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Chinese International Contractors in Africa: Structure and Agency

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ABSTRACT

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As the builders of many of Africa’s mega infrastructure projects, Chinese international construction and engineering contractors (ICECs) are a significant group of actors in Africa. Although Chinese ICECs and have attained a dominant position in the African market, there have been no systematic studies into this group. This paper is an initial attempt to unpack the role of ICECs in China’s international economic relations. Drawing on primary Chinese sources, I trace the historical evolution of China’s international contracting industry. I find that the industry was born at a historical juncture of China’s economic transition in the late 1970s, from a special state mandate to explore overseas markets. The growth of the industry has been the result of the Chinese state’s careful cultivation, with a strategic purpose to internationalize China’s industrial capacity. I also show that, contrary to common assumptions, it is the ICECs that drive China’s international lending in infrastructure projects, rather than the other way round. Chinese ICECs’ agency needs more careful study, as ICECs are set to become even more deeply involved in Africa’s and other regions’ economic development.

INTRODUCTION

As a group, Chinese international construction and engineering contractors (ICECs) warrant closer scholarly probes for several reasons. First, they are the most globalized among Chinese companies in terms of overseas operational experience, some have even grown into Fortune 500 multinational corporations. They are also the key agents responsible for executing Chinese-financed infrastructure projects around the developing world. The majority of Chinese ICECs are state-owned enterprises (SOEs), whose dual roles as both commercial entities and instruments of the state's policies pose intellectual challenges to existing conceptual frameworks.

Against this backdrop, Chinese ICECs' footprint in Africa is of major interest. According to the global construction industry publication Engineering News Record (ENR), China became the largest origin country for international contractors operating in the African market in 2006; by 2019, Chinese companies had taken up over 60 percent of the total revenue of all major international contractors in Africa. Nowhere else is China's share in this sector so dominant. Their phenomenal rise has been fueled by China's provision of development finance that challenges the traditional concept of Official Development Assistance, including grants, concessional loans, export credits, and other official financial flows.¹ As Chinese ICECs often advertise, their ability to obtain financing from Chinese financial institutions is a key source of their competitiveness.² African officials have also acknowledged that Chinese ICECs' ability to secure financing was an important reason for them to win contracts.³

However, while we know that Chinese official financing has been instrumental for Chinese ICECs to win contracts in Africa, especially the large-scale infrastructure projects, we know little about how much their prevalence in this market can be attributed to Chinese financing. Past research suggests that the Chinese ICEC may not be as dependent on Chinese financing as commonly assumed. Chen and co-authors surveyed 35 major Chinese ICECs in the mid-2000s and found that over half of their projects in Africa were obtained through international bidding (non-Chinese financing).⁴ But they also noted that these projects tended to be smaller, while Chinese-financed projects tended to be larger. There was no estimate of the proportion of revenue supported by Chinese financing. Brautigam and Hwang investigated 107 African hydropower projects reported to involve Chinese financing but could only confirmed 17 of them; they found six other projects contracted to Chinese companies without Chinese financing.⁵ Elsewhere in Latin America, Bersch and Koivumaeki's (2019) examination of key infrastructure projects between 2002 and 2015 found 81 projects involving Chinese ICECs, only 25 of them financed by Chinese banks.⁶

This paper thus shifts the analytical focus from state finance *per se* to ICECs' structural position in the Chinese economy. By digging into the historical evolution of China's international contracting industry, I find that the industry was born with a special mandate from the state to lead China's economic globalization. The state carefully guided the growth of the industry with an elitist approach and re-attached the initial "explorer" companies back to the country's restructured industrial conglomerates. I argue that the ICECs' elite capacity, achieved as a result of such restructuring and other policies by the state to promote the industry's participation in the global

economy, should be part of the explanation for their remarkable rise. In addition, I also show that ICECs are not passive receivers of the state's support; they actively exert agency in exploring international markets, both to benefit themselves commercially and, at least nominally, to meet the state's strategic goals. Therefore, this paper calls for greater scholarly attention to Chinese ICECs as a distinct group of economic actors with a key role to play in China's economic relations with African and other developing countries.

The paper is structured as follows: the first section compiles quantitative indicators to show that China's international lending is unlikely to be a determining factor for China's market dominance in Africa, thus showing there are further reasons that may explain the industry's competitiveness in the global market. Next, drawing on archival data, I also show that China's financial system actually lags behind the needs of the industry, challenging the conventional view that state finance drives ICECs' global expansion. In the third section, I trace the historical evolution of the industry in China and show how it has grown under the state's careful "grand steerage."⁷ The following section turns to ICEC's agency, with a special focus on the African context. I conclude with a discussion of the implications of this study for future research.

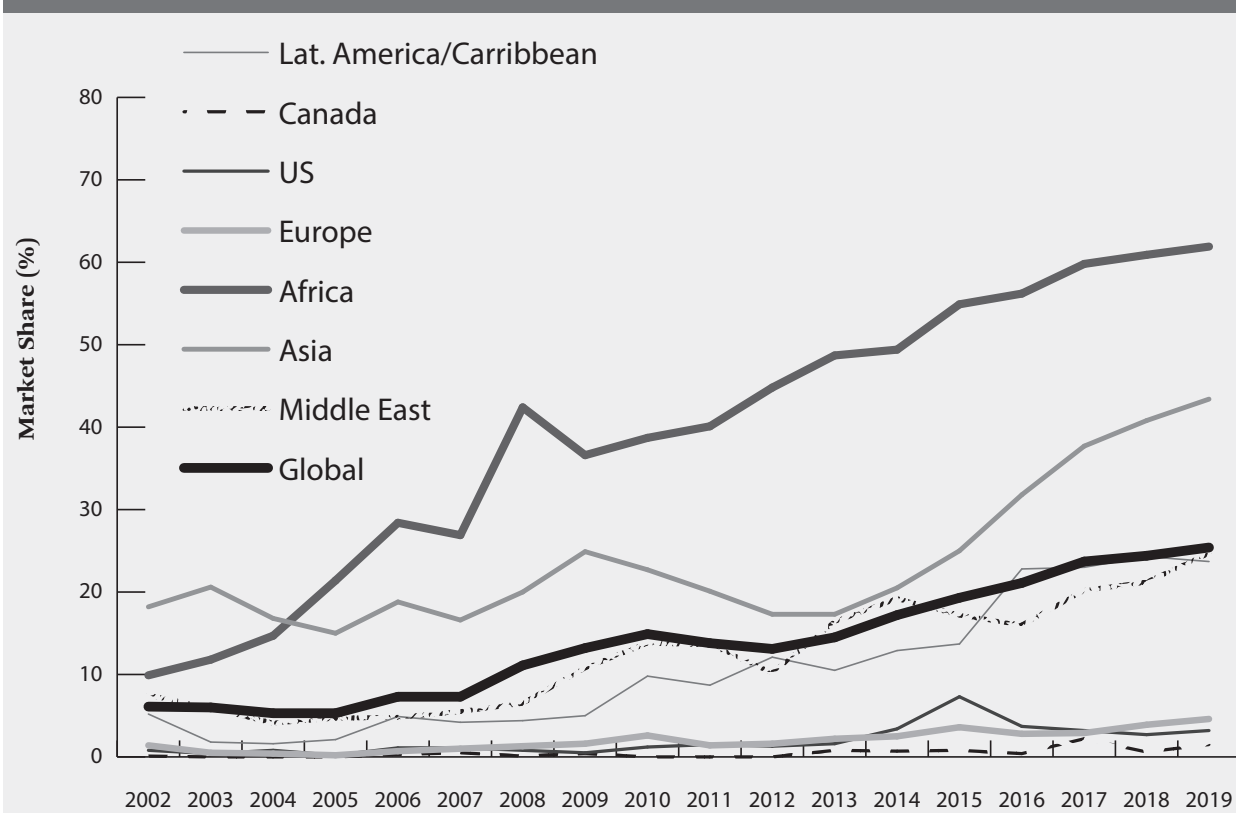
A brief note about methodology: in order to develop a deep understanding of the international contracting industry in China, I conducted a comprehensive review of the two Chinese journals that are most closely related to this industry. The first is the *Journal of International Economic Cooperation* (国际经济合作), which is published by the Chinese Academy of International Trade and Economic Cooperation (CAITEC), a research institute affiliated with the Ministry of Commerce.⁸ As a publication for "publicizing the central government's policies of international economic cooperation, investigation and discussion of the theoretical and practical problems in [China's] commerce," the journal frequently publishes articles by Ministry of Commerce officials and affiliated researchers, industry association leaders, as well as senior managers from major ICECs, addressing policy and practical questions related to the international contracting industry. As such, the journal can be regarded as an official gazette that has documented the dynamics within the industry throughout the years. I collected over 500 articles on international contracting, published between 1985 and 2020, by the above-mentioned stakeholders. In addition, I also collected articles from the *International Project Contracting and Labor Service* (国际工程与劳务) journal which is published by the China International Contractors Association (CHINCA), the industry's national chamber of commerce and also a semi-official entity that governs the industry. This journal similarly features articles from companies and policymakers. Due to database limitations, I was only able to collect articles from this journal back to 2003 even though the journal was first published in 1988. This archival-like research allowed me to identify policymakers' and the companies' central concerns at the time of writing and trace the evolution of the industry over time.

