



China's overseas development finance: review of flows and definitions, and potential support for SDG attainment in partner countries



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Executive Summary

The world is entering a new era of development finance—new goals, new donors and new financial instruments have emerged to augment the scope and magnitude of financing required to support the delivery of the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). Within this changing landscape, China has emerged as an important major financier for global development. In the last two decades, China has become the seventh largest source of official development assistance (ODA), known as “foreign assistance” or “foreign aid” in China, providing US \$6.8 billion in 2019.¹ The bulk of China’s official development finance (ODF), however, estimated at \$354 billion between 2000 and 2014, entails resource flows other than ODA, including non-concessional loans provided by two policy banks, the China Development Bank (CDB) and the Export-Import Bank of China (CHEXIM).²

Given its sheer volume, China’s ODF has great potential in supporting the world’s aspiration to achieve the SDGs. Thus, it is crucial to gain a better understanding of its scale, composition and characteristics, as well as its policy implications.

This report aims to provide a better understanding of China’s development finance and discusses how it could contribute to further enhance global SDG attainment. In mapping Chinese ODF, the lack of timely and detailed data and information is a key challenge and has at times led to speculations and criticism about China’s ODF.

Given various interpretations of development finance, the report first compares the different definitions and measurements used by the Organisation for Economic Co-operation and Development (OECD) and China.

The OECD classifies flows for development in different categories, ranging from ODA and other official flows (OOF) to the new and broader statistical concept of total official support for sustainable development (TOSSD). The last includes both concessional and non-concessional support from multilateral and bilateral finance providers, including South-South and triangular cooperation, recognizing that new actors and new financial instruments are reshaping the development finance landscape.

China’s foreign assistance, although with some differences, mostly matches the OECD’s ODA definition and covers three major financial flows: grants, interest-free loans and other concessional loans. On the other hand, loans and financial services provided by China’s two policy banks, the CDB and CHEXIM, are mostly categorized as OOF. Only some concessional loans provided by CHEXIM that meet the OECD’s concessionality requirements can be categorized as ODA. The combination of Chinese foreign assistance, or ODA-like flows, and CDB and CHEXIM finance, or OOF-like flows, is defined as China’s ODF.

The report is divided in two parts. The first part presents China’s ODF with separate discussions on ODA and OOF. It shows that China’s foreign assistance displays a similar geographic distribution pattern to that of so-called traditional donors. Some notable characteristics of China’s ODF by region are: Africa is the largest recipient, with a fairly even distribution between ODA and OOF based on the last 10 years of available data. Asia is the largest destination of export credit, while in Latin America and the Caribbean, OOF dominates, and flows are concentrated in a few countries: Argentina, Brazil, Ecuador and Venezuela, which together received 83 percent of China’s total OOF to the region. The main analysis in the mapping section relies on datasets by AidData, which is the most comprehensive global resource in tracking China’s ODF. However, AidData, it only covers flows from 2000 to 2014, thus our results may not necessarily reflect the latest pattern of China’s ODF and limitations of the data should be kept in mind.

The second part of the report mainly focuses on OOF through the overseas activities of China’s two policy banks, as their rising financing flows have received much attention worldwide. The role of Chinese commercial banks in overseas development-oriented projects is also discussed, but not as a core subject. The key characteristics and concerns regarding Chinese OOF are:

1. Lending terms and practices: The CDB and CHEXIM have an advantage in providing medium- to long-term, large-volume loans compared to commercial banks in China. The average maturity of their loans, however, is generally slightly shorter than that of World Bank loans.³ As for the interest rates, the CDB and CHEXIM are not necessarily able to provide loans at interest rates lower than other international financial institutions, reflecting China's domestic cost of capital and the low interest rates in the international capital market in recent years. Finally, in terms of the country risk distribution, the CDB and CHEXIM record a smaller number of larger projects in higher-risk economies compared to the World Bank.⁴

2. Driving forces of China's development finance: The CDB and CHEXIM's financing decisions tend to be economically driven: government organs with non-economic mandates can influence the banks' lending decisions only to a limited degree.⁵ That said, some also reckon that China's finance and its development projects are part of long-term relationship-building with partner countries, and strategic considerations may be a factor in financing decisions, although not necessarily with a greater weight than in other countries. In addition, China does not deny its intention to promote trade and the overseas investments of Chinese companies through ODF as this is part of the 'win-win' solution championed under South-South cooperation. However, the practice of bundling the use of Chinese labour and equipment with its official finance can potentially crowd out local employment and limit development in recipient countries. On the other hand, China's firms play a positive role in generating employment opportunities, and the workforce localization rate of Chinese firms is not substantially different from that of other foreign firms.⁶

3. Debt sustainability: Many studies show that except for a few cases where Chinese loans are currently the biggest contributor to sovereign debt, in most low-income countries with high risks of debt, China is not the single largest creditor and has not been the main cause of debt increases.⁷ Given the sheer scale of China's lending and because avoiding debt servicing difficulties is a joint responsibility of borrowers and lenders (and in their joint interest), many scholars suggest that China should adopt stronger institutional mechanisms to manage debt sustainability risks, as they affect recipient countries and China itself. A key step in this direction was the Ministry of Finance's Debt Sustainability Framework for Participating Countries of the BRI, issued in 2019 which is based on the World Bank-IMF Debt Sustainability Framework for Low Income Countries.

4. Social and environmental impact: Chinese development finance institutions (DFIs) practice a "national recognition + capability deference" approach, which means they conform to standards of partner countries, or China's when the former is not available. Cases of relatively weak environmental and social standards in partner countries have highlighted the limitations of the Chinese approach and call for strengthening social and environmental safeguards to ensure the economic, social and environmental sustainability of projects. At the domestic level, the Chinese Government has been formulating increasingly stringent environmental regulations. DFIs have made significant progress in their domestic operations, but are lagging somewhat behind in their overseas activities.

5. Reasons for engaging with China: While the reasons behind engaging with China for financing are mixed and context specific, some common factors have been identified as contributing to demand for it. China's development finance usually has fewer strings attached to the terms of borrowing, less burdensome administrative procedures and a higher degree of flexibility to accommodate the partner country's governance system.⁸ China's finance has also expanded the spectrum of finance options, including development finance from commercial banks, thus adding to partner countries' choices, and to their bargaining power with traditional donors and lenders.

6. SDG contribution areas: China's development finance has shown a focus on infrastructure, namely, SDG 9, on industry, innovation and infrastructure. Other key areas are affordable energy access, water and sanitation (SDGs 6 and 7), and decent work and economic growth (SDG 8). To further leverage the potential to support sustainable development in partner countries, the key going forward is to strengthen governance mechanisms, and carefully manage risks related to financial, social and environmental sustainability.

In light of the characteristics of China's and other donors' development finance, and the aim to strengthen not only

China's, but global the world's, development finance for SDG attainment, the report concludes with suggestions for policymakers. It provides a (non-exhaustive) menu of options to scale up development finance at the global level, given the great financial needs posed by development challenges, as well as to effectively promote sustainable development in partner countries.

In general, China's experience has many positive aspects, including innovative financing instruments and cooperation models. These however don't necessarily get communicated and there is an opportunity to share information more systematically with the international community to enhance cooperation and build mutual trust. In addition, some areas of China's development cooperation and financing would benefit from further strengthening. In particular:

- Timely disclosure of detailed and policy-relevant development finance data and information would foster mutual trust with other development partners and providers and strengthen monitoring and assessment of development projects and evidence-based decision-making. It would also address concerns around the lack of transparency in the lending and procurement practices of Chinese DFIs.

- More emphasis on and efforts to improve the environmental and social outcomes of development projects could be made to guarantee that advancement on one or more SDGs does not come at the expense of others. In addition to strengthening social and environmental safeguards policies, human resources and technical capacities to ensure effective implementation are also needed.

- Strengthened cooperation between Chinese and international DFIs in recipient countries or at the regional level could effectively leverage each one's comparative advantages, promoting sustainable development in countries and regions.

- Combining capacity-building and technical assistance with project investment could play a positive role in the sustainability of development projects. South-South and triangular cooperation can be added as a 'soft' component to investment projects, where other countries, aid agencies or United Nations entities can provide capacity development initiatives to complement Chinese financing.

Finally, this paper was completed just as the world was hit with unprecedented, globally synchronized health and economic crises. While the overall objective of attaining the SDGs remains unchanged, the COVID-19 crisis has substantially affected the ODF landscape, at least in the short term, and has shaken and questioned countries' existing sets of priorities. It has focused attention on sustainability in development and opened space for bold policy action. Against this background and given the potential of Chinese development finance to accelerate sustainable development and global SDG attainment, a clearer understanding of Chinese ODF is even more important, which could be aided by consideration of the recommendations proposed in this paper.

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1. Based on JICA's estimates, retrieved from https://www.jica.go.jp/jica-ri/publication/other/l75nbg000019o0pq-att/Estimating_Chinas_Foreign_Aid_2019-2020.pdf, and ODA data from the OECD website, retrieved from <https://stats.oecd.org/Index.aspx?DataSetCode=TABLE2A>.
 2. Based on AidData's Geocoded Global Chinese Official Finance Dataset, Version 1.1.1, It is the most comprehensive global dataset in tracking China's ODF with a time span of 2000 to 2014.
 3. <https://www.cgdev.org/publication/chinese-and-world-bank-lending-terms-systematic-comparison>
 4. The risk here refers to country credit risk, and is based on the OECD country risks classification, which measures the probability that countries will service external debts.
 5. <https://www.bu.edu/gdp/2019/05/14/state-actors-market-games-credit-guarantees-and-the-funding-of-china-development-bank/>
 6. <https://www.soas.ac.uk/idcea/publications/reports/file141857.pdf>
 7. <http://www.bu.edu/gdp/files/2019/02/GCI-Bulletin-Final-2019-1-1.pdf>

List of Acronyms

AIIB	Asian Infrastructure Investment Bank
ASEAN	Association of Southeast Asian Nations
BOOTS	Build, own, operate, transfer
BRI	Belt and Road Initiative
CARI	China-Africa Research Institute
CBRC	China Banking Regulatory Commission
CDB	China Development Bank
CHEXIM	Export-Import Bank of China
CLAF	China-Latin America Finance
DAC	Development Assistance Committee
DFI	Development finance institutions
EGESG	Empresa de Generacion Electrica San Gaban
EIA	Environmental impact assessment
EPI	Environmental Performance Index
ESIA	Environmental and social impact assessment
FOCAC	Forum on China-Africa Cooperation
G-20	Group of 20
GCG	Green Credit Guideline
GCG-KPPs	Green Credit Guideline Key Performance Indicators
IBRD	International Bank for Reconstruction and Development
ICBC	Industrial and Commercial Bank of China
IDA	International Development Association
IFC	International Financial Corporation
IMF	International Monetary Fund
JICA	Japan International Cooperation Agency
LAC	Latin America and the Caribbean
LDC	Least developed country
LIBOR	London Interbank Offered Rate
LIC	Low-income country
LMIC	Lower-middle-income country
MDB	Multilateral development bank
MOF	Ministry of Finance
MOFCOM	Ministry of Commerce
NDB	New Development Bank
NDRC	National Development and Reform Commission
ODA	Official development assistance
ODF	Official development finance
OECD	Organisation for Economic Co-operation and Development
OOF	Other official flows
PPP	Public-private partnership
SDG	Sustainable Development Goal
SES	Social and environmental safeguards
SOT	Sponsor, operating, transfer
TOSSD	Total official support for sustainable development
UMIC	Upper-middle-income country
UNDP	United Nations Development Programme
WCIC	Wuhu Construction Investment Corporation Limited

1. Introduction

1.1. The global finance outlook

2020 marks the fifth year since the adoption of the 2030 Agenda for Sustainable Development. As the world and the United Nations were gearing up for a decade of action to fast forward progress on the 17 Sustainable Development Goals (SDGs), the COVID-19 pandemic erupted. Before the pandemic, the financing gap for the SDGs was glaring, estimated at US \$5 trillion to \$7 trillion of investment per year. Developing countries alone require \$3.3 trillion to \$4.5 trillion per year, mainly for basic infrastructure, food security, climate change, health and education (UNCTAD, 2014). According to the Sustainable Development Report 2020, the achievement of the SDGs by 2030 was already off track by the end of 2019. In only a short period of time, the COVID-19 pandemic has unleashed an unprecedented crisis, causing further disruption to progress (UNDESA, 2020).

The 2020 Financing for Sustainable Development Report finds substantial backsliding in key areas of financing (United Nations, 2020), exacerbated by slowing economic growth, growing financial risk, high debt risk and increasing environmental shocks. The report emphasizes that the global community should come together and take concerted, forceful and swift action to combat the impacts of COVID-19, with one key aspect being to mobilize financing for development.

Prior to COVID-19, the United Nations had identified some key trends of development cooperation and finance as follows:⁹

- Multilateral development banks (MDBs) have been shoring up efforts to support the 2030 Agenda: The allocation of non-grant subsidized finance reached \$65.8 billion in 2016, increasing more than twofold from 2000. There was a peak in 2010 (\$74.4 billion) in the aftermath of the global economic and financial crisis. The banks have increased efforts to leverage additional public and private resources to support the localization of the SDGs.
- Innovative financing approaches, such as blended finance, have been increasingly reported.
- South-South cooperation is expanding through diversified development cooperation using financial and non-financial modalities (e.g., capacity-building, technology transfer), as well as multilateral channels, aiming primarily to enhance regional integration.
- Targeted financing for new areas of development (e.g., green growth) has been on the rise, although these financing flows need to be better aligned, coordinated and structured.

The world has entered a new era of development finance. New goals, new donors and new financial tools have emerged to augment the scope and magnitude of financing required to deliver the SDGs (Prizzon, Greenhill and Mustapha, 2016). At the core of these trends lies an increasing emphasis on the effectiveness, inclusiveness and sustainability of development finance. This requires reinforced country and local community ownership, growing interest of and commitment from the private sector to development, as well as good institutions and policies to diversify the means of development cooperation.

1.2. China's rise as a global financier

China has emerged as a major source of funding for global development, disbursing \$6.8 billion in foreign aid in 2019, based on the latest estimates of the Japan International Cooperation Agency (JICA). This, however, only accounts for a small portion of China's official development finance (ODF). Policy banks, export-import agencies and State-led funds provide a variety of non-aid-based financial instruments to support development projects, including loans, equity investments, and export/import credits for fostering China's overseas trade and investment (Brautigam, 2011).¹⁰

The \$60 billion package of support to Africa announced at the 3rd Forum on China-Africa Cooperation (FOCAC) held in Beijing on 3-4 September 2018 is a good demonstration of China's development cooperation approaches. The package contains a mix of modalities, including aid (\$15 billion), lines of credit (\$20 billion), funds for special purposes (\$15 billion) and private-sector contributions (\$10 billion). Compared to the 1st FOCAC in 2015, the total amount of China's financial support stayed the same (i.e., \$60 billion). The composition of the 2018 package differs, however, with an increase in foreign aid (from \$5 to \$15 billion) and greater emphasis on the contribution of the private sector.

As China's overseas investment increases (China Bond Rating Co., Ltd., Institute of World Economic and Politics, Chinese Academy of Social Sciences, 2017), the country's Belt and Road Initiative (BRI), the strategy to improve connectivity between the East and the West in socioeconomic, financial, physical and digital terms, has potential to provide additional impetus to financing global sustainable development efforts.

China is also increasingly incentivizing its private sector to invest abroad, while initiating international financial institutions, such as the Asian Infrastructure Investment Bank (AIIB) and New Development Bank (NDB) to back up multilateral lending.

1.3. Objectives and scope of this analysis

The remarkable growth of Chinese development finance is an important phenomenon that has received mixed reviews (Sanderson and Forsythe, 2013). On the one hand, China's increasingly significant role in global development finance carries great potential to support the world's aspiration to achieve the SDGs. On the other hand, China faces criticism around a lack of transparency and limited social and environmental safeguarding policies compared to so-called traditional development finance providers. There is limited understanding of the scale, terms, composition and implications of Chinese development finance. Better understanding and engaging with China on development finance is particularly necessary for developing countries, who require support to build stronger capacities for sustainable development. China's finance could be of great help if used wisely and effectively.

This research aims to provide a preliminary overview of China's outbound development finance as to its nature, composition, terms, scale and implications for sustainable development. The purpose is to facilitate understanding, exchange and learning between China and other financiers in development financing. The study provides:

- An initial mapping of China's outbound development finance;
- A discussion of some of the characteristics of China's development finance, often referred to as unique, in relation to those of other major global financiers.
- A stocktaking of how China is positioned to contribute to the SDGs, and an outlook for China's outbound development finance in terms of its roles and potential contributions to the SDGs.
- A preliminary analysis of a case study that demonstrates models, impacts and risks of China-financed projects overseas.

Discussion of Chinese development finance depends on how the term is defined. Given various interpretations of development finance, and their points of difference, commonality and overlap, Section 2 outlines the measurements and definitions used by the Organisation for Economic Co-operation and Development (OECD) and China, and then benchmarks China's development finance regime to that of the OECD. In the mapping part (Section 3), we cover both official development assistance (ODA) and other official flows (OOF). In the policy discussion part (Section 4 and 5), we focus more on OOF, as predominant in overall ODF. The report also discusses the role of Chinese commercial banks in overseas development-oriented projects, but not as a core subject.

A variety of development practitioners may use the report and its findings, including policymakers in countries receiving development finance, other development finance and aid providers, civil society organizations, etc. The hope is that each

in their own capacity could make use of these insights to engage with Chinese finance providers in a considered and sustainable manner.

1.4. Methodology

The main theoretical framework for the study was derived from existing literature on development finance, foreign aid, and development cooperation. The report also solicited practical insights from Chinese and global development finance practitioners and experts, including at workshops and symposiums held in 2017 and 2018, and a dedicated consultation meeting in 2019 hosted by the United Nations Development Program (UNDP) in China. These gathered varied stakeholders including traditional MDBs (e.g., the Asian Development Bank and World Bank), newly established MDBs (e.g., the AIIB) and financial institutions (e.g., the Silk Road Fund and China-Africa Development Fund), private enterprises as well as government officials from Chinese partner countries. The report also draws on supplementary perspectives from key informant interviews on the operation of China's official finance.

The mapping of China's development finance builds primarily on secondary data sources, including official data published in annual reports of China's major financiers, relevant line ministries (e.g., Ministry of Commerce or MOFCOM) and existing databases (Table 3.1).

To collect cases that exemplify the practices of China's finance, the report team drew on public official sources such as sustainability and annual reports from China's major financiers, and good practice examples provided during symposiums and interviews. For each case, the team conducted extensive searches for any additional relevant information (e.g., project financial modalities, project operations and impacts) from media reports, academic papers, etc. to obtain a more complete picture, to the extent possible.

8. United Nations, Report of the Inter-Agency Task Force on Financing for Development: Progress and Prospects 2008, retrieved from https://developmentfinance.un.org/sites/developmentfinance.un.org/files/IATF%202018_Chapter%20III.C.%20International%20development%20cooperation.pdf. For updated information, see <http://developmentfinance.un.org/international-development-cooperation>.

9. JICA Research Institute. Naohiro Kitano, "Estimating China's Foreign Aid: 2019-2020 Preliminary Figures", retrieved from https://www.jica.go.jp/jica-ri/publication/other/l75nbg000019o0pq-att/Estimating_Chinas_Foreign_Aid_2019-2020.pdf

2. China's official development finance: definition, key actors and their roles

A review of existing literature indicated a mixed set of interpretations and measurement of the term 'development finance'. The OECD has defined different standards to track and measure resources flow for development, ranging from ODA to total official support for sustainable development (TOSSD). These definitions in many ways differ from what is used in China. A comparison of different measurements is provided to clarify the scope of this research.

2.1. ODA versus foreign assistance

According to the OECD, ODA refers to resource flows to countries and territories on the Development Assistance Committee (DAC) List of ODA Recipients and to multilateral development institutions. These flows are: provided by official agencies, concessional (convey a grant element over a certain threshold) and are for promoting economic development and the welfare of developing countries. Three types of financial resource flows fall into this category: grants, interest-free loans and concessional loans.

China uses "foreign assistance" or "foreign aid" to refer to official resource flows provided to developing countries within the framework of South-South cooperation. According to the 2011 White Paper on China's Foreign Aid, foreign assistance also takes three forms: grants, interest-free loans and concessional loans. (Information Office of the State Council, 2011) This is similar to the ODA definition of the OECD, but with several differences.

First, the concessionality level is different. The OECD-DAC has set specific concessionality requirements for different recipient country groups for loans to be reported as ODA.¹¹ For China, a concessional loan is defined as "loans offered to help recipient countries...at interest rates lower than the benchmark interest of the People's Bank of China." Some concessional loans offered by China may not qualify as ODA if the grant element does not reach the OECD-defined threshold.

Second, the DAC list of ODA-eligible countries¹² is not followed by China. For example, the Seychelles is not an ODA-eligible country according to the OECD. But sending volunteers there is reported as foreign assistance in the 2011 White Paper on China's Foreign Aid.

Third, as China does not follow the OECD's reporting system, small differences arise in aid calculation methods. For instance, the cost for refugees in donor countries is reported by DAC members as ODA, but is not included in China's aid figures by definition.

A challenge in the analysis derives from the fact that Chinese foreign assistance budgets from relevant ministries do not equal the foreign aid reported nationally. Currently, the only official data on China's foreign aid are from three white papers published in 2011, 2014 and 2021. While both documents provided aggregate aid data by region and type, calculation methods were not clearly specified. Thus, further clarification from key departments is needed to draw a closer comparison between China and the OECD in terms of what is included and excluded in published aid figures.

2.2. Other official flows versus loans and financial services provided by Chinese policy banks

In addition to ODA, the OECD devised another measurement, other official flows, or OOF, to capture official resource flows that do not meet ODA criteria. OOF includes grants with commercial or representational intent, official bilateral

transactions that do not meet the ODA concessionality requirements, export credits, funds in support of private investment, etc. While ODA is usually considered the main funding source for development, OOF is gaining importance, comprising one third of all official flows globally since 2008.¹³ But the growing development potential of OOF remains overlooked.

As suggested by many, the lion's share of China's ODF takes the form of OOF rather than ODA.¹⁴ China's OOF is mainly provided by two policy banks, the China Export-Import Bank (CHEXIM) and the China Development Bank (CDB). As summarized in Table 2.1, CHEXIM is responsible for carrying out concessional loans and preferential export buyer's credits. The two together are termed 'Liangyou loans' (两优贷款). In addition, CHEXIM and CDB provide non-concessional loans and export credits. The policy banks along with Chinese foreign exchange agencies have also initiated development and investment funds, such as the China-Africa Development Fund, that conduct a wider range of financial activities with a regional development focus and via market-based means. Except for some CHEXIM concessional loans, all other instruments fall into the OECD's definition of OOF.

Major State-owned banks are also active in providing loans to developing countries. For example, the Agricultural Bank of China, Bank of China, China Construction Bank, and Industrial and Commercial Bank of China also provide export credits. These banks are not official export credit agencies, but most export credit is backed by Sinosure insurance, meaning if a project fails, the official insurance company backed by government fiscal revenues will cover the loss (Chen, 2019). From this perspective, the non-concessional lending by State-owned banks is facilitated by implicit state guarantees and could be considered analogous to the OOF category in the DAC reporting system.¹⁵ Thus, a broader definition of OOF includes loans and financial services provided by not only the two policy banks but also major State-owned banks.

This research focuses on Chinese development finance flows that fall under both the ODA and OOF definitions given by the OECD. In China, these flows have been named "official development finance, or ODF, with Chinese characteristics" by the Chinese scholar Cheng.¹⁶ Table 2.1 summarizes the various definitions and their scope, bearing in mind that, despite significant overlaps, there are clear differences between the OECD and Chinese definitions.

