St. Lucia	52	76%	1	33%	52	1	0	0	0	0	0%	0%
Samoa	148	34%	8	22%	148	8	0	0	61	1	0%	0%
Sao Tome and Principe	0	0%	1	20%	0	1	0	0	0	0	0%	0%
Senegal	2,436	67%	16	36%	2,436	16	1,681	6	756	4	6%	6%
Serbia	3,443	73%	9	56%	3,443	9	59	1	0	0	5%	14%
Seychelles	74	40%	14	42%	74	14	0	0	0	0	0%	0%
Sierra Leone	1,227	33%	25	52%	1,227	25	0	0	954	3	21%	8%

Country	ESG Risk ($)	ESG Risk (% of $)	ESG risk (#)	ESG Risk (% of #)	Environmental risk ($)	Environmental risk (#)	Social risk ($)	Social risk (#)	Governance risk ($)	Governance risk (#)	Strong de jure ESG safeguards (% of $)	Strong de jure ESG safeguards (% of #)
South Africa	4,404	50%	10	45%	2,675	9	0	0	1,729	1	6%	33%
South Sudan	1,817	92%	14	41%	506	10	0	0	1,310	4	0%	0%
Sri Lanka	10,620	70%	50	54%	7,893	34	850	3	6,476	25	1%	3%
Sudan	4,230	28%	9	8%	1,727	4	2,008	5	1,976	1	0%	0%
Suriname	664	48%	7	24%	0	0	84	4	579	3	10%	19%
Syria	9	4%	3	30%	0	0	0	0	9	3	0%	0%
Tajikistan	2,057	36%	20	29%	1,612	15	0	0	988	6	10%	15%
Tanzania	1,857	64%	23	34%	1,753	18	159	6	207	3	8%	16%
Thailand	110	2%	2	10%	0	0	110	2	0	0	2%	17%
Timor-Leste	29	30%	4	36%	29	4	0	0	0	0	0%	0%
Togo	721	50%	21	47%	666	19	162	4	0	0	0%	0%
Tonga	70	23%	4	11%	70	4	0	0	0	0	0%	0%
Trinidad and Tobago	943	65%	6	55%	943	6	39	1	246	2	0%	0%
Tunisia	0	0%	2	12%	0	1	0	0	0	1	26%	14%
Türkiye	4,590	43%	8	27%	3,768	6	2,339	4	34	1	83%	95%
Turkmenistan	11	0%	2	14%	0	0	0	0	11	2	0%	0%
Uganda	3,274	74%	12	32%	2,847	9	1,699	3	2,684	6	6%	5%
Ukraine	562	11%	4	40%	104	2	0	0	458	2	8%	43%

Country	ESG Risk ($)	ESG Risk (% of $)	ESG risk (#)	ESG Risk (% of #)	Environmental risk ($)	Environmental risk (#)	Social risk ($)	Social risk (#)	Governance risk ($)	Governance risk (#)	Strong de jure ESG safeguards (% of $)	Strong de jure ESG safeguards (% of #)
Uruguay	20	49%	1	33%	20	1	0	0	0	0	100%	100%
Uzbekistan	0	0%	0	0%	0	0	0	0	0	0	96%	36%
Vanuatu	63	23%	1	17%	63	1	0	0	0	0	0%	0%
Venezuela	64,321	77%	35	44%	10,390	25	4,529	3	63,743	13	6%	3%
Vietnam	15,967	62%	48	49%	12,418	31	8,086	32	88	3	51%	34%
Zambia	8,101	56%	45	41%	2,045	26	2,261	6	5,829	19	36%	29%
Zimbabwe	559	13%	7	14%	387	6	0	0	345	2	0%	0%
Africa, regional	407	69%	6	67%	407	6	379	5	28	1	0%	0%
Asia, regional	0	0%	0	0%	0	0	0	0	0	0	100%	100%

Notes: ESG risk exposure is based on a project-level composite measure that is described in Section 2 of Chapter 3. Likewise, environmental risk exposure, social risk exposure, and governance risk exposure are based on project-level composite measures that are described in Section 2 of Chapter 3. Strong de jure ESG safeguards are defined in Section A-9 of the Appendix. All monetary amounts are provided in constant 2021 USD millions. All values in the "% of $" columns represent percentages of China's grant- and loan-financed infrastructure project portfolio (in constant 2021 USD) between 2000 and 2021 in a specific recipient country. All values in the "% of #" columns represent percentages of China's grant- and loan-financed infrastructure projects between 2000 and 2021 in a specific recipient country.

Section A-12: Soft power gains and losses during early and late BRI periods

Table A13 shows the relative change (double delta) scores for each soft power measure described in Box 4a, including steps 1-3 for both the early BRI period (2014-2017) and the late BRI period (2018-2021). Public opinion is based on Gallup World Poll data. Media sentiment is based on the average tone of media coverage related to government actors, as reported by GDELT. Elite support is based on UNGA voting alignment scores. See Box 1b for additional information on the data sources that we use to construct these measures. With respect to the relative change (double delta) scores for the public opinion and media sentiment metrics (reported in Table A13), the higher the score, the larger the magnitude of the gain achieved by China at the expense of the U.S. The relative change (double delta) scores for the elite support (idealpoint) metric (reported in Table A13) reflect raw scores that have not been inverted—so the *lower* the idealpoint score (reported in Table A13), the larger the size of China's gain at the expense of the U.S.

Table A.13

China's soft power gains and losses vis-à-vis the U. S. during early and late BRI periods

	Early BRI (2014-2017)			Late BRI (2018-2021)		
Country	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)
Afghanistan	3.0%	0.532	0.050	2.1%	(0.170)	0.031
Albania	0.1%	(0.031)	0.003	-4.5%	0.827	0.020
Algeria	-3.3%	0.548	0.050	0.7%	(0.650)	0.031
Angola	1.9%	0.041	0.050		(0.266)	0.031
Antigua and Barbuda		4.219	0.050		(3.747)	0.031
Argentina	3.0%	0.921	(0.018)	-12.4%	(0.626)	(0.023)
Armenia	3.8%	0.743	0.020	-0.2%	0.843	(0.032)
Azerbaijan	5.2%	0.849	0.050	-3.4%	(0.607)	0.031
Bahamas		0.424	(0.059)		0.233	0.031
Bangladesh	1.6%	0.663	0.050	-2.8%	(0.583)	0.031
Barbados		0.637	0.028		(1.020)	0.031
Belarus	4.1%	0.395	0.023	-7.7%	1.232	(0.039)

	Early BRI (2014-2017)			Late BRI (2018-2021)		
Country	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)
Benin	-1.1%	(1.410)	0.050	-0.2%	(0.429)	0.031
Bolivia	5.7%	0.675	0.050	-12.4%	(0.193)	0.031
Bosnia and Herzegovina	3.2%		(0.047)	-4.5%		(0.086)
Botswana	4.9%	(0.401)	(0.005)	0.7%	1.350	0.031
Brazil	3.0%	0.194	0.092	-8.8%	(0.159)	0.159
Brunei Darussalam		0.036	0.050		0.218	0.031
Bulgaria	4.9%	0.442	0.003	-6.8%	0.284	0.024
Burkina Faso	0.0%	0.332	0.050	-0.6%	0.676	0.031
Burundi	-15.1%	0.536	0.050		(1.229)	0.031
Cabo Verde		(1.005)	0.050			0.031
Cambodia	0.4%	1.321	0.050	0.0%	(0.799)	0.031
Cameroon	2.1%	0.983	(0.070)	-3.6%	(1.027)	(0.092)
Central African Republic	4.4%	(0.460)	0.141		(0.550)	(0.112)
Chad	6.8%	(1.028)	0.050	-0.9%	1.290	0.031
Chile	8.1%	0.288	(0.113)	-11.1%	0.197	0.053
Colombia	6.5%	(0.181)	(0.090)	-9.0%	1.164	0.061
Comoros		(2.648)	0.050	-0.5%	(5.837)	0.031
Congo	0.4%	1.656	0.050	-2.4%	(0.214)	0.031
Cook Islands		(1.629)			(1.198)	
Costa Rica	10.0%	0.644	(0.040)	-11.5%	(0.336)	(0.004)
Cote d'Ivoire	-1.3%	0.363	(0.075)	-1.2%	1.009	0.080
Cuba		0.541	0.050		0.591	0.031
North Korea		0.160	0.131		0.180	(0.032)