DOMINANT PLAYERS IN AFRICA

In recent years, over 500 Chinese contracting companies have been active in Africa.⁹ As a group, they enjoy a dominant position in this market. Based on the revenues of the world's 250 largest

international contractors, Chinese contractors already took up half of the African market by 2014, up from a modest share of around 10 percent in 2002.¹⁰ Chinese companies' market share continues to rise and in 2019 it reached 61.9 percent (Figure 1). While China's rise in international project contracting is a global story (Asia being the other market where China's share is rising rapidly), Chinese companies' market domination in Africa stands out. In some countries such as Tanzania, Chinese companies' market share has reached over 80 percent.¹¹

Figure 1: Chinese Firms Market Share in Global Markets in World's Top 250 International Contractors



Source: Engineering News Record.

How should we understand Chinese contractors' market power? Current debates about China-Africa economic relations have often focused on China's development finance, including its foreign aid and various types of other finance. While there is little doubt that Chinese finance has been crucial in fueling contracting activities in Africa, it is not the entire story.¹² Drawing from SAIS-CARI's datasets on China-Africa loans and contracting, one can see that the majority of Chinese contracting activities in Africa have *not* been financed by Chinese loans. Figure 2 juxtaposes Chinese contracting turnover and infrastructure-related loans in Africa from 2002 to 2018, with the dotted "loan reliance" line denoting the ratio of loans to contracting turnover.¹³ Only in 2003 and 2016 did loans surpass 50 percent of contracting turnover, while in the majority of years the proportion was lower than 30 percent. However, it is possible that aggregating African countries disguises the reliance on Chinese loans by some countries, thus I also examine the ratio of Chinese loans to contracting turnover by country in Figure 3.¹⁴ Again, the highest ratio (in Democratic Republic of Congo) was not higher than 40 percent. More so, SAIS-CARI's loan data represents commitments rather than actual disbursement figures, which are likely to be even

lower. Elsewhere, Brautigam and Hwang’s close-up examination of African hydropower projects also suggests that Chinese finance is not as prevalent in projects contracted to Chinese companies as commonly assumed.¹⁵

Figure 2: Chinese Contracting Turnover & Loans in Africa 2002-2018

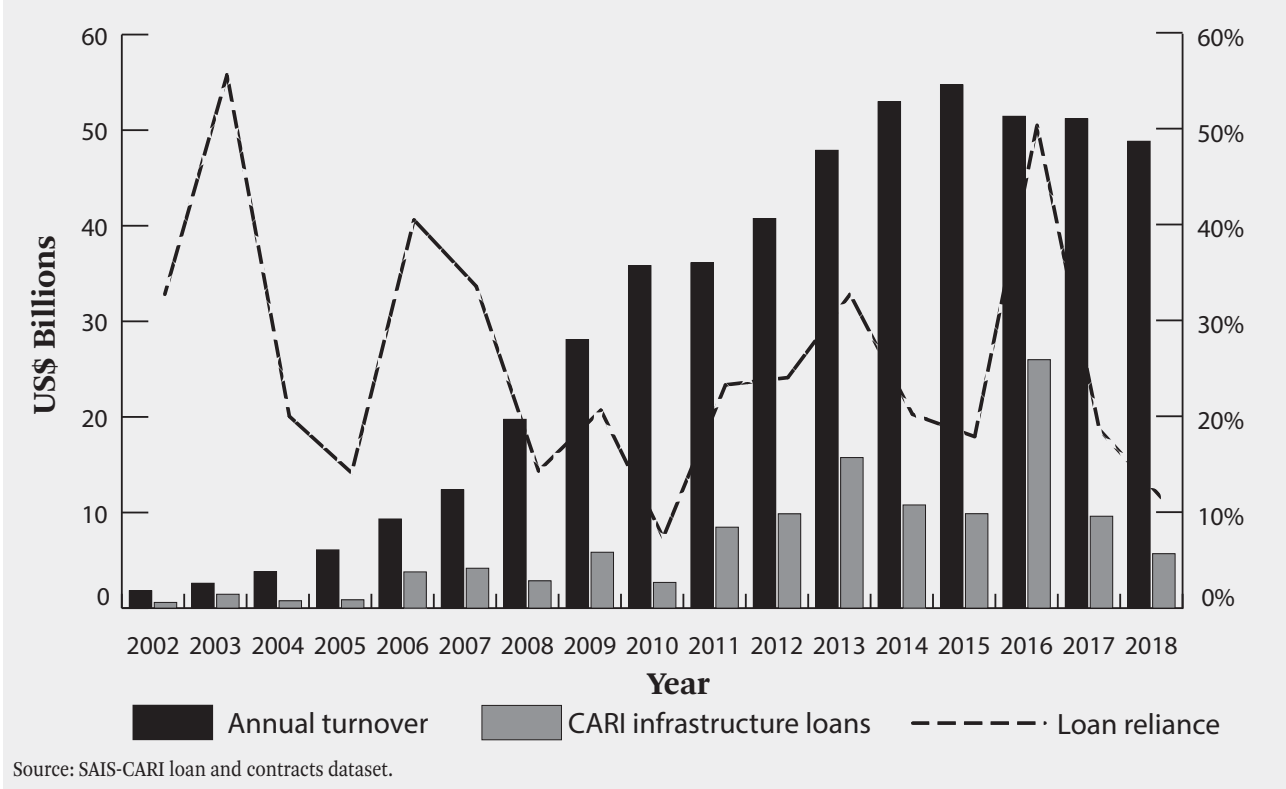
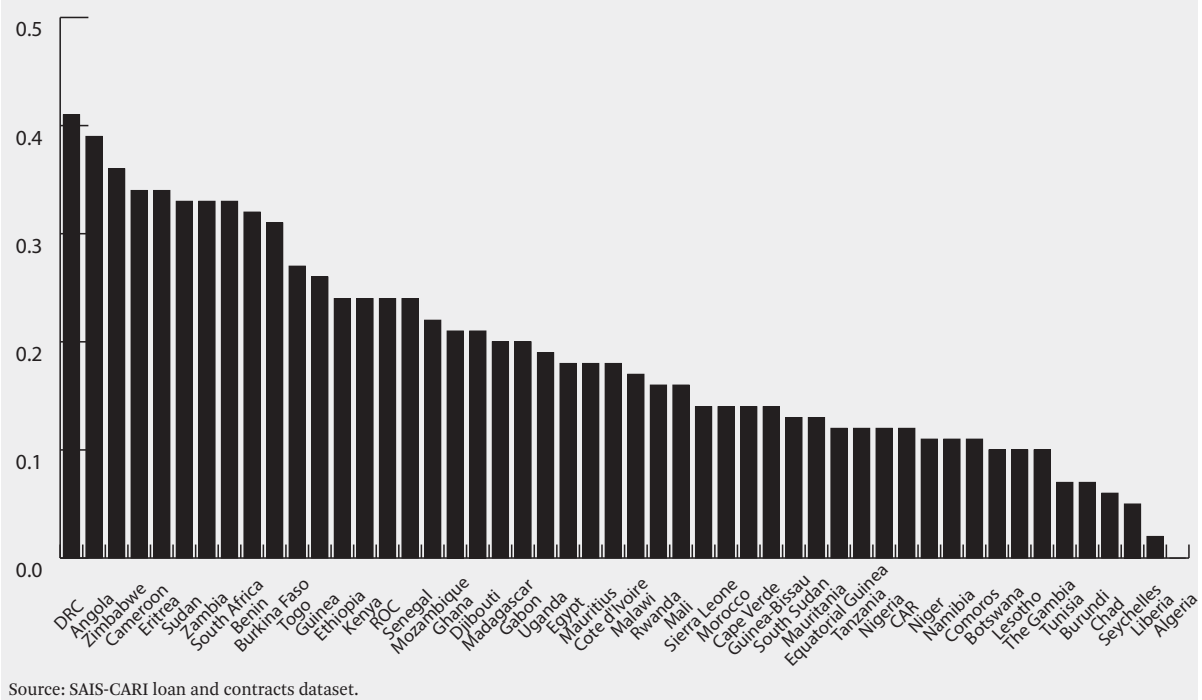


