



MONITOR OF CHINESE INFRASTRUCTURE IN LATIN AMERICA AND THE CARIBBEAN 2020

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The contribution of this document focuses on the relationship between China and Latin America and the Caribbean (LAC), specifically in the area of infrastructure projects that China has carried out up to 2019 in the region. It is important to highlight that the contribution is the result of the learning and dialogue process achieved in the Academic Network of Latin America and the Caribbean (Red ALC-China) on multiple aspects of the bilateral relationship, specifically in the area of trade, outward financing, foreign direct investment (or OFDI) and infrastructure projects. The progress made in the Monitor of Chinese OFDI in Latin America and the Caribbean (Dussel Peters 2020)—after four annual versions since 2017—has made it possible to extend and deepen multiple aspects of Chinese OFDI in LAC and, as we shall see below, with implications for the present study.

Additionally, the objective of this document is to allow for a clearer and more precise understanding of the infrastructure projects carried out by China in LAC up to 2019 based on a definition and its follow-up by amount, employment generated, sector, country, period, type of ownership and Chinese company. As we will see below, there is no such monitoring in LAC or China at the moment, despite its importance. Considering that this effort will be made annually in the future, we invite interested parties to participate and improve the information provided here.

The analysis is divided into three sections. The first section provides the conceptual and methodological basis for infrastructure projects and their statistical recording; it will be fundamental for the following sections. The second section examines the 86 infrastructure projects carried out by Chinese companies in LAC until 2019, highlighting their main characteristics. The third section briefly addresses the main conclusions, as well as a group of aspects for future consideration.

1. Conceptual and methodological framework for the registration of infrastructure projects from China in LAC

In recognizing inconsistencies and different methodologies for statistical recording of LAC trade, financing and OFDI with China, it is evident that the problem is even greater in the

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case of infrastructure projects, since at present there are no statistics on China’s infrastructure projects in the region.

An infrastructure project is a service between a customer and a supplier through a contract—usually the result of a bidding process, although the process may be by direct designation—and in which the ownership belongs to the customer. The above definition is important from several perspectives. Firstly, a practically infinite number of processes and activities can be integrated as infrastructure projects, not only the construction itself, but also innumerable processes in segments of global value chains that are part of infrastructure projects:² conception, design, construction in its various stages, as well as multiple post-construction processes, for example, monitoring services, maintenance and even the operation of the service provided and others that come later, like consumer services, for example. Secondly, infrastructure projects are usually carried out between a public sector client and a private or public company, although in practice there are many public-private partnerships and of national or foreign capital, both by the client and the service provider. Thirdly, this definition allows us to distinguish, in terms of processes and their registration, between trade, financing and OFDI: infrastructure projects can include a multiplicity of forms of financing (public, private, national, foreign, etc.) and are independent from the realization of the infrastructure project itself (the issue will be discussed further on). However, the most relevant aspect is still the differentiation with OFDI, a subject that in many cases is dealt with indiscriminately: while in the case of OFDI the ownership of the investment is with the company at all times—without a contract between a client and supplier—in the case of the infrastructure project the ownership resides with the client;³ thus, ownership of the service, from this perspective, becomes a key element in distinguishing OFDI from infrastructure projects.⁴

Two additional aspects are relevant to the understanding of the information and analysis presented in the second section.

First. The CGTI Tracker (2020) is at the moment, and has been for several years now, the only source that is trying to register China’s infrastructure projects in the world, including “North America” and “South America”. While it is important to recognize that the endeavor has managed to significantly improve its database in recent years—especially by differentiating between “investments” and “construction contracts”—it still lacks a clear

² For an analysis of the diversity of infrastructure sub-sectors in LAC, see: Infralatom (2020)

³ In most cases the ownership of the project is undisputed; however, there are infrastructure projects where the provider enjoys a period of ownership of the service as part of the payment to the provider.

