

# A Study on China Eximbank's Infrastructure Finance in Asian Developing Countries

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In recent years the Chinese government has made use of infrastructure finance provided by China's policy-based financial institutions for strengthening bilateral cooperation with Asian developing countries. At the same time, large scale infrastructure finance such as concessional loans (GCL) and preferential buyer's credits (PBC), two major concessional finance schemes of the Export-Import Bank of China (China Eximbank) have secured Chinese companies entering the infrastructure market in these countries. Accurately grasping the whole picture of China's infrastructure finance is indispensable if we wish to analyze the status and future issues in infrastructure planning for Asian developing countries. However, lack of disclosure of loan data has hindered systematic research. In this study, we combine the loan data disclosed by developing country governments with other sources of information to create a loan data list of GCL and PBC for 23 Asian countries. Based on this list, we analyze its characteristics by year, region and country, sector, and contractor.

*Key Words: infrastructure finance, China Eximbank, concessional loans, preferential buyer's credits*

## 1. INTRODUCTION

Infrastructure development is indispensable if Asian developing countries are to achieve the Sustainable Development Goals (SDGs) by 2030 as set by the United Nations in 2015. The financial demand is huge. According to estimates by the Asian Development Bank (ADB)<sup>1)</sup>, between 2016 and 2030, developing Asia consisting of 45 Asian economies needs to invest US\$1.7 trillion per year in transportation, energy, water supply, and communication infrastructure. The JICA Ogata Research Institute estimates that annual demand for flood protection infrastructure in developing Asia alone will be US\$94.5 billion<sup>2)</sup>.

Since the end of World War II, bilateral Official Development Assistance (ODA) by countries such as Japan, Australia, EU members and the US, and multilateral development finance from the World Bank, the ADB, and other international institutions have played significant roles in filling the gap of infrastructure finance in Asian developing countries<sup>3)</sup>. China, now the second largest economy in the World,

used to be the largest recipient of ODA in middle of 1990's. Although China started to provide foreign aid in 1950, its presence in Asia was not significant until the 1990's. Since the beginning of the 21st century, China has rapidly increased its foreign aid and other loans along with the many Chinese companies entering the infrastructure market in Asian developing countries and has become a major provider of infrastructure finance. From the recipient countries' perspective, China has provided an alternative channel of external financing<sup>4)</sup>.

Large scale infrastructure finance including Chinese government concessional loans (GCL) and preferential buyer's credits (PBC) extended by the Export-Import Bank of China (China Eximbank) and foreign currency loans extended by the China Development Bank (CDB), two major policy-based financial institutions in China, have secured the activities of Chinese companies. Accurately grasping the whole picture of China's infrastructure finance is necessary if we want to analyze the status and future issues in infrastructure planning in Asian developing countries. However, the lack of disclosure of loan

data from these Chinese policy-based financial institutions have hindered systematic research.

The objective of this paper is to reveal the current status of China Eximbank's infrastructure finance loans, GCL and PBC. We combined the loan data disclosed by the developing country governments with other sources of information. Based on this list, we analyze its characteristics by year, region and country, sector, and contractor.

## 2. CHINA'S INFRASTRUCTURE FINANCE

China's Infrastructure finance consists of grants, interest-free loans, Chinese government concessional loans (GCL), preferential buyer's credits (PBC) extended by China Eximbank, package project scheme or resource-backed financing, market or semi market-based finance by China Eximbank, CDB and state owned commercial banks, foreign direct investment (FDI) for PPP projects and various funds such as China-ASEAN Investment Cooperation Fund, and the Silk Road Fund. Grants, interest-free loans, and GCL are categorized as foreign aid by the Chinese government while some developing countries such as Cambodia count PBC as ODA (**Table 1**). Aside from bilateral schemes, China also con-