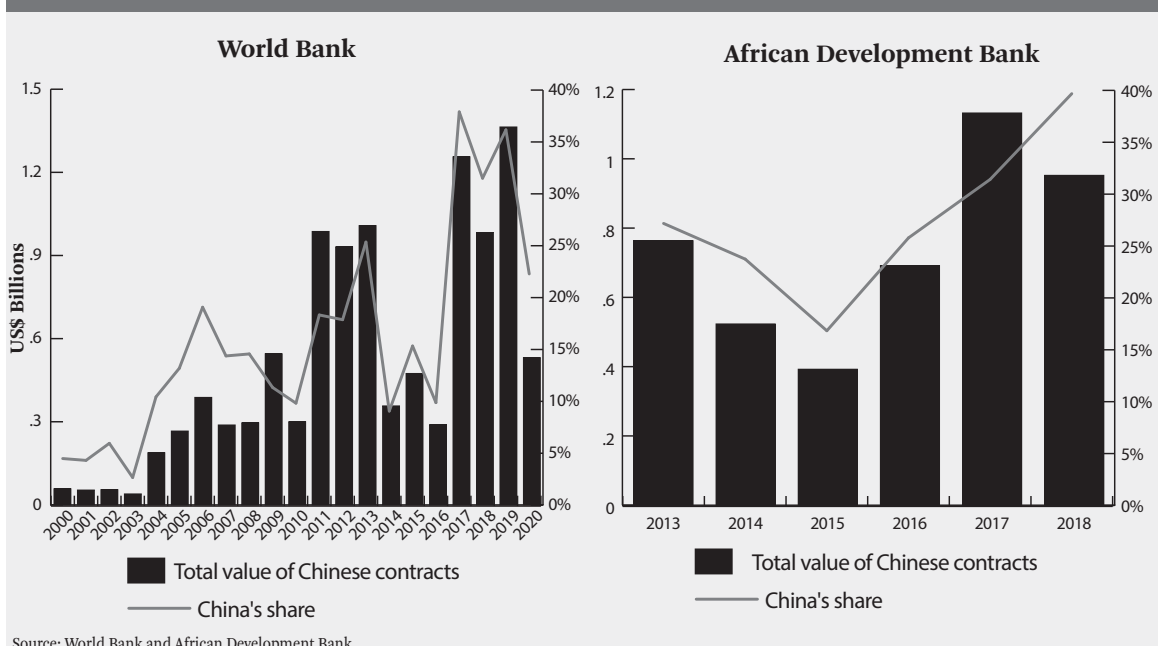
Figure 3: Ratio of Chinese Loans to Contracting Turnover by Country (2000-2018)



The data presented in Figures 2 and 3 suggests that the dominance of Chinese contractors in Africa cannot simply be explained by financial support from the Chinese state. Chinese ICEC's have independent agency to seek out contracts and obtain resources. To further examine this point, I turn to an alternative source of financing for contracting projects: loans from the multilateral development banks (MDBs). Such projects are required to go through rigorous tendering process under MDBs' established rules, and thus are likely to be seen as more credible and less afflicted with corruption. Being able to win contracts in these open bids can be seen as evidence of a company's capabilities and cost-effectiveness. The share of projects awarded to Chinese companies thus can be indicative of their competitiveness in the sector. Successful completion of World Bank contracts has been noted by the contractors themselves as the best advertisement for their capabilities and helps them to secure more contracts in the local market.¹⁶

Drawing on the World Bank's *Major Contract Award* dataset (2000-2020) and the African Development Bank's (AfDB) *Listing of Awarded Contracts* (2013-2018), I found that Chinese companies have again claimed the largest share of contracts in Africa by both institutions. Since 2004, Chinese companies as a group have won the greatest value of World Bank contracts in almost all years except three; in 2009, 2011, and 2016, they came in as a close second. Between 2000 and 2020 around 250 Chinese companies have won major World Bank contracts in Africa. Figure 4 shows the value of contracts awarded to Chinese suppliers and their share in the total contracts awarded from 2000 to 2020. Overall, China's share has followed an upward trend, with a significant spike between 2017 and 2019, when nearly 35 percent of all World Bank major contract awards went to Chinese suppliers. Chinese companies also won the greatest value of AfDB contracts between 2013 and 2018, totaling US\$ 4.4 billion, a sum four times larger than that of France, which had the second highest value of contracts. Chinese companies accounted for 27.9 percent of the total value of AfDB contracts during this period. Earlier research also suggested that Chinese companies are very competitive in the African construction market, and could have won an

Figure 4: Major Contract Awards in Africa to Chinese Suppliers, World Bank & African Development Bank



Source: World Bank and African Development Bank

overwhelming majority of the contracts awarded by MDBs or European donors were these institutions not subject to supplier diversification requirements.¹⁷ Farrell’s examination of World Bank contracts awarded to Chinese and OECD contractors in Africa concludes that there was no systematic difference between their quality of work.¹⁸

In summary, the data presented here confirms that Chinese ICECs are a powerful group of economic actors in Africa *in their own right*, to some extent independent of China’s “financial power,” which so far has been the analytical focus in academic research of the international political economy of China-Africa relations.¹⁹ Public debates also tend to assume that the availability of Chinese finance, either in the form of grants, concessional loans, export credits, or other types of funding, is the determining factor in China’s economic relations with Africa. This spotlight on finance can obscure other dynamics in China-Africa economic relations that cannot be captured by international financial flows. Contracting companies should be seen as a group of key shapers of China-Africa economic relations: more than the financial institutions, their participation in contracting projects represents a concrete form of interaction with the African population that have more direct impacts on the African economy and society. They are not simply derivatives of China’s “financial power” and deserve more careful conceptualization. Next, I show how China’s financial system has, in fact, been slow to adapt to the needs of the ICECs, contrary to the common assumption that state finance drove the latter’s international expansion.