⁴ Based on this definition, projects carried out by Chinese companies in traditional infrastructure sectors—for example in ports or telecommunications—in which there is no contract, no bidding process and no customer ownership, are not considered “infrastructure projects” but OFDI, and are registered in the Chinese OFDI Monitor in LAC 2020 (Dussel Peters 2020).



definition and distinction between OFDI and infrastructure projects, which are not necessarily “construction contracts”, and, moreover, it maintains a register of “troubled transactions”, accounts that do not distinguish between OFDI and infrastructure projects, i.e. they do not give an explanation of their “problematic” nature and do not indicate whether or not they can be accounted for as OFDI or infrastructure projects. It even allows for the addition of OFDI and infrastructure projects, which makes little analytical sense based on the definition and distinction of infrastructure projects outlined above.⁵ Despite the serious limitations noted above, the CGTI Tracker is the most serious database on China's infrastructure projects in the world (and in LAC).

Second. As part of the process of “globalization with Chinese characteristics” (Dussel Peters 2018), the Belt and Road Initiative (BRI)—which integrates the New Maritime Silk Route—has probably become its main instrument and a flagship, with emphasis on interconnectivity and infrastructure projects and with important changes since 2013 (Long 2015; Xi 2018).⁶ BRI's explicit offer in relation to infrastructure projects and the significant demand in LAC allow us to consider that Chinese infrastructure projects in the region will continue to increase significantly in the future. From this perspective, China's infrastructure projects could be understood as part of its own development experience following the reform and opening process since the late 1970s (Gransow 2015). These Chinese infrastructure projects in the world and in LAC stand out, on the other hand, for their capacity to present “turnkey projects”—that is, to integrate practically all the multiple segments of the project: from financing and design to post-construction processes, which has generated a series of debates about learning processes and technology transfer in LAC (Dussel Peters, Armony and Cui 2018), in addition to discussions about their potential labor and environmental impacts (IISCAL 2018; Salazar Xirinachs, Dussel Peters and Armony 2018). Beyond these considerations, and from a Chinese perspective, infrastructure projects, regardless of their specific modality, represent the most sophisticated and complex relationship with LAC, even when compared to trade, finance and OFDI processes.

Based on the above criteria, the second section of this document uses the database of infrastructure projects explicitly generated for this purpose. The record is based on the above

⁵ The information of the CGTI Tracker (2020) records up to 2019 1,700 “construction contracts” from China in the world for 829,220 million dollars; for LAC it integrates 128 “construction contracts” for 61,190 million dollars for 2005-2019, in addition to 28 “problematic transactions” for 43,380 million dollars, that is, the difference is very significant and “problematic transactions” represent 70.89% of “construction contracts” in the case of LAC.

⁶ There is a debate as to when LAC could be explicitly considered as part of BRI, originally in 2013 as One Belt-One Road, later as the Belt and Road Initiative and including recently a group of concepts such as “building a community of shared future for mankind” (Xi 2019). At the CELAC-China Forum in January 2018, China makes explicit reference to LAC as part of BRI, although it had already carried out dozens of infrastructure projects before.



definition of infrastructure projects. In concrete terms, the database register is founded on the CGTI Tracker (2020), as well as on the database used until 2017 by Dussel Peters, Armony and Cui (2018), and the contribution of the specialized members of Red ALC-China. This registry required a detailed and transaction-level review of each infrastructure project, emphasizing its start date, country, specific project, sector and Chinese supplier company (and its respective parent company), as well as the supplier's ownership, the amount of the transaction and the direct, indirect and total employment. The screening of each transaction required a great deal of time to review—for example, to discard announced and/or projects that were initiated and cancelled—for each of these variables. In order to validate the information, priority was given to the companies themselves (customers and service providers), public sources (embassies of the respective countries, business organizations and unions, among others), as well as existing information in the media that was comparable with other sources; the ownership and parent company of the Chinese companies required additional review work per transaction.

2. Main results of China's infrastructure projects in LAC up to 2019

The following presents the main characteristics of the infrastructure projects carried out by China in LAC during 2005-2019, considering also that no projects had been registered by China before 2005. The 86 Chinese infrastructure projects were for an amount of \$76,868 million dollars and generated 273,869 jobs⁷ for the entire 2005-2019 period.

