

China-backed Infrastructure in the Global South: Lessons from the Case of the Brazil-Peru Transcontinental Railway Project

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Abstract

In the past decade, infrastructure has become a key area of cooperation between China and the Global South. Among the cooperation initiatives, numerous cases have experienced shortcomings or have failed. Notwithstanding some efforts, the reasons why still need to be better understood. To contribute to further illuminating this issue, the present study examines approximately two thousand pages of previously undisclosed official documents of one of the most ambitious projects China has ever been involved in, namely, the Brazil-Peru Transcontinental Railway project. The main events of this case are reconstructed to explain why the Brazil-China-Peru cooperation failed to achieve its objective of producing a basic feasibility study acceptable to these three countries. It finds that the main causes were: 1) the clash between China's interest in promoting their technical standards and the Brazilian requirement to use local standards; 2) the unwillingness of the Chinese side to make corrections combined with the use of poor quality standards for the development of the basic feasibility study; and 3) Peruvian politics and the decision to not fulfill its commitment to analyzing the final report of the study. Therefore, this case study draws attention to the roles played by clash of interests, lack of accountability, and commitment.

Keywords: China-backed infrastructure, South-South cooperation, development cooperation effectiveness, aid effectiveness, China.

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CHINA-BACKED INFRASTRUCTURE IN THE GLOBAL SOUTH: Lessons from the Case of the Brazil-Peru Transcontinental Railway Project

Leolino Dourado¹

1. Introduction

China's support for the development of infrastructure projects in the Global South has achieved remarkable levels in the past decade. Between 2008 and 2019, China provided approximately 250 billion dollars in financing, and billions more in grants and technical assistance for the construction of airports, highways, ports, railways, powerplants, telecommunication infrastructure, and so forth (Ray & Simmons, 2020; State Council, 2021). This active support helps developing countries reduce their large infrastructure gap, while it also serves China as a means to promote its own economic and political interests. However, problems have been reported in numerous projects, including poor performance, unfulfillment of promised benefits, social environmental issues, and cancelation (e.g., Dussel Peters et al., 2018). A few problematic cases are infamous for their underperformance, such as the Hambantota Port in Sri Lanka, while others never fully materialized, such as the high-speed railway in Venezuela. In-depth analysis of problematic projects can be instrumental to identify the causes of shortcomings and help plan corrective actions. Nevertheless, South-South cooperation initiatives commonly suffer from a scarcity of reliable data due to lack of transparency and poor information management (Besharati, 2019). This helps explain the limited number of in-depth and rigorous analyses of China-backed infrastructure projects in the Global South. Valuable efforts have been made, but analyses are often incomplete, as analysts are unable to examine the complexities of each case in the necessary depth.

Against this background, this case study scrutinizes almost two thousand pages of previously undisclosed official documents from one of the most ambitious infrastructure projects that China has ever been involved in, namely, the Brazil-Peru Transcontinental Railway project. At an estimated cost of 72 billion dollars, this railway would stretch for approximately 5,000 kilometers, transversally crossing South America (see Figure 1 and Sections 3 and 6). Regarding this initiative, in 2015, Brazil and Peru signed with China the Memorandum of Understanding (MOU) on the Joint Conduction of the Basic Feasibility Studies for a Bioceanic Railway Connection (2015). Under the agreement, a Chinese state-owned company, China Railway Eryuan Engineering Group (CREEC), was put in charge of undertaking a basic feasibility study in collaboration with the ministries of transportation of the host countries. However, ultimately, the cooperation failed to produce a valid study, as neither Brazil nor Peru approved the final report of the basic feasibility analysis prepared by the Chinese company (Empresa de Planejamento e Logística [EPL], 2017a). Thus, this trilateral cooperation has fallen short, given that its objective was to produce a basic feasibility study agreeable to all three parties (see aforementioned MOU).

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The purpose of this research paper is to contribute to deepening the understanding of the causes and mechanisms that affect the effectiveness of South-South development cooperation initiatives, particularly China-backed infrastructure. To do so, this case study explores why the Brazil-China-Peru cooperation fell short regarding the joint effort to produce a basic feasibility study for the Transcontinental Railway project. More specifically, it seeks to identify the main underlying reasons and related mechanisms and processes that led to this outcome, which include the roles played by the different relevant actors from each of the three countries, and by the changing context in which the story unfolded. At the same time, it takes note of the positive aspects of this collaboration. Due to the difficulty in obtaining information usually observed in this kind of cooperation initiatives, this in-depth study based on a rare high-level of documented evidence contributes to the emerging scholarship on the subject.

The study is structured as follows. Section 2 presents the main discussions and findings of the emerging literature on the subject and the methodology used here. Section 3 introduces the background of the project and the Chinese engagement with it. Section 4 explores the most important technical problems and challenges reported by the three parties, while Section 5 does the same for political issues. Section 6 centers on the lack of consensus regarding the final outcome of the trilateral collaboration. On that basis, Section 7 synthesizes the evidence to explain why this cooperation initiative fell short. This is followed by the concluding section, which reiterates the main findings, discusses the implications, and presents recommendations.