Table 2.1 Comparison of development finance measurements under the OECD and in China

Instruments	Definitions				
	China (Information Office of the State Council)	OECD	Chinese Policy Banks	Cheng, 2017	OECD, (Addis Ababa Action Agenda, 2015)
Grant	Foreign assistance	ODA		ODF with Chinese characteristics	TOSSD
Interest-free loans					
Concessional loans			'Liangyou loans' provided by CHEXIM		
Preferential export buyer's credit	OOF	Financial services provided by the CDB, CHEXIM and relevant funds			
Non-concessional lending and export credit					
Fund investments and financial cooperation					
Private finance mobilized					

China's ODF can be categorized as detailed in Table 2.2: (1) grants, interest-free loans and concessional loans, (2) preferential buyer's credits and export credits, (3) non-concessional loans issued by policy banks or State-owned banks, and insured by the official insurance company, and (4) financial cooperation and development fund investments. However, executing institutions are not delineated along the lines of development finance. For instance, while China's foreign aid is supported by public finance and managed by the China International Development Cooperation Agency, China's official aid agency, grants and interest-free loans are executed by the Ministry of Commerce (MOFCOM), and concessional loans and preferential export buyer's credits are carried out by CHEXIM.

Table 2.2. China's official development finance: common financial instruments

Instrument	Definition	Note
Grant	Mainly offered to help recipient countries build small or medium-sized social welfare projects, and to fund human resources development cooperation, technical cooperation, material assistance and emergency humanitarian aid.	Government budget, purely public finance
Interest-free loan	Mainly used to help recipient countries construct public facilities and launch projects to improve people's livelihoods. Usually at a modest scale such as less than \$1 million.	Government budget, purely public finance
Concessional loan	Loans offered to developing countries at fixed interest rates (usually between 2 and 3 percent) with a maturity period of 15 to 20 years (including five to seven years as a grace period); concessional loans are mainly used to help recipient countries undertake manufacturing projects and large and medium-sized infrastructure projects with economic and social benefits, or for the supply of complete plants, machinery and electronic products. Concessional loans require inter-governmental agreements and are usually offered to sovereign institutions (such as ministries of finance or central banks) or financial institutions appointed and guaranteed by the sovereign government.	In RMB, raised by CHEXIM on the market; lower interest rate with difference made up by the State as financial subsidies
Debt forgiveness	As a form of foreign assistance, China occasionally reduces or exempts the mature government debt of developing countries through bilateral discussion.	Mostly applies to interest-free loans
Preferential export buyer's credit	A credit line provided to foreign buyers to finance their imports of Chinese goods and services; issued at a London Interbank Offered Rate (LIBOR)-based floating interest rate but lower than the market rate; CHEXIM is the only institution to provide this kind of service, which is usually issued with a maturity period of 15 to 20 years.	In dollars, raised by CHEXIM on the market
Export credit	Loans to exporters (seller's credits) and importers (buyer's credits) for the sale and purchase of goods manufactured in the donor country at market prices.	In dollars
Non-concessional loans	Corporate finance, project financing, mergers and acquisitions loans, goods financing, cross-border RMB loans, foreign exchange loans, trade financing, etc. provided by official agencies.	RMB loans and foreign exchange loans
Financial cooperation	Credit lines, on-lending, syndicated loans, co-financing with other banks.	
Official investment funds for development purpose	The CDB and CHEXIM have created many China and regional development funds, such as the China-Africa Development Fund, which provides equity investment capital; the fund usually makes a minority share investment of capital to help share risks and make large projects bankable, and withdraws within eight years after projects are sustainable financially. The fund works like the International Financial Corporation of the World Bank Group or the Overseas Private Investment Corporation of the United States.	In RMB and dollars

Source: CIDCA, *White Paper on China's Foreign Aid*; CDB; CHEXIM, Chen, 2018., etc.

The concept of total official support for sustainable development or TOSSD is based on the recognition that international statistics need to reflect the new, broader development finance landscape, with new actors (e.g., emerging providers, the private sector), new financial instruments and a greater focus on sustainable development. TOSSD is emerging as a new development finance standard to monitor changing trends and track resource flows aligned to the 2030 Agenda. It includes both concessional and non-concessional support, from multilateral and bilateral development cooperation providers, including through South-South and triangular cooperation. Importantly, it also includes private finance mobilized by official interventions in support of sustainable development.

10. In DAC statistics, this implies a grant element of at least 45 percent for bilateral loans to the least developed countries (LDCs) and low-income countries or LICs (calculated at a rate of discount of 9 per cent); 15 per cent for bilateral loans to lower-middle-income countries or LMICs (calculated at a rate of discount of 7 percent); 10 per cent for bilateral loans to the official sector of upper-middle-income countries or UMICs (calculated at a rate of discount of 6 per cent); and 10 per cent for loans to multilateral institutions. Retrieved from www.oecd.org/development/financing-sustainable-development/development-finance-standards/officialdevelopmentassistance/officialdevelopmentassistancedefinitionandcoverage.htm.

11. OECD DAC List of ODA Recipients, retrieved from <http://www.oecd.org/dac/financing-sustainable-development/development-finance-standards/dac-list.htm>.

12. OECD, "The growing development potential of other official flows," in Development Co-operation Report 2014: Mobilising Resources for Sustainable Development, retrieved from https://read.oecd-ilibrary.org/development/development-co-operation-report-2014_dcr-2014-en#page17.

13. D. Brautigam. (2011). Aid "With Chinese Characteristics": Chinese Foreign Aid and Development Finance Meet the OECD-DAC Aid Regime. *Journal of International Development*, 23(5), 752–764.

14. Xu, Jiajun & Carey, Richard. (2014). China's Development Finance: What Issues for Reporting and Monitoring Systems? *IDS Bulletin*. 45. 10.1111/1759-5436.12096.

15. Carnegie Endowment for International Peace. The Logic Behind China's Foreign Aid Agency, by C. Cheng (2017), retrieved from <https://carnegietsinghua.org/2019/05/21/logic-behind-china-s-foreign-aid-agency-pub-79154>.

3. Mapping China's official development finance

This section presents China's ODF based on available information and provides an in-depth analysis of flows by region. It is divided in two parts corresponding to the different definitions of development finance.

Section 3.1 uses official data from the Information Office of the State Council and estimates from the JICA Research Institute to present time trends and geographic patterns in China's foreign assistance.

Section 3.2 maps China's ODF following the broader definition including both ODA and OOF flows. The ODF mapping draws primarily on secondary data sources, including AidData's Global Chinese Official Finance Dataset, the China-Africa Research Institute (CARI)'s Africa Loan Database, and the Global Development Policy Center's China-Latin America Finance (CLAF) Database. Discrepancies may exist among data sources, given variations in coverage, definitions and data collection methodologies. The primary aim, however, is not to evaluate the accuracy of each data source, but to provide an overall picture of China's official finance by combining or complementing various data sources based on their respective focuses and strengths.

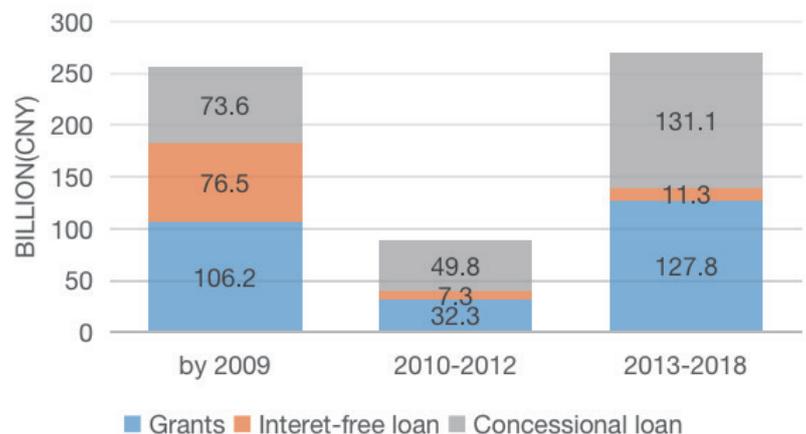
3.1. China's foreign aid

The only official documents presenting statistics on China's foreign aid are the three white papers published by the Information Office of the State Council in 2011, 2014 and 2021. The first paper recorded China's foreign aid activities from 1949 to the end of 2009, the second reviewed these activities from 2010 to 2012, and the latest white paper summarized flows from 2013-2018. The three reports elaborated the policies, financial resources, forms, governance systems and management structures of China's foreign aid.

The papers show that, especially after 2004, Chinese foreign aid increased quickly as a result of sustained and rapid economic growth, and enhanced overall national strength, with an average annual growth rate of 29.4 percent from 2004 to 2009. By the end of 2009, China had provided a total of RMB 256.3 billion (\$37.5 billion) in aid to foreign countries.¹⁷ The scale of assistance kept expanding from 2010 to 2012, by another RMB 89.3 billion (\$14.4 billion) in total. Between 2013 and 2018, the total amount has reached RMB 270.2 billion.

Before 2009, as shown in Figure 3.1, grants were the primary form of foreign aid, accounting for 41 percent of the total value. Interest-free and concessional loans took up 30 percent and 29 percent, respectively. From 2010 to 2012, the share of concessional loans sharply increased from 29 percent to 56 percent, becoming the largest source of foreign aid, matched by a clear drop in the share of grants and interest-free loans. This pattern remained the same for the period of 2013 and 2018, concessional loan accounted for 49%, followed by grants with a share of 47%. The share of interest-free loan has shrunk from 8% to only 4%.

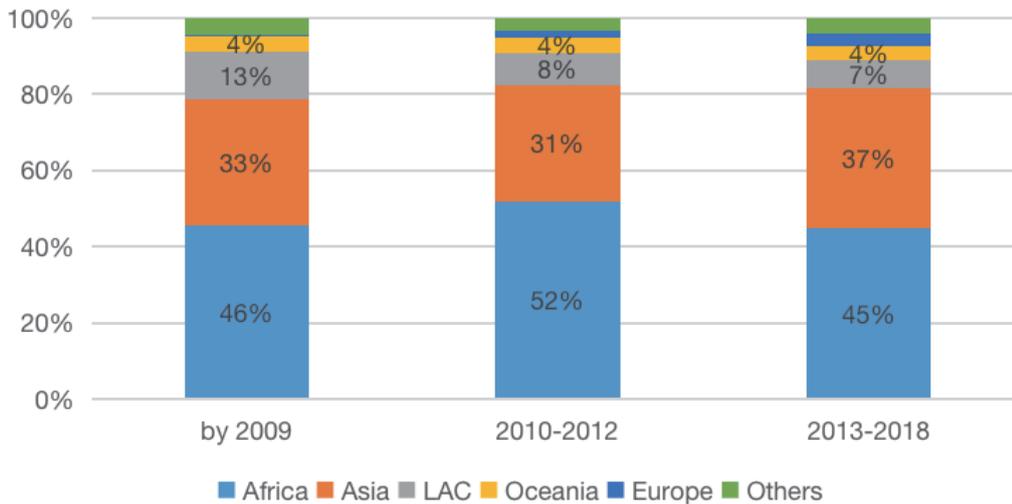
Figure 3.1 China's foreign aid (CNY billions)



Source: White papers on China's foreign aid, 2011, 2014 and 2021.

As for regional distribution, data from the three white papers suggest similar patterns. Africa was the largest recipient, followed by Asia, Latin America and the Caribbean, and Oceania. Asia and Africa, home to the largest populations of people in poverty, received about 80 percent of China's foreign aid (Figure 3.2).

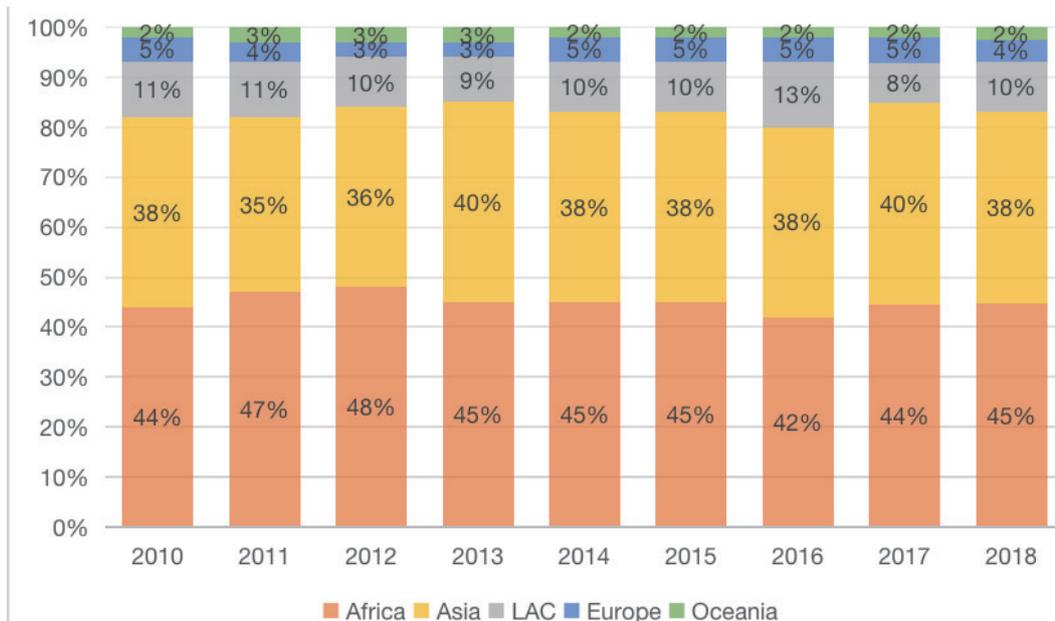
Figure 3.2 Regional distribution of China's foreign aid



Source: White papers on China's foreign aid, 2011, 2014 and 2021.

The regional distribution pattern is very similar to that of DAC countries. As suggested in Figure 3.3, Africa remained the largest recipient region of DAC ODA between 2010 and 2018, followed by Asia, Latin America and the Caribbean, and Oceania. In comparison, China provided over half of its funding to Africa between 2010 and 2012, slightly more than DAC countries during the same period.

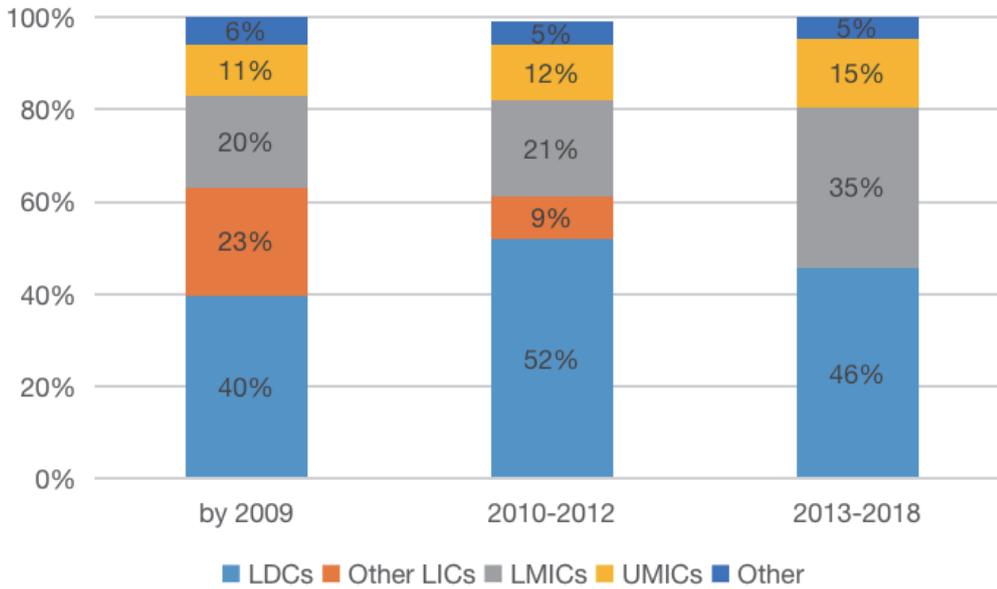
Figure 3.3 Regional distribution of ODA by DAC countries



Source: OECD, Query Wizard for International Development Statistics, October 2020.

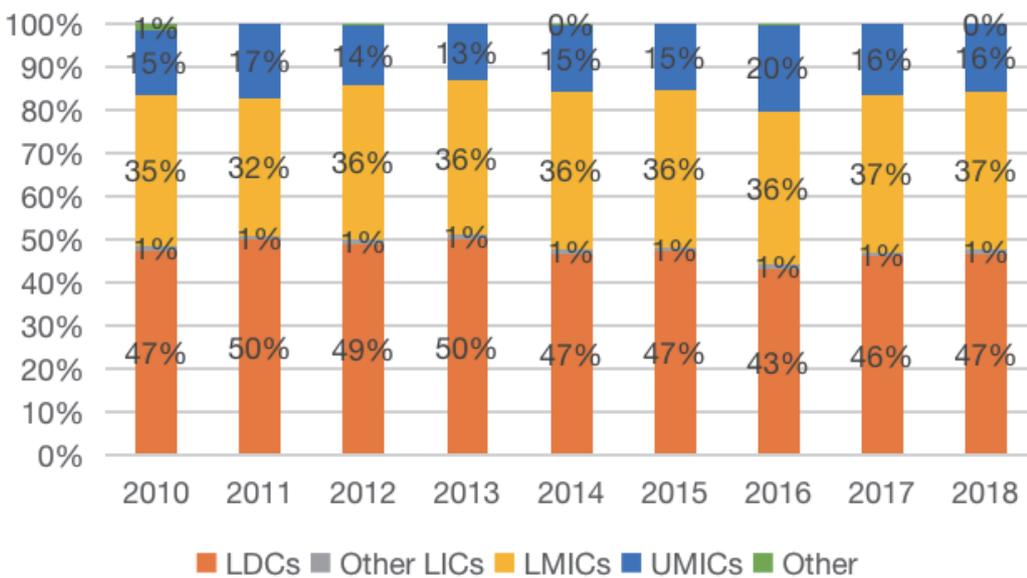
In terms of distribution by country category, the majority of China's foreign aid went to the LDCs, similar to DAC donors. The share absorbed by LDCs fluctuated within the range of 40% to 50%, while the share going to LICs increased from 20 percent to 35 percent from 2009 to 2018. (Figure 3.4). Aggregating three country categories shows that over 80 percent of foreign aid went to LDCs, LICs and LMICs for both China and DAC donors (Figures 3.4 and 3.5).

Figure 3.4 Distribution of China's foreign aid by income group



Source: White papers on China's foreign aid, 2011, 2014 and 2021.

Figure 3.5 Distribution of DAC donor ODA by income group

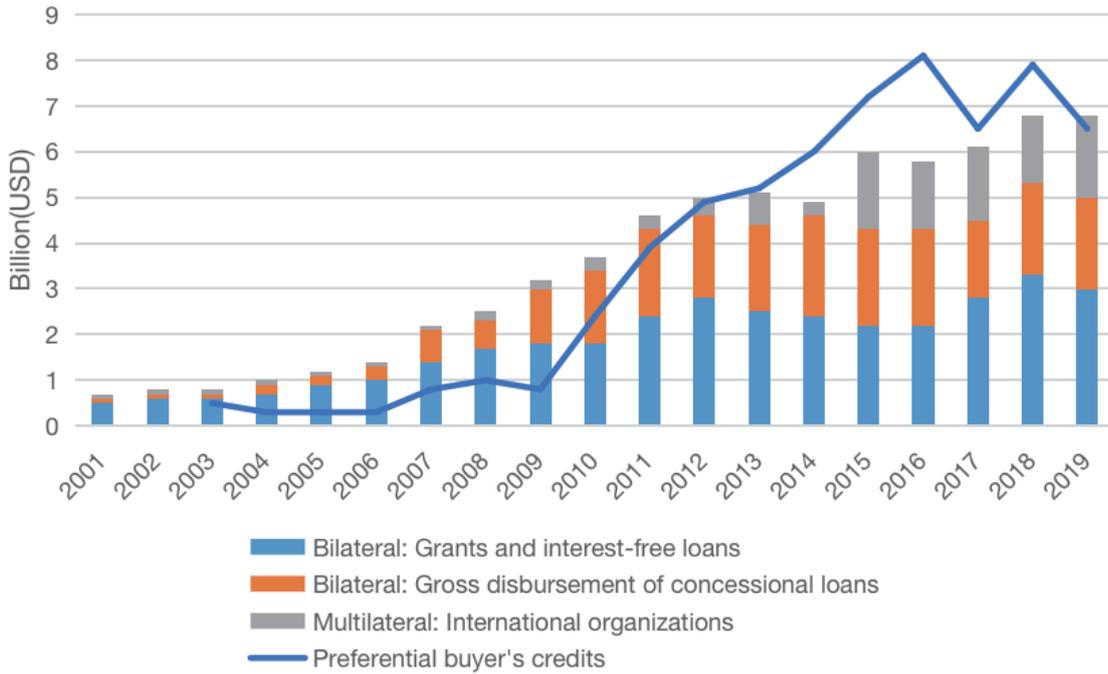


Source: OECD – Query Wizard for International Development Statistics, October 2020.

While the three white papers provide an opportunity to study the composition and geographic distribution of China's foreign assistance, they only publish aggregated aid data for these three periods, making it hard to analyse trends over time. The JICA Research Institute estimated China's annual foreign aid disbursements between 2000 and 2018 using public budget expenditure data from relevant ministries and financial reports of major financiers. The estimates showed a cumulative net disbursement from 2010 to 2018 of RMB 310.8 billion, less than the official figure of RMB 359.5 billion. JICA's estimates serve as an alternative data source to verify trends, although the estimation involves many assumptions.¹⁸

JICA's data show a fast increase in the net disbursement of China's foreign aid since 2004, which agrees with the white papers (Figure 3.6). According to JICA's latest estimate, net disbursement increased from \$700 million in 2001 to \$6.8 billion in 2019. In addition, concessional loans as a share of total foreign assistance increased rapidly starting in 2004 and peaked in 2014, at 45 percent of all foreign aid disbursement, which is also in line with the white papers.

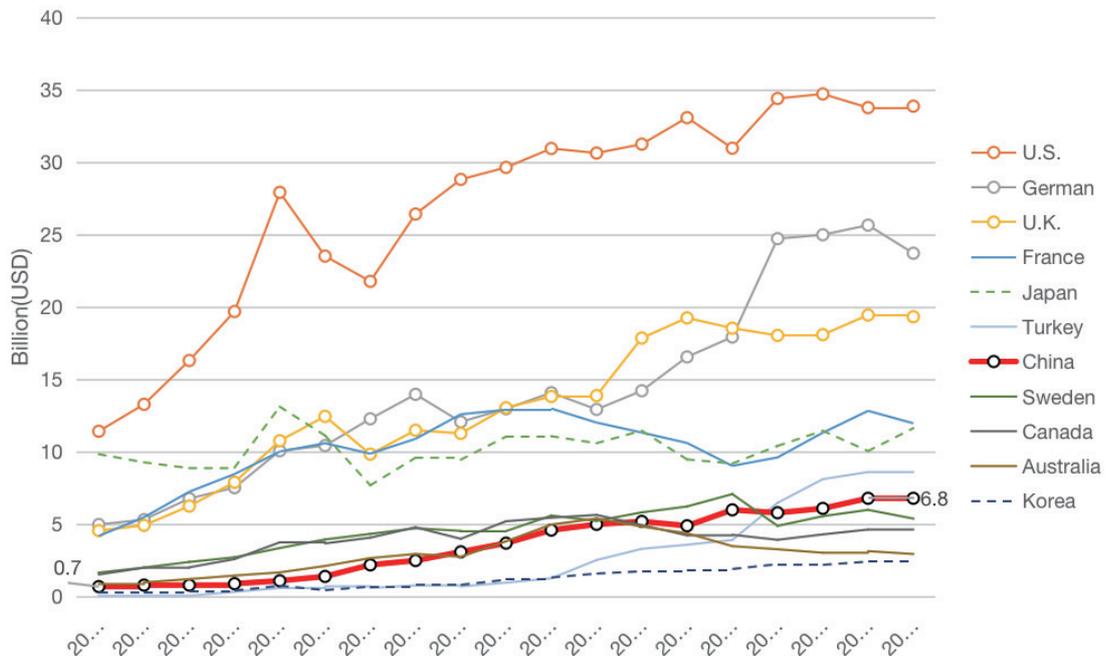
Figure 3.6 Net disbursement of China's foreign aid (billions of dollars)



Source: JICA's estimate as of December 2020.