2.1. General characteristics

Table 1 reflects the main trends in China's infrastructure projects in the region, which highlights a number of aspects: on the one hand, the recent strong increase in the number of projects, their amount and jobs generated for the periods 2005-2009, 2010-2014 and 2015-2019, respectively. The amount of infrastructure projects increased from \$1,089 million to \$21,044 million and \$54,735 million for the respective periods. On the other hand, the projects reflect a growing diversity—a recurring theme in the ensuing analysis—considering that, for example, 2015 was the year with the highest amount directed towards infrastructure projects—22,622 million dollars—in only eight projects, while in 2019 China carried out 16 projects, the annual maximum, for only 9,617 million dollars. The increasing diversification of infrastructure projects is reflected in the ratios calculated in Table 1: the amount per project increased from \$272 million during 2005-2009 to \$1,073 million in 2015-2019 and reached

⁷ Of the total employment generated, 56.77% represented direct employment, 37.65% indirect employment and only 3.4% permanent employment. Although the information is consistent considering the characteristics of the employment generated by infrastructure projects, it is also important to recognize the difficulties in disaggregating the information on generated employment: only in some cases was it possible to disaggregate indirect and permanent employment.



a peak of \$2,828 million in 2015 before falling again to \$601 million in 2019. Similarly, employment generated per project also fell significantly, with the exception of 2016: if in 2010-2014 each infrastructure project generated 4,197 jobs on average, since 2017 it dropped by less than half.

Table 1
Latin America and the Caribbean: Chinese infrastructure projects (2005-2019)

	Number of infrastructure projects (1)	Amount (million of \$US) (2)	Employment (number of employees)(3)	Amount / project (2) / (1)	Amount / employment (2) / (3)	Employment / project (3) / (1)
2005-2009	4	1,089	8,946	272	0.122	2,237
2010-2014	31	21,044	130,122	679	0.162	4,197
2015-2019	51	54,735	134,801	1,073	0.406	2,643
2005-2019	86	76,868	273,869	894	0.281	3,185
2015	8	22,622	26,900	2,828	0.841	3,363
2016	13	10,957	64,873	843	0.169	4,990
2017	9	3,581	14,345	398	0.250	1,594
2018	5	7,959	4,412	1,592	1.804	882
2019	16	9,617	24,271	601	0.396	1,517

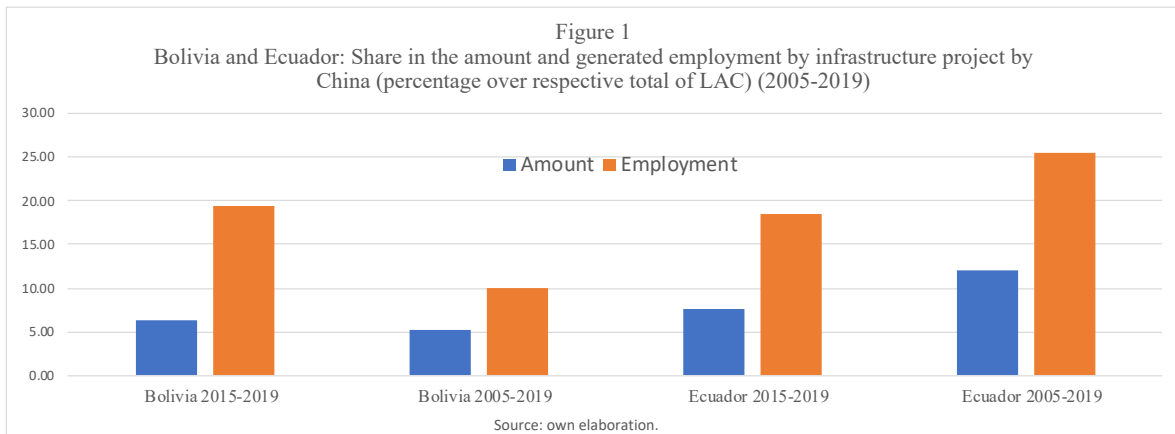
Source: own elaboration.