	Early BRI (2014-2017)			Late BRI (2018-2021)		
Country	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)
DRC	0.0%	2.784	0.050		(1.029)	0.151
Djibouti		1.137	0.050		(1.032)	0.031
Dominica		(1.015)	(0.057)		(2.684)	0.031
Dominican Republic	5.7%	0.309	(0.015)	-5.7%	1.319	0.053
Ecuador	7.2%	0.810	0.050	-8.6%	0.059	0.031
Egypt	7.8%	0.537	0.050	-36.7%	0.338	0.031
El Salvador	10.9%	(0.649)	(0.030)	-6.8%	(0.926)	0.031
Equatorial Guinea		1.972	(0.037)		1.241	0.031
Eritrea		2.531	0.050		0.710	0.031
Ethiopia	-0.1%	1.054	0.050	9.4%	0.074	0.031
Fiji		0.665	0.027		(0.202)	0.031
Gabon	0.1%	1.519	0.050	-0.5%	(2.304)	0.031
Gambia		(0.236)	0.050		(0.248)	0.031
Georgia	2.3%		0.015	-3.5%	(14.520)	(0.080)
Ghana	2.8%	(0.152)	0.050	-1.9%	0.382	0.031
Grenada		0.498	(0.088)		0.062	0.031
Guinea	1.5%	0.728	0.050	-3.6%	(0.611)	0.031
Guinea-Bissau		2.370	0.050		(3.296)	0.031
Guyana		(0.265)	0.050		0.401	0.031
Haiti	4.3%	0.945	0.000	-5.1%	(2.191)	0.056
Honduras	5.8%		0.040	-11.2%	(3.421)	(0.088)
India	-2.3%	(0.184)	0.145	-5.4%	(0.230)	0.015
Indonesia	2.9%	0.191	0.050	-3.5%	(0.426)	0.031

	Early BRI (2014-2017)			Late BRI (2018-2021)		
Country	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)
Iran	7.2%	0.723	0.050	2.3%	(0.109)	0.031
Iraq	-1.0%	0.630	0.050	-5.4%	(0.551)	0.031
Israel	-1.2%	0.454	(0.062)	4.7%	(0.309)	(0.064)
Jamaica	16.1%	0.377	0.027	-12.1%	(0.290)	0.031
Jordan		0.360	0.050	-26.8%	0.108	0.031
Kazakhstan	5.0%	0.425	0.037	-9.4%	(0.774)	0.031
Kenya	2.3%	0.350	0.039	-5.0%	(0.593)	0.031
Kiribati			(0.397)		(1.334)	0.031
Kyrgyz Republic	2.5%	(0.041)	0.050	-7.2%	0.217	0.031
Laos		0.839	0.050		(0.253)	0.031
Lebanon	-1.1%	1.400	0.050	-4.6%	0.375	0.031
Lesotho	13.5%	(0.155)	0.050	0.6%	1.063	0.031
Liberia	0.0%	0.472	0.001	1.8%	(0.072)	0.235
Libya	59.7%	0.520	0.050	-3.7%	0.168	0.031
Madagascar	0.1%	1.377	0.046	1.4%	(0.174)	0.052
Malawi	1.1%	0.086	(0.162)	-0.4%	0.936	0.037
Malaysia	-18.2%	0.233	0.050	8.2%	(0.517)	0.031
Maldives		0.943	0.023		(0.791)	0.031
Mali	0.2%	1.235	0.159	-0.3%	(1.396)	(0.078)
Marshall Islands			(0.064)		(8.304)	(0.068)
Mauritania	5.2%	1.199	0.050	-0.6%	(0.630)	0.031
Mauritius	5.1%	1.527	0.040	-4.9%	(0.270)	0.031
Mexico	8.4%	0.323	0.031	-8.7%	0.100	(0.080)

	Early BRI (2014-2017)			Late BRI (2018-2021)		
Country	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)
Micronesia		1.101	(0.341)		(1.693)	0.062
Moldova	6.8%	(0.430)	(0.118)	-2.2%	(1.467)	(0.088)
Mongolia	4.1%	(0.180)	0.006	-1.1%	0.228	0.031
Montenegro	-0.6%		0.078	-0.3%		(0.006)
Morocco	9.5%	(0.588)	0.050	-7.5%	(0.655)	0.031
Mozambique	9.4%	0.407	0.050	-3.3%	(0.604)	0.031
Myanmar	3.3%	0.429	0.050	-8.5%	(0.345)	0.031
Namibia	9.5%	(0.215)	0.050	-6.5%	(0.605)	0.031
Nauru			0.029		(8.454)	(0.124)
Nepal	0.5%	0.015	0.050	2.0%	(0.059)	0.031
Nicaragua	5.5%	0.515	0.050	-5.2%	1.161	0.031
Niger	-3.7%	0.523	0.050	-5.2%	(0.024)	0.031
Nigeria	1.7%	0.414	0.050	0.5%	0.201	0.031
North Macedonia	3.5%	1.412		-0.4%	(1.283)	
Oman		2.068	0.050		(1.293)	0.031
Pakistan	4.6%	0.409	0.125	-6.4%	(0.182)	0.042
Palau					0.055	
Panama	6.7%	0.135	(0.180)	-11.3%	0.179	(0.046)
Papua New Guinea		(0.071)	(0.156)		0.009	(0.001)
Paraguay	4.6%	4.208	(0.122)	-1.0%	1.445	(0.126)
Peru	7.3%	0.997	(0.067)	-5.2%	0.224	(0.066)
Philippines	3.0%	0.496	0.040	-2.9%	(0.674)	0.031
Romania	5.3%		0.051	-6.6%		(0.018)

	Early BRI (2014-2017)			Late BRI (2018-2021)		
Country	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)
Russia	5.7%	0.411	0.032	0.5%	(0.085)	(0.021)
Rwanda	2.5%	0.068	0.142	-1.6%	0.143	(0.013)
Saint Lucia					(5.200)	
Samoa		(0.502)	(0.170)		(0.795)	(0.007)
Sao Tome and Principe		4.726	0.050			0.031
Senegal	4.4%	0.370	0.050	-0.9%	0.796	0.031
Serbia	6.3%	0.535	(0.080)	-3.1%	(0.674)	(0.087)
Seychelles		1.317	0.008		(0.996)	0.031
Sierra Leone	2.4%	1.104	0.038	-2.6%	(0.203)	0.031
Solomon Islands		0.495			(0.189)	
Somalia	-2.9%	1.837	0.050		0.202	0.031
South Africa	3.1%	0.858	0.022	-3.9%	(0.698)	0.031
South Sudan	-1.2%	0.124	0.185		1.337	(0.490)
Sri Lanka	-6.5%	0.192	0.050	-3.1%	(0.379)	0.031
Sudan	0.0%	0.533	0.050		(0.092)	0.031
Suriname		(1.848)	0.050		2.828	0.031
Syrian Arab Republic	8.8%	0.327			0.613	
Tajikistan	-2.9%	1.527	0.050		(2.183)	0.031
Tanzania	2.1%	0.422	0.050	-0.9%	(0.036)	0.031
Thailand	4.2%	0.164	(0.003)	-4.2%	(0.959)	0.031
Timor-Leste			0.011			0.031
Togo	-0.2%	1.958	0.019	-2.6%	(2.328)	(0.088)
Tonga		0.153	(0.123)		0.422	(0.002)

	Early BRI (2014-2017)			Late BRI (2018-2021)		
Country	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)	Public Opinion (%)	Media Sentiment (score)	Elite Support (idealpoint)
Trinidad and Tobago		0.107	0.006		0.855	0.031
Tunisia	3.6%	(1.372)	0.050	-7.8%	(0.233)	0.031
Turkey	-0.6%	0.713	0.086	1.7%	(0.590)	(0.022)
Turkmenistan	0.2%	0.582	0.050	2.8%	(1.278)	0.031
Uganda	2.8%	(0.290)	0.050	-3.0%	1.343	0.031
Ukraine	-0.2%	1.101	0.141	-0.8%	(0.607)	(0.025)
Uruguay	8.8%	0.660	(0.000)	-11.1%	(0.254)	0.094
Uzbekistan	5.2%	1.340	0.022	-7.6%	(1.164)	(0.038)
Vanuatu		1.750	(0.160)		1.448	(0.060)
Venezuela	-0.8%	0.211	0.050	-3.4%	0.849	0.031
Viet Nam	-9.8%	0.355	0.050	4.5%	(0.070)	0.031
West Bank and Gaza Strip	1.7%	0.453		-0.1%	(0.309)	
Yemen	-0.3%	(0.063)	0.050	8.1%	(1.016)	0.031
Zambia	4.0%	0.745	0.050	-7.7%	(0.126)	0.031
Zimbabwe	2.7%	0.158	0.050	-2.1%	(0.157)	0.031

Table A14 presents the soft power cohorts (safe bet, toss-up leaning China, toss-up, and moonshot) to which each LIC/MIC belongs based on its relative change (double delta) scores during the early BRI (2014-2017) period. Table A14 also reports observed and expected development finance commitments from Beijing during the late BRI period (2018-2021) to each LIC/MIC. Expected development finance commitments are based on a hypothetical scenario in which China allocated development finance to each country on a non-strategic basis (i.e., based only on the population size of each country). The differences between expected and observed allocations (in constant 2021 USD millions between 2018 and 2021 and constant 2021 USD millions as a percentage of total ODA and OOF from China between 2018 and 2021) therefore provide an indication of how much China may have prioritized or deprioritized each cohort based on strategic considerations.