**Table 1** China's financing schemes for infrastructure in developing countries

Type	Institution	Description
Grant	China International Development Cooperation Agency (CIDCA) through implementing agencies overseen by Ministry of Commerce (MOFCOM)	Implementing complete projects, providing goods and materials, conducting technical cooperation and human resources development cooperation, etc. (foreign aid, currency: RMB)
Interest-free loans	CIDCA through Agency for International Economic Cooperation (AIECO)	A tenure of 20 years, including 5 years of use, a 5-year grace period, and a 10-year repayment period (foreign aid, currency: RMB)
Chinese government concessional loans (GCL)	China Eximbank based on the framework agreement between two countries and overseen by CIDCA	Interest rates of between 2% and 3% (less than 2% on a case by case basis) and a 15- to 20-year repayment period, including a 5- to 7-year grace period (foreign aid, currency: RMB)
Preferential buyer's credits (PBC)	China Eximbank overseen by MOFCOM	The conditions are equivalent to concessional loans. Some countries count PBC as foreign aid (currency: USD)
Package project scheme	China Development Bank (CDB), China Eximbank, Chinese companies	Funds are provided for infrastructure development, repayment backed by natural resources
Market or semi-market base loans	China Eximbank, CDB, state owned commercial banks, etc.	Buyer's credits by China Eximbank, foreign currency loans by CDB, etc.
Foreign direct investment	Chinese companies	Investment in PPP projects (in some cases, financed by CDB, etc.)
Funds	China-ASEAN Investment Cooperation Fund, Silk Road Fund, etc.	Established by the Chinese government, funded by China Eximbank, CDB, foreign reserve, etc.

tributes to Multilateral Development Banks (MDBs) such as the World Bank, the ADB, and the Asia Infrastructure Investment Bank (AIIB) using grant and capital subscriptions<sup>5)</sup>.

There are a significant number of research studies on China's involvement in infrastructure in developing countries, especially since the announcement of the "Belt and Road Initiative (BRI)" in 2013. These literatures focus on various aspects of infrastructure development such as China's BRI policies enhancing physical cross-border connectivity<sup>6)</sup>. Regarding infrastructure finance, some researchers have constructed a Chinese project or loan database, either covering China's global activities<sup>7)</sup>, or focusing on a specific region such as Africa<sup>8)</sup> or a sector such as energy<sup>9)</sup>. The World Bank's International Debt Statistics based on reports from member countries through the Debtor Reporting System (DRS) includes public or publicly guaranteed debt from China<sup>10)</sup>.

GCL and PBC were introduced in 1995 and 2004, respectively, as new concessional finance schemes for strengthening bilateral cooperation with developing countries and supporting Chinese companies entering the infrastructure market in these countries. China Eximbank implements RMB denominated GCL overseen by the China International Development Cooperation Agency (CIDCA) and US\$ denominated PBC overseen by the Ministry of Commerce (MOFCOM). For both, interest rates are set between 2% and 3% with a 15- to 20-year repayment period, including the 5- to 7-year grace period. Loans with interest rates less than 2% may be extended on a case by case basis. In the case of GCL, the difference between the lending rate and the RMB benchmark loan interest rate, promulgated by the People's Bank of China, is to be subsidized by the government<sup>5)</sup>. Procurement condition for both GCL and PBC basically ties to Chinese contractors. 100% of the contract amount is covered by GCL while 85% is covered by PBC.

Some researchers used to focus on GCL and PBC<sup>11) 12) 13)</sup>. However, recently there is little analysis that specifically focuses on GCL and PBC in Asia, primarily because of a lack of data.

## 3. DATA COLLECTION

China Eximbank's GCL and PBC (GCL/PBC) loan data between 2001 and 2019 were collected from 23 Asian developing countries (**Table 2**). A summary of the loan data is shown in **Table 3**. First, we looked for official data from the host countries. Some countries such as Cambodia and Nepal have established and maintained Official Development

**Table 2** 23 Asian developing countries covered by loan data

Sub-Region	Income level		
	LDC and other low-income countries (6)	Lower middle-income countries (11)	Upper middle-income countries (6)
	US\$18,395 million 27.6%	US\$31,915 million 47.8%	US\$16,390 million 24.6%
East Asia		Mongolia	
Southeast Asia	Cambodia, Lao PDR, Myanmar	Indonesia, Philippines, Vietnam	Malaysia
South Asia	Bangladesh, Nepal	Pakistan, Sri Lanka	Maldives
Central Asia and the Caucasus		Armenia, Kyrgyzstan, Tajikistan, Uzbekistan	Kazakhstan, Turkmenistan
West Asia	Yemen	Syrian Arab Republic	Iran, Turkey

**Table 3** Summary of loan data (2001-2019) US\$ million

Year	GCL	PBC	Total	(Buyer's credit)	(Interest-free loans)	(Grant)	(Total)
Number of loans	121	217	338	13	1	3	355
%	35.8	64.2	100.0	3.8	0.3	0.9	105.0
Total loan amount	11,752	54,948	66,700	4,823	31	162	71,716
%	17.6	82.4	100.0	7.2	0.0	0.2	107.5
Average loan amount	97	253	197	371	31	54	202

Assistance (ODA) databases that include Chinese loan data, while some others such as Bangladesh, Maldives, Pakistan, Philippines, and Sri Lanka, have disclosed detailed loan data including those from China. Other countries such as Mongolia have disclosed a list of Chinese funded projects.