2.2. Infrastructure projects by country

Table 2 reflects the wealth of information recorded on China's infrastructure projects in LAC during 2005-2019 in the main recipient countries. Several aspects are noteworthy. On the one hand, the significant presence of infrastructure projects in South America, and, as a counterpart, the limited presence in the Caribbean, Central America and Mexico: of the 86 projects in 2005-2019, 72 (or 84%) were carried out in this subregion, representing 89.7% and 89% of the amount and employment from the projects in LAC, respectively. Secondly, Argentina is the country whose 17 projects represented the largest amount, of \$30,618 million (or 39.83% of LAC's amount) during 2005-2019; its participation in employment generation (of 26,205 jobs or 9.57% of LAC) is significantly lower. Third, the eight infrastructure projects in Brazil are important because the amount per project averages only 648 million dollars for the 2005-2019 period—well below the average for LAC and other countries such as Argentina and Peru—but they are much more employment-intensive: the eight projects averaged 8,049 jobs, well above the rest of the projects in LAC. Fourth, and contrary to expectations and the important presence of China with Venezuela regarding trade and financing (Piña 2019), China has only implemented seven infrastructure projects in Venezuela and two during 2015-2019, in the latter period for a total of only \$ 384 million dollars (0.70% of LAC) and 600 jobs (0.45% of LAC). Fifth, in two smaller countries—Bolivia and Ecuador—the presence of Chinese infrastructure projects has probably had the



greatest impact in the region (Figure 1): the twelve projects in Bolivia—highly concentrated in the period 2015-2019—amounting to \$4,030 million dollars and 27,626 jobs and above all in Ecuador, with 17 projects worth \$9,265 million dollars and more than 70,000 jobs. From this perspective, Ecuador—a country about which there is little information available on the matter, both in LAC and in China—could well be considered a case of particular importance in the framework of BRO and with profound impacts on its energy matrix, without leaving out the environmental and labor debates, among others (Garzón and Castro 2018). Sixth, Central America and the Caribbean have also been important recipients of infrastructure projects from China, despite having become one of the main regions that recognize Taiwan, with fourteen projects for \$9,732 million and about 33,000 jobs generated during 2005-2019, and particularly in the more recent period 2015-2019.





Cuadro 2
América Latina y el Caribe: proyectos de infraestructura de China por principales países y subregiones (2005-2019)

	Number of infrastructure projects (1)	Amount (million of \$US) (2)	Employment (number of employees)(3)	Amount / project (2) / (1)	Amount / employment (2) / (3)	Employment / project (3) / (1)
Total						
2005-2009	4	1,089	8,946	272	0.122	2,237
2010-2014	31	21,044	130,122	679	0.162	4,197
2015-2019	51	54,735	134,801	1,073	0.406	2,643
2005-2019	86	76,868	273,869	894	0.281	3,185
Argentina						
2005-2009	0	0	0	--	--	--
2010-2014	2	2,845	300	1,423	9.483	150
2015-2019	15	27,773	25,905	1,852	1.072	1,727
2005-2019	17	30,618	26,205	1,801	1.168	1,541
Bolivia						
2005-2009	0	0	0	--	--	--
2010-2014	3	570	1,350	190	0.422	450
2015-2019	9	3,460	26,276	384	0.132	2,920
2005-2019	12	4,030	27,626	336	0.146	2,302
Brazil						
2005-2009	2	239	7,350	120	0.033	3,675
2010-2014	2	1,525	24,100	763	0.063	12,050
2015-2019	4	2,990	32,940	747	0.091	8,235
2005-2019	8	4,754	64,390	594	0.074	8,049
Ecuador						
2005-2009	0	0	0	--	--	--
2010-2014	9	5,054	45,233	562	0.112	5,026
2015-2019	8	4,211	24,811	526	0.170	3,101
2005-2019	17	9,265	70,044	545	0.132	4,120
Peru						
2005-2009	0	0	0	--	--	--
2010-2014	0	0	0	--	--	--
2015-2019	4	7,461	9,336	1,865	0.799	2,334
2005-2019	4	7,461	9,336	1,865	0.799	2,334
Venezuela						
2005-2009	2	420	1,596	210	0.263	798
2010-2014	3	3,087	29,272	1,029	0.105	9,757
2015-2019	2	384	600	192	0.640	300
2005-2019	7	3,891	31,468	556	0.124	4,495
Caribbean						
2005-2009	0	0	0	--	--	--
2010-2014	9	6,799	17,063	755	0.398	1,896
2015-2019	2	135	408	68	0.331	204
2005-2019	11	6,934	17,471	630	0.397	1,588
Central America						
2005-2009	0	0	0	--	--	--
2010-2014	1	495	11,500	495	0.043	11,500
2015-2019	2	469	1,128	235	0.416	564
2005-2019	3	964	12,628	321	0.076	4,209
Resto						
2005-2009	0	430	0	--	--	--
2010-2014	2	669	1,304	335	0.513	652
2015-2019	5	7,853	13,397	1,571	0.586	2,679
2005-2019	7	8,952	14,701	1,279	0.609	2,100

Source: own elaboration.