Table A.14

Country-by-country breakdown of expected versus observed development finance allocations during late BRI period

	Early BRI (2014-2017) (Observed Soft Power Changes)			Late BRI (2018-2021) (Expected and Observed Allocations)			
Country	Public Opinion	Media Sentiment	Elite Support	Expected ODA/OOF Allocation (USD millions)	Observed ODA/OOF Allocation (USD millions)	Difference (USD millions)	Difference (percent of total Chinese ODA/OOF)
Afghanistan	Toss-up	Toss-up (China)	Toss-up	2,741.7	82.4	2,659.3	0.7%
Albania	Toss-up	Moonshot	Toss-up (China)	203.0	1.6	201.5	0.1%
Algeria	Moonshot	Toss-up (China)	Toss-up	3,076.3	68.9	3,007.3	0.8%
Angola	Toss-up	Moonshot	Toss-up	2,349.4	4,658.9	(2,309.5)	-0.6%
Antigua and Barbuda		Safe Bets	Moonshot	6.6	108.9	(102.3)	0.0%
Argentina	Toss-up (China)	Toss-up (China)	Safe Bets	3,225.5	(85,906.1	(82,680.6)	-22.4%
Armenia	Toss-up (China)	Toss-up (China)	Toss-up (China)	201.0	2.0	199.0	0.1%
Azerbaijan	Toss-up (China)	Toss-up (China)	Toss-up	717.8	492.6	225.2	0.1%
Bahamas		Toss-up	Safe Bets	28.9	0.9	28.0	0.0%
Bangladesh	Toss-up	Toss-up (China)	Toss-up	(11,893.1	(13,488.6	(1,595.4)	-0.4%
Barbados		Toss-up (China)	Toss-up (China)	20.0	1.3	18.8	0.0%
Belarus	Toss-up (China)	Toss-up	Toss-up (China)	671.1	1,837.4	(1,166.3)	-0.3%
Benin	Moonshot	Moonshot	Moonshot	890.6	1,240.0	(349.4)	-0.1%
Bolivia	Safe Bets	Toss-up (China)	Moonshot	846.5	131.1	715.4	0.2%
Bosnia and Herzegovina	Toss-up (China)		Safe Bets	238.4	469.5	(231.1)	-0.1%
Botswana	Toss-up (China)	Moonshot	Safe Bets	180.1	5.0	175.1	0.0%
Brazil	Toss-up (China)	Toss-up	Moonshot	(15,170.0	7,384.9	7,785.1	2.1%
Brunei Darussalam		Moonshot	Toss-up	31.4	1,926.4	(1,895.0)	-0.5%
Bulgaria	Toss-up (China)	Toss-up	Safe Bets	496.7	583.4	(86.7)	0.0%

	Early BRI (2014-2017) (Observed Soft Power Changes)			Late BRI (2018-2021) (Expected and Observed Allocations)			
Country	Public Opinion	Media Sentiment	Elite Support	Expected ODA/OOF Allocation (USD millions)	Observed ODA/OOF Allocation (USD millions)	Difference (USD millions)	Difference (percent of total Chinese ODA/OOF)
Burkina Faso	Moonshot	Toss-up	Toss-up	1,517.4	446.9	1,070.5	0.3%
Burundi	Moonshot	Toss-up (China)	Toss-up	859.7	34.4	825.3	0.2%
Cabo Verde		Moonshot	Moonshot	41.4	2.5	38.9	0.0%
Cambodia	Toss-up	Safe Bets	Toss-up (China)	1,164.7	6,476.1	(5,311.4)	-1.4%
Cameroon	Toss-up	Safe Bets	Safe Bets	1,867.0	504.5	1,362.5	0.4%
Central African Republic	Toss-up (China)	Moonshot	Moonshot	376.9	286.7	90.2	0.0%
Chad	Safe Bets	Moonshot	Moonshot	1,170.7	381.8	788.9	0.2%
Chile	Safe Bets	Toss-up	Safe Bets	1,366.8	5,050.4	(3,683.6)	-1.0%
Colombia	Safe Bets	Moonshot	Safe Bets	3,605.8	954.4	2,651.4	0.7%
Comoros		Moonshot	Moonshot	57.1	125.0	(67.9)	0.0%
Congo	Toss-up	Safe Bets	Toss-up	402.7	106.8	295.9	0.1%
Costa Rica	Safe Bets	Toss-up (China)	Safe Bets	364.3	79.8	284.5	0.1%
Cote d'Ivoire	Moonshot	Toss-up	Safe Bets	1,891.7	3,938.2	(2,046.4)	-0.6%
Cuba		Toss-up (China)	Toss-up	807.2	151.5	655.8	0.2%
North Korea		Toss-up	Moonshot	1,843.5	1,163.9	679.6	0.2%
DRC	Moonshot	Safe Bets	Toss-up	6,531.5	1,005.7	5,525.8	1.5%
Djibouti		Safe Bets	Moonshot	77.3	301.5	(224.2)	-0.1%
Dominica		Moonshot	Safe Bets	5.1	36.3	(31.2)	0.0%
Dominican Republic	Safe Bets	Toss-up	Safe Bets	781.6	55.0	726.5	0.2%
Ecuador	Safe Bets	Toss-up (China)	Toss-up	1,245.5	1,388.4	(142.9)	0.0%
Egypt	Safe Bets	Toss-up (China)	Moonshot	7,609.1	(19,114.8	(11,505.7)	-3.1%
El Salvador	Safe Bets	Moonshot	Safe Bets	449.4	287.3	162.1	0.0%

	Early BRI (2014-2017) (Observed Soft Power Changes)			Late BRI (2018-2021) (Expected and Observed Allocations)			
Country	Public Opinion	Media Sentiment	Elite Support	Expected ODA/OOF Allocation (USD millions)	Observed ODA/OOF Allocation (USD millions)	Difference (USD millions)	Difference (percent of total Chinese ODA/OOF)
Equatorial Guinea		Safe Bets	Safe Bets	112.2	1,257.7	(1,145.4)	-0.3%
Eritrea		Safe Bets	Moonshot	252.2	1,762.9	(1,510.8)	-0.4%
Ethiopia	Moonshot	Safe Bets	Toss-up	8,263.4	3,367.4	4,896.0	1.3%
Fiji		Toss-up (China)	Toss-up (China)	65.8	35.3	30.4	0.0%
Gabon	Toss-up	Safe Bets	Moonshot	161.9	187.2	(25.2)	0.0%
Gambia		Moonshot	Moonshot	181.6	16.4	165.2	0.0%
Georgia	Toss-up		Toss-up (China)	265.7	94.4	171.2	0.0%
Ghana	Toss-up	Moonshot	Moonshot	2,275.2	3,298.0	(1,022.8)	-0.3%
Grenada		Toss-up (China)	Safe Bets	8.8	57.8	(49.0)	0.0%
Guinea	Toss-up	Toss-up (China)	Toss-up	931.6	3,196.5	(2,264.8)	-0.6%
Guinea-Bissau		Safe Bets	Toss-up (China)	142.4	59.3	83.0	0.0%
Guyana		Moonshot	Toss-up	56.9	340.1	(283.2)	-0.1%
Honduras	Safe Bets		Toss-up (China)	717.0	36.0	681.1	0.2%
India	Moonshot	Moonshot	Moonshot	(99,221.0	214.6	99,006.4	26.8%
Indonesia	Toss-up	Toss-up	Toss-up	(19,327.2	7,265.8	12,061.4	3.3%
Iran	Safe Bets	Toss-up (China)	Toss-up (China)	6,203.8	6,689.4	(485.5)	-0.1%
Iraq	Moonshot	Toss-up (China)	Toss-up	3,004.5	5,700.4	(2,695.9)	-0.7%
Israel	Moonshot	Toss-up (China)	Safe Bets	652.1	140.0	512.1	0.1%
Jamaica	Safe Bets	Toss-up	Toss-up (China)	201.3	76.6	124.8	0.0%
Jordan		Toss-up	Toss-up	772.1	32.2	739.9	0.2%
Kazakhstan	Toss-up (China)	Toss-up	Toss-up (China)	1,331.3	5,501.6	(4,170.4)	-1.1%
Kenya	Toss-up	Toss-up	Toss-up (China)	3,676.9	1,310.8	2,366.2	0.6%