However, so far, several countries have not disclosed Chinese loan data in a systematic manner. To offset this, we also checked Chinese government and contractors' official websites as well as Chinese and host countries' media reports. Finally, we double-checked our data with existing databases and statistics.

In total, 338 loan data of GCL/PBC were collected from 23 Asian development countries covering the period 1997 to 2020. Total loan volume amounted to US\$66.7 billion. Aside from GCL/PBC, China Eximbank provided mixed credits, for example, combining PBC and buyer's credits to cover the large project costs, or GCL and interest-free loans or GCL and grants to lower interest rates in coordination with the Chinese government. Including other types of loans or grants, the total amount reached US\$71.7 billion.

The shares of GCL and PBC are 35.8% and 64.2% in terms of the number of loans and 17.6% and 82.4% in terms of loan amounts, respectively. Average loan amounts for GCL and PBC are US\$97 million and US\$253 million, respectively.

Regarding income level, nearly half of the countries (11 countries) belong to lower middle-income countries. 6 countries belong to LDC while the same

number belong to upper middle-income countries. In terms of loan amount, 47.8% goes to lower middle-income countries while 27.8% and 24.6% goes to LDC and upper middle-income countries, respectively (**Table 2**).

We need to be cautious, however, because GCL/PBC is only part of the total international lending by Chinese financial institutions. As of the end of 2018, the outstanding loans of China Eximbank's GCL/PBC, calculated based on our estimate of China's foreign aid<sup>5)</sup>, totaled US\$75 billion, about one tenth of China's outstanding amount of international lending to all countries amounting to US\$710 billion<sup>14)</sup>.

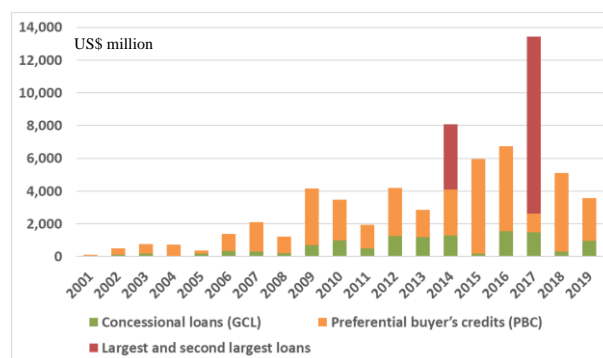
Second, all GCL/PBC may not be captured or some of the projects may not be financed by GCL/PBC so far given the limitation of data sources outlined earlier. We need to continue to update and revise these data.

## 4. ANALYSIS AND DISCUSSION

### (1) Annual loan amount

**Fig.1** shows the annual amount of China Eximbank's GCL/PBC to Asian countries. To look at the overall trend of annual loan amounts, the largest and the second largest loans are excluded.

The loan amount increased until 2016. This rapid increase is attributable to the Chinese government's regional or bilateral commitments on GCL/PBC starting from 2001. For example, in 2004, China announced that it would provide US\$900 million in PBC loans to the member states of Shanghai Cooperation Organization (SCO), including Tajikistan and Uzbekistan. Based on this regional commitment, Tajikistan rehabilitated a major highway connecting the capital, Dushanbe and its northern border with Uzbekistan using PBC provided in 2006. China also have made bilateral commitments with several countries. For example, the China-Pakistan Economic Corridor, a bilateral initiative, was proposed by China in 2013, and several GCL/PBC have been provided for infra-

**Fig.1** China Eximbank's GCL and PBC to Asian countries (2001-2019)

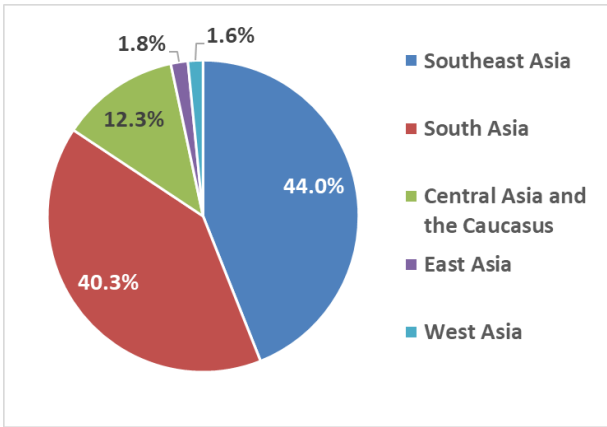


Fig.2 China Eximbank's GCL/PBC by sub-region (2001-2019)