2.3. Infrastructure projects by sector

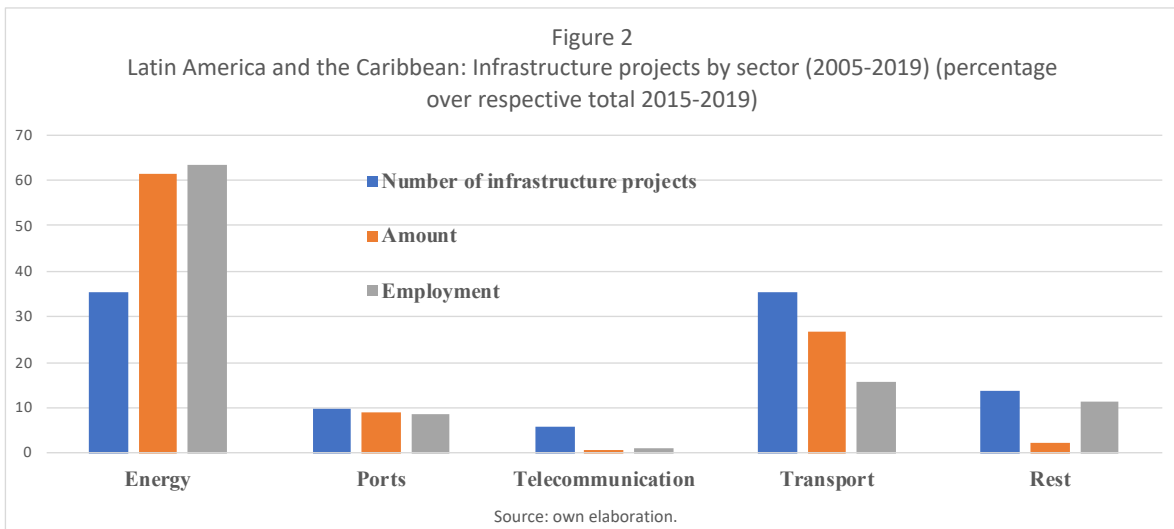
Table 3 clearly reflects sectoral patterns of China's infrastructure projects in LAC during 2005-2019. On the one hand, and for the entire period, energy and transportation projects represented 61 projects (or 70.93% of the total), \$68,009 million (88.47%) and 224,930 jobs (82.13%); 37 energy infrastructure projects were concentrated in hydroelectrical projects and, more recently, in several wind power and solar projects. In short, these two sectors are by far the most significant for the period examined (in 2005-2009, for example, 100% of infrastructure projects were in energy). On the other hand, although this structure is reiterated for the period 2015-2019 (see Figure 2), significant projects are also seen in sectors such as ports, telecommunications, as well as in the health sector (hospitals), water treatment and even in the military field. In other words, acknowledging the preeminence of China's projects in energy and transport, the extension and growth of the projects during 2015-2019 have also generated an important diversification compared to previous periods. Thirdly, the preeminence of energy infrastructure projects during 2005-2019 (with 43.02% of the projects, 63.68% of the amount and 66.56% of the employment generated) is also relevant to understand the general characteristics in terms of size and dimension: the 37 energy projects during 2005-2019 generated on average 4,927 jobs and 1,323 million dollars per project and were by far the highest averages. In comparison (see Figure 2), the four telecommunications projects during 2005-2019 represented only \$161 million and 408 jobs per project on average (see Table 3). Finally, comparing the two most recent periods (2010-2014 and 2015-2019), there is a significant reduction in employment generated by infrastructure project and an increase in the amount per project—mainly in the energy and transport sectors—or, in other words, a capital increase in infrastructure projects, also resulting from the aforementioned diversification of infrastructure projects in recent periods. Because of this, the amount of employment generated increases significantly, from \$0.162 million in 2010-2014 to \$0.406 million in 2015-2019.