China's ranking in terms of net ODA disbursement has advanced from 17th in 2001 to 7th in 2019 among all donor countries listed on the OECD website, affirming its emergence as a major provider of foreign assistance (Figure 3.7).

Figure 3.7 Net disbursement of China's foreign aid versus ODA from major DAC donors (billions of dollars)



Source: JICA's estimate, December 2020.

An interesting feature of the JICA database, as shown in Figure 3.6, is that the estimated net disbursement of preferential buyer's credits has experienced a dramatic increase since 2009, exceeding the total amount of China's foreign aid since 2013. This shows how OOF is gaining importance in ODF, while the share of ODA is shrinking. To reflect recent trends, the following section maps China's ODA and OOF using secondary data sources.

3.2. China's ODF

Most of the analysis in this section relies on AidData's dataset, as it is the most comprehensive global resource so far in tracking China's ODF. It includes both ODA-like and OOF-like flows (following the OECD definition) from China to recipient countries across the world. However, the dataset only covers development projects from 2000 to 2014, thus the other two regional datasets, CARI's Africa Loan Database and the CLAF Database, are employed to complement the analysis with more recent data.

These three datasets share a similar method in collecting data on China's official finance. They were mostly developed by web searches on open-source information including public official documents and media reports, and confirmed by in-country interviews or key informant interviews with Chinese and partner countries' officials. Although each research team employs a rigorous methodology in verifying and compiling information, limitations prevail as the datasets are not guaranteed to be exhaustive. A more detailed description of each dataset is in Table 3.1.

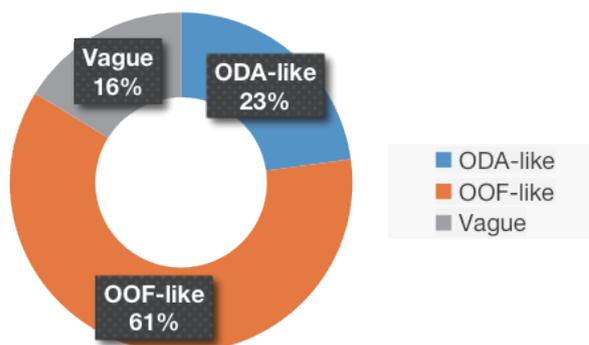
Table 3.1 Databases used for mapping analysis

Database	Description
Geocoded Global Chinese Official Finance Dataset, Version 1.1.1	Developed by the College of William and Mary's AidData research lab, it tracks all known officially financed Chinese projects from 2000 to 2014.
Africa Loan Database	Developed by CARI at the John Hopkins School of Advanced International Studies, it provides data on Chinese loans to African governments from 2000 to 2018.
CLAF Database	Developed by Boston University's Global Development Policy Center, it records the annual flow of loan contracts from the CDB and CHEXIM to Latin America between 2005 and 2018.

The following analysis first explores China's ODF as a whole and then zooms in to study patterns in each region, focusing on Africa, Asia, and Latin America and the Caribbean, where most developing countries are located.

According to AidData, the total amount of ODF from 2000 to 2014 was \$354 billion, with 61 percent classified as OOF-like flows and 23 percent as ODA-like flows (Figure 3.8).¹⁹ Undetermined flows, the residual category in the AidData dataset, accounted for nearly 16 percent; this captures officially financed projects where there was not enough information about the project's concessionality or intent to make a clear ODA or OOF determination. The undetermined flows are included here to discuss overall trends and scale, but are excluded from the regional analysis.

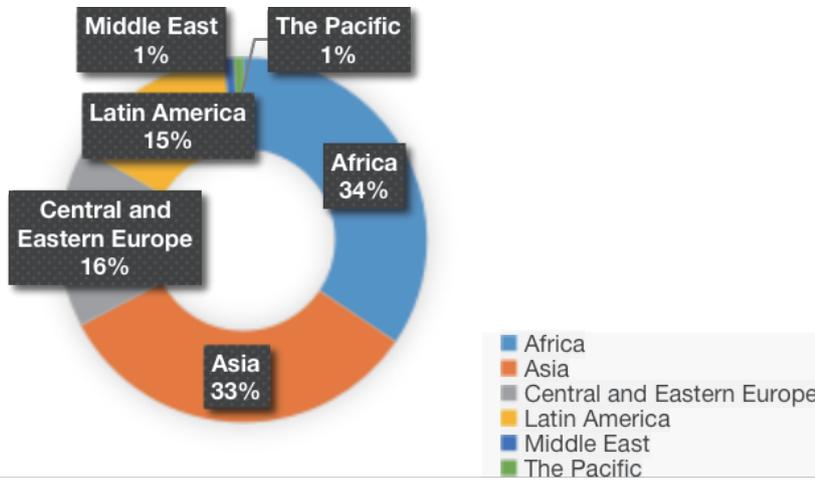
Figure 3.8 The composition of ODF



Source: Global Chinese Official Finance Dataset (Version 1.0), AidData, October 2017.

Africa and Asia were the two largest recipient regions (including undetermined flows) between 2000 and 2014, receiving around 34 percent and 33 percent of the total, respectively. They were followed by Central and Eastern Europe, and Latin America and the Caribbean, with shares of 16 percent and 15 percent, respectively (Figure 3.9).

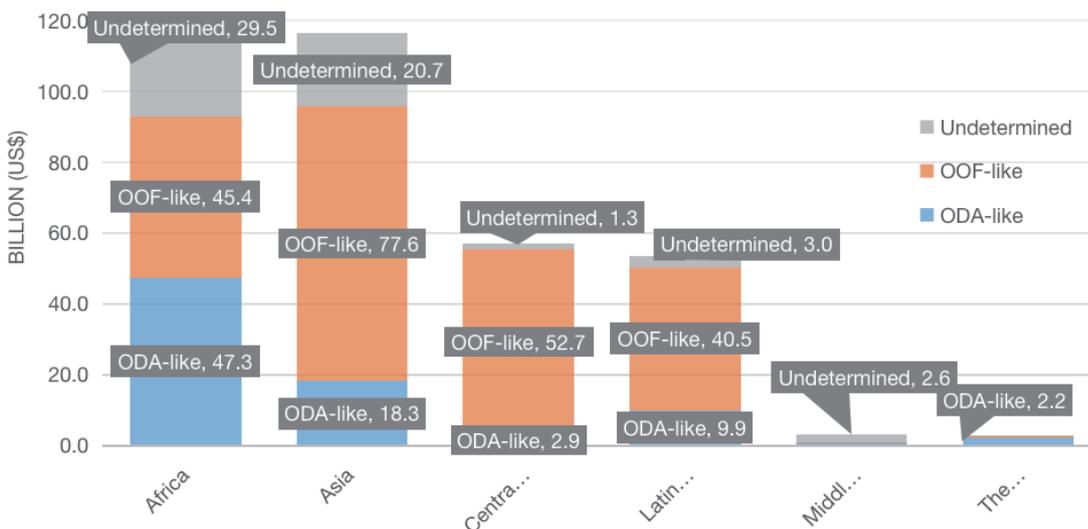
Figure 3.9 The geographic distribution of ODF



Source: Global Chinese Official Finance Dataset (Version 1.0), AidData, October 2017.

The composition of development finance by region varies greatly. Many studies suggest that the majority of China's official financial flows to Africa take the form of OOF rather than ODA. Figure 3.10 shows a fairly even split between the two, however. In Asia and Latin America and the Caribbean, the OOF flow was nearly four times the ODA flow. For Central and Eastern Europe, OOF accounted for 93 percent of total flows while ODA only 5 percent. One caveat is that Africa and Asia received significant quantities of undetermined flows. How much of these would have been categorized as ODA or OOF could potentially change the picture.

Figure 3.10 Composition of ODF by region (billions of dollars)



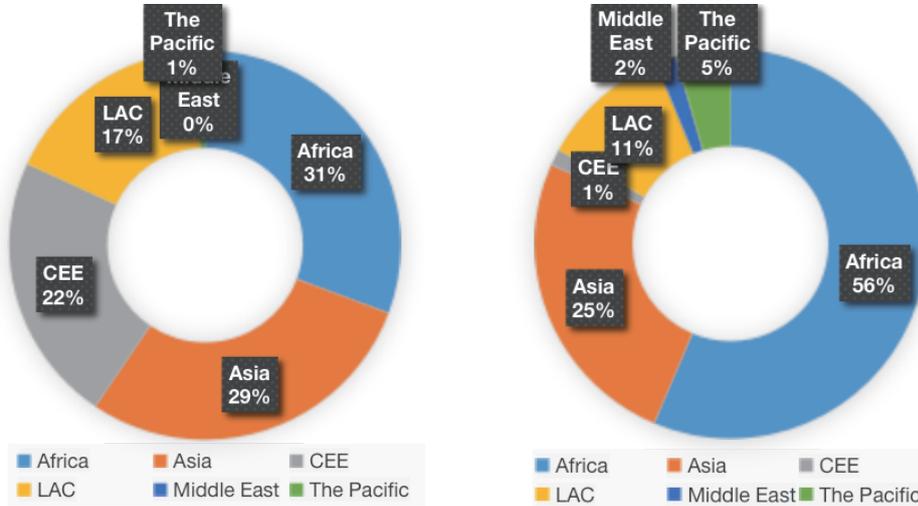
Source: Global Chinese Official Finance Dataset (Version 1.0), AidData, October 2017.

To further investigate requires exploring geographic distribution by different flow types, including grants, loans, debt forgiveness and rescheduling, and export credits.

Grants: The total value of grants was \$13.3 billion, only 4 percent of total ODF. Africa and Asia received the majority of grants, suggesting a regional distribution pattern similar to that of traditional DAC donors (Figure 3.11).²⁰

Loans: Loans made up 80 percent of Chinese ODF, with a value of \$284 billion. Africa and Asia dominated with shares of 31 percent and 29 percent, respectively, followed by Central and Eastern Europe (Figure 3.11).

Figure 3.11 The geographic distribution of loans (left) and grants (right)

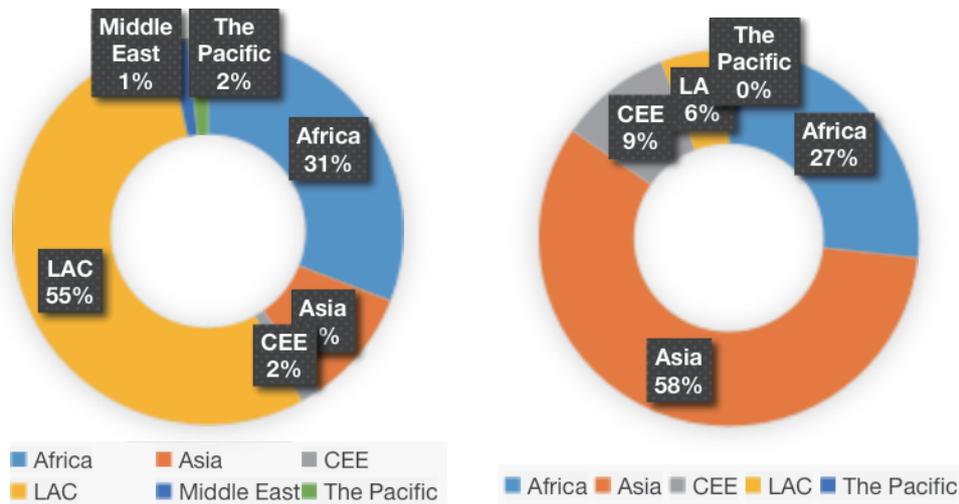


Source: Global Chinese Official Finance Dataset (Version 1.0), AidData, October 2017.

Debt forgiveness and rescheduling: The total value was \$12.3 billion, of which 55 percent went to Latin America and the Caribbean. This was mainly driven by debt forgiveness to Cuba with a total value of more than \$6 billion (Figure 3.12).

Export credits: Export credits accounted for over 11 percent of ODF, with a total value of nearly \$40 billion. Asia was the largest recipient region, accounting for 58 percent of the total worldwide (Figure 3.12).²¹

Figure 3.12 The geographic distribution of debt forgiveness (left) and export credits (right)



Source: Global Chinese Official Finance Dataset (Version 1.0), AidData, October 2017.

3.2.1. China's ODF to Africa

Chinese foreign aid to Africa can be traced back to 1956, and today, China is one of the main providers of development finance to the region.²² ODF plays an important role in Sino-African economic ties. In an earlier period, assistance was mainly in the form of infrastructure projects, public works, technical and public health assistance, and scholarships to study in China. Grants and zero-interest loans were the primary instruments until 1995, when concessional loans were introduced.²³

Infrastructure has always been a major focus. The Tanzania-Zambia Railway was a landmark project in early assistance for cross-border infrastructure construction. The single-track railway was built between 1968 and 1976 with Chinese technical and financial support.

In the 21st century, China has actively promoted a new China-Africa strategic partnership to bring the relationship closer. FOCAC was established in 2000 to further strengthen cooperation, jointly meet the challenges of economic globalization, seek common development, and expand the scale and scope of China's ODF. It facilitates institutional and collective dialogue around cooperation on issues of mutual concern.

Since 2000, seven FOCAC summits have been held. China began making loan pledges in 2006, starting with \$5 billion (\$3 billion in concessional loans and \$2 billion in buyer's credits). In 2009, it committed to \$10 billion in concessional loans, and in 2012, to \$20 billion defined simply as 'loans'.²⁴ In both 2015 and 2018, packages of \$60 billion took the form of government assistance as well as investment and financing by financial institutions and companies.²⁵

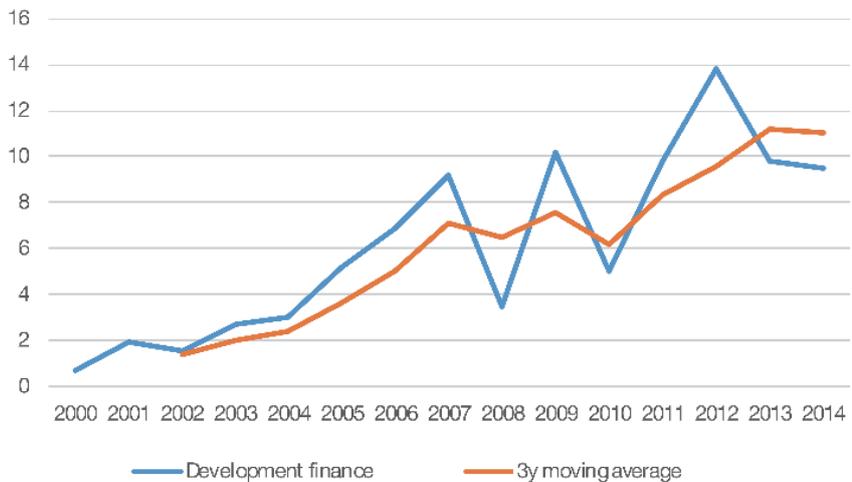
In 2006, the Chinese Government announced the Africa-focused equity investment fund, the China-Africa Development Fund. Launched in 2007, it encourages Chinese enterprises to invest in Africa. As China's Ministry of Foreign Affairs reported, investment cooperation is replacing assistance to become the new engine of China-Africa cooperation.²⁶

In recent years, the concessionality of Chinese financing has moderated, while China has grown visibly more focused on the commercial and viability aspects of projects.²⁷ At the 2018 summit, China emphasized industrial partnering and industrial capacity cooperation through facilitating Chinese private investment, and providing technical assistance and training for local workers. The development of industrial parks to attract foreign investors was identified as a key initiative to boost African industrialization.

ODF flows

According to AidData, of the 2,168 China-financed projects in Africa that the database categorizes as ODA and OOF, only 1,219 record the monetary value, as shown in Figure 3.13. Overall, China's ODF to Africa has steadily risen since 2000, plateauing at around \$11 billion on average in the last three years. The timing of FOCAC helps explain some of the volatility in the data. The dramatic increase in 2009 and 2012 followed pledges in the 2009 and 2012 summits, while the 2007 spike was after the 2006 summit.

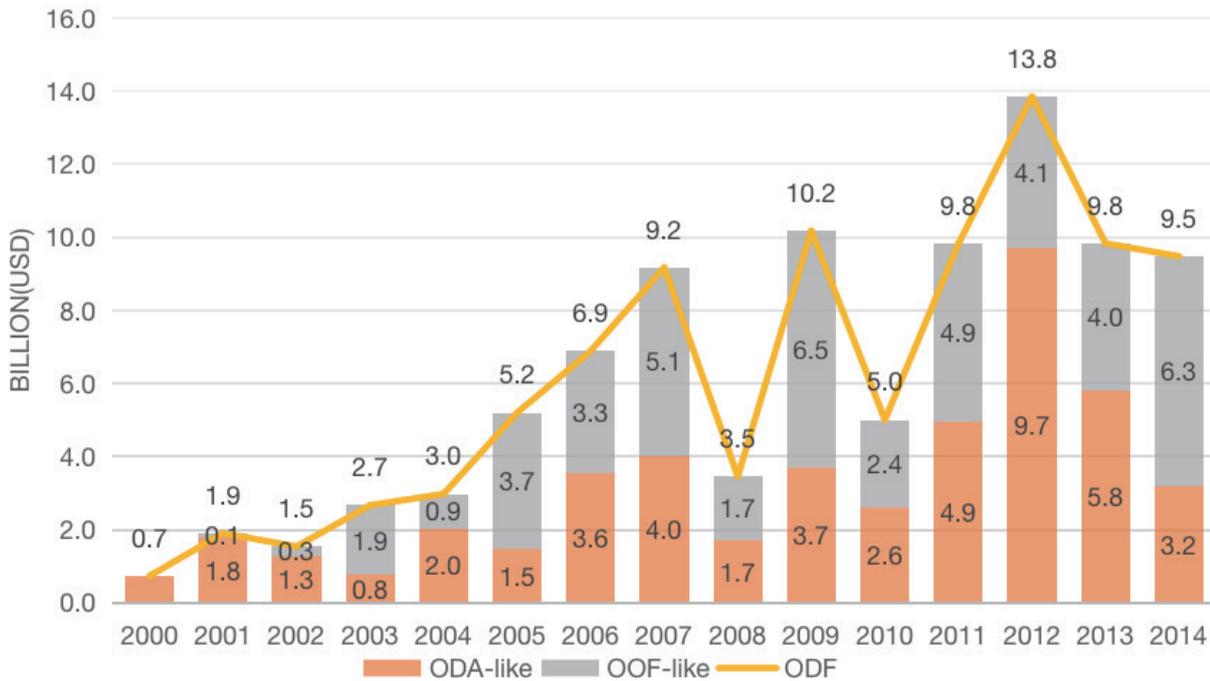
Figure 3.13 ODF and the three-year moving average (billions of dollars)



Source: AidData.

As highlighted in Figure 3.10, AidData does not show a predominance of OOF over ODA flows in this period, as reiterated in Figure 3.14. This contrasts with evidence provided by many scholars who note that China's government finance to Africa is primarily OOF rather than ODAs.

Figure 3.14 China's ODA and OOF flows to Africa (billions of dollars)



Source: AidData.

Among all the development financing tools offered by China, grants (mostly ODA) fund the vast majority of projects, accounting for 60 percent, while loans (two thirds of which are categorized as ODA and a third as OOF) account for 30 percent. The remaining 10 percent comprises debt forgiveness and rescheduling (5 percent), export credits (3 percent), technical assistance, and scholarships and training.

Debt forgiveness and debt rescheduling are worthy of note. Between 2000 and 2014, AidData recorded 52 cases of debt forgiveness and 6 cases of debt rescheduling for a combined value of \$3.8 billion. A recent study from CARI found that between 2000 and 2019, China cancelled at least \$3.4 billion of debt, and restructured or refinanced approximately \$15 billion of debt in Africa. While rescheduling by extending the repayment period is common, changes in interest rates, reductions in principal (“haircuts”) or refinancing are not (Acker et al., 2020).

At the country level, Angola is the largest recipient of development finance from China, with 88 projects financed with a total of \$14.3 billion, mostly OOF loans. This result is expected, given the frequent use of resource-backed financing agreements between China and Angola. It is known as the ‘Angola Model’, where the recipient nation uses its commodities, such as oil resources, to secure low-interest loans for projects. The first oil-backed loan was agreed between China and Angola in 2004. By contrast, Ethiopia, the third largest recipient, with 54 projects financed between 2000 and 2014, benefitted mostly from ODA types of finance. This was also true for Nigeria and Zimbabwe (Table 3.2).

Table 3.2 Top six ODF recipient countries in Africa from 2000 to 2014 (billions of dollars)

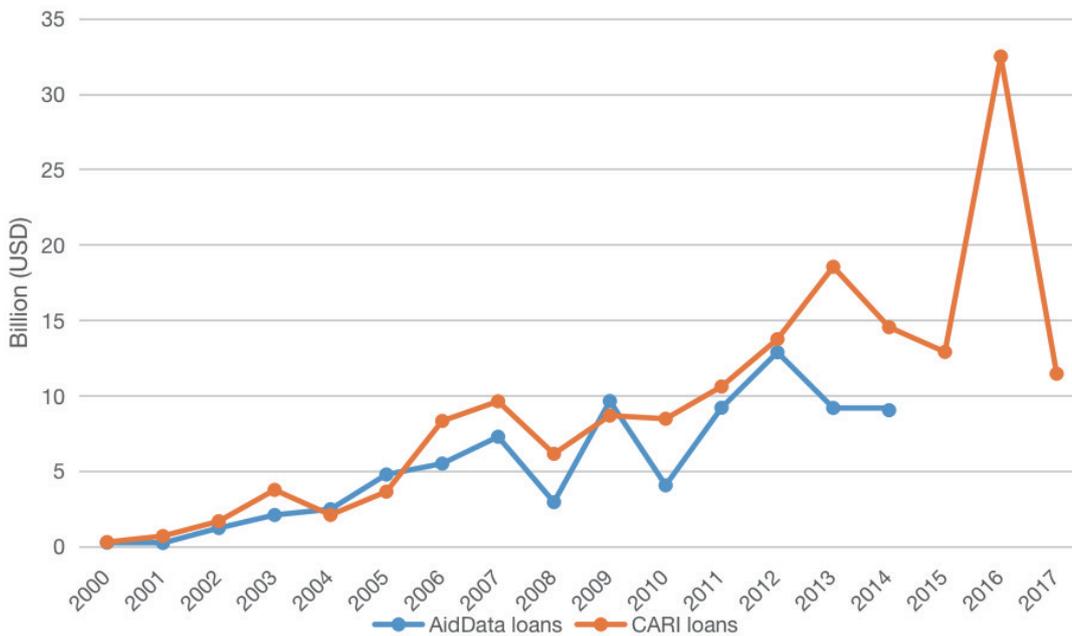
	ODF	ODA	OOF	ODA as a share of ODF, percentage	Number of projects
Angola	14.3	0.9	13.4	6	88
Sudan	7.8	1.5	6.3	19	44
Ethiopia	6.2	3.7	2.6	59	54
Nigeria	6.0	3.1	2.9	51	27
Zimbabwe	5.7	3.6	2.1	63	69
Kenya	5.1	1.6	3.5	31	53

Source: AidData.

The CARI dataset

Another source of data for Chinese development finance in Africa is the CARI Database. It is more updated than AidData, with values up to 2018. It has a different scope, however, only covering Chinese loans to Africa. Loans recorded include not only concessional loans, interest-free loans, export credits, and supplier credits, but also commercial loans. While commercial loans do not fall into the scope of this study, they could not be deducted from the total since CARI does not publish data disaggregated by loan type. CARI loan data are used as they are, while noting the broader definition than the one for loans in AidData. To make the two data series more comparable, the AidData loan information in Figure 3.15 includes export and supplier credits.

Figure 3.15 Comparison of loans to Africa between CARI and AidData²⁸



Source: CARI, AidData.

In general, the two data series show the same upward sloping trend, while loans are usually larger in CARI since it includes commercial loans.