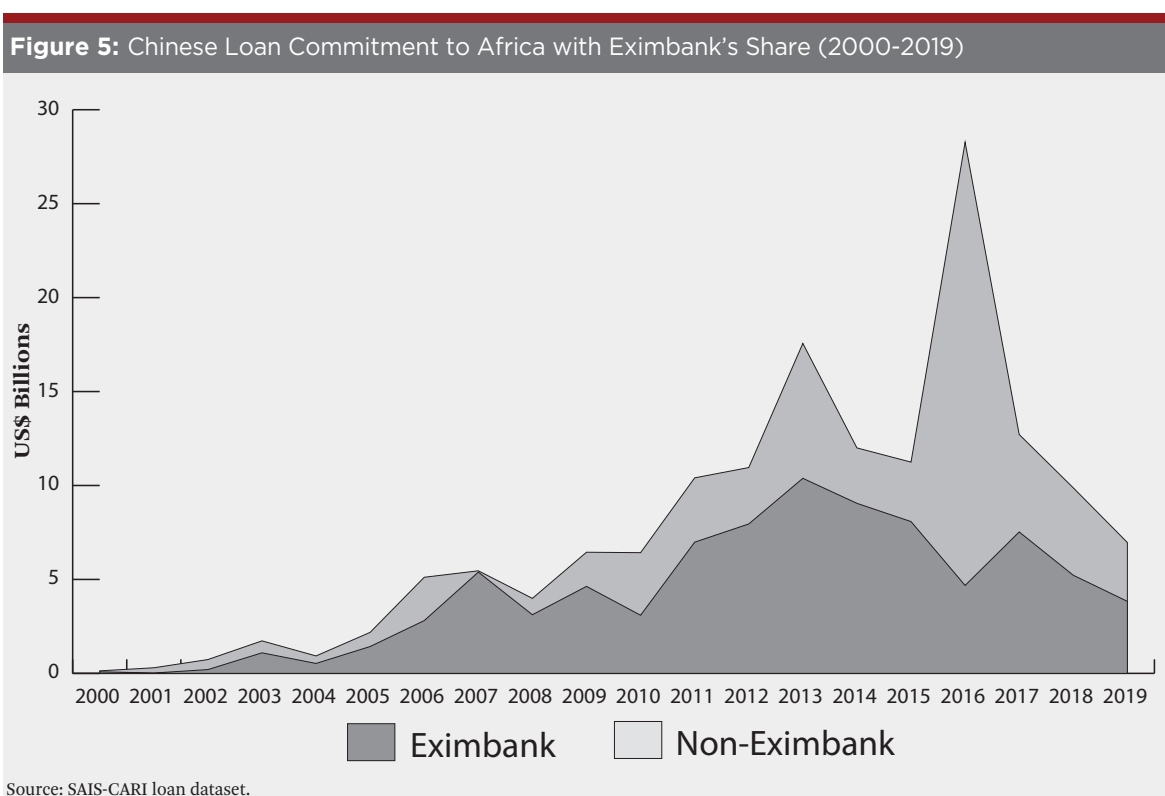
STATE FINANCE: SLOWLY ADAPTING OR A DRIVING FORCE?

The literature on Chinese overseas development finance has largely given primary agency to China’s financial institutions. Representing China’s financial power, these financial institutions are believed to have led the international expansion of Chinese companies through their lending practices. However, accounts from Chinese ICECs suggest that services from the financial institutions have been lagging behind their need. The ICECs exert agency in making use of limited available financial products for their international expansion.

As reflected in the writings of ICEC employees for over four decades, weak financial capacity has always been a constraint for Chinese ICECs.²⁰ As early as the 1980s, international project owners demanded contractors arrange financing as part of the contracting requirement; however, few Chinese contractors were able to meet this requirement due to the scarcity of foreign exchange and China’s undeveloped financial systems. Chinese policymakers reasoned that large-scale overseas projects would take too much capital away from the Chinese economic system for too long when China itself was in need of investment. Hence, only the selected few contractors that could promote the export of Chinese equipment and materials should receive financial support.²¹ After all, as will be discussed later, ICECs’ original mandate was to earn foreign exchange for China, rather than make use of it. Thus, from early on, the ICECs were told to “learn to be good at raising funds from the international markets, and not to place the hope on domestic fund-raising.”²²

As is well known, a great deal of support for international contracting has been channeled through the Export-Import Bank of China (Eximbank). Based on SAIS-CARI’s data, 56 percent of all loans

China committed to Africa between 2000 and 2019 were extended by the Eximbank (Figure 5).²³ While this is often read as indicative of the power of this particular financial institution, it could also be interpreted as a lack of sophistication in China's financial system. Until the early 1990s, the Bank of China was the only bank mandated by the state to conduct foreign exchange-related banking and thus started providing banking services to some ICECs' overseas business.²⁴ But the Bank of China's services were better characterized as command economy-style quota allocation as opposed to modern banking. As part of the financial reform, China established the Eximbank in 1994, which was defined as a policy bank with the core mission of *supporting the export of China's machinery and electronic products*.²⁵ As an extension of this core mission, the Eximbank started to lend to international contracting activities in 1998, requiring international contracts contain at least 15 percent exports of Chinese products. In 2001, the bank's lending under this scheme was less than 2 percent of the total contract value of the year.²⁶ Due to its mandate as an export credit agency, the Eximbank had to require export content in its loan services, which prevented it from providing more flexible and suitable financial products for international contracting. For example, for a contractor to obtain export credit insurance from the Eximbank, it would require at least 70 percent of the contract to be Chinese exports, which would be hard to achieve in many projects such as dam construction.²⁷ Such a set up in the financial system has incentivized the Chinese contractors' tendency to increase sourcing from China.



With the limitation of services in China's banking sector, the ICECs were urged to innovate and combine different sources of support. As China launched a major overhaul of its foreign aid system in 1995, adding concessional loans as a category of foreign aid (which were also administered by Eximbank), policymakers started to encourage contractors to *“seriously consider the opportunities enabled by government concessional loans and foreign aid cooperation... (to) identify*

projects and cooperation partners that fit the orientation of the foreign aid reform...seek to have the projects that can promote the export of China's machinery and electronic products, especially complete plants, to be included in the agreement framework between our government and the host country government."²⁸ Soon enough, companies were making use of China's foreign aid grants and loans, in combination with commercial loans, to lower financial costs and enhance their competitiveness in overseas markets.²⁹ Elsewhere, I have explained the linkage between China's foreign aid practices and the development of the international contracting industry in greater detail.³⁰

For these historical reasons, Eximbank has been the main financial institution to support China's international contracting activities. The "preferential export buyers' credit," a special variety of the traditional export buyer's credit introduced in the early 2000s specifically to serve China's economic diplomacy with key countries, became another attractive facility for ICECs to utilize given its lower cost.³¹ From around the mid-2000s, many larger ICECs started to use these facilities to engage in the "Engineering, Procurement, Construction + Finance" (EPC+F) contracting model, which was welcomed by project owners and fueled the momentous growth of Chinese international contracting in the following decade. Concessional loans and preferential buyer's credit, together known as government-to-government (G2G) lending, accounted for 31 percent of all lending between 2000 and 2019 where a contractor could be identified in the SAIS-CARI loan database.³²

However, G2G lending is necessarily limited. These loans are subsidized by the Chinese government's budget, the total available amount is controlled by the State Council. In the now well-known Hambantota port case, Sri Lanka could not obtain preferential export buyer's credits from China for Phase I of the project due to the exhaustion of the quota, and thus had to borrow at higher interest rates using commercial loans.³³ Relatively few Chinese contractors have successfully obtained contracts with G2G lending. SAIS-CARI's loan database identifies 74 Chinese contractors in 256 contracts financed by concessional loans or preferential export buyer's credit, out of the 1,159 instances of loans.³⁴ For the companies that have been able to access G2G financing, they have complained that these programs are too rigid in terms of lending conditions and procedures.³⁵ Apart from the Eximbank, China's commercial banks are still ill prepared to provide services to the industry due to their overly high financing costs and lack of experience in overseas lending.³⁶ Available financial products have also been far from adequate to meet the various needs for project management.³⁷

This has also meant the lock-in of export credit (including buyer's and supplier's) as the main form of financial support for the international contracting industry. While this serves China's own export-oriented development strategy, it is not necessarily healthy for the long-term development of the international contracting industry. The emphasis on sourcing from China limits the ICECs' autonomy to procure materials and equipment from other countries that may better match the needs of the project. More importantly, the loan structure in the export credit mechanism pays little attention to the economic viability of the projects once they are built and delivered. The

ICECs have been calling for financial instruments that lend based on the expected revenues of the project, rather than based on the content of sourcing in the contract, as the former is more conducive to a healthy relationship between the lender and the borrower. However, such financial instruments remained largely unavailable through the late 2010s, despite the state's encouragement to develop such instruments at least since 2000.³⁸

A main reason has been the tight regulation of China's financial system, which held back the banks from innovating at a pace that could meet the needs of their clients.³⁹ With tight control of the capital account, Chinese banks face many regulatory barriers to open overseas operations. As a policy bank, Eximbank has privileged access to China's foreign reserve, but its lending principles and quotas are subject to the state's broader economic and foreign policy goals, and thus cannot always respond timely to the needs of a specific industry.