Table 3
Latin America and the Caribbean: Infrastructure projects by main sectors (2005-2019)

	Number of infrastructure projects (1)	Amount (million of \$US) (2)	Employment (number of employees)(3)	Amount / project (2) / (1)	Amount / employment (2) / (3)	Employment / project (3) / (1)
2005-2009	4	1,089	8,946	272	0.122	2,237
Energy	4	1,089	8,946	272	0.122	2,237
Ports	0	0	0	--	--	--
Telecommunications	0	0	0	--	--	--
Transport	0	0	0	--	--	--
Rest	0	0	0	--	--	--
2010-2014	31	21,044	130,122	679	0.162	4,197
Energy	15	14,325	88,119	955	0.163	5,875
Ports	3	875	4,900	292	0.179	1,633
Telecommunications	1	302	0	302	--	--
Transport	6	4,371	21,481	729	0.203	3,580
Rest	6	1,171	15,622	195	0.075	2,604
2015-2019	51	54,735	134,801	1,073	0.406	2,643
Energy	18	33,537	85,218	1,863	0.394	4,734
Ports	5	4,946	11,625	989	0.425	2,325
Telecommunications	3	342	1,630	114	0.210	543
Transport	18	14,686	21,166	816	0.694	1,176
Rest	7	1,224	15,162	175	0.081	2,166
2005-2019	86	76,868	273,869	894	0.281	3,185
Energy	37	48,951	182,283	1,323	0.269	4,927
Ports	8	5,821	16,525	728	0.352	2,066
Telecommunications	4	644	1,630	161	0.395	408
Transport	24	19,057	42,647	794	0.447	1,777
Rest	13	2,395	30,784	184	0.078	2,368

Source: own elaboration.





2.4. Infrastructure projects by Chinese companies

China's 86 infrastructure projects in LAC during 2005-2019 present significant characteristics depending on their ownership (Table 4).⁸ For the period 2005-2019, 82 of the projects were carried out by public firms, of which two were from cities and 80 from centrally-owned companies, and four projects were carried out by private companies: for the period, 97.99% and 98.18% of the amount of the projects and the employment generated was owned by Chinese public corporations. During the most recent period, 2015-2019, a slight diversification process is perceived—four infrastructure projects were carried out for the first time by private companies—although the “omnipresence of the public sector” (Dussel Peters 2015) is still visible, with 95.35%, 97.99% and 98.18% of the companies, amount and employment generated, respectively. It should be noted that for the time being, infrastructure projects of privately owned Chinese companies are notable for amounts belonging to projects and jobs generated that are far below their public-owned counterparts: during 2015-2019 the four privately owned projects were worth an average of \$349 million dollars and 693 jobs, while the publicly owned projects were for an average of 1,135 million dollars and 2,805 jobs.

Table 4
Latin America and the Caribbean: Infrastructure projects by type of property (2005-2019)

	Number of infrastructure projects (1)	Amount (million of \$US) (2)	Employment (number of employees)(3)	Amount / project (2) / (1)	Amount / employment (2) / (3)	Employment / project (3) / (1)
2005-2009	4	1,089	8,946	272	0.122	2,237
Public property	4	1,089	8,946	272	0.122	2,237
Central government	4	1,089	8,946	272	0.122	2,237
Other	0	0	0	--	--	--
Private property	0	0	0	--	--	--
2010-2014	31	21,044	130,122	679	0.162	4,197
Public property	31	20,894	128,122	674	0.163	4,133
Central government	30	20,894	128,122	696	0.163	4,271
Other	1	150	2,000	150	0.075	2,000
Private property	0	0	0	--	--	--
2015-2019	51	54,735	134,801	1,073	0.406	2,643
Public property	47	53,340	131,821	1,135	0.405	2,805
Central government	46	52,950	131,431	1,151	0.403	2,857
Other	1	390	600	390	0.650	600
Private property	4	1,395	2,770	349	0.504	693
2005-2019	86	76,868	273,869	894	0.281	3,185
Public property	82	75,323	268,889	919	0.280	3,279
Central government	80	74,933	268,499	937	0.279	3,356
Other	2	540	2,600	270	0.208	1,300
Private property	4	1,395	2,770	349	0.504	693

Source: own elaboration.