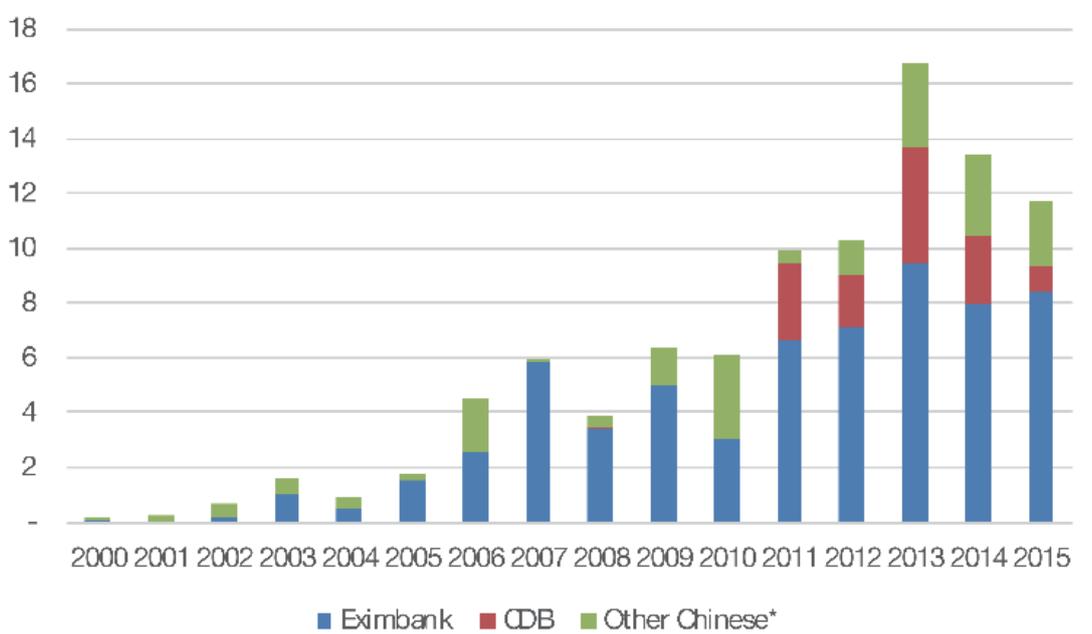
Based on CARI data, Chinese loans to Africa have gradually decreased since 2013, reaching a level of around \$11 billion in 2017, with a sole outlier in 2016. The spike in 2016 was mostly due to Angola, which received \$19 billion versus an average of \$1.8 billion a year in the previous 10 years. The rise in loans that year is likely linked to Chinese activities in the oil sector, and the deal signed between Chinese Sinochem and Angolan Sonangol to source oil to China. Between November 2015 and the first half of 2016, the Angolan Government borrowed \$11.5 billion (Meidan, 2016). The 2016 China-Angola Investment Forum in Luanda may have unlocked further Chinese finance for Angola.²⁹

CHEXIM is by far the largest provider of loans to Africa, as classified by the CARI Database (Figure 3.16). Thirty percent of its African portfolio is equally distributed among Angola, Ethiopia and Kenya. This stands in contrast with the CDB's exposure: 71 percent of its Africa portfolio is concentrated in financing the Angolan Government.

3.2.2 China's ODF to Asia

Asia, as China's home region, is the second largest ODF recipient region after Africa. China started providing foreign assistance to Asian countries as soon as it became a nation in 1949. The Democratic People's Republic of Korea and Viet Nam were the first two recipient countries. Before 1980, China's foreign assistance was mainly shaped by geopolitical considerations. After 1980, China shifted its foreign aid strategy to focus more on economic development.³⁰

Figure 3.16 Loans by financier (billions of dollars)



Note: 'Other Chinese' includes commercial Chinese banks and contractors.
Source: CARI.

China's relationship with Asian countries has long been close due to geographical proximity. This relationship entered a new stage in the new century, marked by a series of diplomatic actions, regional initiatives, and growing economic and trade cooperation.

Shortly after joining the WTO, in 2003, China became the first country outside the area to join the Treaty of Amity and Cooperation in Southeast Asia. It built a strategic partnership with Association of Southeast Asian Nations (ASEAN) countries, elevating the relationship to a new level. In 2009, the China-ASEAN Investment Corporation Fund was established, a dollar-denominated offshore quasi-sovereign equity fund with initial capital of \$1 billion to target investment in infrastructure, energy and natural resources in South-East Asian countries. In 2010, the China-ASEAN Free Trade Area became the largest free trade area among developing countries, aimed at further promoting economic and trade interaction among ASEAN countries for mutual development. Since 2013, with the announcement of the China-Pakistan economic corridor, China's footprint in Central and South Asia continued to grow.

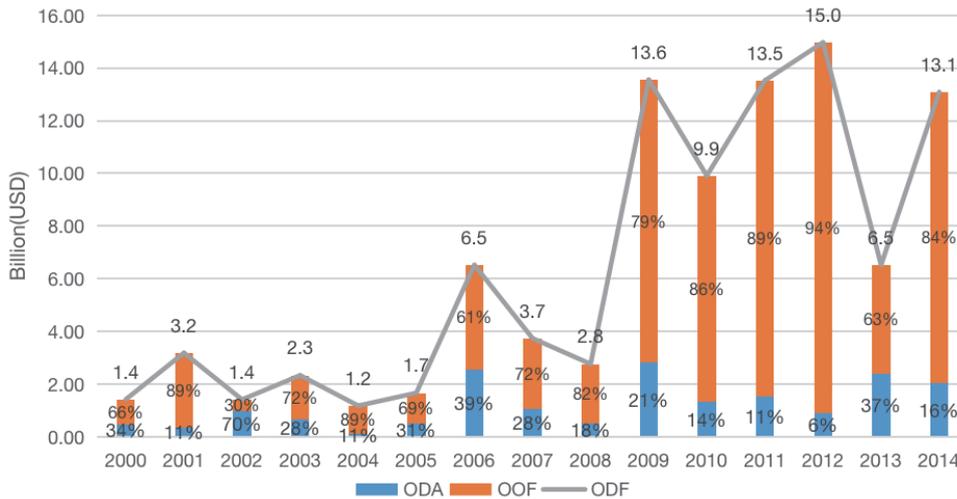
Overall ODF to Asia

According to AidData, China's ODF supported 1,035 projects in Asia between 2000 and 2014, of which 654 have a specified monetary value. While the total amount of financing going to Asia is similar to that for Africa, the number of projects is only half of that in Africa, suggesting that the average scale of Asian projects is much larger.

In terms of the time trend, Asia had a relatively high starting point of \$1.4 billion in 2000, while ODF to Africa and Latin America and the Caribbean in 2000 was only \$700 million and \$87 million, respectively. From 2000 to 2014, China's ODF to Asia experienced two stages. From 2000 to 2008, the total amount remained relatively low at around \$3 billion, followed by a big jump in 2009 when the China-ASEAN Investment Corporation Fund was established. After 2009, the value fluctuated at around \$10 billion, with a peak of \$15 billion in 2012 (Figure 3.17). The surge since 2009 was mainly caused by some huge infrastructure and energy projects. For example, CHEXIM released over \$7 billion in loans to Lao People's Democratic Republic for construction of the Kunming-Vientiane high-speed railway link in 2012, which was over 50 percent of the loans made that year. In 2014, CHEXIM agreed on a preferential buyer's credit of over \$4 billion for Pakistan's Karachi Nuclear Power Plant project, accounting for one third of total ODF that year.

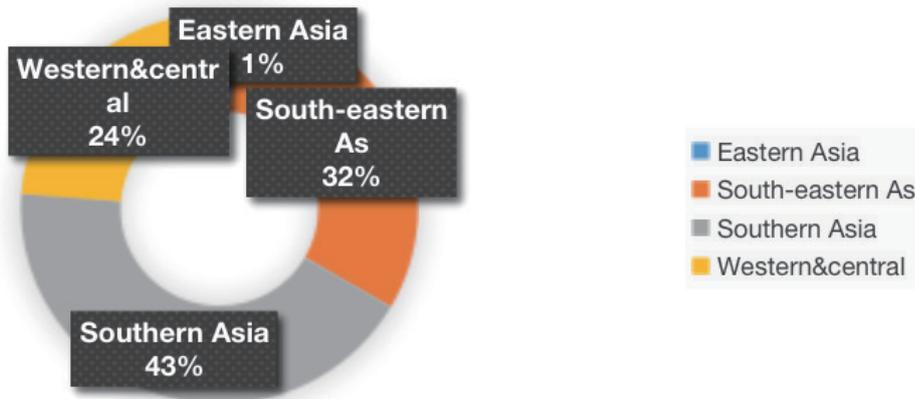
Further disaggregating flows by subregion shows that Southern Asia is the largest recipient within Asia, accounting for 43 percent of total ODF, while South-East Asia absorbs 32 percent, followed by Western and Central Asia, and Eastern Asia.³¹ The pattern reveals the importance of Southern and South-East Asia (Figure 3.18).

Figure 3.17 ODF to Asia (billions of dollars)



Source: Global Chinese Official Finance Dataset (Version 1.0), AidData, October 2017.

Figure 3.18 ODF to Asia (billions of dollars)



Source: Global Chinese Official Finance Dataset (Version 1.0), AidData, October 2017.

The top five ODF-recipient countries in Asia are listed in Table 3.3. Pakistan, as one of the first countries to recognize the People's Republic of China, has enjoyed a close relationship with China and received the most ODF. Cambodia, Lao People's Democratic Republic and Sri Lanka also have close ties with China, which is among their top trading partners. Lao People's Democratic Republic is not only the second largest ODF recipient in Asia, but also the third largest destination for China's investment in ASEAN countries (Tuo et al., 2018).

Table 3.3 Top five ODF-recipient countries between 2000 and 2014 in Asia (billions of dollars)

	ODF	ODA	OOF	ODA as a share of ODF, percentage
Pakistan	18.7	2.4	16.3	13
Lao People's Democratic Republic	11.6	0.6	11.0	5
Sri Lanka	11.0	2.8	8.2	25
Turkmenistan	10.7	0.6	10.1	6
Cambodia	8.0	3.0	5.0	38

Source: AidData.

3.2.3 China's ODF to Latin America and the Caribbean

Latin America and the Caribbean was the last region to establish diplomatic ties with China, and the last to receive China's aid. Cuba, as the first recipient country in the region, received interest-free loans of \$60 million between 1961 and 1965, marking the start of China's official finance to the region.³²

In the new century, the region started to have an increasingly prominent position in China's diplomatic map. In 2008, the Chinese Government issued its first policy document on the region, indicating that it would take the relationship to a strategic level, and build a comprehensive and cooperative partnership with countries there.³³ As a vital component of strengthening the economic relationship, China's development finance to this area increased significantly, especially after the financial crisis in 2008. China's commitments helped fill a finance gap left by the World Bank and other international financial institutions in the region (Yuan and Gallagher, 2015).

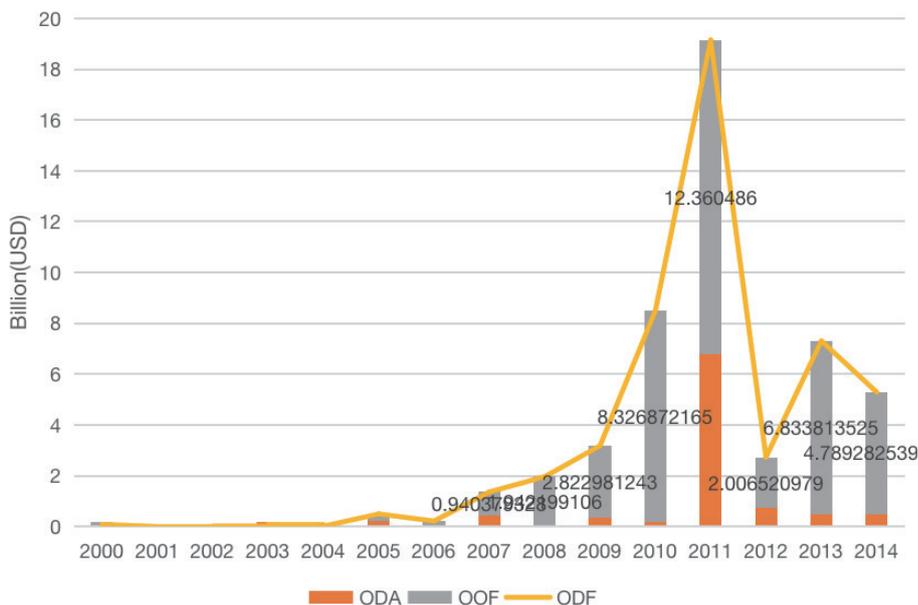
In January 2015, the First Ministerial Meeting (FMM) of the Forum of China and the Community of Latin American and Caribbean States was held in Beijing, approving the 2015-2019 China-Latin America and the Caribbean cooperation plan. China pledged to increase trade with the region from over \$230 billion to \$500 billion, and the stock of investment from around \$106 billion to \$250 billion by 2025.³⁴ In addition, it offered 6,000 governmental scholarships, 6,000 training opportunities and 400 opportunities for on-the-job master's degree programmes in China between 2015 and 2019.³⁵

China's two policy banks are the main sources of official finance to countries in Latin America and the Caribbean, mainly offering loan products. Three funds were established for the region: the China-LAC Cooperation Fund in 2014, the China-LAC Industrial Cooperative Investment Fund and special loan programme for China-LAC Infrastructure Projects in 2015. Fund investments, however, account for a very small portion of overall Chinese finance.

Overall ODF to Latin America and the Caribbean

Based on AidData, China's total ODF to Latin America and the Caribbean between 2000 and 2014 topped \$53 billion.³⁶ The amount rose from \$87 million in 2000 to the highest level of over \$19 billion in 2011. It initially remained at a comparatively low level, until 2007, and has climbed dramatically since 2008, when China first issued its policy document on the region and the financial crisis occurred. The total peaked at 2011 and started to retreat in 2014 (Figure 3.19).

Figure 3.19 ODF to Latin America and the Caribbean (billions of dollars)



Source: Global Chinese Official Finance Dataset (Version 1.0), AidData, October 2017.

In terms of ODF composition, in most years, OOF outweighed ODA except in 2005, when shares were about equal. Overall, loans were the major instrument, accounting for over 79 percent of total ODF. Some other flows were also dominant in particular years. For example, debt forgiveness to Cuba was \$6 billion in 2011, 28 percent of total ODF that year, and export credits to Brazil reached \$5 billion in 2014 or 31 percent of total ODF that year. Other categories such as grants and debt rescheduling have represented only small portions of the ODF package.

Table 3.4 Top six ODF recipient countries between 2000 and 2014 in Latin America and the Caribbean (billions of dollars)

	ODF	ODA	OOF
Venezuela	10.77	0.00	10.77
Ecuador	9.70	0.02	9.68
Brazil	8.53	0.00	8.53
Cuba	6.68	6.68	0.00
Argentina	4.64	0.00	4.64
Regional total	50.41	9.88	40.53

The flows have been concentrated in certain countries. Cuba, as the largest ODA recipient, has received 68 percent of China's ODA to the region. Nearly all ODA to Cuba takes the form of debt forgiveness and rescheduling. In terms of OOF, Venezuela, Ecuador, Brazil and Argentina, in that order, are the top four OOF recipient countries. Together they received 83 percent of China's OOF to the region. Loans have comprised nearly 93 percent of the OOF to these four countries (Table 3.4).

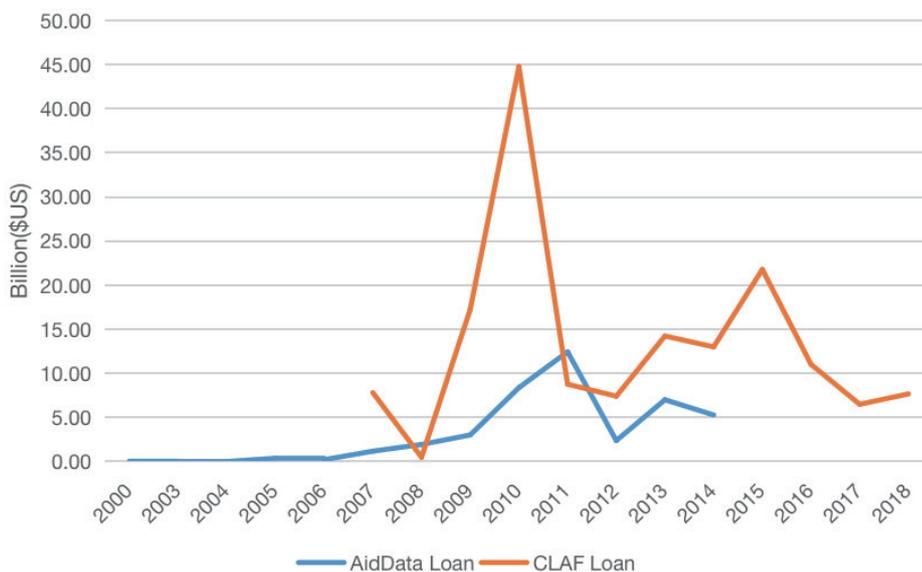
Source: AidData.

Loans to Latin America and the Caribbean

In addition to AidData, Boston University's Global Development Policy Center also compiled the CLAF Database, which records the annual flows of loan contracts by the CDB and CHEXIM. It has more recent data, but differs from AidData since it only includes loans from the two policy banks.

Figure 3.20 shows the comparison of loan data from AidData and CLAF.³⁷ The AidData figures show an upward trend since 2000, with a spike in 2011. The CLAF data show loans growing rapidly since 2008 and peaking in 2010 with a total value of around \$44.7 billion. The rise in 2009 and 2010 was mainly attributed to several major projects. For example, in 2010, a jointly funded project in Venezuela with CDB financing reached \$25.5 billion, accounting for 57 percent of total lending that year.³⁸

Figure 3.20 Comparison of loans to Latin America and the Caribbean between AidData and CLAF³⁹ (billions of dollars)



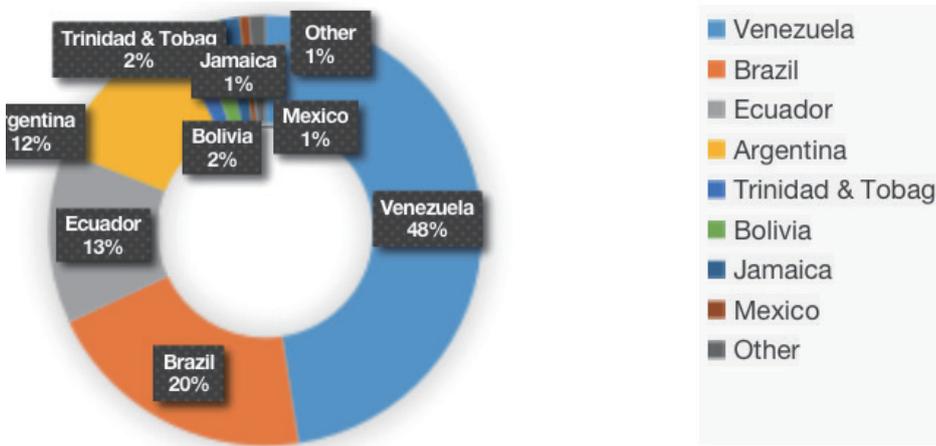
Source: Global Chinese Official Finance Dataset (Version 1.0), AidData, October 2017, and CLAF Database, 2018.

While the two data series show similar trends, there is a big discrepancy in terms of the amount. This could partially be explained by data collection methods. CLAF may have captured and identified more projects from open-source information than AidData.

According to CLAF data, from 2005 to 2018, CDB lending to countries in Latin America and the Caribbean reached \$115.3 billion, while CHEXIM bank financed projects to the tune of \$25.8 billion. This is quite different from the pattern observed in Africa, where CHEXIM loans are around five times the size of CDB loans. In general, most CDB loans are non-concessional, while CHEXIM is the main provider of concessional loans and preferential export buyer's credits, suggesting the predominance of non-concessional lending in Latin America and the Caribbean.

CLAF's data also revealed that Venezuela was the top recipient of Chinese loans between 2005 and 2018, accounting for almost half the total amount. Other major recipients included Argentina, Brazil and Ecuador (Figure 3.21), in line with the results from AidData.

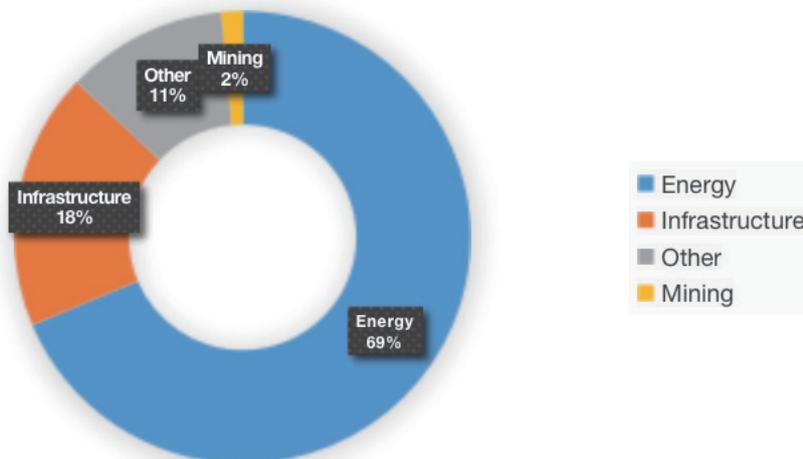
Figure 3.21 Distribution of Chinese loans in Latin American and the Caribbean (2005-2013)



Source: CLAF Database, Inter-American Dialogue, 2018.

Around 69 percent of the lending went to the energy sector, while infrastructure and mining combined received 20 percent (Figure 3.22). Latin America and the Caribbean is not the only region where growing finance for energy is evident. One study found that Chinese policy banks have almost doubled the amount of finance for energy projects (extraction, refining, power plants and distribution) to developing countries worldwide from 2007 to 2016. Compared to the World Bank, Chinese banks provided almost six times more energy finance to Latin America and the Caribbean (Gallagher et al., 2018).

Figure 3.22 Distribution of loans by sector in Latin American and the Caribbean (2005-2013)



Source: CLAF Database, Inter-American Dialogue, 2018.