Therefore, ICECs have had to explore alternative sources of financing. One observable trend is that ICECs and the industrial conglomerates that they are affiliated with have been trying to integrate financial institutions into their structures, which can give them more ready access to financing. Reflecting the financialization of China's SOE management, the Chinese state has encouraged so-called "finance companies" to be set up within the largest SOE groups to provide centralized and tailored financial services for their member companies since the 1990s.⁴⁰ As of 2020, all of the major ICECs' parent groups have set up such finance companies.⁴¹ By pooling the whole groups' financial resources, these finance companies have helped reduce the group companies' reliance on external banks. This is to say that Chinese ICECs are increasingly diversifying their sources of financing from the traditional policy and commercial banks.

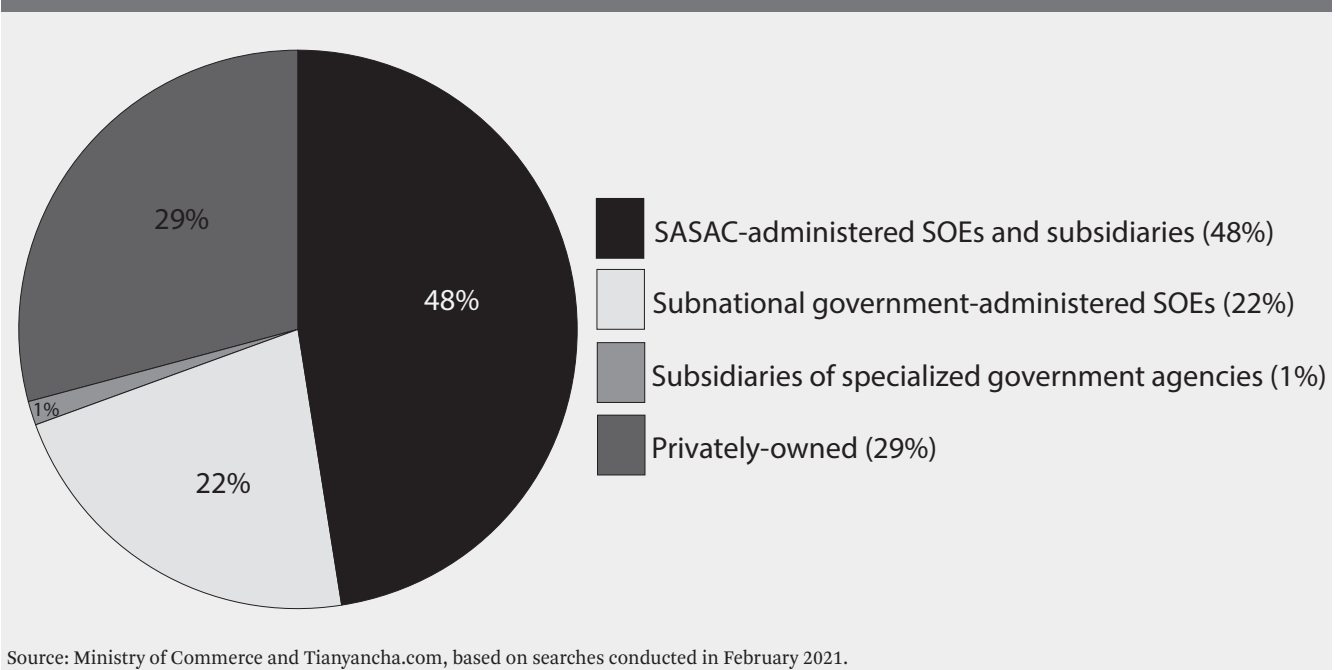
The above review of financing for China's international contracting industry suggests that, rather than thinking of contracting activities as driven by China's international lending, the reverse is true. In other words, in the relationship between the Chinese state's strategic lending and contracting companies' overseas activities, the primary agency should be placed on the latter. There has been a marked difference in culture between China's ICECs and the banks: whereas the ICECs are risk-taking in the overseas markets, the banks are less proactive, lagging in terms of innovation and constrained by China's heavily regulated financial sector. Next, I will turn to explain why Chinese ICECs have been more risk-taking and proactive by tracing the industry's genesis and evolution in the context of China's political economy.

CHINA'S INTERNATIONAL CONTRACTING: A SAGA OF STATE CAPITALISM

Before going back into the history, it is useful to sketch a profile of China's current international contracting sector. I compiled a dataset of Chinese companies from the Ministry of Commerce's registry of entities engaging in international contracting.⁴² As of February 2021, at least 1,105 entities are actively engaging in international project contracting.⁴³ As can be seen from Figure 3, this sector is dominated by SOEs. Fewer than a third (320 out of the 1,105) are privately owned, while the rest are all affiliated with the state in some way. Among them, the largest group (527 companies) belong to what are colloquially known as "central SOEs" – large industrial

conglomerates administered by China’s State-owned Assets Supervision and Administration Commission of the State Council (SASAC) and typically headquartered in Beijing —and their subsidiaries, located across the country.⁴⁴ These 527 companies can be traced to 64 parent central SOEs, which make up two-thirds of the 96 SOEs currently under the SASAC’s administration.⁴⁵

Figure 6: Ownership Composition of Entities Actively Engaged in International Project Contracting



The 1,105 entities are located all across China. With the exception of Hainan, 30 of China’s 31 provincial units have active international contractors.⁴⁶ The largest concentration is in the capital, Beijing, with 220 active entities, which reflects how central SOEs dominate this sector, as Beijing is the domicile of a large number of them. After Beijing, Jiangsu (103), Shanghai (76), Sichuan (52), Shandong (50), and Tianjin (50) host the largest number of active international contractors, all provinces with strong industrial bases.

HISTORICAL ORIGIN AND THE “EXPLORER” IDENTITY

The strong state-bias in the industry can be explained by its history. The genesis of the international contracting industry can be traced back to China’s foreign aid turnkey projects.⁴⁷ Reflecting China’s advocacy for self-reliance and South-South Cooperation during the Maoist times, construction of productive facilities and infrastructure projects was a main form of China’s foreign aid. Instead of establishing a specialized agency to manage foreign aid projects, China adopted a system in the 1950s to have the line ministries organize the delivery of aid projects in their relevant sectors.⁴⁸ The line ministries had the authority to task provincial governments for actual implementation of the projects, and the latter also set up foreign aid management offices to coordinate such mandates from the central government.

In 1978, just when China was starting to move away from the orthodox command economy, the Ministry of Foreign Economic Liaison and State Construction Commission submitted a proposal to the State Council to develop an international contracting industry.⁴⁹ The rationale was multi-fold: to earn much-needed foreign exchange, to learn from the international experience to spur the reforms in China's own construction industry, and to promote the export of China's industrial equipment and building materials. The State Council authorized the establishment of three companies, China State Construction Engineering Company (CSCEC), China Road and Bridge Engineering Company (CRBC), and China Civil Engineering Construction Company (CCECC), by restructuring existing bureaus and enterprises affiliated with the relevant ministries. Notably, CRBC and CCECC were built on the foreign aid offices of the Ministry of Transportation and Ministry of Railway. The latter's experience of building the Tanzania-Zambia Railway in the 1970s would prove useful for CCECC to later enter the African market. In 1982, the State Council again decided to have each of the line ministries and provinces to set up one company for international contracting, many of them building on the former foreign aid offices.