⁸ There is one case, the infrastructure project for the construction of the Loma Blanca I, II, III and IV wind farm in Argentina, in which two companies participate, the Power Construction Corporation of China (PCCC) and Xinjiang Goldwind, which are publicly and privately owned, respectively. However, a thorough assessment leads us to conclude that PCCC has a majority stake and is considered to be publicly owned by the central government.



2.5. Main Chinese companies

The data bank by transaction allows an enormous wealth of analysis per company. China's infrastructure projects in LAC during 2005-2019 are also characterized by a high degree of concentration in a relatively small group of companies.⁹ During 2005-2019 only the top five companies accounted for 50% of the projects, 68.31% of the amount of the projects and 39.31% of the employment generated. In addition to China National Nuclear Corporation (Madhavan, Rawski and Tian 2018) with the Atucha III and IV projects,¹⁰ Power Construction Corporation of China—with several projects under Sinohydro in the region—, China Communications Construction Company, China Energy Engineering Group and China Railway Construction Company are the main companies generating infrastructure projects in LAC for their amount during 2005-2019. This concentration process is particularly relevant for the period 2015-2019, in which these five companies continued to have a very significant presence with 54.9%, 80.36% and 38.12% of the companies, amount and employment during 2015-2019 (see Chart 3), although a whole group of new public companies (COFCO, Harbin Electric Corporation and State Grid, among others) and some private companies (Envision Energy, Huawei and Lanbridge Group, among others) participated. It is also interesting to note that the coefficients of amount per project, amount per job and employment per project vary significantly for the same companies in different periods, reflecting that these have the financial and technological capacity to carry out very heterogeneous projects, although usually specialized in specific sectors; such is the case of China Communications Construction Company with fifteen projects in the region during 2005-2019 and with infrastructure projects in ports, bridges, roads, subways, gas pipelines, among others.

⁹ The joint project of China Communications Construction Company and China Railway Group in Brazil for the construction of the port “Porto do Sul” in 2019 was registered under the first company, considering its preponderant participation in the project processes.

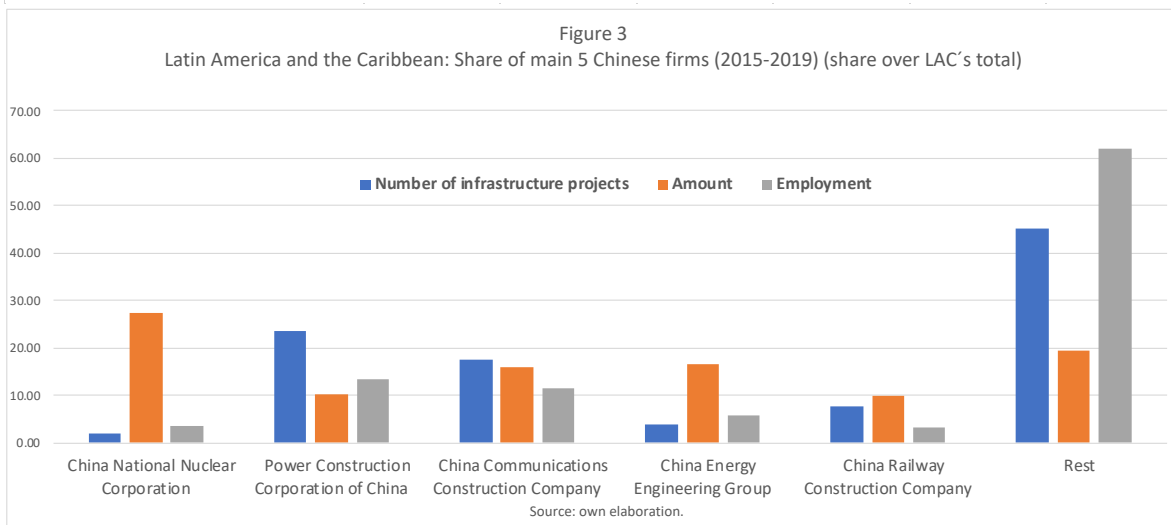
¹⁰ The Atucha III and Atucha IV projects in Argentina, signed in 2015, were renegotiated and postponed several times during 2016-2019—in addition to serious criticism of the technologies used and their high costs—and have been resumed in 2020 (Pérez Izquierdo 2020), although there are serious doubts about their effective viability in the face of Argentina's deep economic crisis.