16. The dollar value is converted using exchange rate in 2009.
17. JICA Research Institute. Naohiro Kitano, "Estimating China's Foreign Aid: 2019-2020 Preliminary Figures", retrieved from https://www.jica.go.jp/jica-ri/publication/other/l75nbg000019o0pq-att/Estimating_Chinas_Foreign_Aid_2019-2020
18. JICA's estimation assumes, for example, that 90 percent of the final accounts of the central public budget expenditure for foreign aid were implemented by MOFCOM. Interest subsidies on concessional loans were estimated by assuming that one third of the interest rate difference between the lending rate of concessional loans and the RMB benchmark loan interest rate was subsidized by the Government.
19. All amounts from AidData have been converted to 2014 dollars.
20. Here, the loans include both concessional and non-concessional loans as defined in AidData.
21. Export credits in this dataset include export credits from State-owned commercial banks. These are not official export credit agencies, but most export credit is backed by Sinosure insurance, meaning if the project fails, the official insurance company, backed by government fiscal revenue, covers the loss.
22. Between 2000 and 2014, China provided \$97 billion in development finance commitments to Africa, the United States provided \$117 billion, the World Bank \$114 billion and the African Development Bank \$65 billion, according to AidData. China in Africa: Competition for Traditional Development Finance Institutions?, retrieved from http://docs.aiddata.org/ad4/pdfs/WPS61_China_in_Africa.pdf
23. Brautigam, Deborah. (2011). Chinese Development Aid in Africa: What, Where, Why, and How Much?. SSRN Electronic Journal. 10.2139/ssrn.2013609. <https://deborahbrautigam.files.wordpress.com/2013/04/2011-brautigam-chinese-aid-in-africa.pdf>
24. Forum on China-Africa Cooperation, <http://www.focac.org/chn/>.
25. The 2015 pledge included \$5 billion for grants and zero-interest loans, \$35 billion for concessional loans and buyer's credits, and the rest as commercial financing. The 2018 pledge included \$20 billion in new credit lines; \$15 billion in foreign aid as grants, interest-free loans or concessional loans; \$10 billion for a special fund for development financing; \$5 billion for a special fund for financing imports from Africa; and the remaining \$10 billion from Chinese companies.
26. Ministry of Foreign Affairs of the People's Republic of China. Wang Yi: China and Africa Constantly Explore New Cooperation Models Featuring Mutual Benefit and Win-win Results, retrieved from http://www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1386331.shtml.
27. Brookings. China's changing approach to Africa, retrieved from <https://www.brookings.edu/blog/africa-in-focus/2019/02/04/chinas-changing-approach-to-africa/>
28. All monetary values reported in the CARI dataset have been converted to 2014 dollars using AidData's methodology to be comparable.
29. See: <http://www.mofcom.gov.cn/article/i/jyjl/k/201611/20161101678052.shtml>.
30. Zheng Weiwei. 2017. "Research of China's Foreign Aid to Southeast Asian since the 21st Century." MPh diss., Central China Normal University.
31. The subregion classification followed the United Nations M49 standard. See: <https://unstats.un.org/unsd/methodology/m49/>.
32. The History of Commerce. China's Assistance to Latin American countries, retrieved from <http://history.mofcom.gov.cn/?newchina=%e4%b8%a%d%e5%9b%bd%e5%af%b9%e6%8b%89%e7%be%8e%e5%9b%bd%e5%ae%b6%e7%9a%84%e6%8f%b4%e5%8a%a9>.
33. Ministry of Foreign Affairs of the People's Republic of China. China's Policy Paper on Latin America and the Caribbean, retrieved from https://www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1418254.shtml.
34. The trade and stock of investment value before 2015 were obtained from World Integrated Trade Solution and the Ministry of Commerce. <https://wits.worldbank.org/CountryProfile/en/Country/CHN/Year/2015/TradeFlow/EXPIMP>
<http://fec.mofcom.gov.cn/article/tzhzcj/tzhz/upload/zgdwtzhzfbg2015.pdf>.
35. Forum of China and the Community of Latin American and Caribbean States. China-Latin American and Caribbean Countries Cooperation Plan (2015-2019), retrieved from http://www.chinacelacforum.org/eng/zywj_3/t1230944.htm.
36. As stated before, in all regional analysis, we do not include undefined flows.
37. The monetary value in the CLAF Database was converted to 2014 dollars based on AidData's methodology so that the two numbers were comparable.
38. The project was recorded in AidData's dataset. Official sources were used to triangulate project information. See: http://www.gov.cn/govweb/jrzg/2010-07/30/content_1668085.htm.
39. To make the two sets of data more comparable, AidData loans here include both loans and export credits.

4. Key characteristics and concerns of China's official development finance

As a relative newcomer to international development finance, China has become an alternative provider of financial resources as well as business models. On various occasions, China's ODF has been perceived as unique, with its own characteristics.

In recent years, growing academic efforts have attempted to understand China's financing based on empirical evidence. Chin and Gallagher (2019) compared Chinese development finance institutions (DFIs), AIIB NDB with other MDBs from the perspectives of scale and business model, composition and approach, and governance. They found that Chinese DFIs are not fundamentally different from other MDBs in terms of funding structure and favourable credit status based on sovereign shareholder guarantees. But differences are evident in many other aspects.

First, China's DFIs tend to lend in large lines of credit and loans for bundles of infrastructure, energy and other national developmental projects, and do so in a coordinated fashion. A number of different (Chinese) banks and non-bank corporate actors take part in creating strategic 'coordinated credit spaces'.⁴⁰

Second, Chinese DFIs tend to focus on infrastructure, which is distinct from what other MDBs have done until recently. The latter have invested more in relatively smaller microinterventions in health, education and the environment as well as providing broader loans for policy reform. For example, energy and transportation only account for 19 percent of the commitments of the International Bank for Reconstruction and Development (IBRD) and 23 percent of those of the International Development Association (IDA) (World Bank, 2019).

Third, Chinese DFIs do not attach explicit or overt policy conditionalities to their loans, and they defer to country system approaches on environmental and social risk management systems.

Chen (2019) compared the funding structure of Chinese DFIs to other national DFIs, namely, Germany's KfW and the Development Bank of Japan. The study concluded that the CDB has adopted a hybrid fundraising model that straddles the bond-based, market-oriented German model and the savings-based, State-coordinated Japanese model.⁴¹

Scholars also argue that foreign aid practices in China share many similarities with those of Japan before the 1980s, such as the dominance of concessional loans in aid schemes, and an emphasis on economic infrastructure and the production sector. These similarities may be rooted in China's and Japan's shared experience of being a recipient country and provider of assistance at the same time (Huang, 2016). This section discusses the key characteristics and concerns of Chinese ODF from the perspective of lending terms and practices, their driving forces, debt sustainability and environmental impact.

4.1. Lending terms and practices

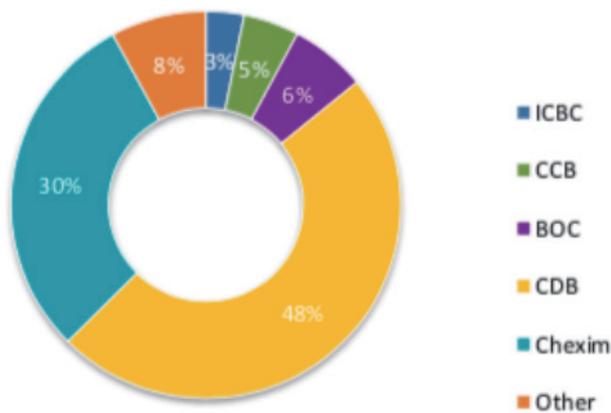
Chinese development finance has been referred to as 'patient capital', characterized by a longer-term horizon with higher risk tolerance (Kaplan, 2018). On the one hand, this is one of its advantages (Lin and Wang, 2017). On the other, this supports the argument that it is not simply commercially driven. The discussion below compares China's development finance with finance from Chinese commercial financial institutions and from traditional 'Western' development finance providers.

Loan maturity. Compared with commercial banks, the two policy banks have an advantage in providing medium- to long-term, large-volume loans, an important support for infrastructure finance. As Figure 4.1 shows, among all Chinese banks, the policy banks in 2015 had dominant shares (78 percent) of medium- to long-term foreign-currency loans. This advantage is partially a result of their distinct sources of funds, mainly, long-term bonds. Commercial banks, on the

contrary, rely mostly on clients' deposits, which can be withdrawn in the short term (Chen, 2019). At the end of 2018, over 87.5 percent of all of the CDB's loans (including domestic loans), had a maturity over five years, and 20.7 percent of outstanding loans had a maturity over 10 years,⁴² even though the distribution of overseas finance is unknown.⁴³ The concessional loans provided by CHEXIM have a maturity of up to 15 to 20 years.

While the World Bank's annual reports do not provide a comparable ratio, as a reference, about 41 percent of the IBRD's current outstanding loans have a maturity over 10 years (World Bank, 2019).⁴⁴ IBRD flexible loans can provide a maturity period of up to 28 years (World Bank, 2019). A recent study found that, on average, Chinese government loan maturities are slightly shorter at 16.6 years than World Bank loan maturities at 17.9 years (Morris et al., 2020).

Figure 4.1 Medium- to long-term foreign-currency loans by bank, 2015



Source: Chen, 2019; Almanac of China's Finance And Banking 2015.

Lending rates. Chinese policy banks do not necessarily have a significant advantage in offering discounted loans compared to commercial banks (Chen, 2019). In terms of funding foreign-currency loans, the CDB has two sources. The first is to borrow foreign currencies directly from government organs (e.g., the Central Bank) at a rate of approximately 2 to 3 percent.⁴⁵ The other is to issue foreign-currency bonds, but the volume of issuance is usually limited. In 2016, for example, bonds issued in foreign-currency were 3 percent (\$6.5 billion) of RMB-bond issuance (CDB Annual Report, 2016). Low interest rates on the international financial market mean that if a Chinese commercial bank can attract sufficient deposits in foreign currency directly, it may be able to offer an interest rate more preferential than those non-concessional lending of the CDB or CHEXIM (Chen, 2019).

Considering high risk premiums and costs of capital in domestic markets in many emerging markets and developing countries, it does seem that China is providing attractive enough interest rates and credit space for partner countries (Dollar, 2019). Given low interest rates in international capital markets, Chinese policy bank loans may be competitive compared with some sources of emerging market domestic capital, although they do not show an advantage next to multilateral or other national development banks.

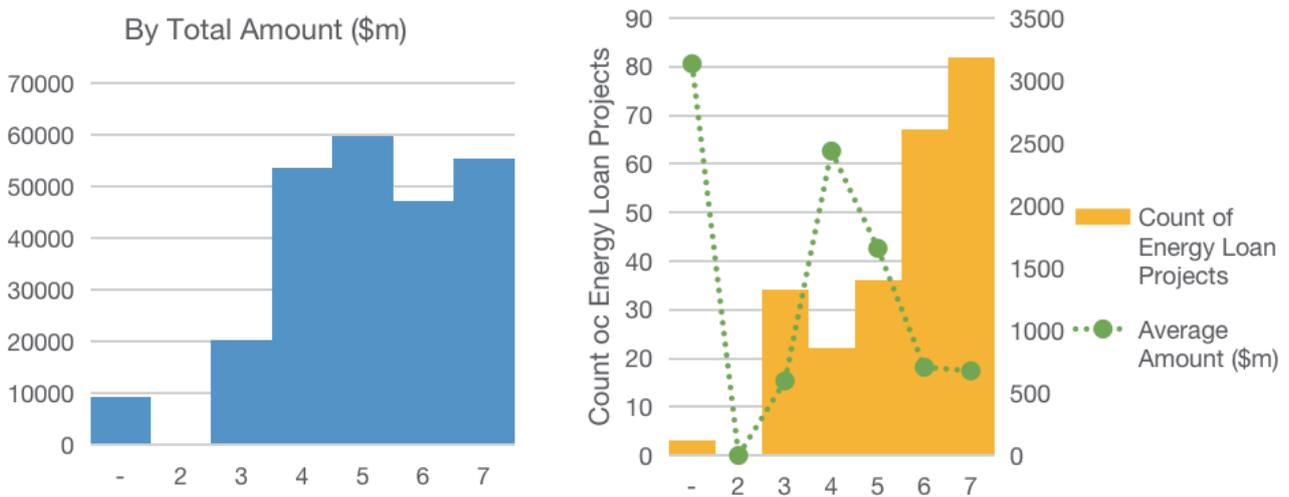
For example, Japan, China's main competitor on the infrastructure finance market, has a negative interest rate, and even non-concessional yen loans come with a relatively low interest rate. The IBRD rates are usually 50 to 150 basis points above the LIBOR, about 2 to 4 percent in the recent years, while the interest rates of China's concessional loans and preferential export buyer's credits range between 2 and 3 percent⁴⁶—barely competitive against the non-concessional lending arm of the World Bank. In addition, concessional loans and preferential buyer's credits only account for a small portion of China's ODF (Chen, 2019).

Interviews with CDB loan managers as well as employees of enterprises that have received CDB loans suggested that the interest rate generally ranges from 3 to 6 percent (Chen, 2019). The bank's self-reported average interest rate for 'loans and advances' between 2015 and 2018 was between 4.27 percent and 5.25 percent (CDB Annual Report, 2016 and

2018). That said, other factors, such as loan maturity and availability of financing, may be important considerations for partner countries in choosing financiers.

Risk appetite. Figure 4.2 presents a comparison of the country risk distribution of energy finance as a proxy estimate for all physical infrastructure sectors⁴⁷ where finance is provided by Chinese policy banks and The World Bank. Using the OECD country risks classification, which measures the likelihood of whether or not countries will service external debts (i.e., country credit risk),⁴⁸ shows that the average country risk of Chinese policy banks' overseas energy loans is higher, at 5.07, compared to 4.22 for the World Bank (based on a range between 0 and 7, where a higher score indicates higher risks).⁴⁹

Figure 4.2 Country risk distribution of Chinese policy bank overseas energy loans (2000-2018)



Source: Boston University, CGEF; OECD Country Risks Classification, October 2019.

To further explore the risk appetite of different DFIs requires looking at the number, size and location of projects. As shown in Figures 4.2 and 4.3, Chinese policy banks and the World Bank show similar patterns of engaging in a larger number of projects in riskier countries. One explanation is that both seem to be smoothing out their portfolios' country risks by financing fewer but larger projects in low- to medium-risk countries, and more but smaller projects in higher-risk countries. China has more projects in the riskiest countries classified as '7', while The World Bank finances more projects in the second riskiest group classified as '6'.

Figure 4.3 Country risk distribution of World Bank energy loans (2000-2018)



Source: Boston University, CGEF; OECD Country Risks Classification, October 2019.

Note: Data in this graph only include non-pure-grant projects of the World Bank Group, including IBRD, International Financial Corporation (IFC) and IDA projects, and excluding those that only involve grants. OECD country risk classifications may have changed from 2000 to 2018. This figure only draws a general picture using the latest OECD country risk classifications published in October 2019.

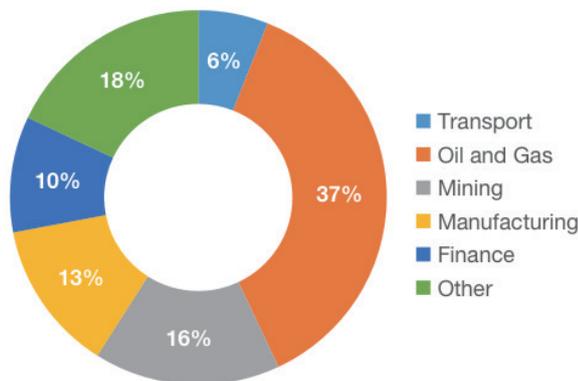
Furthermore, the average size of Chinese policy bank projects is a magnitude larger than that of the bank, despite the fact that, in terms of numbers, the World Bank has more than twice the number of projects in group '6' and '7' countries. Evidence indicates that China is not necessarily pursuing a relatively more pronounced risk-seeking strategy. Rather, it is the average larger size of loans, i.e., the few mega-projects that it supports in riskier countries, that has driven up the risk. China's willingness to lend to higher-risk countries and provide large-volume loans is enabling the construction of key infrastructure and energy production in countries with limited credit space. On the other side, sizeable loans have augmented financial risks in countries.

4.2. Driving forces in China's overseas development finance

Some researchers argue that Chinese policy bank loans pursue objectives beyond economic interests (Alves, 2013; Reilly, 2013; Norris, 2016). It contends that China's infrastructure projects in developing countries do not necessarily make a profit and are often located in 'strategically important' areas. Such arguments come up in discussions about China's investment in energy and mining; transport projects such as ports, roads and rail; as well as various investments involving land use.

Looking at the sectoral distribution of the CDB's overseas loans shows overseas outstanding loans are highly concentrated in "infrastructure, basic industries, and pillar industries".⁵⁰ However, this is in line with the CDB's mandate, even though that mandate does not distinguish between domestic or overseas activities.

Figure 4.4 Sectoral distribution of the CDB's overseas loans (outstanding, end of 2014)



Source: CDB Global Cooperation Business.

A micro-level examination of different channels of influence shows that government organs with non-economic mandates can sway the banks' lending decisions, but only to a limited degree (Chen, 2019). From an ownership point of view, the policy banks are State-owned and serve State interests, but the state organs owning them are all financial branches of the government, such as the Ministry of Finance (MOF), the State Administration of Foreign Exchange, the National Council for the Social Security Fund, etc. The financial and economic condition of the assets is the main factor in their decision-making. Furthermore, both policy banks are financial agencies subject to the supervision of the China Banking Regulatory Commission (CBRC); banking prudence is one of their most important principles. Even though all top leaders of the

policy banks are appointed by the State Council, their previous work experience is largely in the banking sector or at the People's Bank of China, without a background in national security or foreign affairs.

Case studies also find that oil and gas produced by China-financed exploration projects are sold on the international oil market, rather than shipped back to China, challenging the argument that overseas energy finance is serving resource security purposes.

Some Chinese scholars point out that China's finance and development projects are part of long-term relationship building with partner countries, including with governments, businesses and financiers, as a gesture of good will and friendship (Wu and Bai, 2017). Dollar (2019) has concluded that the motivation behind China's overseas financing is twofold, both economic and strategic, as China gains friends and influence through its projects. Strategic consideration may still be a factor in China's development financing decisions, but not with greater weight than in other countries.

Another issue raised is that China's ODF promotes exports. Some researches argue that the terms of loan contracts for infrastructure sometimes include preconditions for assigning contracts to Chinese builders, as well as preferential use of Chinese equipment, materials and labour for project implementation (Pencea, 2018).

China does not seem to deny an intention to promote trade and overseas investment of Chinese companies as part of the 'win-win' solution it champions under a South-South cooperation framework. The official statement of CHEXIM describes its mission as "to facilitate the export and import of Chinese mechanical and electronic products, complete sets of equipment and high-tech products, assist Chinese companies with comparative advantages in their offshore project contracting and outbound investment, and promote international economic cooperation and trade" (Export-Import Bank of China, 2015). Subcontracting to Chinese companies that Chinese DFIs know and trust is also a form of risk mitigation, and often accelerates project implementation. Such practices are also often contested as tied aid, however.

The OECD began 'untying aid' in the late 1980s,⁵³ and has engrained limitations for tied aid as well as transparency requirements for trade-related aid in its Arrangement on Officially Supported Export Credits.⁵⁴ The rationale is that tied aid allows price distortions by avoiding competitive bidding, and could crowd out local contractors and limit local job creation (Jepma, 1991). Even though China is not a member of the OECD, this is an issue worth discussing.

To begin, there is no evidence of the mandatory use of Chinese workers or limits on local job creation. A recent study shows that employment provided by Chinese firms accounted for 21 percent of new jobs created by foreign companies in Ethiopia between 2000 and 2017 (Cheru and Oqubay, 2019). Another report by McKinsey (2017) noted that the average workforce localization rate was 89 percent based on a survey of over 1,000 Chinese companies across eight countries in Africa. Comparative analysis in another study suggested that the Chinese workforce localization rate is not significantly different from the rates of other foreign firms in Ethiopia (Oya and Schaefer, 2019). Although these results may be context-specific, and other countries may record relatively low localization rates, overall local job creation generated by Chinese development finance was meaningful to local economies and livelihoods in the cases mentioned above.

Second, loans and export buyer's credits provided by CDB and CHEXIM do not require 100 percent use of Chinese products. In different types of credit services related to exports, the required ratio of Chinese elements ranges from 15 to 50 percent.⁵⁵ There is in fact much 'room for maneuver' if demanded by a local government and beneficial for the project (Brautigam & Gallagher, 2014), and there are cases where local contractors are involved alongside Chinese companies. As for bidding and procurement processes, transparency issues have been raised given the lack of publicly available information. Some partner governments insist on a competitive bidding process in China among pre-selected companies. But in other instances, companies are awarded contracts directly by the Chinese financier, avoiding more public and competitive bidding processes (Brautigam 2010). That said, there have been cases where Chinese companies negotiated construction contracts before the financier was identified—avoiding the issue of 'bundling'. However, this does not always solve concerns regarding procurement transparency that may still apply to subcontractors and equipment procurement.

4.3. Chinese development finance and debt sustainability

China has gradually become an active international lender over the last 20 years. Its loans have helped to finance many large-scale projects in more than 100 developing countries. The sheer size of its loans and the variation of governance in partner countries have sparked concerns about debt sustainability in recipient countries (Rajah et al., 2019). Research found that except for a few cases where Chinese loans are currently the most significant contributor to high risks of or actual debt distress, China is not the single largest creditor in most LICs with high risks of debt and has not been the main cause of debt increase (Eom et al., 2018; Ray and Wang, 2019). Beyond borrowing money, other structural macroeconomic fundamentals, such as growth, inflation, exchange rate volatility and governance, are likely drivers of debt crises.

Public and publicly guaranteed debt financing is a common practice in all countries, although debt level varies a great deal. From the sustainability point of view, besides the starting level, it is the dynamic of debt that has a significant impact on sustainability.

A recent working paper by the World Bank attempted to evaluate the impact of China's BRI investment financed through public and public guaranteed debt on debt dynamics of selected partner countries. Key assumptions are made, among others, around BRI-related investment growth and its impact on the growth and consequently the debt of the partner country in the medium and long terms. A major constraint to the analysis was limited credible data. Of the 30 countries included in the simulations, 11 would experience a higher debt-to-GDP ratio under the BRI compared to a baseline scenario with no BRI investment. BRI debt financing would result in increasing debt dynamics in only two countries with the public and public guaranteed debt increasing above 50 percent of GDP in 2030 (Bandiera and Tsiropoulos, 2019).

China has offered debt relief as a form of foreign aid, such as through interest-free loans to some countries in debt distress, based on bilateral negotiations.⁵⁶ Estimates indicate that China's debt relief between 2000 and 2018 reached \$9.8 billion.⁵⁷ According to Horn et al. (2019), China engaged in at least 140 external debt restructurings and debt write-offs. In this light, the 'debt trap' claim might seem more of a 'creditor trap' for China than for the borrowing countries, as Kaplan and Penfold (2019) put it when analysing the case of Venezuela. A recent study reviewing China's debt cancellation and restructuring in Africa found no 'asset seizures', no evidence of the use of courts to enforce payments and no application of penalty interest rates. Although Chinese lenders have applied Paris Club terms to some rescheduling, on the borrower's request, they tend to address restructuring quietly, on a bilateral basis, tailoring programmes to each situation (Acker et al., 2020).

With the impact of COVID-19, debt risks will likely rise further in many vulnerable countries. In April 2020, the Group of 20 (G-20) announced an agreement to suspend official bilateral debt service payments for the poorest countries. China's participation in the agreement marks the first time it has joined a multilateral commitment to provide debt relief on government-to-government lending. As an additional measure, following the Extraordinary China-Africa Summit in June 2020, China pledged to cancel the debt of relevant African countries in the form of interest-free government loans due through the end of 2020, and provide greater support to the hardest-hit African countries through debt service suspensions.⁵⁸

In responding to concerns over debt sustainability, risk control and management are increasingly emphasized in China's overseas activities. Those associated with the BRI are detailed in the *Guiding Principles on Financing the Development of the Belt and Road*.⁵⁹ At the second BRI Forum held in Beijing in April 2019, China's Ministry of Finance issued the Debt Sustainability Framework for Participating Countries of the Belt and Road Initiative (BRI-DSF).⁶⁰ Based on the International Monetary Fund (IMF)/World Bank framework for debt sustainability analysis for LICs, the BRI-DSF emphasizes debt sustainability by providing a set of evaluation methods to identify the debt sustainability risks of the borrowing country.

In addition, the People's Bank of China launched the China-IMF Capacity Development Center in 2018 with the aim of strengthening human capital and institutional development in China and partner countries associated with the BRI. One major area of training focuses on the debt sustainability framework, showing China's effort to enhance institutional and human resource capabilities and move towards a more sustained path.