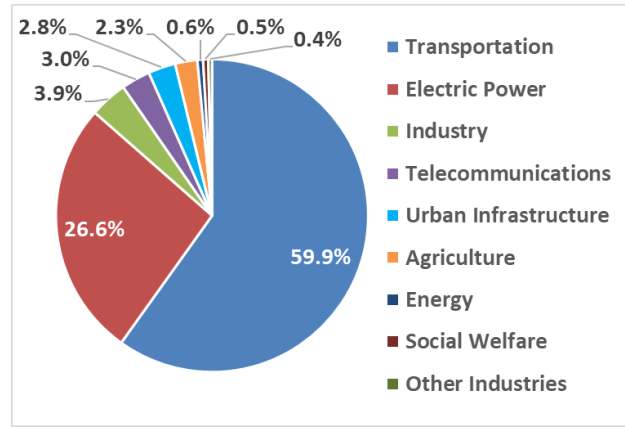


Fig.4 China Eximbank's GCL/PBC by sector (2001-2019)

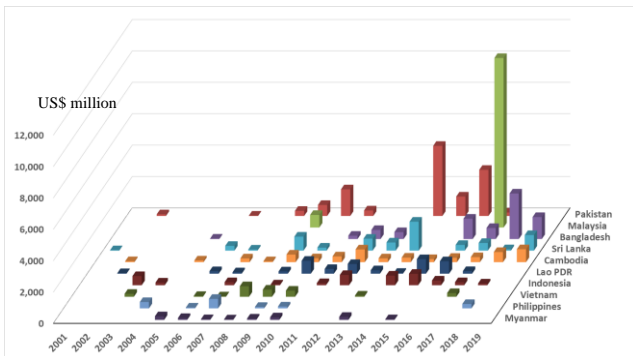


Fig.3 Annual loan amount of GCL/PBC by country (2001-2019)

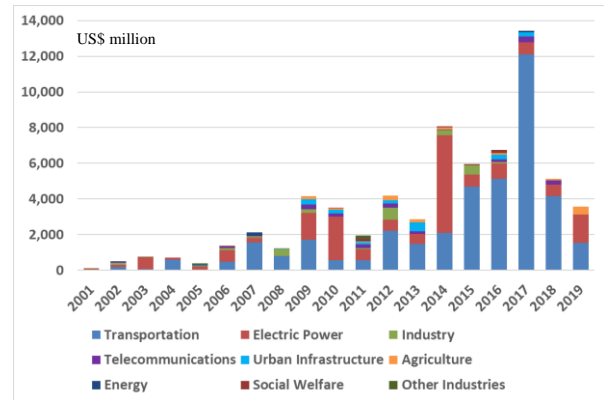


Fig.5 Annual loan amount of GCL/PBC by sector (2001-2019)

structure development along this corridor, including the second largest PBC loan amounting US\$ 4.0 billion for Karachi Nuclear Power Project.

Since 2016, the loan amount has decreased except for 2017. This might be partly due to host countries' increasing debt distress because of borrowing large amounts of loans from countries including China and from the private sector.

**(2) Geographical distribution**

Fig.2 shows the loan amounts of China Eximbank's GCL/PBC by sub-region. Southeast Asia's share is the largest (44.0%), followed by South Asia (40.3%), and Central Asia and the Caucasus (12.3%). Shares of East Asia (1.8%) and West Asia (1.6%) are relatively small. This trend may reflect the volume of China's regional or bilateral loan commitments and the needs of concessional infrastructure finance.