Table 5
Latin America and the Caribbean: Chinese infrastructure by main 5 firms (2005-2019)
(according to the amount of infrastructure projects during 2005-2019)

	Number of infrastructure projects (1)	Amount (million of \$US) (2)	Employment (number of employees)(3)	Amount / project (2) / (1)	Amount / employment (2) / (3)	Employment / project (3) / (1)
2005-2009	4	1,089	8,946	272	0.122	2,237
China National Nuclear Corporation	0	0	0	--	--	--
Power Construction Corporation of China	0	0	0	--	--	--
China Communications Construction Company	0	0	0	--	--	--
China Energy Engineering Group	0	0	0	--	--	--
China Railway Construction Company	0	0	0	--	--	--
Resto	4	1,089	8,946	272	0.122	2,237
2010-2014	31	21,044	130,122	679	0.162	4,197
China National Nuclear Corporation	0	0	0	--	--	--
Power Construction Corporation of China	8	5,425	29,810	678	0.182	3,726
China Communications Construction Company	6	2,383	24,194	397	0.098	4,032
China Energy Engineering Group	1	720	2,200	720	0.327	2,200
China Railway Construction Company	0	0	0	--	--	--
Resto	16	12,516	73,918	782	0.169	4,620
2015-2019	51	54,735	134,801	1,073	0.406	2,643
China National Nuclear Corporation	1	15,000	5,000	15,000	3.000	5,000
Power Construction Corporation of China	12	5,709	18,351	476	0.311	1,529
China Communications Construction Company	9	8,690	15,766	966	0.551	1,752
China Energy Engineering Group	2	9,086	7,800	4,543	1.165	3,900
China Railway Construction Company	4	5,498	4,468	1,375	1.231	1,117
Resto	23	10,753	83,416	468	0.129	3,627
2005-2019	86	76,868	273,869	894	0.281	3,185
China National Nuclear Corporation	1	15,000	5,000	15,000	3.000	5,000
Power Construction Corporation of China	20	11,134	48,161	557	0.231	2,408
China Communications Construction Company	15	11,073	39,960	738	0.277	2,664
China Energy Engineering Group	3	9,806	10,000	3,269	0.981	3,333
China Railway Construction Company	4	5,498	4,746	1,375	1.159	1,187
Resto	43	24,358	166,002	566	0.147	3,861

Source: own elaboration.





3. Conclusions and future lines of research

The conclusions and proposals are very varied and only some of them are mentioned. Based on a definition of infrastructure projects—and unlike other processes carried out by China in LAC—the document seeks to contribute specifically to the issue and the China Track and Route Initiative in LAC. The 86 infrastructure projects—which should be distinguished from OFDI and “construction projects”, according to other sources—present significant results, based on the high demand in LAC and the effective supply proposed by China in the 21st century; regardless of the COVID-19 pandemic, it is expected that China’s infrastructure projects in LAC will continue to grow in the future, as they have been doing in the periods established in the document.

While there is a perceived increasing diversification of China’s infrastructure projects in LAC—by country, sector, ownership and enterprise—during 2005-2019, the project structure prevails in a relatively small group of countries and sectors under the “pervasiveness” of Chinese public sector enterprises. Notwithstanding the above, it is important to recognize the growing importance of regions such as Central America and the Caribbean, sectors such as telecommunications and ports, as well as the emergence of private Chinese companies in the implementation of infrastructure projects.

Having achieved a record of transactions of China’s infrastructure projects in LAC, and in the spirit of improving the quality and quantity of information in future annual contributions, the results allow for multiple insights that have policy implications. Among others, the options for technology transfer and specific processes—explicitly pointed out in the “Joint Action Plan of Action for Cooperation on Priority Areas” of the CELAC-China Forum for 2019-2021—within infrastructure projects, as well as a detailed and per-transaction analysis of these, contracts, “turnkey” projects, comparisons with other international companies, labor and environmental aspects, as well as the various results of the projects, are quite remarkable for China in LAC.

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