	Early BRI (2014-2017) (Observed Soft Power Changes)			Late BRI (2018-2021) (Expected and Observed Allocations)			
Country	Public Opinion	Media Sentiment	Elite Support	Expected ODA/OOF Allocation (USD millions)	Observed ODA/OOF Allocation (USD millions)	Difference (USD millions)	Difference (percent of total Chinese ODA/OOF)
Kiribati			Safe Bets	9.0	161.4	(152.5)	0.0%
Kyrgyz Republic	Toss-up	Moonshot	Moonshot	465.2	230.1	235.1	0.1%
Laos		Toss-up (China)	Moonshot	519.0	5,734.9	(5,216.0)	-1.4%
Lebanon	Moonshot	Safe Bets	Toss-up	410.5	334.1	76.4	0.0%
Lesotho	Safe Bets	Moonshot	Toss-up	160.0	279.7	(119.7)	0.0%
Liberia	Moonshot	Toss-up (China)	Safe Bets	359.9	139.8	220.1	0.1%
Libya	Safe Bets	Toss-up (China)	Toss-up	472.1	10.7	461.4	0.1%
Madagascar	Toss-up	Safe Bets	Toss-up (China)	1,991.5	352.2	1,639.4	0.4%
Malawi	Toss-up	Moonshot	Safe Bets	1,366.2	422.3	943.9	0.3%
Malaysia	Moonshot	Toss-up	Toss-up (China)	2,356.9	(10,235.3	(7,878.4)	-2.1%
Maldives		Safe Bets	Toss-up (China)	36.3	195.5	(159.2)	0.0%
Mali	Toss-up	Safe Bets	Moonshot	1,493.5	203.5	1,290.0	0.3%
Marshall Islands			Safe Bets	3.1	1,379.5	(1,376.3)	-0.4%
Mauritania	Toss-up (China)	Safe Bets	Toss-up	317.3	292.9	24.4	0.0%
Mauritius	Toss-up (China)	Safe Bets	Toss-up (China)	90.4	205.3	(114.9)	0.0%
Mexico	Safe Bets	Toss-up	Toss-up (China)	8,961.3	1,255.2	7,706.1	2.1%
Micronesia		Safe Bets	Safe Bets	8.0	81.0	(73.0)	0.0%
Moldova	Safe Bets	Moonshot	Safe Bets	189.7	2.8	186.9	0.1%
Mongolia	Toss-up (China)	Moonshot	Toss-up (China)	232.8	8,698.4	(8,465.6)	-2.3%
Montenegro	Moonshot		Moonshot	44.4	70.3	(26.0)	0.0%
Morocco	Safe Bets	Moonshot	Toss-up (China)	2,607.2	334.6	2,272.6	0.6%
Mozambique	Safe Bets	Toss-up	Toss-up	2,195.9	416.5	1,779.5	0.5%

	Early BRI (2014-2017) (Observed Soft Power Changes)			Late BRI (2018-2021) (Expected and Observed Allocations)			
Country	Public Opinion	Media Sentiment	Elite Support	Expected ODA/OOF Allocation (USD millions)	Observed ODA/OOF Allocation (USD millions)	Difference (USD millions)	Difference (percent of total Chinese ODA/OOF)
Myanmar	Toss-up (China)	Toss-up	Moonshot	3,802.5	679.9	3,122.6	0.8%
Namibia	Safe Bets	Moonshot	Toss-up (China)	176.3	146.6	29.7	0.0%
Nauru			Toss-up (China)	0.9	0.0	0.9	0.0%
Nepal	Toss-up	Moonshot	Toss-up	2,084.5	550.9	1,533.6	0.4%
Nicaragua	Safe Bets	Toss-up (China)	Toss-up	479.4	32.6	446.8	0.1%
Niger	Moonshot	Toss-up (China)	Moonshot	1,707.4	1,201.0	506.4	0.1%
Nigeria	Toss-up	Toss-up	Toss-up	(14,704.8	6,488.8	8,216.0	2.2%
North Macedonia	Toss-up (China)	Safe Bets		148.1	239.6	(91.6)	0.0%
Oman		Safe Bets	Toss-up	326.2	732.5	(406.3)	-0.1%
Pakistan	Toss-up (China)	Toss-up	Moonshot	(16,101.3	(43,114.6	(27,013.3)	-7.3%
Panama	Safe Bets	Toss-up	Safe Bets	304.4	385.6	(81.2)	0.0%
Papua New Guinea		Moonshot	Safe Bets	688.8	276.6	412.2	0.1%
Paraguay	Toss-up (China)	Safe Bets	Safe Bets	469.6	3.3	466.3	0.1%
Peru	Safe Bets	Safe Bets	Safe Bets	2,358.2	4,566.7	(2,208.5)	-0.6%
Philippines	Toss-up (China)	Toss-up (China)	Toss-up (China)	7,947.2	2,223.9	5,723.3	1.6%
Romania	Toss-up (China)		Moonshot	1,379.2	181.9	1,197.3	0.3%
Russia	Safe Bets	Toss-up	Toss-up (China)	(10,293.5	(18,081.5	(7,788.0)	-2.1%
Rwanda	Toss-up	Moonshot	Moonshot	928.2	480.0	448.2	0.1%
Samoa		Moonshot	Safe Bets	15.3	2.0	13.3	0.0%
Sao Tome and Principe		Safe Bets	Toss-up (China)	15.5	95.8	(80.3)	0.0%
Senegal	Toss-up (China)	Toss-up	Moonshot	1,158.8	1,410.4	(251.6)	-0.1%
Serbia	Safe Bets	Toss-up (China)	Safe Bets	494.0	2,403.6	(1,909.6)	-0.5%

	Early BRI (2014-2017) (Observed Soft Power Changes)			Late BRI (2018-2021) (Expected and Observed Allocations)			
Country	Public Opinion	Media Sentiment	Elite Support	Expected ODA/OOF Allocation (USD millions)	Observed ODA/OOF Allocation (USD millions)	Difference (USD millions)	Difference (percent of total Chinese ODA/OOF)
Seychelles		Safe Bets	Toss-up (China)	7.0	7.3	(0.3)	0.0%
Sierra Leone	Toss-up	Safe Bets	Toss-up (China)	581.5	2,213.5	(1,632.0)	-0.4%
Solomon Islands		Toss-up (China)		48.8	162.0	(113.2)	0.0%
Somalia	Moonshot	Safe Bets	Moonshot	1,160.7	26.9	1,133.8	0.3%
South Africa	Toss-up (China)	Toss-up (China)	Toss-up (China)	4,172.0	7,312.3	(3,140.3)	-0.9%
South Sudan	Moonshot	Toss-up	Moonshot	753.6	1,312.3	(558.8)	-0.2%
Sri Lanka	Moonshot	Toss-up	Toss-up (China)	1,563.4	6,793.4	(5,230.0)	-1.4%
Sudan	Moonshot	Toss-up (China)	Toss-up	3,131.0	101.4	3,029.6	0.8%
Suriname		Moonshot	Toss-up	43.1	947.6	(904.5)	-0.2%
Syrian Arab Republic	Safe Bets	Toss-up		1,456.0	34.5	1,421.5	0.4%
Tajikistan	Moonshot	Safe Bets	Moonshot	674.3	1,479.9	(805.6)	-0.2%
Tanzania	Toss-up	Toss-up	Toss-up (China)	4,344.1	578.3	3,765.8	1.0%
Thailand	Toss-up (China)	Toss-up	Safe Bets	5,098.7	319.2	4,779.6	1.3%
Timor-Leste			Toss-up (China)	92.2	5.5	86.7	0.0%
Togo	Moonshot	Safe Bets	Toss-up (China)	596.1	35.1	560.9	0.2%
Tonga		Toss-up	Safe Bets	7.5	43.4	(35.9)	0.0%
Trinidad and Tobago		Moonshot	Toss-up (China)	108.4	142.4	(34.0)	0.0%
Tunisia	Toss-up (China)	Moonshot	Toss-up	864.5	112.5	751.9	0.2%
Turkey	Moonshot	Toss-up (China)	Moonshot	5,986.1	(17,859.1	(11,873.0)	-3.2%
Turkmenistan	Toss-up	Toss-up (China)	Toss-up	443.2	1.6	441.5	0.1%
Uganda	Toss-up	Moonshot	Toss-up	3,120.2	948.9	2,171.3	0.6%
Ukraine	Moonshot	Safe Bets	Moonshot	3,159.7	598.5	2,561.2	0.7%