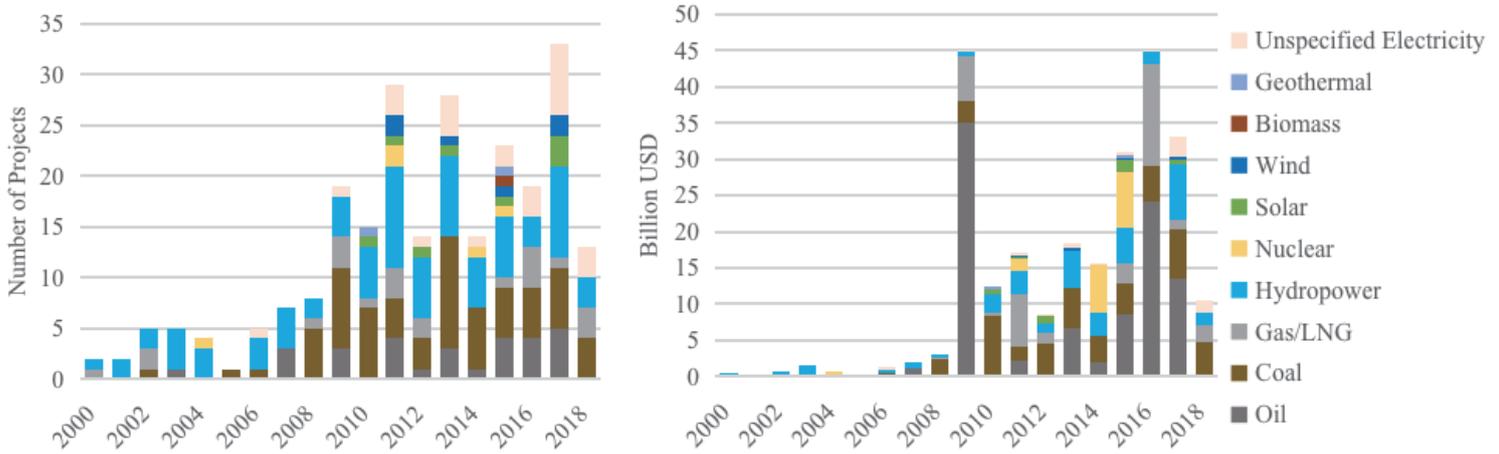
4.4. Environmental impact

Many studies have found that China's ODF has positive impacts on economic growth (Dreher, Fuchs, Parks, Starng and Tierney, 2017), and that China's infrastructure projects contribute to inclusive growth (Bluhm et al., 2018). Nevertheless, its overseas projects have been questioned in terms of their effects on partner countries, particularly social and environmental ones.

According to research from the National Resources Defense Council,⁶¹ the top five G-20 international public coal financiers from 2013 to 2016 were China (\$15 billion), Japan (\$10 billion), Germany (\$4 billion), the Russian Federation (\$3 billion) and the Republic of Korea (\$2 billion).⁶²

Based on the China Global Energy Finance Database, 21 percent and 38 percent of overseas energy loans provided by the CDB and CHEXIM between 2000 and 2018 were in coal and oil respectively. Only 2 percent of energy finance went to non-hydro renewable energy projects. The ratio is marginally larger by the number of projects (7 percent). See Figure 4.5.

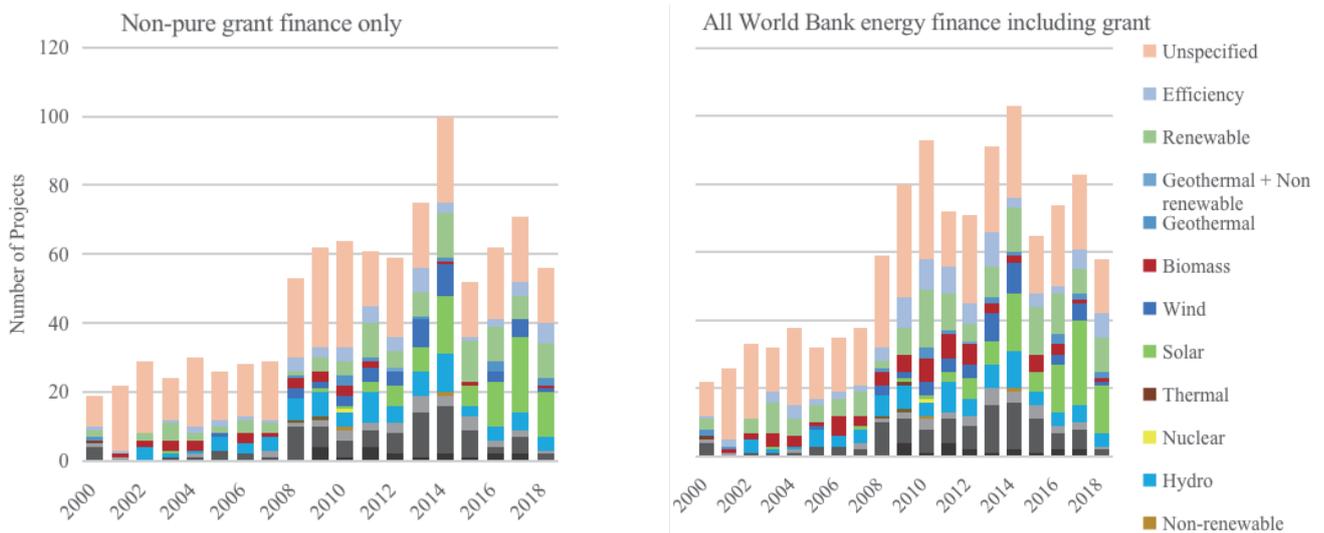
Figure 4.5 Chinese policy banks' overseas energy finance by number of projects (left) and amount (right)



Source: China Global Energy Finance Database, Boston University's Global Development Policy Center, 2019.

In comparison, 22 percent of World Bank energy finance projects (excluding grant projects to be comparable with CDB and CHEXIM operations) from 2000 to 2018 went to renewable projects. The share is 26 percent in terms of the number of projects. If counting grant projects, a third of the World Bank's energy finance projects are in renewable energy. See Figure 4.6.

Figure 4.6 The World Bank's energy finance by number of projects in each energy source



Source: World Bank.

Note: The left chart includes non-grant World Bank commitments by the IBRD, IDA and IFC, to be comparable with energy finance provided by the CDB and CHEXIM, which includes loans at a commercial rate as well as concessional finance, but does not include purely grant-based aid. The right chart includes grant-based aid.

In the past decade, MDBs have 'greened' power-generation portfolios, phasing out lending for coal-fired power plants (Steffen and Schmidt, 2018). The World Bank (2013), followed by the European Bank of Reconstruction and Development,⁶³ decided to provide financial support for coal-power generation projects only in rare cases, such as when

countries have no feasible alternatives to meet basic energy needs. In 2015, the OECD Arrangement on Export Credits restricted official export credits for the least efficient coal-fired power plants, encouraging both exporters and buyers to transition from low-efficiency to high-efficiency technologies. In 2019, the European Investment Bank announced it would phase out lending to fossil fuel projects by 2021.⁶⁴ Similar actions has been taken in many other countries as well. The Japanese government pledges to curtail financial support for the construction of coal-fired power plants overseas and Germany agrees plan to phase out coal power by 2038.

China's two policy banks have actually played a key role in the rise of China's domestic renewable energy industry.⁶⁵ In addition, they have funded clean energy projects overseas, such as Pakistan's Quaid-e-Azam solar park, the fourth-largest of its kind in Asia.⁶⁶

Despite China's increasing financing footprint in clean energy, strong demand and supply dynamics of fossil fuels and limited restrictions on coal projects have made China a top financier of these projects among G-20 countries. This flow of development finance into fossil fuel projects reflects not only supply from China, but also demand from recipient countries (Kong and Gallagher, 2019). Since many developing countries face limited financial resources and technical capacity amid growing energy demand, it may be difficult in some cases to choose renewable energy solutions over fossil fuels, especially if a coal deposit already exists in the country. However, if take the lifetime cost of generating electricity into account, the clear cost advantage of new solar or wind based power generation become clear. If China is willing to transfer its renewables technology, recipient countries would choose that over coal, This would greatly reduce the likelihood of creating a stranded coal-based asset, and of future debt servicing difficulties. In this case, China, with its own successful experience in shrinking the use of coal and expanding renewables domestically, could potentially play an important role in influencing decisions and reducing future emissions.

Some Chinese scholars have argued that coal-fired plants may not be less green if equipped with pollution-controlling technology. They may be a viable solution to solve energy deficits where no alternative renewable energy is available. As emission standards for fossil fuel power plants strengthened domestically, on average, coal power plants financed by Chinese policy banks became cleaner and more efficient than those financed by other countries (Li Y. et al., 2018; Li Z. et al., 2020).

However, this advantage would only hold compared to alternative coal investment. Moreover, even with cleaner technology, greenhouse gas emissions from coal plants still put long-term pressures on the environment. The forthcoming Global Governance Report prepared by UNDP and the Center for International Economic Exchanges provides in-depth analysis of the trade-off between the use of fossil fuel and clean energy. For example, data show new renewable power generation from onshore wind and solar is more competitive on average than new fossil fuel power generation.⁶⁷ The report suggests that financing solutions need to assist in avoiding the lock-in of technology that is cheap in the near-term but has large cumulative costs, making it uncompetitive when a longer horizon is considered.

Financing coal projects not only deviates from global efforts to address climate change, but also put bank portfolios at risk. As the cost competitiveness of renewable energy improves, and as governments strengthen their climate policies, fossil fuel assets are not only exposed to physical climate risks, but also the increasing likelihood of becoming stranded assets. The overseas energy assets of the CDB and CHEXIM combined are exposed to estimated potential losses of up to 22 percent from strengthened climate policy alone (Monasterolo et al., 2018).

40. Coordinated credit spaces is a term coined in Chin and Gallagher's research in 2019. It refers to the fact that China's policy banks usually issue bundles of loans or lines of credit for an array of coordinated and corresponding projects at home and abroad.

41. The KfW raises most of its funds through bond issuance on international capital markets; the State is less directly involved. The Development Bank of Japan's funding (before 2001) came mostly from domestic savings. The State played a crucial role in determining the amount, cost and destination of capital flows.

42. IBRD and IDA Financial Statements, 2019. Retrieved from <https://openknowledge.worldbank.org/bitstream/>

handle/10986/32333/211470v2.pdf?sequence=12&isAllowed=y Note this is remaining maturities of the outstanding loans, and does not represent the maturity structures of actual loans.

43. Calculation based on the CDB Annual Report 2018, p. 179. Retrieved from <http://www.cdb.com.cn/English/bgxz/ndbg/ndbg2018/>.

44. IBRD and IDA Financial Statements, 2019. Retrieved from <https://openknowledge.worldbank.org/bitstream/handle/10986/32333/211470v2.pdf?sequence=12&isAllowed=y> Note this is the remaining maturities of the outstanding loans and does not represent the maturity structures of actual loans.

45. CDB, CDB Annual Reports. Retrieved from http://www.cdb.com.cn/English/gykh_512/ndbg_jx/2018_jx/.

46. The Export-Import Bank of China. China's concessional loans, retrieved from http://www.eximbank.gov.cn/business/credit/feco/201806/t20180610_3519.html.

47. The country risk distribution of The World Bank's energy sector loans on the three indicators mapped here is largely consistent with all physical infrastructure projects financed by the bank. This may or may not be the case for Chinese DFIs. We only use this data for a rough illustration based on the best available information. An ideal exercise would be a similar risk distribution mapping of non-pure-grant finance of all major Paris Club financiers. The OECD only publishes ODA flows by recipient, however, not other official and private flows. China does not systematically publish its development finance data. The best available global database for its ODF is the China Global Energy Finance Database compiled bottom-up from public sources. AidData provides China's ODF data with a more comprehensive range of sectors and financiers, but only with data through 2014. Considering the rapid development of China's development finance and the dominant role of non-grant-based finance, we use energy loan data from Chinese policy banks and The World Bank (both have data until 2018) as a comparable proxy to demonstrate risk-taking patterns in China's and OECD development finance. We did not include projects where the World Bank only provided grants, which constitutes a significant share of bank project finance. To discuss the patterns in the risk-taking practice of DFIs, we only consider projects where the DFI expects a return, large or small, which is to say, we also include IDA aid data that do not involve grants. This also makes World Bank and Chinese policy bank data more comparable, since China Exim Bank also provides concessional loans and preferential export buyer's credits. As China's Global Energy Finance Database doesn't have information on whether the loan is backed up by Sinosure insurance, the country risk described here does not take this factor into consideration.

48. OECD. Operational Procedures for the Country Risk Experts Group-December 2017 revision, retrieved from [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=TAD/PG\(2017\)11/FINAL&docLanguage=En](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=TAD/PG(2017)11/FINAL&docLanguage=En).

49. For the energy portfolio of Chinese policy banks, we did not remove the few loans given to developed countries. China's high average amount of loan per project for "not rated" ("") countries is largely due to the \$7.772 billion loan given by the CDB to the Hinkley Point C Nuclear Power Plant in the United Kingdom. Disregarding this project would raise China's portfolio country risk score to 5.22. But since this section discusses risk-taking patterns, which is an institutional behaviour, we consider it fair to include these projects.

50. See: <http://www.cdb.com.cn/English/qywh/khsm/> retrieved in August 2020.

51. CDB. Loaning Business – International Cooperation, retrieved from <http://www.cdb.com.cn/ywgl/xdyw/gjhyzw/>.

52. University of Miami. Energy Relations and Oil Politics Between China and Latin America: the Case of Ecuador, retrieved from https://scholarlyrepository.miami.edu/cgi/viewcontent.cgi?article=2771&context=oa_dissertations; <https://foreignpolicy.com/2015/12/04/5-myths-about-chinese-investment-in-africa/>.

53. See: <http://www.oecd.org/development/pgd/29412505.pdf>.

54. The Arrangement is an agreement among Australia, Canada, Japan, New Zealand, Norway, the Republic of Korea, Switzerland, Turkey, the United States and the European Union. See: <https://www.oecd.org/trade/topics/export-credits/arrangement-and-sector-understandings/>.

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58. http://www.xinhuanet.com/english/2020-06/18/c_139147084.htm

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66. Belt and Road Initiative. Quaid-e-Azam Solar Park, retrieved from <https://www.beltroad-initiative.com/quaid-e-azam-solar-park/>.
67. New refers to newly built. Bloomberg New Energy Finance is a research organization specialized in the clean energy sector. Bloomberg New Energy Finance (2020). New Energy Outlook 2019. The report is only available for BNEF-registered members. Executive summary available for free online: <https://about.bnef.com/new-energy-outlook/>.

5. How can China's official development finance complement other sources to enhance achievement of the SDGs?

In the fifth year of the 2030 Agenda for Sustainable Development, COVID-19 economic and financial shocks have multiplied global challenges. The 2020 Financing for Sustainable Development Report finds substantial backsliding amid slowing economic growth, growing financial risk, high debt risk and increasing environmental shocks, among other concerns (United Nations, 2020). To address these global challenges, the international community must strengthen collective action, and harness the potential of development finance while carefully managing financial and sustainability impacts and risks.

As a growing source of development capital, China could play a key role in facilitating global SDG attainment in recipient countries. Its financing volumes and practices could complement those of traditional providers in several ways.

There is already evidence that China's DFIs significantly complement long-established MDBs in that they expand the scale, sectoral and geospatial coverage of global development finance (Chin and Gallagher, 2019). In the energy sector, for instance, China's finance complements World Bank lending in terms of geographic coverage (Gallagher, Rohini and Yongzhong, 2016).

As Gallagher put it, one of the advantages of China's banks is that they do not face many of the institutional and political constraints of Western-backed institutions.⁶⁸ This is also reflected in conditionalities on borrowing. In line with China's non-interference principle for foreign policy, its development finance does not stipulate local reforms, human rights observance or transparency (Pencea, 2018). Some Chinese scholars have noted that this characteristic can benefit countries as it opens a window of opportunity to kickstart development, offering a solution to the 'chicken-or-the-egg dilemma' in many developing contexts, where the governance regime is less established, making it harder to attract funding from traditional donors and financiers. Some studies have suggested that China's lending is more 'indifferent to risk' or uncorrelated with indices of political stability and rule of law (Dollar and Thornton, 2017).

One explanation for different risk appetite may be a different risk mitigation approach China often uses commercial ties instead of policy conditionality to safeguard against risks of default, for example. It frequently applies a 'bundled' approach that entails granting loans for using Chinese enterprises as contractors, or using future commodity deliveries as collateral (e.g., the Angola modality) to reduce risk exposure. While many argued that this approach could potentially crowd out local development (e.g., job creation, goods procurement), others suggest that there is room for maneuver⁶⁹ regarding local recruitment and procurement if beneficial for the project (Brautigam and Gallagher, 2014).

Another underlying factor is the strong (implicit) state backing of official loan portfolios. For instance, CDB bonds are supported by the State's credit guarantee and enjoy the 'zero-risk weighting' granted by the CBRC. They are sold mostly to domestic investors and especially to State-owned commercial banks. This set-up results in a high leverage capacity. A rough estimate suggests that the CDB's loan-to-equity gearing role averaged 11 to 1 between 2012 and 2015,⁶⁹ a figure significantly higher than for existing MDBs and other national policy banks (Gottschalk and Daniel, 2017).

Beyond China's capacity to offer new and alternative development finance to partner countries, another relevant question is: why do countries choose finance provided by China? Research has found diverse factors at work (d'Orey and Prizzon, 2017), often mixed and context specific (Prizzon, Greenhill and Mustapha, 2016). The speed of disbursement, less burdensome administrative procedures, the flexibility allowed for the country governance system, country ownership of the development programme, alignment with development objectives, the scale of finance and the need to diversify funding sources are all drivers for countries to pursue different financing strategies. China's finance has expanded the spectrum of finance options, adding to the choices and bargaining power of recipient countries.

In terms of the potential to contribute to SDG attainment, China's development finance has shown a focus on infrastructure, included in SDG 9, on industries, innovation and infrastructure. A World Bank analysis suggests that implementing all BRI transport infrastructure projects will reduce aggregate trade costs by between 1.1 and 2.2 percent for the world (Soyres et al., 2018). Investment in infrastructure is also crucial for achieving affordable energy access, water and sanitation (SDGs 6 and 7), and can have a positive impact on decent work and economic growth (SDG 8).

Although relevant Chinese entities are seeking to address some key concerns regarding China's ODF, an example being the framework for debt sustainability, more emphasis could be placed on labour protections, local livelihoods, gender equality, and climate and biodiversity impacts (SDGs 5, 8, 13, 14 and 15) to better contribute to SDG attainment globally. Furthermore, the governance mechanisms of Chinese DFIs could be strengthened to guarantee that advances on one goal do not come at the cost of another, and to ensure careful management of financial, social and environmental sustainability risks.

This section discusses two main questions. First, how to leverage more resources and scale up development finance for achieving the SDGs, and second, how to improve the quality of China's ODF to safeguard sustainable development in partner countries.

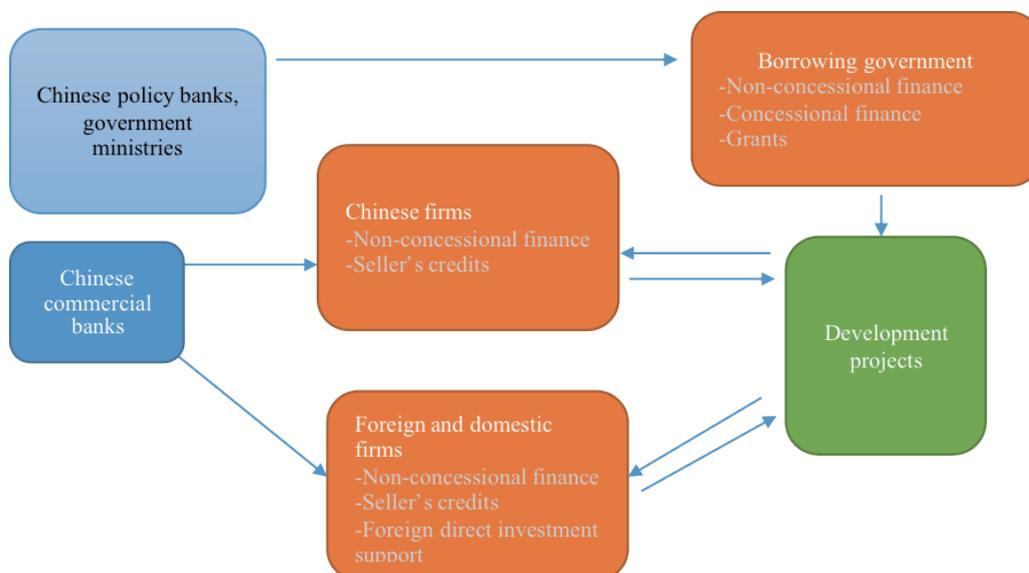
5.1. Scaling up development finance for the SDGs

The SDG financing gap is huge. Filling it requires \$5 trillion to \$7 trillion of investment per year. Developing countries alone require \$3.3 trillion to \$4.5 trillion per year, mainly for basic infrastructure, food security, climate change, health and education (UNCTAD, 2014). Since public funding is far from enough to address these funding gaps, it is imperative to channel development finance into market incubation and the leveraging of private sector investment in SDG attainment.

5.1.1 Active engagement of commercial banks

China, given its size, has the potential to contribute to SDG financing in RMB and foreign currencies. Yi Gang, Governor of the People's Bank of China emphasized the centrality of market-based operations, saying "commercial funds will take up a major share in funding support while concessional funds will be kept low. Government money will play a catalyst role to mobilize funds from the private sector. The private sector will be the major player in investment whereas government investment will serve as a lever to catalyze and guide private investment" (Gang, 2019).

Figure 5.1 Coordinated Chinese development finance



Source: Chin and Gallagher, 2019.

Chinese commercial banks, in addition to the two policy banks, are already actively engaged in many development projects and are becoming important sources of development capital. The commercial banks have closely coordinated with policy banks for overseas development projects. Chen Yuan, the former CDB chairperson, has remarked that the bank has put a special emphasis on “cooperation with commercial banks to optimize synergies in the banking sector” (Chen, 2012). The CDB has pooled financing for, or co-financed with commercial banks, projects to improve conditions for commercial financing and investment across a number of sectors. Sometimes commercial banks submit applications to the borrowing country's ministry of finance to bid on contracts for various projects, following the policy banks' agreement to provide a sizeable loan to cover the core finance. In some overseas markets, where Chinese commercial banks are already established, they will directly intervene in the project (Chin and Gallagher, 2019).

Compared with CDB and CHEXIM, commercial banks can provide larger volumes of funds. In the energy sector, for example, syndicated loans with the participation of six Chinese banks (the China Development Bank, the Export-Import Bank of China, the Agricultural Bank of China, the Industrial and Commercial Bank of China, the China Construction Bank and the Bank of China) reached \$130.9 billion between 2014 and 2017, almost three times the finance provided by the CDB and CHEXIM during the same period (Zhou et al, 2018). The four big State-owned commercial banks (the Agricultural Bank of China, the Bank of China, the China Construction Bank, and the Industrial and Commercial Bank of China) all provide export credits to Chinese companies. These banks are not official export credit agencies, and their loans are not concessional. But most of the export credit is backed by State-owned Sinosure insurance, so if the project fails, the official insurance company backed by government fiscal revenues will cover the loss (Chen, 2019).

Besides offering larger capacity, commercial banks have shown a higher degree of innovation, leading green finance in China, for instance. Even before the CDB and CHEXIM, Chinese State-owned commercial banks such as the Agricultural Bank of China, the Industrial and Commercial Bank of China, and the Bank of China were issuing certified green bonds on international bond markets. Several commercial banks have developed their own frameworks for green bonds and sustainable development, some of which are even more progressive than current Chinese regulatory taxonomy.

However, State-owned commercial banks also have limitations, particularly in operating in LICs. Interviews with some bank representatives suggested that State-owned banks described themselves differently from the policy banks. As listed companies, they need to generate returns for their shareholders. Towards that purpose, effective risk management and profitability are among their core tasks. They are thus better fit to meet demand in UMICs where market institutions are more mature.

In addition, commercial banks cannot provide loans with the long terms allowed at the policy banks (see also Section 4.1). For example, the maximum maturity of export credit provided by the Bank of China is 10 years.⁷⁰

In terms of bond issuances to support long-term finance, there is a growing trend to raise long-term funding in international capital markets to support infrastructure projects with potential development impacts. For example, the Bank of China has issued five BRI-related bonds since 2015, with maturities ranging from 2 to 15 years.⁷¹ The bonds were issued in seven different currencies for \$15 billion in total.

China also promotes investment in RMB and encourages partner countries to raise RMB funds in China's capital market. According to the People's Bank of China, of the \$440 billion overseas finance, more than RMB 320 billion (\$46 billion) was channeled through RMB overseas fund business.⁷² Partner countries and foreign enterprises raised more than RMB 65 billion (\$9 billion) in panda bonds⁷³ in China's onshore market (Gang, 2019). As China further opens up the RMB bonds market to international investors, there is a significant opportunity for international development projects to raise money from the Chinese capital market.