The core mission of these firms was to facilitate their respective industries' (represented by the line ministries) and provinces' participation in international contracting.⁵⁰ They were also called the "window" companies as they served as the conduit for domestic firms to supply products, labor, and know-how in overseas contracting, which they were otherwise not authorized to engage in. The initial restriction of one firm per industry and province reflected the policymakers' cautiousness in wading into the international economy, after a long period of autarky when Chinese enterprises were largely out of contact with the rest of the world. The "window" companies were managed by relatively small teams made up of former bureaucrats who had the relevant "soft skills" such as language and international commerce, but often lacking the in-house technical capacity to implement the construction and engineering projects, which they had to source from other firms within their sector or region. In other words, they were the specially chartered brokers between China's industrial system and foreign markets.

Their special role assigned by the state at this critical historical juncture, as well as their privilege in overseas economic activities, helped institute a distinct identity among this first generation of Chinese ICECs, which I call the "explorer" mentality. With their streamlined structures, exclusively dealing with the unchartered overseas markets, without the baggage of the domestic SOEs, they were more entrepreneurial and more willing to take risks than the average Chinese SOE of the time. Their mission to explore overseas markets was open-ended rather than target-specific, which also gave them more freedom to try new approaches. In addition, the fact that many of them were restructured from foreign aid offices and continued to engage in foreign aid project implementation (especially in the context of Africa) provided a moral framing to their overseas business activities, which combined the patriotic pride of advancing China's diplomatic mission and advancing economic development in target countries. Such a sense of mission was reinforced, as will be shown next, after they were further integrated into China's domestic industrial system and became some of China's "national champions" in the international economy.⁵¹

STATE'S MARSHALING WAND: BIG IN, SMALL OUT

The 1980s saw rapid growth of the “window” companies, as various industry authorities and subnational governments set up such firms to tap into international markets, mostly by engaging in relatively simple tasks like organizing labor to work on overseas construction projects. However, by the end of the decade, the weakness of this arrangement had become apparent. The “window” companies themselves lacked the actual project implementation capacity, so they had to source from other Chinese companies for engineering expertise or materials and these relationships were often based on vague contractual terms, which inevitably led to disputes on more complex projects.⁵² To help raise this infant industry, the Chinese state began to encourage a “industrialization, conglomeration, and internationalization” (实业化, 集团化, 国际化) strategy, aiming to transform companies from brokers into industrial firms, to develop comprehensive capacities by combining specialties, and to institutionalize international operations for long-term development.⁵³

From the early 1990s, the Chinese state started to control the types of companies that went into international contracting. In contrast to the previous decade when the gate was wide open for new firms to enter international contracting, the state started to limit new authorization to large-scale industrial firms with high levels of technical competency.⁵⁴ Many of China's elite industrial manufacturers, such as the Anshan Iron and Steel Company, the Dongfang Electric Corporation, Harbin Electric Corporation, and the Xi'an Electric Machinery Manufacturing Group Company, were among the first industrial firms to be granted international contracting rights in 1991. The possibility of directly supplying their industrial products in overseas projects proved a strong attraction. By 1992, more than 50 large industrial enterprises had already applied for and were granted international contracting rights.⁵⁵ Many more followed suit in the construction, metallurgy, chemical, and electrical engineering sectors.⁵⁶ Unsurprisingly, the most active sector has been the building industry. By 1996, in response to the booming demand, CHINCA had to set up a specific branch for the building sector.⁵⁷ In 2011, when they too reached the level of activity seen in international contracting, two more branches were set up for the transportation and railway sectors.⁵⁸

Various other policies were put in place to both push the large domestic firms into the international market and to keep the smaller firms from even trying. In 1999, the Ministry of Foreign Trade and Economic Cooperation stopped authorizing firms affiliated with prefecture-level and county-level governments, as well as non-SOEs, for international contracting; meanwhile, it greenlighted construction firms and design institutes with top-level domestic qualifications to enter international contracting.⁵⁹ In the same year, the Ministry of Construction issued a policy document “pushing large engineering design entities to become international engineering companies.”⁶⁰ It set the goal for select large engineering design institutes to be restructured into corporations with the capacity to conduct Engineering-Procurement-Construction (EPC) contracting in the international markets within the next five years. Such select firms would enjoy privileges such as priority selection as contractors for major state-invested projects, financial support from the government budget and banks, etc.

In short, the state actively maintained an elitist profile in the industry by pushing large firms with the technical competency in engineering and design to enter. The state also created a protected environment for elite companies to practice their skills and catch up with the international standard.

CONGLOMERATION AND “NATIONAL CHAMPIONS”

Meanwhile, the first-generation contracting firms were also busy transforming themselves under the state’s aegis. The China State Construction Engineering Corporation (CSCEC) again served as a pilot. While the company was first established in 1979 specifically to conduct international contracting, by 1982, it was merged into a larger group sharing the namesake, which “integrated both domestic and international businesses.”⁶¹ This larger group was the result of the corporatization of the state’s bureaucracy in charge of construction affairs. As part of market-oriented reforms six engineering divisions that formerly oversaw construction undertakings in different regions across China were incorporated along with three design institutes, a survey institute, a component trading company, and a material manufacturing company, all key entities within the construction sector. In 1983, two additional engineering divisions were added into the group by absorbing the construction corps of the People’s Liberation Army, following the latter’s demobilization.⁶² As such, CSCEC instantly turned from a relatively small firm with few assets and weak technical qualifications into a gigantic conglomerate, absorbing elite construction capacity from across the nation in a wholesale manner. It was little wonder that CSCEC was the first Chinese company to make it into the ENR’s top 225 international contractors in 1984, with its first appearance already in the 21st position.⁶³

Table 1 gives some examples of other first-generation contractors that were integrated into larger networks of construction and engineering entities by state fiat. Some of them, such as China Road and Bridge Engineering Corporation and China Harbour Engineering Company, have followed a similar path as CSCEC did, as they absorbed the construction and engineering capacity in their respective sectors by virtue of their former affiliation with the Ministry of Transportation. The same sector-wide conglomeration also happened to the “window” companies in the metallurgical and nonferrous metals industries. Others, like the China National Complete Plant Import & Export Corporation and the China International Water & Electric Corporation, were merged into other SOEs to boost their internationalization.⁶⁴

One key reason why China’s largest ICECs could quickly rise to prominent positions in the world market was that they had been shored up by the entire country’s elite industrial capacity. Such capacity had been developed in China’s own “Big Push industrialization” that had given overwhelming priority to investment into heavy industry since the 1950s, and could be understood as an extreme version of import substitution industrialization.⁶⁵ This development strategy yielded “an important heavy industry base but those assets were being used at very low efficiency.”⁶⁶ As China embarked on a transition from a command economy to a market economy, and from an autarky to an export-oriented economy in the late 1970s, the state was able to mobilize some of the assets for international economic exchange, and international project contracting turned out to be

Table 1: Formerly Specialized International Contractors Integrated into Industrial Conglomerates

Contracting firm	Formerly affiliated ministry	Expand/Merged into	Group Profile
China State Construction Engineering Corporation (est. 1979)	State Construction Commission (SCC)	China State Construction Engineering General Corporation (est. 1982)	Integrating 8 engineering divisions, 3 design and 1 survey institutes formerly under the administration of the SCC.
China Civil Engineering Construction Corporation (est. 1979)	Ministry of Railway	China Railway Construction Corporation (CRCC, est. 2003)	CRCC constitutes of former railway troops of the People's Liberation Army.
China Road and Bridge Engineering Company (est. 1979)	Ministry of Transportation (MoT)	China Communications Construction Corporation (est. 2005)	Each company had been integrating the road construction and harbor engineering divisions formerly under the administration of MoT since the 1990s before they were merged in 2005
China Harbour Engineering Company (est. 1980)			
China International Water & Electric Corporation (est. 1983)	Ministry of Water Resources and Electric Power	Three Gorges Group (merged in 2009)	Three Gorges Group was established in 1993 to build the Three Gorges hydropower project, the worlds largest. It is also involved in a number of other hydropower projects in China.
China National Complete Plant Import & Export Corporation (Complant, est. 1959)	Ministry of Foreign Economy and Trade	State Development & Investment Group (SDIC) (merged in 2009)	SDIC pioneers the capital investment approach for managing China's state assets. Complant's mission includes identifying investment opportunities in the supply chains through its international contracting activities.