	Early BRI (2014-2017) (Observed Soft Power Changes)			Late BRI (2018-2021) (Expected and Observed Allocations)			
Country	Public Opinion	Media Sentiment	Elite Support	Expected ODA/OOF Allocation (USD millions)	Observed ODA/OOF Allocation (USD millions)	Difference (USD millions)	Difference (percent of total Chinese ODA/OOF)
Uruguay	Safe Bets	Toss-up (China)	Safe Bets	244.8	36.4	208.4	0.1%
Uzbekistan	Toss-up (China)	Safe Bets	Toss-up (China)	2,423.1	5,152.0	(2,729.0)	-0.7%
Vanuatu		Safe Bets	Safe Bets	22.0	176.1	(154.1)	0.0%
Venezuela	Moonshot	Toss-up	Moonshot	2,062.4	319.1	1,743.3	0.5%
Viet Nam	Moonshot	Toss-up	Toss-up	6,872.0	3,313.0	3,559.0	1.0%
West Bank and Gaza Strip	Toss-up	Toss-up		339.0	12.4	326.6	0.1%
Yemen	Moonshot	Moonshot	Toss-up	2,278.8	27.3	2,251.4	0.6%
Zambia	Toss-up (China)	Toss-up (China)	Moonshot	1,332.5	3,060.8	(1,728.3)	-0.5%
Zimbabwe	Toss-up	Toss-up	Moonshot	1,108.5	429.5	679.0	0.2%

Section A-13: China's official sector lending portfolio in LICs and MICs: a comparison of AidData, IDS, and CODF

Table A15 presents the aggregate monetary value (in constant 2021 USD) of loan commitments from official sector creditors in China to borrowers in LICs and MICs, as measured by three different sources: the 3.0 version of AidData's GCDF dataset, the World Bank's International Debt Statistics (IDS), and Boston University's China's Overseas Development Finance (CODF) dataset.[393] The country-level summary statistics are organized by level of public liability.[394] IDS and CODF provide data on public and publicly-guaranteed debt (PPG) for several official sector creditors in China. IDS provides coverage for 89 LICs and MICs (excluding China) from 2000 to 2021 and CODF provides coverage for 96 LICs and MICs from 2008 to 2021. The 3.0 version of AidData's GCDF dataset covers PPG and non-PPG debt from 180 official sector creditors in China to 165 LICs and MICs (of which 126 contracted loans from official sector creditors in China) from 2000 to 2021.[395]

AidData measures PPG debt by aggregating lending commitments to government and majority state-owned institutions as well as other institutions that secured central government repayment guarantees or repayment guarantees from state-owned entities other than the central government in the host country (i.e., by using the "Level of Public Liability" variable in the 3.0 version to the GCDF dataset to identify all loan commitments assigned to the "central government debt," "central government-guaranteed debt," and "other public sector debt" categories). In addition to PPG debt, the "Level of Public Liability" variable in the 3.0 version of AidData's GCDF dataset captures "potential public sector debt" (loans to minority state-owned institutions without public sector repayment guarantees), "private debt," and debt that cannot be easily categorized based on the level of public liability (referred to as "unallocable" debt in Table A15). The "Total Debt to China" column in Table A15) represents the sum of all loan commitments from official sector creditors in China to borrowers in LICs and MICs between 2000 and 2021 that qualify as PPG or non-PPG debt.

[393] As of August 2023, the Chinese Loans to Africa (CLA) database captured $203 billion in Chinese lending commitments to government and majority state-owned institutions in Africa from 2000 to 2020 (deflated to constant USD 2021). Over the same time period, the 3.0 version of AidData's GCDF dataset captures $266 billion in Chinese lending commitments to government and majority state-owned institutions as well as other institutions that secured central government repayment guarantees or repayment guarantees from state-owned entities other than the central government in the host country (i.e., "central government debt," "central government-guaranteed debt," and "other public sector debt") in Africa. Additionally, in 2021, AidData records $5.3 billion in Chinese lending commitments to Africa that qualify as "central government debt," "central government-guaranteed debt," and "other public sector debt." AidData also captures Chinese lending commitments to Africa that are excluded from the CLA database by definition: $31 billion to private sector borrowing institutions ("private debt") in Africa and $8.6 billion to special purpose vehicle and joint venture borrowers that are minority-owned by public sector institutions in Africa without repayment guarantees from public sector institutions in host countries ("potential public sector debt") between 2000 and 2021.

[394] Section A-5 in the Appendix provides more details on how AidData uses the "level of public liability" measure to categorize lending to different types of borrowers.

[395] In Table A15, the loan commitment totals from the 3.0 version of AidData's GCDF dataset exclude the short-term "rollover" facilities described in Box 2c and Section A-3.

The AidData, CODF and IDS estimates of PPG and non-PPG debt to China in Table A15 should be interpreted with caution since they do not represent amounts outstanding and as such do not account for disbursements or repayments.[396]

Table A.15

Official sector lending commitments from China to LICs and MICs: Country-by-country comparison of AidData, IDS, and CODF in constant 2021 USD millions

Country	Total PPG Debt to China	Total PPG Debt to China	Total PPG Debt to China	Potential Public Sector Debt to China	Private Sector Debt to China	Unallocable Debt to China	Total Debt to China
Source	AidData	IDS	CODF	AidData	AidData	AidData	AidData
Year Range	2000-2021	2000-2021	2008-2021	2000-2021	2000-2021	2000-2021	2000-2021
Albania	100	NA	NA	0	0	0	100
Algeria	114	2	NA	0	0	0	114
Angola	63,022	38,590	38,715	1,422	9	362	64,816
Antigua and Barbuda	310	NA	221	0	0	9	320
Argentina	32,870	8,581	21,723	38	3,331	1,484	37,724
Armenia	28	28	NA	0	0	0	28
Azerbaijan	288	NA	NA	776	118	0	1,182
Bahamas	132	NA	119	0	3,412	0	3,544
Bangladesh	17,168	11,845	17,301	0	2,584	318	20,070
Barbados	216	NA	191	0	0	0	216
Belarus	10,822	12,633	8,491	124	118	0	11,064
Benin	1,397	1,037	390	24	840	0	2,260
Bolivia	2,382	2,923	3,744	0	6	0	2,388

[396] AidData recently launched a new data collection initiative to track disbursements, repayments, and amounts outstanding on a loan-by-loan basis. In the 3.0 version of the GCDF dataset, we have documented disbursements, repayments, and amounts outstanding in the "description" field for a subset of countries. However, in the future, we intend to publish loan-level data on disbursements, repayments, and amounts outstanding in a user-friendly format for a more complete set of countries.

Country	Total PPG Debt to China	Total PPG Debt to China	Total PPG Debt to China	Potential Public Sector Debt to China	Private Sector Debt to China	Unallocable Debt to China	Total Debt to China
Source	AidData	IDS	CODF	AidData	AidData	AidData	AidData
Year Range	2000-2021	2000-2021	2008-2021	2000-2021	2000-2021	2000-2021	2000-2021
Bosnia and Herzegovina	1,359	NA	1,016	0	773	0	2,132
Botswana	1,660	194	NA	0	0	0	1,660
Brazil	39,240	23,824	36,180	0	13,597	1,505	54,341
Brunei	0	NA	NA	2,102	24	0	2,126
Bulgaria	911	50	268	0	102	357	1,371
Burkina Faso	242	178	89	0	0	0	242
Burundi	48	198	NA	38	0	24	109
Cabo Verde	198	63	NA	0	0	0	198
Cambodia	6,173	6,776	4,306	1,278	8,792	51	16,293
Cameroon	7,444	6,899	6,454	44	943	3	8,433
Central African Republic	266	93	NA	0	200	0	466
Chad	1,073	603	771	86	0	56	1,214
Chile	312	NA	NA	719	5,173	245	6,449
Colombia	296	NA	NA	76	1,169	56	1,597
Comoros	138	138	134	0	0	0	138
Congo (Republic)	7,149	2,892	4,502	0	59	50	7,258
Cook Islands	38	NA	NA	0	0	0	38
Costa Rica	753	265	504	0	0	0	753
Cote d'Ivoire	7,014	5,404	3,888	0	0	0	7,014
Cuba	4,086	NA	427	0	84	0	4,171
North Korea	76	NA	NA	0	0	0	76