5.1.2 Local market incubation

One of the key functions of development finance is market incubation. This refers to the process of establishing market-based operations and actors with viable corporate structures and financial discipline (Xu J., 2017). The ultimate purpose is to create an industry that is promising for private investment given the potential for a reasonable return once institutions are in place.

In principle, development finance only operates where the market does not exist or is not mature enough to avoid crowding out private capital. There is a delicate balance between the role of the State and market here, with the former facilitating market creation while abstaining from excessive interference and leaving sufficient room for financial development.

As the most cited example, the Wuhu model (Box 5.1) demonstrates how development finance helped incubate markets in China. Despite being a domestic case, it highlights the bridging role played by the CDB in nurturing market institutions, especially where commercial capital is not willing or able to fill financing gaps due to high risks and initially low returns.

Box 5.1 The Wuhu model

Wuhu is located in south-east Anhui Province. Situated on the Yangtze River, the city was historically a commercial centre and transportation hub. At the end of the 1990s, when the city was rapidly urbanizing and in dire need of infrastructure, the CDB helped solve its financing challenge through what became known as the Wuhu model.

The model can best be characterized by a phased approach: namely, development planning followed by market incubation followed by market participation. As the first step, the CDB signed an agreement with the Wuhu municipal government on financing and investment terms. Doing so set the stage for joint project identification, design and screening, which factored in the comparative advantages of both sides. The CDB provided technical expertise in industrial and regional development planning, while the Wuhu government demonstrated strong political will by improving the efficiency of public funding use and optimizing conditions to catalyse financing for urban infrastructure.

The second step, market incubation, comprised a few key processes. Establishing legal market-based entities was one. This was how the Wuhu Construction Investment Corporation Limited (WCIC) came into being in 1998. It acted as the single entity for CDB loans, using initial capital from the local government as collateral for further borrowing. While starting as a local government financing vehicle, the WCIC went through 'governance upgrading' later on, another crucial component of market incubation.

As a start, each loan was approved premised on a rigorous credit structure to enhance awareness of market rules and shape basic operational principles. The end goal was to improve the corporate governance structure and build a qualified business entity to undertake diversified financing and investment activities to enhance asset accumulation.

The process was critical to devise repayment mechanisms with cash flows to ensure long-term financial sustainability. One innovative tool was the 'bundled loan', where projects of varying levels of profitability were combined to safeguard against overall default risk. This made it possible to implement projects that alone would not pass the screening test. As a result, six infrastructure projects were approved at the initial stage in 1998 with the first batch of loans from the CDB (RMB 1.08 billion or \$160 million) covering road construction, water system improvements and waste management. Government creditworthiness played a key role in securing development financing from the CDB, with fiscal revenues used as a guarantee at the start in 1998. Land sales revenue was further added as collateral for additional borrowing at a later stage, in 2002.

As the WCIC developed, it started leveraging more resources from the private sector (e.g., commercial

banks) and through direct financing (e.g., bond issuance), which lead to growing market participation. The growth was due in part to the CDB's intervention, as its lending built market confidence in infrastructure financing. Between 2007 and 2012, the WCIC issued bonds for RMB 6.8 billion (just below \$1 billion), accounting for more than 25 percent of its overall funding base.

One of the key factors of success for the Wuhu model was the effective partnership established between the CDB and the local government. This was premised on the entrepreneurship exhibited by both parties, who were open to seeking and testing new ideas. The Wuhu case offers an experiment with alternative financial modalities to support development, but not without boundaries. It was directed by a clear development objective at the local level, to speed up urban infrastructure construction. This is a demand-driven approach to development finance, but with some improvisation given the conditionality imposed by the CDB to build market-based operations enhancing longer-term sustainability.

Market incubation is at the heart of the CDB's philosophy of development financing. Chen (2012) has highlighted that "the goal is not just to supply financing at the individual project level, but to help drive the development of the market for the sake of national development". As discussed in earlier sections, China's ODF has a special focus on financing long-term and large-scale infrastructure and energy projects, often through a bundled approach. Some scholars have pointed out that this pattern suggests that China's financial institutions are transferring Chinese development finance lessons and experiences abroad, though with some modifications (Chin and Gallagher, 2019).

However, Chinese DFIs seem to mainly engage in financing projects per se, rather than capacity building activities in developing countries. Even though grant-based aid projects actively transfer technology and play key role in multilateral technical assistance (Han, 2017), capacity-building is not common in development finance projects. Models combining technical assistance with project investment are commonly used by the MDBs, and could play a positive role in facilitating sustainable development finance, as technical assistance is not only crucial for market incubation, but also key for project sustainability. Alternatively, a triangular cooperation modality can be adopted, where aid agencies can provide capacity-building to complement long-term loans from Chinese DFIs.

5.1.3 International cooperation

Enhancing cooperation among different DFIs could further strengthen the role of China's development finance in sustainable development (Ma et al., forthcoming), effectively leveraging the comparative advantages of all players. Local financial institutions in partner countries are closest to local demand and supply, and best positioned to incubate sustainable local markets and coordinate policy support from the government. Multilateral and regional DFIs are experienced in providing technical assistance, capacity-building, high standards for environmental and social safeguards and long-term financing. Chinese development finance has the advantage of providing mid- to long-term finance for big projects, and has access to Chinese manufacturing and technology with competitive costs and high efficiency.

Green finance offers an example. Through multilateral cooperation among different DFIs, local DFIs in partner countries could potentially gain greater access to green technology as well as financial resources, lowering procurement costs and substantively scaling up green finance. Bringing in international competition could drive technology transfer and create market competition. With close collaboration, recipient country DFIs would be able to support local industry to better address domestic sustainable development needs. Meanwhile, Chinese DFIs could help identify quality projects and pipelines through local partners, share project risks and returns with local stakeholders, and promote supportive policies for green finance. Cooperation with other national and regional DFIs opens the option of bundling smaller projects or projects with different rates of returns into credit lines, special funds or on-lending projects, making the package financially viable and

attractive, while increasing available credit for national and regional DFIs. Furthermore, the participation of multilateral DFIs with mature social and environmental safeguards (SES) and higher credit ratings would significantly strengthen the position of development projects.

There are a variety of models for cooperation among financial institutions. An array of instruments are already in use by different DFIs, including in China, such as co-financing, special loans and funds targeted to certain sectors, on-lending or credit lines with local banks that could serve smaller projects, regional funds set up by banks aimed at developing a regional focus and providing greater diversity in financial instruments including equity investment, blended finance with grant-based funds that could help development projects realize financial viability, financial associations or interbank associations that provide negotiation platforms for financial cooperation between banks, etc. (Ma et al., forthcoming).

None of the suggestions for further international cooperation emphasizing market incubation is possible without political commitment and mutual trust. Effective mechanisms of coordination and communication are crucial to make sure that investments improve operational efficiency, mitigate risks, reduce negative externalities and generate positive externalities, rather than create extra transaction costs.

China has proactively taken the lead in initiating platforms for coordination. The CDB has established seven interbank cooperation mechanisms with development banks from the Shanghai Cooperation Organization, and countries from Africa, the Arab States, ASEAN, the BRICS (Brazil, Russian Federation, India, China and South Africa), Central and Eastern Europe, and Latin America and the Caribbean.

The Industrial and Commercial Bank of China hosted the Belt and Road Bankers Roundtable in 2017, which evolved into the Belt and Road Inter-bank Regular Cooperation Mechanism. It expanded to an organization of 85 member financial institutions from 45 countries in 2019, including MDBs and international commercial banks. The mechanism aims to provide more stable, diversified and sustainable financial services. It will strengthen communication on major projects among the members, share best practice such as financial governance standards and innovation in financial service products, and encourage cooperation in risk prevention and control. The Industrial and Commercial Bank of China has already cooperated with members of the mechanism to implement 55 projects with loans totaling \$42.7.⁷⁴ There is limited public information on what these projects and the cooperation entail, however.

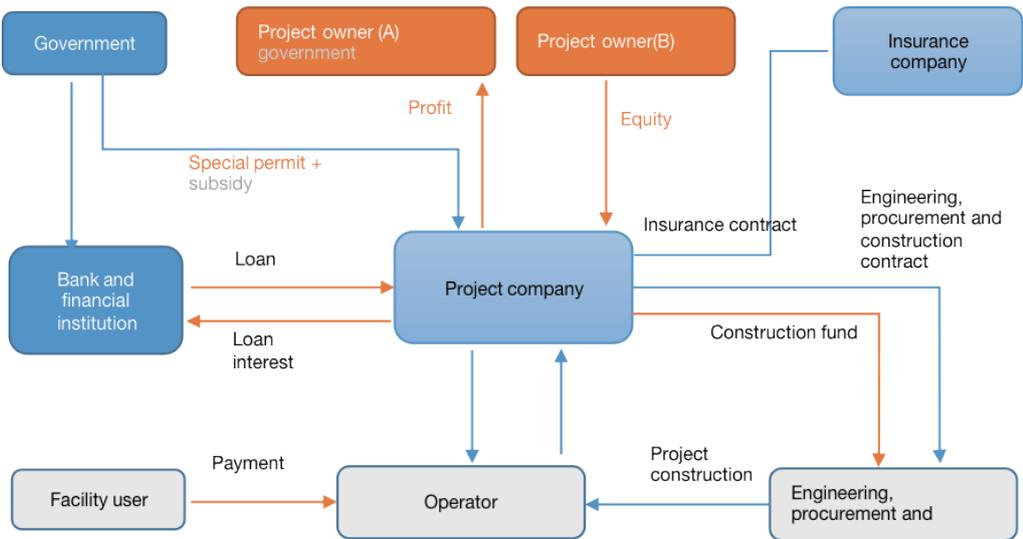
5.1.4 PPP: an approach to operate development projects

A public-private-partnership (PPP) is a long-term cooperative arrangement between the government and the private sector to develop infrastructure or provide a public service, fields once dominated by governments. The PPP concept emerged as an innovative modality in project finance and operation based on the principle of the public and private sectors sharing risks and returns. Widely used around the globe, PPPs are set to play an important role in Chinese development finance and investments as well.

Figure 5.2 shows the typical model of a PPP project. The public element could be a special permit granted to the project company, or a subsidy or direct equity investment. The nature of development projects makes PPPs a feasible and promising mode. On one hand, it is difficult for governments in LICs to afford the large financing costs and associated debt burdens of infrastructure investment on their own. On the other hand, the long investment cycle, high financing costs and low short-term returns of infrastructure projects usually make private companies reluctant to step in. The fact that private investors face great uncertainty in political and business environments and imperfect financial markets in some developing countries increases difficulties in attracting private investment.

The PPP modality not only promises to fill the financing gap and reduce the fiscal burden on governments, but also to enhance the efficiency of public goods management and capital distribution, and contain project risk. The aim is for the government to provide project guarantees and preferable policies to help ease the concerns of the private sector, and to take on political and legal risks during project implementation (Lin, 2017).

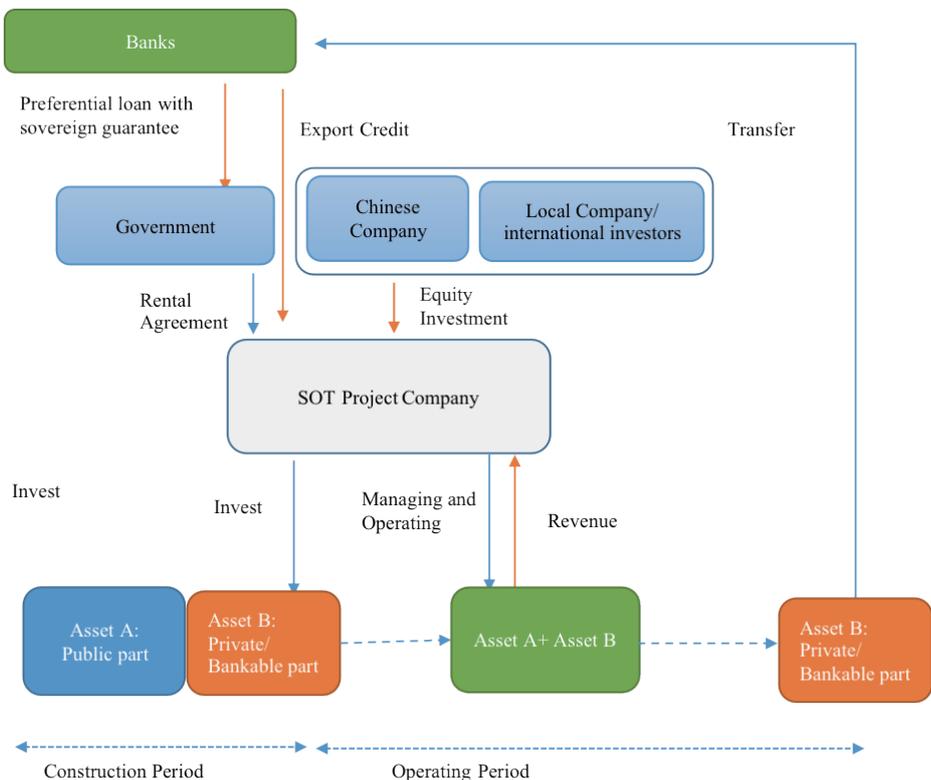
Figure 5.2 Illustration of a PPP project operating model



Source: Jia H. and Tong G., 2015

There are many PPP configurations. Figure 5.3 illustrates the sponsor, operating, transfer (SOT) model. This is particularly interesting in nurturing markets and encouraging private sector engagement. It divides the assets of the PPP project in two parts. One part is a public good that usually cannot generate direct cash flow and usually requires government investment with preferential loans. The other part could generate cash flow and attract private investment, such as by an engineering, procurement, and construction contractor in a joint venture with a local government or government-designated agency. After the construction, the government can rent the public good asset to the joint venture and grant a special permit for its operation.

Figure 5.3 SOT model illustration



Source: Jia H. and Tong G., 2015, formulated into graph by report team.

5.2. Safeguarding sustainable development

In addition to mobilizing various sources of financial capital for sustainable development and exploring innovative financial instruments and cooperation to scale up development finance, it is equally important to safeguard the sustainability and social inclusiveness of these financial flows.

SES help to avoid or mitigate large-scale social and environmental risks for most infrastructure and extractive projects. Most development banks, OECD export credit agencies and commercial banks, although taking different approaches, integrate certain safeguards in their operations. SES polices emerged in the 1980s and 1990s, when the World Bank and other investors came under increased criticism for investment that might harm ecosystems and vulnerable communities.

This section analyses existing domestic regulatory requirements as well as internal SES-related policies that currently govern Chinese ODF. It highlights the opportunities and gaps of the policy framework, and discusses key considerations to strengthen the safeguard standards of Chinese DFIs.

5.2.1 China's regulatory requirements on SES for financial institutions

China is gradually formulating a policy and regulatory framework for overseas finance, but there is still no explicit regulation to monitor environmental and social performance. Most financial institutions consider this mainly a corporate social responsibility issue (Tsinghua and National Resource Defense Council, 2019).

Some guidelines on environmental and social performance are implemented on a voluntary basis (Table 5.1). For example, the CBRC issued the Green Credit Guideline (GCG) in 2012. Building on local experience and international good practices, it provides clear operational guidance on three components of green banking: environmental and social risk management, green lending products and services, and greening bank operations. On environmental and social risk management, the GCG gives clear guidance on how to establish a management system, including organizational elements, policy and procedure, capacity-building, internal auditing, etc. The guideline focuses on domestic lending, where project environmental and social risks should comply with national regulation. For overseas lending, the GCG “encourages banks to adopt best practices or international standards”.

Table 5.1 China's environmental and social-related policies on outbound investment

Year	Government agency	Policy
2012	CBRC	Notice on issuance of green credit guidelines
2013	MOFCOM, Ministry of the Environment	Guide to environmental protection for foreign investment and cooperation
2016	CBRC	Circular on further strengthening the risk management of banking financial institutions in their overseas operations
2016	People's Bank of China, MOF, NDRC, Ministry of the Environment, CBRC, China Securities Regulatory Commission, China Insurance Regulatory Commission	Guiding opinions on constructing green financial systems
2017	CBRC	Guiding opinions on standardizing banking service enterprises to go out and strengthen risk prevention and control
2017	Ministry of the Environment, FM, NDRC, MOFCOM	Guiding opinions on promoting green BRI construction
2017	Ministry of the Environment	BRI eco-environmental protection cooperation plan
2019	China Banking and Insurance Regulatory Commission	Guiding opinions on strengthening the construction of a long-term mechanism for compliance management of the overseas institutions of Chinese-funded commercial banks

Source: Compilation from official sources.

The CBRC further introduced the Green Credit Guideline Key Performance Indicators (GCG-KPIs) in 2014 to strengthen the monitoring and evaluation of green banking. All banking institutions are required to carry out self-assessments of their green credit implementation following the requirements of the indicators, and submit the results to the CBRC each year. At the end of 2016, the CBRC's green credit statistics for the top 21 Chinese banks (accounting for over 80 percent of total banking assets) showed that the majority had adopted environmental and social risk management practices at different levels.⁷⁵ While most of the GCG-KPIs are focused on domestic lending activity, there is one section concerning environmental and social risk management for overseas lending, where a core indicator refers to adoption of international standards such as the Equator Principles and UN Global Compact (see Table 5.2).⁷⁶

Table 5.2 GCG-KPIs for environmental and social risk management in overseas projects

Overseas project management	GCG Article 21 Banking institutions shall strengthen the environmental and social risk management for overseas projects to which credit will be granted and make sure project sponsors abide by applicable laws and regulations on environmental protection, land, health, safety, etc. of the country or jurisdiction where the project is located. The banking institutions shall make a public promise that appropriate international practices or international norms will be followed as far as such overseas projects are concerned, to ensure alignment with good international practices.	
	Objective: to strengthen environmental and social risk management for overseas projects	
	Core indexes	
	4.21.1	To make sure that personnel engaged in overseas project financing shall abide by applicable laws and regulations on environmental protection, land, health, safety, etc. of the country or jurisdiction where the project is located, have enough experience in environmental and social risk management for overseas projects or when necessary, and can make proper judgment with the help of experts on the environmental and social risks of the project to which the credit is to be granted and the willingness and capacity of the project initiator.
	4.21.2	The whole process management shall be given on the environmental and social risk management for overseas projects.
	4.21.3	The banking institutions shall make a public promise that appropriate international practices or international norms will be followed as far as such overseas projects are concerned, such as by: <ul style="list-style-type: none"> - Complying with the Equator Principles - Signing and joining the UN Global Compact - Signing and joining the United Nations Environment Programme Finance Initiative - Signing and joining the United Nations Environment Programme Statement by Banks on the Environment and Sustainable Development
4.21.4	The banking institutions shall have full understanding of good international practices of environmental and social risks evaluation, and control of international financing projects.	
4.21.5	As to overseas projects with controversial environmental and social risks, they can hire an eligible, independent third party to assess such risks.	

Source: CBRC 2014, translation from the official document in Chinese.

The Equator Principles provide a risk management framework, adopted by financial institutions, for determining, assessing and managing project environmental and social risks. Currently, 108 financial institutions in 38 countries have officially adopted the principles.⁷⁷ To date, four banks in China are signatories, including the China Industrial Bank, the Bank of Jiangsu, the Bank of Huzhou and the Chongqing Rural Commercial Bank, although most of them have very limited portfolios outside China.

The EPs have clearly defined 10 principles and financial institutions adhering to the Equator Principles only provide project finance and project-related corporate loans to projects that comply with them. As stated in Principle 1, based on the magnitude of potential environmental and social risks and impacts, financial institutions need to review and categorize projects into three groups, and ensure that safeguards are commensurate with potential environmental and social risks. All category A (high-risk) projects and some category B (medium-risk) projects should be subjected to an external independent review.⁷⁸

Similarly, China's GCG-KPIs require banks to have an environmental and social categorization scheme. The CBRC developed a catalogue⁷⁹ with detailed guidance on projects that should fall into category A and category B in terms of environmental and social risk. But it leaves it up to banks to decide on an external review. It encourages banks to adopt international standard and principles, but only requires an independent third party to assess overseas projects with controversial environmental and social risks.

5.2.2 Policy bank policies and procedures on SES

The CDB and CHEXIM have published SES policies according to the CBRC's requirements (Table 5.3). Most environmental and social requirements are based on the domestic context, detailing environmental pollution control, energy efficiency, green transportation, etc. The two banks have so far not set up a systematic mechanism for multistakeholder engagement and local community consultations in partner countries, although this may occur where borrowing countries have such a requirement. The two banks have also not established compliance and accountability mechanisms, unlike most MDBs, such as the IBRD, IFC and AIIB (Tang, 2018).

Table 5.3 SES policies at the CDB and CHEXIM

	CHEXIM	CDB
SES Policy	<ul style="list-style-type: none"> - Guidance on environmental and social assessment (2007) - CHEXIM Green Credit Guidelines (2015) 	<ul style="list-style-type: none"> - Notice on implementing credit policy and strengthening environmental protection (1995) - Sustainable development strategy (2013) - Green credit workplan (2015)

Source: Research on green investment and financing standards for policy banks in the Belt and Road Initiative, Tsinghua University and National Resource Defense Council, Aug 2019

According to a 2019 Tsinghua University report, both the CDB and CHEXIM have incorporated SES elements into their loan process, including an environmental and social categorization, environmental and social due diligence, an environmental and social covenant and portfolio management (Table 5.4).

According to interviews with SES specialists at different financial institutions, most think a sound SES system will require not only policy and procedure, but also clear definitions of roles and responsibilities for designated departments along with increased internal capacity to support implementation. In most MDBs, a dedicated department or team with environmental and social expertise conducts environmental and social due diligence, reviews environmental social impact assessments, and monitors environmental and social performance in the bank portfolio.

According to Tsinghua's report, the CDB and CHEXIM do not have designated staffs for SES. This deficit in implementation capacity is seen in the majority of Chinese banks (Gallagher and Yuan, 2017). Commercial banks that adopt international standards such as the Equator Principles usually have a lean structure for SES, but use considerable external expertise to support implementation.

CHEXIM has included hiring external consultants as part of environmental and social due diligence, but has no clear eligibility rules for projects requiring an external independent review. The CDB has specific environmental assessment

Table 5.4 SES procedures and practices at the CDB and CHEXIM

SES procedure	Y/N	CDB implementation department and practice	CHEXIM implementation department and practice
Environmental and social due diligence	Y	Global cooperation department and branches	Client relation department development department outsource third party
Environmental and social categorization	Y	Incorporated in environmental and social due diligence, and portfolio management	Incorporated in environmental and social due diligence, and portfolio management
Environmental and social review	Y	Part of project review, credit review department	Part of project review, credit review department
Sectoral environmental standard	N	NA	Credit policy includes power sector and roads, credit review department
Compliance (host country regulation)	Y	Global cooperation department and branches	Each department participates, the client department has the risk management department, the legal affairs department, the internal control compliance department, the risk management department
Compliance (international environmental standard)	N	Introduction of China's standard in the absence of host country standards	Introduction of China's standard in the absence of host country standards
Environmental and social covenant	Y	UN Global Compact, United Nations Environment Programme Finance Initiative, Equator Principles	NA
Community engagement	N	In the loan agreement, usually the borrower needs to be responsible for community engagement; on certain occasions, may involve local government	In the loan agreement, usually the borrower needs to be responsible for community engagement; on certain occasions, may involve local government
Complaints and accountability	N	Complaint should be made to host country	Complaint should be made to host country
Independent monitoring and evaluation	N	Internal monitoring evaluation	Internal monitoring evaluation
Post-environmental impact assessment	Y		Portfolio management, client relation department

Source: *Research on green investment and financing standards for policy banks in the Belt and Road Initiative*, Tsinghua University and National Resource Defense Council, Aug 2019

requirements on mega-projects such as for power and roads, but no specific sector standard. The approach is ad hoc or case by case, not systematic and there is no top-down incentive to institutionalize SES at the banks.