There are several patterns in the trends of annual loan amounts incorporating GCL/PBC by country (Fig.3). Pakistan has received significant amounts over several years, while Malaysia has only introduced PBC twice, including the largest PBC amounting US\$10.8 billion for East Coast Rail Line Project. Bangladesh started to utilize large amounts of GCL/PBC only recently, while Sri Lanka, Cambodia, Lao PDR, and Indonesia have received new loans constantly. Vietnam and Myanmar have actively utilized GCL/PBC in the past, but not recently,

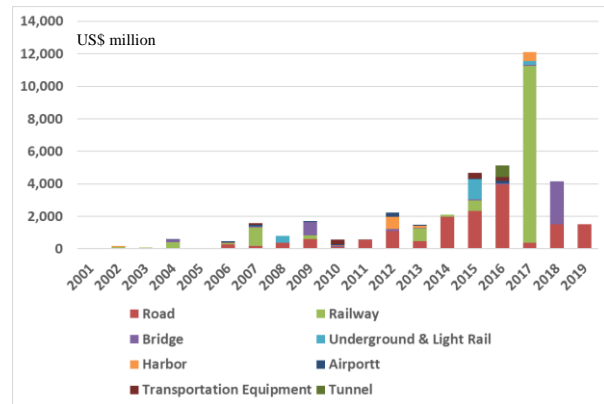


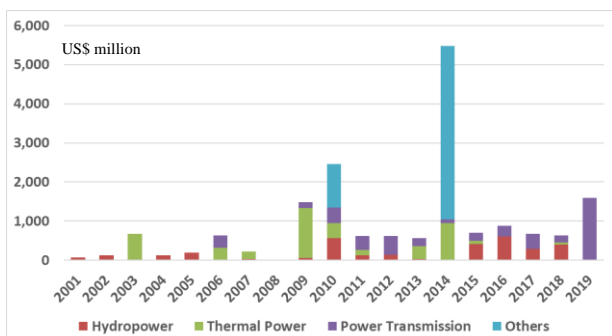
Fig.6 Annual loan amount of GCL/PBC to transportation sector in Asia (2001-2019)

while the Philippines introduced new PBC in 2019.

**(3) Sectoral distribution**

Fig.4 shows that transportation (59.9%) and electric power (26.6%) are major sectors financed by GCL/PBC in Asia, followed by industry (3.9%), telecommunications (3.0%), urban infrastructure (2.8%), and agriculture, forestry, animal husbandry and fishery (2.3%). This trend is consistent with ADB's infrastructure demand estimates showing that electric power and transportation are two major sectors in Asia<sup>1</sup>.

Fig.5 shows the annual amount of GCL/PBC by sector. Transportation is basically the dominant

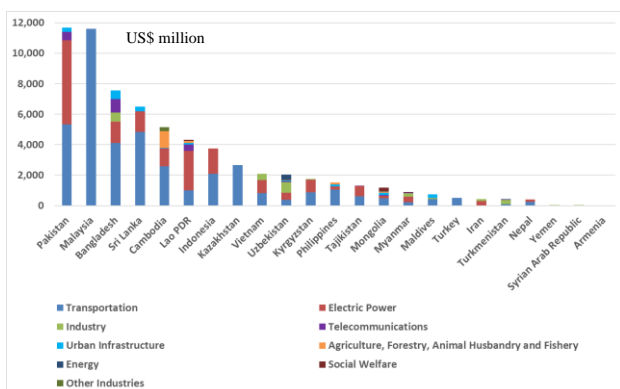


**Fig.7** Annual loan amount of GCL/PBC to the electric power sector in Asia (2001-2019)

sector. The share of electric power was large in 2010 and 2014. **Fig.6** show the distribution of sub-sectors for transportation. The road sub-sector's share is the most significant while the railway sector is predominant in several years including 2017. A significant share absorbed by underground & light rail in 2015 is the PBC for Lahore Orange Line Metro Train Project in Pakistan. The share of financing for bridges in 2018 was for the Padma Bridge Rail Link Project in Bangladesh.

**Fig.7** show the distribution of sub-sectors for electric power sector. Based on the China Eximbank's sectoral category, the 'other' sub-sector has the largest share, followed by power transmission, thermal power, and hydropower. The other sector consists of nuclear power, wind power, solar power, etc. In Asia, only nuclear power plants in Pakistan are listed in the loan data.