Country	Total PPG Debt to China	Total PPG Debt to China	Total PPG Debt to China	Potential Public Sector Debt to China	Private Sector Debt to China	Unallocable Debt to China	Total Debt to China
Source	AidData	IDS	CODF	AidData	AidData	AidData	AidData
Year Range	2000-2021	2000-2021	2008-2021	2000-2021	2000-2021	2000-2021	2000-2021
Congo (DRC)	4,053	8,130	2,356	1,217	7,227	641	13,137
Djibouti	2,171	1,598	1,423	0	0	0	2,171
Dominica	76	58	60	0	0	0	76
Dominican Republic	0	NA	654	0	0	139	139
Ecuador	25,672	15,451	22,471	0	123	458	26,254
Egypt	14,360	6,503	8,593	0	489	137	14,986
El Salvador	0	NA	NA	0	53	79	132
Equatorial Guinea	9,009	NA	2,581	0	0	0	9,009
Eritrea	1,053	270	626	121	0	1,712	2,886
Ethiopia	17,440	12,154	9,728	0	2,887	91	20,419
Fiji	444	390	664	0	0	0	444
Gabon	2,868	2,123	1,587	12	0	0	2,880
Gambia	30	30	27	0	0	0	30
Georgia	9	9	NA	0	127	330	466
Ghana	7,854	7,911	3,084	543	1,412	2	9,812
Grenada	84	79	76	0	0	0	84
Guinea	3,016	2,181	2,263	0	927	824	4,768
Guinea-Bissau	27	NA	NA	0	0	0	27
Guyana	408	493	342	0	210	82	700
Honduras	336	NA	NA	0	114	0	450
Hungary	NA	NA	2,122	NA	NA	NA	NA

Country	Total PPG Debt to China	Total PPG Debt to China	Total PPG Debt to China	Potential Public Sector Debt to China	Private Sector Debt to China	Unallocable Debt to China	Total Debt to China
Source	AidData	IDS	CODF	AidData	AidData	AidData	AidData
Year Range	2000-2021	2000-2021	2008-2021	2000-2021	2000-2021	2000-2021	2000-2021
India	968	NA	NA	0	9,672	14	10,654
Indonesia	22,620	4,503	17,267	3,250	27,213	1,917	54,999
Iran	24,825	2,310	33,399	0	430	2,696	27,951
Iraq	6,782	NA	NA	0	637	393	7,812
Israel	0	NA	NA	0	2,787	2,866	5,653
Jamaica	1,704	1,709	2,438	0	517	201	2,422
Jordan	36	72	NA	0	1,948	0	1,984
Kazakhstan	27,113	4,856	22,126	27,508	3,741	5,818	64,180
Kenya	11,793	11,472	10,568	0	860	0	12,653
Kiribati	0	NA	NA	115	0	0	115
Kyrgyzstan	2,698	2,546	2,717	0	689	0	3,386
Laos	10,440	9,253	10,870	6,526	2,586	1,024	20,577
Lebanon	317	NA	NA	0	0	0	317
Lesotho	317	295	278	0	0	0	317
Liberia	62	72	58	0	0	564	626
Libya	451	NA	NA	0	0	0	451
Madagascar	557	564	461	0	15	0	572
Malawi	641	464	318	0	49	0	689
Malaysia	12,584	NA	5,277	0	2,563	789	15,936
Maldives	1,916	1,253	1,106	0	0	0	1,916
Mali	1,257	1,207	687	0	0	0	1,257

Country	Total PPG Debt to China	Total PPG Debt to China	Total PPG Debt to China	Potential Public Sector Debt to China	Private Sector Debt to China	Unallocable Debt to China	Total Debt to China
Source	AidData	IDS	CODF	AidData	AidData	AidData	AidData
Year Range	2000-2021	2000-2021	2008-2021	2000-2021	2000-2021	2000-2021	2000-2021
Marshall Islands	144	NA	NA	0	4,989	0	5,133
Mauritania	963	1,223	817	0	165	0	1,129
Mauritius	887	833	585	0	283	71	1,241
Mexico	832	NA	1,128	0	2,759	474	4,064
Micronesia	4	NA	NA	0	0	0	4
Moldova	16	NA	NA	0	0	0	16
Mongolia	5,478	1,806	2,241	0	329	751	6,558
Montenegro	1,163	1,166	1,163	0	45	24	1,233
Morocco	1,586	1,502	1,422	0	518	0	2,104
Mozambique	3,177	3,758	2,581	1,962	381	93	5,613
Myanmar	10,640	3,469	5,760	243	2,180	638	13,701
Namibia	2,020	NA	139	0	0	155	2,175
Nepal	498	418	438	0	346	0	844
Nicaragua	0	NA	NA	0	20	0	20
Niger	1,719	1,746	387	1,397	250	0	3,366
Nigeria	12,472	8,767	7,715	836	1,144	75	14,528
North Macedonia	1,319	896	884	0	0	27	1,346
Oman	6,944	NA	3,687	186	0	0	7,130
Pakistan	67,221	45,999	26,001	0	910	787	68,918
Panama	105	NA	NA	0	534	0	640
Papua New Guinea	1,650	1,553	1,581	2,989	1,986	300	6,924

Country	Total PPG Debt to China	Total PPG Debt to China	Total PPG Debt to China	Potential Public Sector Debt to China	Private Sector Debt to China	Unallocable Debt to China	Total Debt to China
Source	AidData	IDS	CODF	AidData	AidData	AidData	AidData
Year Range	2000-2021	2000-2021	2008-2021	2000-2021	2000-2021	2000-2021	2000-2021
Paraguay	56	NA	NA	0	20	0	76
Peru	421	NA	75	0	14,177	2,293	16,890
Philippines	2,504	3,180	1,247	1,181	4,090	0	7,774
Romania	292	NA	NA	0	285	146	722
Russia	129,191	NA	75,822	0	37,184	2,883	169,258
Rwanda	719	652	647	0	26	0	745
Samoa	288	272	233	0	0	0	288
Senegal	3,610	2,938	2,071	0	0	49	3,660
Serbia	4,776	4,406	2,704	0	68	869	5,712
Seychelles	2	NA	NA	0	0	0	2
Sierra Leone	878	113	34	195	2,051	1,409	4,533
South Africa	11,678	4,812	5,133	0	9,088	561	21,326
South Sudan	5,283	NA	446	0	0	0	5,283
Sri Lanka	17,356	13,097	14,420	430	1,118	567	19,472
Sudan	18,001	5,926	2,150	0	0	0	18,001
Suriname	1,514	NA	967	0	0	0	1,514
Syria	150	77	55	0	49	2,228	2,427
Tajikistan	3,595	2,413	1,165	683	599	231	5,108
Tanzania	2,859	3,017	2,422	0	0	0	2,859
Thailand	3,267	NA	NA	0	1,557	241	5,065
Timor-Leste	0	NA	56	0	0	0	0

Country	Total PPG Debt to China	Total PPG Debt to China	Total PPG Debt to China	Potential Public Sector Debt to China	Private Sector Debt to China	Unallocable Debt to China	Total Debt to China
Source	AidData	IDS	CODF	AidData	AidData	AidData	AidData
Year Range	2000-2021	2000-2021	2008-2021	2000-2021	2000-2021	2000-2021	2000-2021
Togo	1,128	890	655	0	57	0	1,185
Tonga	193	176	126	0	0	0	193
Trinidad and Tobago	646	NA	761	0	0	0	646
Tunisia	314	189	120	0	0	0	314
Türkiye	17,664	3,093	1,389	789	9,834	45	28,331
Turkmenistan	12,217	11,727	9,257	0	0	0	12,217
Uganda	4,169	4,137	3,933	0	0	269	4,438
Ukraine	3,007	1,761	2,571	0	230	101	3,339
Uruguay	130	NA	NA	0	109	23	262
Uzbekistan	10,232	3,920	9,136	7,209	367	205	18,013
Vanuatu	323	270	260	0	0	0	323
Venezuela	112,782	NA	71,341	0	0	0	112,782
Vietnam	18,595	5,365	11,613	2,362	7,738	102	28,797
Yemen	357	448	NA	0	0	0	357
Zambia	12,317	7,141	7,377	696	310	147	13,469
Zimbabwe	3,899	3,873	2,869	10	637	444	4,990
Regional	57	NA	2,048	0	1,322	8,449	9,828
Total	1,109,793	378,195	605,294	67,184	216,362	49,954	1,280,125

Section A-14: Comparison of AidData and IDS estimates of PPG and non-PPG debt exposure to China

Table A16 compares total loan commitments (in constant 2021 USD millions and as a percentage of GDP) from official sector creditors in China to borrowers in LICs and MICs from 2000-2021, as captured by the 3.0

version of AidData's GCDF dataset and the World Bank's IDS.[397] The country-level summary statistics are organized by level of public liability.[398]

89 LICs and MICs (excluding China) voluntarily report on public and publicly-guaranteed debt (PPG) to the World Bank through its Debtor Reporting System (DRS). The World Bank's definition of PPG debt includes (a) long-term external obligations of public debtors, including the national government, a political subdivision (or an agency of either), and autonomous public bodies; and (b) long-term external obligations of private debtors that are guaranteed for repayment by a public entity (World Bank 2000). "Public debtors" include entities in which the host government holds at least fifty percent ownership.