Source: Compiled by the author.

the key channel. The seemingly overnight rise of the Chinese ICECs in the international markets disguised the build-up of industrial capacity in the decades prior to China's opening-up to the world market.

As part of the sector-wide industrial conglomerates, the ICECs enjoy a number of structural advantages. The first is a supply-chain advantage compared to those competitors without such linkages. For example, the conglomerates in railway engineering and power generation each possess subsidiaries in design, surveying, and machinery manufacturing. As suggested by the neoclassical theory of the firm, intra-firm transactions reduce a firm's costs.⁶⁷ Even if there is a need to source from another SOE conglomerate, the state can sometimes intervene and coordinate, especially in projects deemed to have symbolic or strategic value. In fact, such inter-firm collaboration was encouraged early on by the state and has happened often.⁶⁸ Examples include the Sinohydro Corporation and China International Water & Electric Corporation's

collaboration on Sudan's Merowe Dam and more recently China Civil Engineering Construction Corporation and China Railway Engineering Corporation's collaboration on the Addis Ababa-Djibouti Railway. The second advantage is market access. As these conglomerates consist of numerous subsidiaries located across China, they are less vulnerable to local protectionism as a whole. They also enjoy privileged access to contracts that have been invested in with state funds, as previously mentioned. Thus, these conglomerates built substantial knowhow in construction and engineering, which could then be mobilized by their international contracting arms in the overseas projects. Furthermore, the great amount of assets pooled together through conglomeration also makes it easier for the companies to raise funds from banks or financial markets.

Looking beyond the central SOEs, the fate of second-tier international contracting firms, namely, the "window" companies affiliated with provincial governments, has varied. Unlike the "window" companies formerly affiliated with the line ministries, the provincial companies did not have easy access to the established, sector-wide supply chains, and instead had to work with their provinces' specific endowments. Not all provincial "window" companies survived market competition in their exploration of the international economy—for example, the firm from Fujian province, despite its earlier success among provincial "window" companies, is no longer active in international contracting.⁶⁹ Instead, the firm was replaced by another provincial SOE that originated in the province's state-run construction enterprise.⁷⁰ The exit of the broker-like "window" companies and the rise of companies with actual industrial capacity corresponds to the policy shift at the central level that encourages "industrialization" in the international contracting sector.

A majority of provinces have seen the abovementioned substitution of the early "window" companies by provincial state-run construction enterprises as the major player in international project contracting. But there are a few exceptions. For example, Jiangsu province's "window" company has persisted, as it was able to absorb the province's main construction and machinery manufacturing enterprises to achieve conglomeration in a way similar to some central SOEs.⁷¹ Jiangxi province's "window" company moved early on to form consortiums with the province's airplane manufacturing firm, metallurgical design institute, and bank to boost its competency in international project contracting.⁷² Later on, it also established a joint venture with several state-owned mining companies in the same province, through which it took the advantage of its international contracting experience and led the acquisition of mining resources in several African countries, including Zimbabwe, Zambia, and Botswana.⁷³ The Jiangxi company's effort in leading other provincial companies to go overseas even earned them state acclaim.⁷⁴

The evolution of both central and provincial contractors underlines a discernible state capitalist approach toward competing in the global market: "national champions" or "provincial champions" that represent sectoral or regional interests are created through state-fiat industrial restructuring. While the resulting "champions" often suffer from low efficiency, as state support shields them from full competition, it enables the concentration of elite capacity (including human resources and technological capabilities) of each sector or region in a small select number of enterprises. Such elite capacity is then pushed to compete in the global market. China's unique

circumstances helped this state capitalist approach by two aspects in particular. First is the continent-sized economy which allows for a level of competition by which the more competent are able to emerge even within state-monopolized sectors. Second is China's history of a socialist economy, which gave the state absolute control over the industrial sector and thus the autonomy to restructure industries in a wholesale manner. Both conditions are not likely to be replicated elsewhere in the world.

The Chinese ICECs' competitiveness in international market has depended critically on their structural embeddedness in China's industrial system. Table 2 summarizes the key events for the international contracting industry in China as covered here. The sector originated from a state mandate to explore overseas markets and help China's industries internationalize. It proved its potential in its nascent years, which convinced the state to devote strategic resources into the sector's continual growth, including favorable policies regarding market entry and diplomatic support in overseas target countries. All of this took place during China's economic transition from a command economy to a market economy, where the socialist industrial systems were corporatized as nation-wide industrial conglomerates and the ICECs were re-positioned as their international front. However, the ICECs are not just passive actors waiting to be fed by the

Table 2: Timeline of Key Events in China's International Contracting Industry

Year	Event
1978	State Council authorized the establishment of three firms to engage in international contracting, including CSCEC, CRBC, and CCECC.
1982	State Council decided to have each of the line ministries and provinces to set up one "window" company for international contracting.
	The smaller CSCEC was merged into a larger, national conglomerate.
1980s	Number of broker-type contracting firms grew rapidly.
1990-1991	State started to encourage "industrialization, conglomeration, and internationalization" of contracting firms. Industrial firms started to enter international contracting.
1994	Establishment of the Eximbank and reform of China's foreign aid system.
1999	Policies to control market entry of smaller firms and to encourage larger engineering firms to participate in international contracting.
2000	In preparation for China's accession to the World Trade Organization, six central ministries issued the landmark "Opinions for greatly promoting the development of international contracting" laying out broad policy support.
2004	Introduction of preferential export buyer's credit by the Eximbank
2000s	More restructuring of China's "national champions" SOEs took place. Former "window" companies were re-attached to the national industrial conglomerates

Source: Compiled by the author.

state's favorable treatment—in this compact between state and companies, the state demands performance and pushes for competition among companies; the companies need to prove their worth to the state or risk being folded into their competitors and sidelined.

ICECs AS GLOBAL RESOURCE RE-ORGANIZERS

As discussed earlier, the political origin and the special position of China's ICECs have given them a distinct identity as the “explorers.” As such, the ICECs are expected to try out different approaches in order to best serve China's changing needs. In the earlier phases, such needs included exporting China's surplus labor when the demographic structure was more favorable, which was the reason why China's international contracting in the 1980s and 1990s had largely taken the form of supplying labor in overseas construction projects. Since the early 2000s, China's need to secure the supply of resources became pressing, as the country took on a “world factory” development strategy. Later, when China had substantially industrialized, and labor costs had risen, it was the surplus production capacity that China needed to transfer abroad. The ICECs have been instrumental in meeting these needs.

The importance of some African markets for Chinese ICECs has been closely related to resources. For example, resource-backed finance was crucial for Chinese companies to enter Angola's contracting market in the early 2000s.⁷⁵ In another version of the so-called “Angola model” of resource for infrastructure exchange, China Railway Engineering Corporation and Sinohydro, two major ICECs, have jointly established a mining company with the Democratic Republic of Congo, Sicomin, to develop the country's rich mining resources while extending their contracting activities.⁷⁶ Similarly, China Nonferrous Metal Mining Group also combined its project contracting with outward investment in Zambia: it led other Chinese companies in building an industrial chain of copper mining, processing, manufacturing, and sales, which in turn generated cash flows to support its contracting activities.⁷⁷ Some of the provincial ICECs have also become active in Africa's mining industries, such as Anhui Foreign Economic Construction Group (AFECG) in Zimbabwe's diamond mining, China Henan International Cooperation Group's acquisition of a bauxite mine in Guinea, and China Jiangxi International Economic and Technical Cooperation Company Limited's various mining activities in Zimbabwe, Zambia, and Botswana.⁷⁸ It must be noted that some investments have turned out to be loss makers. For example, AFECG's investment in Zimbabwe's mining sector suffered a loss of US\$ 138 million in 2016 when the country nationalized the mine. As a result, the company defaulted on its corporate bonds.⁷⁹

Therefore, the role of ICECs is not only limited to construction or engineering, instead they may be better understood as global resource re-organizers. Since the 1980s, the state has called for “leveraging both the domestic and international resources, developing both the domestic and international markets” in the companies' internationalization.⁸⁰ More recently, this guideline has been reframed as “dual circulation” in the domestic and international markets.⁸¹ From the perception of the Chinese state, China suffers a disadvantage in terms of access to resources and

markets as a late comer to economic globalization. Finding a remedy to this situation has been a key goal in the state's policy to encourage companies to "go global", they should be helping to build a network of global commerce to enable China's access to overseas resources and markets.