Chinese DFIs practice a “national recognition plus capability deference” approach (Ray, Gallagher and Sanborn, 2018). This means that first, they conform to standards of partner countries, and to standards in place in China when there is no local regulation or standard, while imposing no compliance requirement for compliance with their own standards. Second, they do

not support partner countries to adhere to their standards. This is different from the more stringent approaches of the MDBs, which require fulfilment of their own standards on top of national ones, and in some cases provide concessional resources to build that capacity.

This practice has limitations as many of China's partner countries are developing countries, with inadequate environmental and social legal systems to protect their populations and the environment. Table 5.5 shows that most countries with intensive investment from China have low environmental performance, as measured by the Environmental Performance Index (EPI).⁸⁰ In recognizing this challenge, a recent report proposed practical recommendations for harmonizing financing and investment standards for sustainable development. A detailed discussion follows in the next section (UNDP and CDB, 2019).

Table 5.5 EPI ranking of selected countries

Country	EPI ranking	EPI score	Environmental health score	Ecosystem vitality score
Bangladesh	179	29.56	11.96	41.29
India	177	30.57	9.32	44.74
Nepal	176	31.44	10.54	45.38
Pakistan	169	37.5	16.8	51.3
Afghanistan	168	37.74	36.76	38.4
Lao People's Democratic Republic	153	42.94	25.15	54.8
Cambodia	150	43.23	39.81	45.51
Myanmar	138	45.32	35.6	51.8
Indonesia	133	46.92	45.44	47.9
Viet Nam	132	46.96	47.12	46.86
Kenya	130	47.25	42.96	50.12
China	120	50.74	31.72	63.42
United Republic of Tanzania	119	50.83	45	54.71
Zambia	117	50.97	31.57	63.91
Malaysia	75	59.22	66.63	54.28

Source: Report selection of partner countries with EPI score and ranking data from Yale University.

5.2.3 Comparison between China's environmental impact assessments and international environmental and social impact assessments

China has conducted environmental impact assessments (EIA) for decades to identify the potential environmental risks of domestic projects and propose mitigation measures. Most Chinese financial institutions require an EIA permit as a basic condition for project loans. Table 5.6 compares international environmental and social impact assessments (ESIAs) with procedures in China, revealing gaps mainly in terms of social impact.

Table 5.6 Comparison of international ESIs and Chinese EIAs

	Procedure	International ESIs	EIAs in China
1	Screening and categorization	According to the sector characteristics, the project and the environmental and social factors involved, the categorization of the project is determined, and then the depth and scope of the evaluation are determined. For projects requiring environmental and social impact reporting, follow the process in items 2-5. Items 6 and 7 throughout the EIA cycle.	Classification: prepare reports according to the EIA classification management policy/checklist. For complicated project EIAs, projects shall be carried out according to the following procedures
2	Outline preparation and review	The scope of the evaluation is determined through desktop research and site visiting to determine the potential environmental and social impact of project activities. A scope of work outline will be developed. The outline is usually submitted to the host government for review.	The EIA consulting agency will determine the scope of work in accordance with the EIA guidelines.
3	Baseline assessment	A detailed environmental and social baseline investigation is carried out by site visiting and sampling, a literature review, door-to-door surveys and interviews.	Status quo evaluation: only the environmental factors closely related to the construction project, the status quo survey and evaluation. There is no social baseline assessment.
4	Impact assessment	The identified environmental and social impacts are evaluated, mitigation measures are proposed, and residual impacts after mitigation measures are evaluated. The scope of work might include an environmental impact assessment (encompassing a water resources assessment and greenhouse gases as described below), a social impact assessment (including community health impact, cultural heritage), a cumulative impact assessment and associated issues, and supporting facility impact assessment. Mitigation measures are integrated into the environmental social management plan, including both investment in a facility to mitigate impact and management of the facility.	Includes environmental impact assessment only. A social impact assessment, and supporting facility impact assessment are not included. There are special evaluation guidelines for surface water, groundwater, acoustic environment, atmospheric environment, ecological environment and environmental risk. For mitigation measures, more emphasis is on investment in environmental mitigation measures. For management and operation, more emphasis is on compliance with the recent emissions permit system.
		Based on the characteristics of the project, a qualitative or quantitative assessment of water	According to the responsibilities of the Environmental Protection Department,

5	Water resources assessment, and soil and water conservation	and resources from the perspective of ecological services is carried out if the project is judged at the outlining and review stage to be likely to compete with the environment or the community for the use of water resources. In the same way, if the potential risk of soil erosion is identified, the corresponding qualitative evaluation will be carried out.	a water resources assessment and soil and water conservation are not included in the scope of EIAs.
6	Greenhouse gases	In accordance with international standards, for the estimated annual production of 2.5 percent. Projects with more than 50,000 tons of carbon dioxide equivalent shall quantify their direct and indirect emissions. Accordingly, if a project is judged to have significant greenhouse gas emissions at the outline preparation and review stage, emissions should be evaluated and reduction measures proposed.	Not included in the scope of the EIA.
7	Environmental and social management plan	International best practices tend to develop sound and practical environmental and social management and plans to implement mitigation measures proposed in the social impact assessment.	There is a section on environmental management. Since 2017, EIAs have strengthened and highlighted the role of the Environmental Management Section in China, with the aim of further strengthening the integration of the environmental impact assessment system with the emissions permit system, environmental monitoring and other ex post facto management systems to improve EIA effectiveness.
8	Stakeholder engagement	Stakeholder participation runs through the whole process of the outline and impact assessment. In international ESIA, follow the hierarchy principle of avoidance-minimization-restoration-compensation, mitigation, the environmental impact assessment unit should intervene as early as possible; communicate with the owner and the design unit on site selection, facility layout, process selection and other aspects; and make selection suggestions for different design schemes from environmental and social perspectives, or propose alternatives with less environmental and social impact.	Public participation is separate and not within the scope of EIAs. Public participation shall be carried out by the project sponsor. Although domestic EIAs emphasize early intervention, in practice, the sponsor usually carries out an EIA after the feasibility study report. Especially after the cancellation of the EIA as a pre-condition for project approval, the timing of the EIA may be later, and its role in guiding site selection, route selection, scheme design and other elements in the early stage of the project is even weaker.

In China's EIAs, there is no social baseline assessment or social impact assessment and management plan. On stakeholder engagement, international ESIA have very early stage consultations and engagement to reduce environmental and social impacts following the avoidance-minimization-restoration-compensation hierarchy. China's EIA is usually carried out after the feasibility study report, giving it a relatively weak role in guiding the early stages of a project. Other differences pertain to the scope of the environmental assessment, especially related to greenhouse gas emissions and water resources (Du et al., 2018).

5.2.4 Minimizing social and environmental risks

There is little literature evaluating SES for China's development finance and the impact on development outcomes. Although many NGO reports summarize the environmental and social impacts of China's official finance,⁸¹ there is no official evaluation. The fact that many projects supported by China have been reported as having environmental and social issues has brought reputational and credit risks to the banks involved. Examples are the Lamu coal project in Kenya, which was recently suspended for insufficient measures to protect a World Heritage site,⁸² or the protests against the Bank of China for the hydropower project in Indonesia that could threaten endangered orangutans.⁸³ These episodes signal a need to further strengthen the relevant framework to minimize social and environmental risks associated with project implementation.

The development finance community has made some efforts to evaluate the costs and benefits of SES. Most analysis is qualitative. For example, a World Bank Independent Evaluation Group report suggests that SES benefits have five dimensions: local, civil society, client, the bank and global (World Bank, 2010). See Table 5.7.

Table 5.7 Cascade of benefits from safeguards and sustainability policies

Local	<ul style="list-style-type: none"> - Reduced vulnerability - Improved livelihoods - Enhanced citizen's voice
Civil society	<ul style="list-style-type: none"> - Sustainable resource management - Greater citizen ownership
Client	<ul style="list-style-type: none"> - Laws and regulations - Strengthened institutional capacity - Triple bottom line: social economic and environmental sustainability
World Bank Group	<ul style="list-style-type: none"> - Greater development effectiveness - Reputational risks managed
Global	<ul style="list-style-type: none"> - Equitable resource use - Enhanced global public goods

Other research suggests that SES will enable development banks to provide better public goods and allocate scarce natural and economic resources in a more efficient manner. First, SES can make projects more effective by mitigating risks. The identification of potential environmental degradation or a social conflict ahead of time is important to maintain project schedules and create more certainty around future costs. Second, SES can reduce exposure to reputational risk. Third, SES can help partner countries meet broader development goals and international obligations. Finally, engaging local communities and civil society through SES can deepen ownership of development projects (Gallagher and Yuan, 2017).

While these are perceived benefits associated with SES, some scholars argue that the real impact on projects is mixed and remains largely untested (Gallagher and Kilby, 2018). Thus, there

Source: World Bank Independent Evaluation Group, 2010.

is no substantiated ground for assuming a positive relationship between the terms and rigour of SES and the outcomes of development projects. More demanding SES does not automatically translate into higher likelihood of project success, and there is no single best approach that works for all projects in all situations.

Some Chinese scholars point to potential limitations in the World Bank's SES, as its approach does not adequately account for different stages of development. For example, due to different industrial structures, certain sectors are intrinsically more energy-intensive than others. An overly stringent environmental safeguard may prevent a developing country from catching up with advanced economies.

Yet as a general view, SES does serve as the first 'gatekeeper' of projects by providing the minimum boundary for navigating sustainability. This is where Chinese financing institutions may further improve. Given limitations with preexisting standards, mutual adjustment and coordination around SES may be more effective than one-way solutions, and could facilitate better global governance and collaboration among DFIs.

Acknowledging the challenges regarding the environmental and social sustainability of China's development projects abroad, a recent report (UNDP and CDB, 2019) proposed practical recommendations for harmonizing financing and investment standards towards the goal of sustainable development. The report suggested that the harmonizing process build on existing standards and regulations of each partner country, and on the identified needs for improvement to reach a level aligned with best-practice standards. The report recommended that China work with countries as equal partners, reaching consensus through an iterative process on how to effectively assist them in strengthening institutional and human resource capabilities so they can then adopt, monitoring and implement such standards.

The principles and suggestions the report raised are generally applicable in ODF, accommodating both China's approach of non-interference and the need to align development finance with SDG attainment. Despite progress, much work, resources and effective multilateral engagement are still needed for Chinese DFIs to better contribute to realizing the SDGs globally.

68. <https://www.globalpolicyjournal.com/blog/03/02/2017/chinese-development-finance-convergence-passions-and-interests>.

69. This means, for each dollar of equity, the bank lends \$11. All else being equal, a lower ratio means the bank takes a more conservative approach and vice versa.

70. Bank of China. Export seller's credit, retrieved from http://www.boc.cn/cbservice/cb2/cb22/200806/t20080630_794.html.

71. Bank of China. The Bank of China has set many international market records by issuing "Belt and Road" -themed bonds. https://wap.boc.cn/bif/bi1/201508/t20150827_5529227.html.

72. For example, the Silk Road Fund and China-Africa Development Fund.

73. Panda bonds are RMB-denominated notes sold by a non-Chinese issuer in onshore China.

74. Industrial and Commercial Bank of China. The Belt and Road Bankers Roundtable Successfully Held in Beijing, retrieved from <https://www.icbc.com.cn/icbc/en/newsupdates/icbc%20news/TheBeltandRoadBankersRoundtableSuccessfullyHeldinBeijing.htm>.

75. International Finance Corporation. SBN Input Paper for the G20 Green Finance Study Group, retrieved from https://www.ifc.org/wps/wcm/connect/5962a2da-1f59-4140-a091-12bb7acef40f/SBN_PAPER_G20_02102017.pdf?MOD=AJPERES&CVID=IHehxyG.

76. The Equator Principles are the most common environmental and social standards for international project finance. See: <http://www.cbrc.gov.cn/EngdocView.do?docID=C5EAF470E0B34E56B2546476132CCC56>.

77. Equator Principles, retrieved from <https://equator-principles.com/about/>.

78. Ibid.

79. CBRC. Notice of the China Banking Regulatory Commission on Key Performance Indicators of Green Credit Implementation, retrieved from <http://www.cbrc.gov.cn/EngdocView.do?docID=C5EAF470E0B34E56B2546476132CCC56>.

80. The EPI was developed by the Yale Center for Environmental Law and Policy. It ranks 180 countries on environmental health and ecosystem vitality using 32 performance indicators across 11 issue categories.

81. Investing in a green belt and road? Assessing the implementation of China's Green Credit Guidelines aboard, Friends of the earth united states, Dec 2017. Green Credit "going out", Chinese banks oversea green credit implementation case study, Greenovation Hub, Friends of the earth (in Chinese) 2015

82. BBC World News. "Kenya halts Lamu coal power project at world heritage site", retrieved from <https://www.bbc.com/news/world-africa-48771519>.

83. BBC World News. "Rarest orangutans 'doomed' by Indonesia dam project", retrieved from <https://www.bbc.com/news/world-asia-47451354>.

6. Conclusion and discussion

Using the best available data compiled from different public sources and a review of empirical research, this report attempts to describe China's role in financing development within a context of evolving global development finance.

Towards better understanding China's development finance, the report provides a comprehensive review of different measurements, key actors and common financing instruments as well as a mapping of flows, composition and geographic distribution. It offers a balanced array of sources of information and analysis on some long-debated issues around China's development finance. Lastly, it discusses two pathways, through more opportunities and higher quality, for China's ODF to further enhance global SDG attainment.

Chinese DFIs play an important role in scaling up development finance at the global level, emerging as complementary providers to traditional sources of international development finance. They have made financial resources available to more LICs with higher risks, and have been able to finance large-scale infrastructure projects with long maturity financial instruments. Given the 'patient' characteristics of its development finance and its competitive capacity in infrastructure construction and the energy sector, China has the potential to play a key role in global efforts to achieve many of the SDGs.

First, China's experience has many positive aspects, including innovative financing instruments and cooperation models, that could be shared with the international community to further scale up financing for sustainable development, while strengthening mechanisms for risks mitigation and alignment with partner countries' national priorities and the SDGs.

China's commercial banks have shown increasing interest in and capacity for development projects overseas, alongside the two policy banks, the CDB and CHEXIM. Many commercial banks are leading the growth of green finance in the domestic market, for instance, opening substantial opportunities for leveraging their green finance frameworks and interests globally.

Many innovative financing instruments and cooperation models are available and could be used to overcome barriers to scaling up development finance. Examples are special loans and funds that could be targeted for certain sectors, on-lending or credit lines with local banks that could serve smaller-scale projects, and regional funds set up by banks aimed at developing certain regions. Greater diversity in financial instruments could come through equity investment, blended finance with grant-based funds that could help development projects realize financial viability. Financial associations or interbank associations can also provide negotiation platforms for financial cooperation between banks, PPPs, and so on.

Second, more efforts could be made to ensure sound environmental and social outcomes of development projects, and to reduce negative externalities.

The Chinese Government has been formulating increasingly stringent environmental and social regulations domestically. Under these regulations, DFIs have made significant progress in domestic operations. Despite these efforts, gaps still exist in overseas activities.

Recognizing that no single SES approach works for all projects in all situations, there is a need to harmonize different standards rather than seeking to enforce one-way compliance. More discussion and cooperation among Chinese DFIs, MDBs, national development banks, large commercial banks and national governments is needed to tailor international standards to needs on the ground. This would help strengthen China's SES policies and be welcome from a sustainability point of view.⁸⁴

In addition to policy and procedure, a sound SES system also requires clarity on roles and responsibilities for designated departments and internal capacity to support implementation. Thus, enhancing human resources and technical capacities is critical to facilitate further and lasting positive changes.

More fundamentally, an adaptive and iterative approach may be needed to incorporate dynamic feedback mechanisms

among project operations, impacts and risk assessments over a longer term. Risks may co-evolve as a project advances, causing gradual, or, as in the case of COVID-19, sudden changes in key social, economic and environmental parameters. This information needs to be made available and closely followed to improve the effectiveness and accuracy of project monitoring and impact evaluation, particularly through multidimensional sustainability assessments.

Third, a timely disclosure of data and information on China's foreign aid and development finance can foster mutual trust between China and other development partners.

With the sharp growth of China's ODF, China has faced some harsh criticisms partly because limited official information is available on development financing and investment projects.

Given the increasingly important role of China and other emerging providers in development financing, it is important for these actors to provide timely, policy-relevant and comparable data (including sector-disaggregated data). This would enable a clearer understanding of development financing flows to developing countries across sectors (OECD, 2018), but also help further improve their effectiveness. With three published official white papers on China's foreign aid and the establishment of the China International Development Cooperation Agency, China is making significant steps and catching up in terms of coordination and information sharing.

Further, the OECD has proposed TOSSD as a new development finance standard, covering a broader range of instruments and actors. Given its experience, China would be in a favourable position to participate in such a multilateral platform, bringing valuable expertise and making its contribution in the development field more visible and available to a broader audience.

Finally, deepened international and multilateral cooperation among different DFIs could further strengthen the contribution of China's development finance to attaining the SDGs.

Tackling global development challenges and reaching the SDGs require deepened multilateral cooperation. This is key for mobilizing more financial resources for sustainable development and improving environmental and social outcomes. China's DFIs, local DFIs in recipient countries, and multilateral or regional DFIs each have their comparative advantages. Local financial institutions in partner countries are the closest to local demand and supply and are best positioned to coordinate policy support from the government. Multilateral and regional DFIs are experienced in providing technical assistance, capacity-building and SES governance, along with long-term financing. Chinese development finance has the advantage in providing medium- to long-term finance for very large projects, and can facilitate access to Chinese manufacturing and technology services with competitive costs and high efficiency.

Lastly, more examples and pilots combining investments with technical assistance are needed as these could play positive roles in ensuring the sustainability of development projects. So-called softer initiatives (grants, assessments, technology exchanges and capacity development) through bilateral, South-South and triangular cooperation can be further explored here. Aid agencies including the United Nations development system can also assist by providing capacity development or similar initiatives to complement long-term loans from Chinese DFIs.

84 For more, see the 2019 UNDP and CDB joint report on best practices, sustainability, and enhancing financing and investment standards.

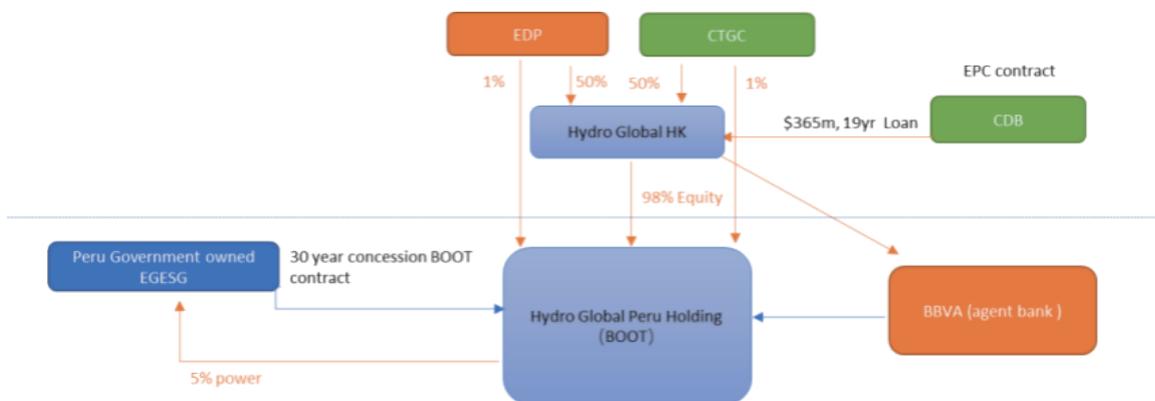
Annex 1: A case study of the San Gaban III hydro-project in Peru⁸⁵

Project overview

In 2017, the CDB reported signing a 19-year loan agreement to finance the 206-megawatt San Gaban III hydroelectric power project in southern Peru. The project is being developed by Hydro Global Peru, a joint venture involving the China Three Gorges Corporation and Energias de Portugal. The development includes a powerhouse containing two vertical Pelton turbine generator units and a 220-kilovolt transmission line connecting to the Onocora or Azangaro substations. It is expected to generate 1,263 gigawatt-hours of electricity annually.⁸⁶

Energy development in the San Gaban region is managed by Empresa de Generacion Electrica San Gaban (EGESG), a Peruvian State-owned power generation company. The project is proposed in the BOOT (build, own, operate, transfer) model, with the power company awarding a 30-year contract to Hydro Global Peru. The latter will construct, own and operate the project during the contract period. It will transfer 5 percent of the power output to EGESG, which will take over operations at the end of the contract. Construction started in September 2017, with completion slated for August 2021.⁸⁷

Figure A1.1: The structure of the San Gaban III project



SES highlights

Hydropower is generally a low-carbon technology that helps to mitigate carbon emissions if replacing fossil fuel. Hydro-projects also often involve environmental concerns and social problems, however, such as issues related to land use, immigration, community livelihoods, biodiversity, etc. Hydropower plants in rainforests carry risks of net carbon emissions if the reservoir floods key carbon sinks. Around the world, there have been many cases where hydro-projects are stalled because of unsuitable siting, lack of effective environmental risks management or insufficient stakeholder engagement. Previous investment by the China Three Gorges Corporation in Peru encountered labour strikes in a project in Iquitos in 2013.

In terms of risk management, both the natural and social conditions are favourable for the dam project, which so far has received very little public complaint. The project is located outside the Peruvian Amazon tropical forests in a sparsely populated district requiring no large-scale relocation. It will replace thermal power plants and is estimated to reduce approximately 700,000 tons of carbon dioxide equivalent.⁸⁸ Peru has strong environmental regulations and effective enforcement mechanisms, and Peruvian society is highly aware of environmental protection and conservation issues.

The San Gaban III project has embedded social and environmental risk management in several ways:

Incorporated potential social and environmental risks into an early project evaluation: Environmental and social risk consultants were hired to provide environmental and social due diligence during the project preparation period in 2014. Environmental biodiversity element as ecological stream was reflected in the project sensitivity analysis. Those ESDD input also reflected in project budget and finance analysis. Based on consultant suggestions, the project set an annual budget for \$45 million and an environmental operations cost of \$53.3 million, both of which are included in the project internal rate of return estimation.

Built strong local partnership: The project built strong local partnership with EGESG to strengthen local community engagement. In the total BOOT 30-year period, the project will provide 5 percent of its power generation to ESESG, and EGESG will use these proceeds to provide local community engagement support.

Share prosperity with the local community: To improve local community livelihoods, the project allocated \$15 million to invest in local facilities for irrigation, education and health care. A training programme helps local women improve fishery skills. The project also plans to train local people on construction skills. Estimates suggest the project construction will create 600 jobs directly and 2,000 jobs indirectly.

Investment model highlight

The BOOT model is a typical PPP model, where a private company brings its own investment to build, operate and own a public infrastructure project. The concession attracts private funding and technology for crucial public goods, in this case, an electricity supply. The public sector acts as the regulatory entity and will take over the project after the end of the contract. While the private sector is expected to receive economic gains from the investment, the financial risks are also almost completely born by the investing company, so the government avoids the concerns of public debt. From the bank's perspective, the bank would be holding the private company accountable, the performance of which would also require effective regulation.

Such an investment model has proven successful in Peru. But that does not mean it is easily transferrable to other country contexts. Peru is a UMIC.⁸⁹ The Government has adopted a policy framework to attract private-sector interest in infrastructure projects, and has also enacted effective regulatory mechanisms.⁹⁰ Its power market structure has been successfully reformed since 1992.⁹¹ The country now has a wholesale electricity market with 140 private companies providing over 85 percent of total power generation capacity.⁹²

In LICs without efficient market mechanisms or regulatory capacities, opportunities for PPPs are more scarce and riskier. In these cases, an engineering, procurement, and construction project led by the public sector might be more appropriate, and enable the financier to better engage with the key public sector stakeholder for risk mitigation and implementing SES.

Overall, for any investment model, technical assistance and capacity-building are as crucial as project investment, as well as checks on the construction company from the financier and host country regulator in terms of risk management and safeguards.

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