To maximize comparability with IDS, the 3.0 version of AidData's GCDF dataset classifies all loans according to their levels of public liability. AidData measures PPG debt by aggregating lending commitments to government and majority state-owned institutions as well as other institutions that secured central government repayment guarantees or repayment guarantees from state-owned entities other than the central government in the host country (i.e., by using the "Level of Public Liability" variable in the 3.0 version of the GCDF dataset to identify all loan commitments assigned to the "central government debt," "central government-guaranteed debt," and "other public sector debt" categories).

While similar to Table A27 in Malik et al. (2021), Table A16 in this report represents an updated methodological approach. Malik et al. (2021) defines "sovereign debt" as central government and central-government guaranteed debt, and it defines "hidden debt" as debt incurred by state-owned entities (including SPVs) with *any* level of host government ownership. In Table A16, we align more closely with the DRS definition of PPG debt by separately recording loans to majority state-owned entities (including SPVs)—with and without repayment guarantees from public sector institutions other than the central government—as well as private sector lending that is guaranteed by majority state-owned entities in a new ("other public sector debt") category. We classify loans to minority state-owned institutions without public sector repayment guarantees as "potential public sector debt" since such loans may benefit from implicit forms of host government liability protection (Malik et al. 2021; Malik and Parks 2021).

The AidData and IDS *estimates* of PPG and non-PPG debt exposure to China that are reported in Table A16 should be interpreted with caution as they are based on cumulative loan commitments over a 22-year period. They do not represent amounts outstanding and as such do not account for disbursements or repayments.[399]

[397] In Table A16, cumulative loan commitments from the 3.0 version of AidData's GCDF dataset exclude the short-term "rollover" facilities described in Box 2c and Section A-3.
[398] Section A-5 in the Appendix provides more details on how AidData uses the "level of public liability" measure to categorize lending to different types of borrowers.
[399] AidData recently launched a new data collection initiative to track disbursements, repayments, and amounts outstanding on a loan-by-loan basis. In the 3.0 version of the GCDF dataset, we have documented disbursements, repayments, and amounts outstanding in the "description" field for a subset of countries. However, in the future, we intend to publish loan-level data on disbursements, repayments, and amounts outstanding in a user-friendly format for a more complete set of countries.

Table A.16

Country-by-country comparison of AidData and IDS estimates of PPG and non-PPG debt exposure to China in constant 2021 USD millions

Country	Reports to DRS	(1) PPG debt exposure to China (AidData)	(2) PPG debt exposure to China (DRS)	(3) PPG and potential public debt exposure to China (AidData)	Difference between AidData (3) and DRS (2)	(1b) PPG debt to China as a % of GDP (AidData)	(2b) PPG debt to China as a % of GDP (DRS)	(3b) PPG and potential public debt to China as % of GDP (AidData)	Difference between AidData (3b) and DRS (2b)
Afghanistan	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Albania	N	100	NA	100	100	0.5%	NA	0.5%	0.5%
Algeria	Y	114	2	114	112	0.1%	0.0%	0.1%	0.1%
American Samoa	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Angola	Y	63,022	38,590	64,444	25,854	89.4%	54.7%	91.4%	36.7%
Antigua and Barbuda	N	310	NA	310	310	21.8%	NA	21.8%	21.8%
Argentina	Y	32,870	8,581	32,909	24,328	6.7%	1.8%	6.8%	5.0%
Armenia	Y	28	28	28	(0)	0.2%	0.2%	0.2%	0.0%
Aruba	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Azerbaijan	N	288	NA	1,064	1,064	0.5%	NA	1.9%	1.9%
Bahamas	N	132	NA	132	132	1.2%	NA	1.2%	1.2%
Bangladesh	Y	17,168	11,845	17,168	5,323	4.1%	2.9%	4.1%	1.3%
Barbados	N	216	NA	216	216	4.5%	NA	4.5%	4.5%
Belarus	Y	10,822	12,633	10,946	(1,687)	15.9%	18.5%	16.0%	-2.5%
Belize	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Benin	Y	1,397	1,037	1,420	383	7.9%	5.9%	8.0%	2.2%
Bhutan	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Bolivia	Y	2,382	2,923	2,382	(541)	5.9%	7.2%	5.9%	-1.3%
Bosnia and Herzegovina	N	1,359	NA	1,359	1,359	5.8%	NA	5.8%	5.8%
Botswana	Y	1,660	194	1,660	1,466	9.4%	1.1%	9.4%	8.3%
Brazil	Y	39,240	23,824	39,240	15,416	2.4%	1.5%	2.4%	1.0%
British Virgin Islands	N	0	NA	0	0	0.0%	NA	0.0%	0.0%

Brunei	N	0	NA	2,102	2,102	0.0%	NA	15.0%	15.0%
Bulgaria	Y	911	50	911	861	1.1%	0.1%	1.1%	1.0%
Burkina Faso	Y	242	178	242	65	1.2%	0.9%	1.2%	0.3%
Burundi	Y	48	198	85	(113)	1.2%	5.1%	2.2%	-2.9%
Cabo Verde	Y	198	63	198	135	10.2%	3.2%	10.2%	7.0%
Cambodia	Y	6,173	6,776	7,451	675	23.1%	25.4%	27.9%	2.5%
Cameroon	Y	7,444	6,899	7,488	589	16.4%	15.2%	16.5%	1.3%
Cayman Islands	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Central African Republic	Y	266	93	266	173	10.6%	3.7%	10.6%	6.9%
Chad	Y	1,073	603	1,159	555	6.5%	3.7%	7.1%	3.4%
Chile	N	312	NA	1,031	1,031	0.1%	NA	0.3%	0.3%
Colombia	N	296	NA	372	372	0.1%	NA	0.1%	0.1%
Comoros	Y	138	138	138	(0)	10.3%	10.3%	10.3%	0.0%
Congo (DRC)	Y	4,053	8,130	5,270	(2,860)	7.7%	15.4%	10.0%	-5.4%
Congo (Republic)	Y	7,149	2,892	7,149	4,258	55.7%	22.5%	55.7%	33.2%
Cook Islands	N	38	NA	38	38	11.7%	NA	11.7%	11.7%
Costa Rica	Y	753	265	753	489	1.2%	0.4%	1.2%	0.8%
Cote d'Ivoire	Y	7,014	5,404	7,014	1,610	10.1%	7.7%	10.1%	2.3%
Cuba	N	4,086	NA	4,086	4,086	3.2%	NA	3.2%	3.2%
Curaçao	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Djibouti	Y	2,171	1,598	2,171	573	58.6%	43.2%	58.6%	15.5%
Dominica	Y	76	58	76	18	13.8%	10.5%	13.8%	3.3%
Dominican Republic	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Ecuador	Y	25,672	15,451	25,672	10,221	24.2%	14.6%	24.2%	9.6%
Egypt	Y	14,360	6,503	14,360	7,857	3.4%	1.5%	3.4%	1.8%
El Salvador	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Equatorial Guinea	N	9,009	NA	9,009	9,009	72.5%	NA	72.5%	72.5%
Eritrea	Y	1,053	270	1,174	904	46.7%	12.0%	52.1%	40.1%
Eswatini	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Ethiopia	Y	17,440	12,154	17,440	5,286	17.6%	12.2%	17.6%	5.3%
Fiji	Y	444	390	444	54	10.3%	9.1%	10.3%	1.3%
French Polynesia	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Gabon	Y	2,868	2,123	2,880	757	15.5%	11.5%	15.6%	4.1%