As such, companies are looking to become much more deeply involved in overseas markets, beyond their role as project contractors. One early example was CITIC Group's involvement in Angola's postwar reconstruction. Through its role as the general contractor in Angola's Kilmaba Kiayi housing project, CITIC Group mobilized a total of 29 Chinese companies into the Angolan market, including engineering design institutes, manufacturers of building materials and machinery, and logistics companies. CITIC appears to be so proud of this operation that it touts it as a "combined fleet" model to be replicated in other markets. Building on this project, CITIC continued to develop a business strategy of engaging in Angola's key sectors like social housing, mining, and agriculture development, envisioning deep involvement in the country's economic future.⁸² CITIC is not the only company with such ambitions. China Communications Construction Corporation, for example, has also been advocating such an approach by which the leading ICEC with established presence in African countries can take the lead and form "combined fleets" with smaller companies from China, so that they can collectively negotiate with host country counterparts and facilitate the relocation of industrial capacity from China.⁸³

The transition to a more proactive role may also be by necessity, as it is increasingly difficult for the companies to survive in Africa simply as contractors. The competition in the lower value-added contracting activities has become saturated, and the traditional EPC+F model is losing steam in Africa since many African countries have become highly indebted and are unable to borrow more. The slump in oil prices also weakened the fiscal capacity of the oil exporting countries. Correspondingly, Chinese contracting activities in Africa have seen a downward movement since 2015.⁸⁴ Against this backdrop, some of the leading ICECs have been moving toward a model known as "integrated investment, construction, and operation" (IICO, 投建营一体化), in which the contractor is not simply hired to build the project, but rather gets involved early on in the conception of the project, invests as an equity owner, and remains responsible for the project's operation for an extended period of time.

A prime example of the IICO scheme is the Addis Ababa-Djibouti railway, in which Chinese companies were involved with planning for Ethiopia's railway development, the financing and investment in the project, and the operation and maintenance of the railway after it was built. Along with the railway, the Chinese contractor also planned to develop a series of industrial parks in an attempt to accelerate Ethiopia's industrialization.⁸⁵ It should be noted, however, that the companies may be overstating their success in this process for the sake of point-scoring in Beijing. Furthermore, the role of the host government in shaping the process should not be overlooked.⁸⁶ Nonetheless, active theorization of the model has been taking place within the industry and by policymakers in order to provide practical advice for Chinese companies to implement such a model going forward. It is still too early to say if this IICO model will take hold, as it requires

extremely high levels of project management, financial, and other capabilities, which may only be possible for a few of Chinese ICECs. But their attempts to move in this direction certainly means deeper interaction and a more profound impact on local economies and societies.

Many Chinese ICECs have transformed themselves into strategic investors in Africa, and not simply as contractors for predefined projects. This is enabled by the structural embeddedness of the ICECs in China's industrial system, which ties them to the complete supply chain and the business rationale to integrate resources both upstream and downstream from their contracting activities. This is in contrast to some of the other leading international contractors in the world, such as the ACS Group from Spain, Hochtief Aktiengesellschaft from Germany, and Vinci from France, which focus on specialization in construction and engineering services.

CONCLUSION

Drawing extensively from primary Chinese sources and SAIS-CARI's database, this paper makes a number of arguments: 1) Chinese lending to Africa supports only a minor part of Chinese contracting activities in Africa, thus the phenomenal rise of China's international contracting needs to find other supplementary explanations. 2) Contrary to common assumptions, Chinese banks are actually slow to respond to Chinese ICECs' need in international contracting. Rather than thinking of China's international contracting as driven by the lending of Chinese banks, the opposite is more accurate. 3) The dominance of export credit in Chinese lending for international contracting has been the result of path dependency, which reflects the Chinese state's view of seeing international contracting as a strategic instrument for China's export-oriented development strategy. 4) China's international contracting industry originated during a critical juncture in China's economic transition and has been carefully cultivated by the state to facilitate the internationalization of China's industrial capacity. The ICECs are able to absorb the elite capacity in China's industrial system under the state capitalist model of economic governance. 5) As explorers for China's economic globalization, the ICECs have moved beyond simply construction and engineering contracting activities and are now expected to play the role of global resource re-organizers.

Given the clearly instrumental role of ICECs domestically and internationally, this paper calls for more attention to Chinese ICECs as a distinct group of actors in China-Africa economic relations, and more broadly, China's economic relations with developing countries in general. While a great deal of recent empirical focus is on China's international lending, it is important to recognize that such financial flows occur as a secondary step, following the exploratory behaviors of the contractors. The ICECs have the agency to utilize forms of finance other than international lending, including bond-issuance and equity investment fund, among others, to expand their presence in overseas markets and reshape the host countries' economic relations with China.

This research also speaks to the general literature on China's state-business relations. Scholars have long questioned the assumption that Chinese SOEs are "foot soldiers" of the state's geopolitically or diplomatically motivated goals.⁸⁷ While I agree that SOEs' overseas activities are

generally not to serve any hidden geopolitical agenda--as many of the “debt trap” accusers seem to believe--the case of Chinese ICECs does show that they are pursuing goals broadly in line with the state’s strategy regarding *economic globalization*.⁸⁸ The ICECs have served to promote the export of China’s industrial products, facilitate access to natural resources, and more recently the re-organization of global supply chains. This does not mean that the state dictates every move of the companies; day-to-day business decisions are made at the company level, and inevitably some bad decisions are made that end up hurting China’s diplomatic or other interests. However, the structural embeddedness of the “national champion” ICECs in China’s industrial system means that it is generally in their best interests to contribute to the state’s strategic goal of enhanced capability in global resource mobilization; in this respect, the “national champion” SOEs *are* part of the state. My analytical framework that gives weight to both the structural position of the ICECs in China’s industrial system and their agency as explorers in overseas markets hopefully presents a balanced view of this paradox.

This research has clear limitations because the Chinese sources I use are limited to accounts by policymakers and companies, which, even though informative for revealing their thinking, may have a strong bias especially with regard to the effectiveness of their actions. The Chinese sources also only reflect the narrative of the Chinese actors without seeing the perspectives of the African counterparts. Recent studies in the global China field have been highlighting the agency of the host countries in the interaction with China, which is clearly needed. Nevertheless, it is my hope that my study, by unpacking the structure-agent dynamics in the Chinese political economy, can serve as a basis for further studies that add analysis of host country agency into the picture. ★

Appendix A: Top 20 Chinese Contractors in Africa by Turnover in 2019⁸⁹

Ranking	Company
1	China State Construction Engineering Co., Ltd.
2	Huawei Technology Co., Ltd.
3	Sinohydro Corporation Limited
4	China Civil Engineering Construction Corporation
5	China Road and Bridge Corporation
6	China Harbour Engineering Company
7	Weihai International Economic and Technological Cooperative Co., Ltd.
8	Zhongmei Engineering Group Ltd.
9	China Jiangxi Corporation for International Economic and Technical Cooperation
10	China Railway Seventh Group Co., Ltd.
11	China Gezhouba Group Co., Ltd.
12	CCCC Fourth Harbor Engineering Co., Ltd.
13	China Machinery Engineering Corporation
14	China First Highway Engineering Company Ltd.
15	China Henan International Cooperation Group Company Ltd.
16	China Communications Construction Company Ltd.
17	Stecol Corporation
18	CBMI Construction Co., Ltd.
19	Anhui Foreign Economic Construction Group
20	Chengdu Design & Research Institute of Building Materials Industry Co., Ltd.

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