**Fig.8** shows the loan amount of GCL/PBC by country and sector. Pakistan has received the largest amount of GCL/PBC followed by Malaysia, Bangladesh, Sri Lanka, and Cambodia. Based on **Fig.8**, each country is categorized by the pattern of sectoral distribution and loan amount (**Table 4**). Category (1) countries such as Malaysia and Kazakhstan only utilize GCL/PBC in transportation sector. Category (2) countries such as Pakistan and Sri Lanka utilize over 90% of GCL/PBC in transportation and electric power. Category (3) countries such as Vietnam and Maldives, except Category (1) and (2) countries,



**Fig.8** Loan amount of GCL/PBC by country and sector (2001-2019)

**Table 4** Countries categorized by patterns of sectoral distribution and loan amount

Patterns of sectoral distribution	Loan amount (US\$ million)				
	10,000-	9,999-5,000	4,999-2,000	1,999-1,000	999-
(1)Transportation	Malaysia		Kazakhstan		Armenia, Turkey
(2)Concentrated in transportation and electric power (90%-)	Pakistan	Sri Lanka	Indonesia	Kyrgyzstan, Tajikistan	Nepal
(3)1-3 sectors (except (1) and (2))			Vietnam		Maldives, Iran, Syrian Arab Republic, Yemen
(4)More than 3 sectors		Bangladesh, Cambodia	Lao PDR	Mongolia, Philippines	Myanmar, Turkmenistan

utilize GCL/PBC in one to three sectors including industries. Category (4) countries such as Bangladesh and Cambodia diversify the use of GCL/PBC, covering more than three sectors including telecommunications. These patterns might be attributable to host countries' sectoral priorities in national infrastructure planning and also intention of Chinese companies in the infrastructure markets in respective countries.

#### (4) Chinese contractors

**Table 5** shows the top five Chinese companies who are major beneficiaries of GCL/PBC in terms of loan amounts. We find that all five companies are major state-owned Chinese contractors or infrastructure operators. For example, China Communications Construction Company Ltd. (CCCC) and China Road & Bridge Corporation (CRBC), subsidiary of CCCC have involved in construction of many transportation projects under GCL/PBC in Asian developing countries. There are also several local level companies such as Shanghai Construction Group Co., Ltd. (SCG) which have won several contracts under GCL/PBC.

We also calculated the average number of projects per Chinese contractor under GCL/PBC in each country (**Table 6**). We only count one major contractor under one GCL/PBC. We find that in several countries such as Cambodia, Kyrgyzstan, and Tajikistan, this number are

**Table 5** Top five Chinese contractors under GCL/PBC (2001-2019)

Contractor	Loan amount (US\$ million)
China Communications Construction Company Ltd. (CCCC)	13,453
China National Nuclear Corporation (CNNC)	5,532
China State Construction Engineering Corporation Ltd. (CSCEC)	3,498
China Road & Bridge Corporation (CRBC)	3,323
China Railway Group Ltd. (CREC)	2,668

**Table 6** Average number of projects per Chinese companies under GCL/PBC (2001-2019)

Country	Number of projects (1)	Number of Chinese contractors (2)	(1)/(2)
Cambodia	63	10	6.30
Kyrgyzstan	9	3	3.00
Tajikistan	12	5	2.40
Kazakhstan	6	3	2.00
Malaysia	2	1	2.00
Pakistan	21	11	1.91
Sri Lanka	22	13	1.69

greater than 2.0. It implies that a limited number of contractors dominate GCL/PBC infrastructure projects in countries' respective sectors. For example, in Cambodia, only two contractors, SCG and CRBC, dominate road projects financed by GCL/PBC.

## 5. CONCLUSION

As we have seen in this paper, using the loan data list of GCL/PBC for 23 Asian developing countries reveals that the Chinese government has made use of China Eximbank's GCL/PBC as major schemes of infrastructure finance for strengthening ties with developing countries and promoting Chinese companies entering the infrastructure market in these countries.

We found that first, Southeast Asian countries such as Malaysia and Cambodia and South Asian countries such as Pakistan and Bangladesh are the major receivers of such loans, and nearly half of the loan amount goes to 11 lower middle-income countries. Second, transportation and electric power are two major sectors of cooperation. Third, we categorized each country into four patterns of sectoral distributions of GCL/PBC and found that some countries concentrate on transportation and electric power while some countries utilize GCL/PBC for diversified sectors. Fourth, in some countries, a limited number of Chinese contractors dominate infrastructure projects under GCL/PBC.

At the same time, we acknowledge the limitations of our research due the partial data sources. We need to continue to update and revise these data.

Regarding future research topics, we could work on a loan data list of GCL/PBC covering other regions. How China's infrastructure finance has brought about the impact on regional and urban infrastructure planning in Asian de-

veloping countries could be one of possible areas of research.

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