Gambia	Y	30	30	30	(0)	1.5%	1.5%	1.5%	0.0%
Georgia	Y	9	9	9	(0)	0.0%	0.0%	0.0%	0.0%
Ghana	Y	7,854	7,911	8,397	487	9.9%	10.0%	10.6%	0.6%
Grenada	Y	84	79	84	6	7.6%	7.0%	7.6%	0.5%
Guam	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Guatemala	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Guinea	Y	3,016	2,181	3,016	836	18.8%	13.6%	18.8%	5.2%
Guinea-Bissau	N	27	NA	27	27	1.7%	NA	1.7%	1.7%
Guyana	Y	408	493	408	(85)	5.1%	6.1%	5.1%	-1.1%
Haiti	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Honduras	N	336	NA	336	336	1.2%	NA	1.2%	1.2%
India	N	968	NA	968	968	0.0%	NA	0.0%	0.0%
Indonesia	Y	22,620	4,503	25,869	21,366	1.9%	0.4%	2.2%	1.8%
Iran	Y	24,825	2,310	24,825	22,515	4.2%	0.4%	4.2%	3.8%
Iraq	N	6,782	NA	6,782	6,782	3.3%	NA	3.3%	3.3%
Israel	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Jamaica	Y	1,704	1,709	1,704	(5)	11.6%	11.7%	11.6%	0.0%
Jordan	Y	36	72	36	(36)	0.1%	0.2%	0.1%	-0.1%
Kazakhstan	Y	27,113	4,856	54,621	49,765	14.0%	2.5%	28.3%	25.8%
Kenya	Y	11,793	11,472	11,793	321	10.7%	10.4%	10.7%	0.3%
Kiribati	N	0	NA	115	115	0.0%	NA	50.4%	50.4%
Kosovo	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Kyrgyzstan	Y	2,698	2,546	2,698	152	30.9%	29.1%	30.9%	1.7%
Laos	Y	10,440	9,253	16,966	7,713	54.7%	48.5%	88.9%	40.4%
Lebanon	N	317	NA	317	317	0.8%	NA	0.8%	0.8%
Lesotho	Y	317	295	317	22	13.4%	12.4%	13.4%	0.9%
Liberia	Y	62	72	62	(10)	2.5%	3.0%	2.5%	-0.4%
Libya	N	451	NA	451	451	1.2%	NA	1.2%	1.2%
Madagascar	Y	557	564	557	(7)	3.9%	3.9%	3.9%	0.0%
Malawi	Y	641	464	641	177	5.3%	3.8%	5.3%	1.4%
Malaysia	N	12,584	NA	12,584	12,584	3.4%	NA	3.4%	3.4%
Maldives	Y	1,916	1,253	1,916	663	35.5%	23.2%	35.5%	12.3%
Mali	Y	1,257	1,207	1,257	49	6.6%	6.3%	6.6%	0.3%

Marshall Islands	N	144	NA	144	144	56.0%	NA	56.0%	56.0%
Mauritania	Y	963	1,223	963	(260)	9.6%	12.2%	9.6%	-2.6%
Mauritius	Y	887	833	887	54	7.7%	7.2%	7.7%	0.5%
Mexico	N	832	NA	832	832	0.1%	NA	0.1%	0.1%
Micronesia	N	4	NA	4	4	0.3%	NA	0.3%	0.3%
Moldova	N	16	NA	16	16	0.1%	NA	0.1%	0.1%
Mongolia	Y	5,478	1,806	5,478	3,672	36.3%	12.0%	36.3%	24.3%
Montenegro	Y	1,163	1,166	1,163	(2)	20.0%	20.1%	20.0%	0.0%
Morocco	Y	1,586	1,502	1,586	84	1.1%	1.1%	1.1%	0.1%
Mozambique	Y	3,177	3,758	5,139	1,382	20.1%	23.8%	32.6%	8.8%
Myanmar	Y	10,640	3,469	10,883	7,414	18.2%	5.9%	18.6%	12.7%
N. Mariana Islands	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Namibia	N	2,020	NA	2,020	2,020	16.5%	NA	16.5%	16.5%
Nauru	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Nepal	Y	498	418	498	80	1.4%	1.2%	1.4%	0.2%
New Caledonia	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Nicaragua	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Niger	Y	1,719	1,746	3,116	1,370	11.5%	11.7%	20.9%	9.2%
Nigeria	Y	12,472	8,767	13,308	4,541	2.9%	2.0%	3.1%	1.1%
Niue	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
North Korea	N	76	NA	76	76	0.5%	NA	0.5%	0.5%
North Macedonia	Y	1,319	896	1,319	423	9.5%	6.5%	9.5%	3.0%
Oman	N	6,944	NA	7,130	7,130	7.9%	NA	8.1%	8.1%
Pakistan	Y	67,221	45,999	67,221	21,222	19.6%	13.4%	19.6%	6.2%
Palau	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Panama	N	105	NA	105	105	0.2%	NA	0.2%	0.2%
Papua New Guinea	Y	1,650	1,553	4,639	3,086	6.2%	5.8%	17.4%	11.6%
Paraguay	N	56	NA	56	56	0.1%	NA	0.1%	0.1%
Peru	N	421	NA	421	421	0.2%	NA	0.2%	0.2%
Philippines	Y	2,504	3,180	3,685	505	0.6%	0.8%	0.9%	0.1%
Puerto Rico	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Romania	N	292	NA	292	292	0.1%	NA	0.1%	0.1%
Russia	N	129,191	NA	129,191	129,191	7.3%	NA	7.3%	7.3%

Rwanda	Y	719	652	719	67	6.5%	5.9%	6.5%	0.6%
Saint-Martin	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Samoa	Y	288	272	288	16	33.6%	31.7%	33.6%	1.9%
Sao Tome and Principe	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Senegal	Y	3,610	2,938	3,610	672	13.1%	10.6%	13.1%	2.4%
Serbia	Y	4,776	4,406	4,776	370	7.6%	7.0%	7.6%	0.6%
Seychelles	N	2	NA	2	2	0.2%	NA	0.2%	0.2%
Sierra Leone	Y	878	113	1,073	960	20.7%	2.7%	25.3%	22.6%
Sint Maarten	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Solomon Islands	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Somalia	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
South Africa	Y	11,678	4,812	11,678	6,866	2.8%	1.1%	2.8%	1.6%
South Sudan	N	5,283	NA	5,283	5,283	122.8%	NA	122.8%	122.8%
Sri Lanka	Y	17,356	13,097	17,787	4,690	20.3%	15.4%	20.8%	5.5%
St. Kitts and Nevis	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
St. Lucia	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
St. Vicent	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Sudan	Y	18,001	5,926	18,001	12,074	50.2%	16.5%	50.2%	33.7%
Suriname	N	1,514	NA	1,514	1,514	47.0%	NA	47.0%	47.0%
Syria	Y	150	77	150	74	0.8%	0.4%	0.8%	0.4%
Tajikistan	Y	3,595	2,413	4,278	1,865	41.1%	27.6%	48.9%	21.3%
Tanzania	Y	2,859	3,017	2,859	(157)	4.1%	4.3%	4.1%	-0.2%
Thailand	N	3,267	NA	3,267	3,267	0.6%	NA	0.6%	0.6%
Timor-Leste	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Togo	Y	1,128	890	1,128	238	13.8%	10.9%	13.8%	2.9%
Tonga	Y	193	176	193	18	41.0%	37.2%	41.0%	3.8%
Trinidad and Tobago	N	646	NA	646	646	2.6%	NA	2.6%	2.6%
Tunisia	Y	314	189	314	125	0.7%	0.4%	0.7%	0.3%
Türkiye	Y	17,664	3,093	18,453	15,360	2.2%	0.4%	2.3%	1.9%
Turkmenistan	Y	12,217	11,727	12,217	490	22.6%	21.7%	22.6%	0.9%
Turks and Caicos	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Tuvalu	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
U.S. Virgin Islands	N	0	NA	0	0	0.0%	NA	0.0%	0.0%

Uganda	Y	4,169	4,137	4,169	32	9.8%	9.7%	9.8%	0.1%
Ukraine	Y	3,007	1,761	3,007	1,246	1.5%	0.9%	1.5%	0.6%
Uruguay	N	130	NA	130	130	0.2%	NA	0.2%	0.2%
Uzbekistan	Y	10,232	3,920	17,441	13,521	14.8%	5.7%	25.2%	19.5%
Vanuatu	Y	323	270	323	53	32.9%	27.5%	32.9%	5.5%
Venezuela	N	112,782	NA	112,782	112,782	100.9%	NA	100.9%	100.9%
Vietnam	Y	18,595	5,365	20,956	15,591	5.1%	1.5%	5.7%	4.3%
West Bank and Gaza Strip	N	0	NA	0	0	0.0%	NA	0.0%	0.0%
Yemen	Y	357	448	357	(92)	3.6%	4.5%	3.6%	-0.9%
Zambia	Y	12,317	7,141	13,013	5,872	57.8%	33.5%	61.1%	27.6%
Zimbabwe	Y	3,899	3,873	3,909	36	16.2%	16.1%	16.2%	0.1%

Notes: For details on AidData's "level of public liability" measure, see Section A-5. Columns 1b, 2b, and 3b present cumulative 2000-2021 loan commitments from China (over the 2000-2021 period) as a percentage of recipient country GDP. GDP data are drawn from UNstats.un.org and measured in nominal 2021 USD.