2. Assessing China-backed Infrastructure in the Global South

The effectiveness of development cooperation initiatives depends on several factors. First, since countries are primarily concerned with their own interests (e.g., Keohane, 1984; Morgenthau, 1962; Waltz, 1988), it requires conciliating the interests of both host countries and of those offering development assistance. However, the latter group tends to hold control over the project in order to secure their own agenda (Browne, 2006). This has implications, as a key condition of effectiveness is that host countries are able to exercise a high level of control over the project and that host and partner countries are accountable to each other (Besharati, 2019; Pickup, 2018). Furthermore, Williamson (2010) argued the vested interests of the foreign partner country may bias the analysis of the merits of a project and result in the approval of “white elephants.” On the host country’s side, the main problems stem from lack of commitment and/or capacity to develop a project (Riddell, 2007). With this in mind, it is worth examining some key studies on China-backed infrastructure in the Global South.

Various studies have highlighted the positive aspects of such cooperation initiatives. It is important to note that China’s readiness and technical and financial capacity has enabled the development of numerous infrastructure projects in the Global South (Ogwang & Vanclay, 2021). In some instances, China was the only source of technical and financial support accessible for a project (Chen, 2021). The process of securing Chinese support (especially loans) has been reported as quick and straightforward (Chen & Landry, 2018) and interest rates may be lower than those of traditional sources (Gallagher & Irwin, 2015). Furthermore, according to Pan (2015), China’s non-intervention policy allows host countries to pursue their own development plans and select the projects themselves free of political conditionality. This is consistent with findings of Gallagher et al. (2019) in Latin America and Grgić (2017) in Montenegro. Finally, several studies have highlighted the fact that significant efforts have been made to promote capacity building and technology

transfer (Chen, 2021; Zhu et al., 2020). The aforementioned examples help illustrate the positive aspects of China's support for the development infrastructure in other countries.

In terms of negative aspects, a series of issues have been reported in the literature. The control given to host countries in project governance is somewhat limited. Not unlike aid from traditional donors, in order to promote its own strategic economic interests, China's assistance is commonly tied to the use of Chinese equipment, services, technical standards, and workers (Chen, 2021; Fukuyama et al., 2019). Kuik (2021) and Kaplan (2016) found, in Laos and Brazil, respectively, that China-backed projects experienced setbacks due to disagreements between the Chinese and the host countries on local content and hiring of Chinese workers. Hence, clashes between China's and host countries' interests and practices can lead to problems if no compromise can be achieved.

In addition, poor planning or weak feasibility analysis is a common theme. Regarding investments overseas, the Ministry of Finance of China (2017) noted that some Chinese state-owned enterprises have been facing difficulties due to the lack of diligence in feasibility analysis, as they have often been treated as a "mere formality." Several scholars have found feasibility analyses to be flawed, incomplete, or biased in China-backed projects overseas (e.g., Grgić, 2019; Kratz & Pavličević, 2019; Taylor, 2020). Social-environmental impact analysis is particularly problematic (Gallagher et al., 2019; Vallejo et al., 2019). Fukuyama et al. (2019: 8) argued that Chinese companies "tend to overestimate the positive externalities arising from a given project, and to underestimate the negative ones." These findings suggest that substandard planning or feasibility studies is a source of problems.

Notwithstanding, as Zha (2018: 1) noted, host countries "share responsibility with China in the design and implementation" of a project. Several potential issues in the host countries pose considerable challenges, such as weak governance, lack of long-term planning, corruption, disputes between political parties (or groups of interest), and social and political instability (Creutzfeldt, 2018; Leiva, 2021; Li & Zhou, 2018). For instance, a consortium including a Chinese company won the bid to build a high-speed railway in Mexico, but it was canceled due to accusations of corruption involving the Mexican members of the consortium (Cornejo, 2019). In another instance, Li and Zhou (2018: 91) argued that the "abuse" of environmental protection laws in Latin America had caused "irregular interferences" in China-backed initiatives, as in the suspension of two hydropower plant projects in Argentina. Similarly, Brautigam (2020) warned about "negativity bias" against China's activities overseas, insofar as sometimes problems have been blown out of proportion. With this in mind, issues rooted in the host countries should also be considered when assessing China-backed projects.

How to produce an in-depth analysis

This case study is primarily based on the aforementioned previously undisclosed official documents. Despite a confidentiality clause in the trilateral agreement, these include the four volumes of the basic feasibility study final report produced by CREEC (which features the comments of the Brazilian technical team), as well as minutes of meetings, and official communications responding to inquiries. The aforementioned material was obtained through formal requests supported by transparency laws in Brazil and Peru. In addition, fieldwork was conducted in Beijing, Shanghai, and in the province of Sichuan, which consisted of interviewing approximately a dozen people who were directly involved in the trilateral cooperation or experts with knowledge relevant to the case. The identity

of the interviewees will remain anonymous. These sources allowed to reconstruct the main chain of events and trace the processes from the beginning to the end of this trilateral cooperation in order to provide an explanation for its unsuccessful outcome.

3. China and the Brazil-Peru Transcontinental Railway

Despite some news reports suggesting otherwise, this project of a transcontinental railway crossing Brazil and Peru was conceived in these two nations. In 2008, it was included in the Brazilian National Transportation Plan, and a law declared it a public necessity and of national interest in the case of Peru. Brazil's primary purpose was to provide a more cost-effective transportation alternative for exports from the interior of the country to reach Asian markets (EPL, 2015), particularly agricultural and mining commodities from the state of Mato Grosso (see Figure 1) shipped to China (CREEC, 2016a). Meanwhile, Peru primarily wished to help the country realize its goal of becoming a transportation hub on the west coast of South America (Ministry of Foreign Affairs of Peru, 2015). In principle, given the potential benefits, both host countries had good reasons to propose this project; but what were China's reasons?

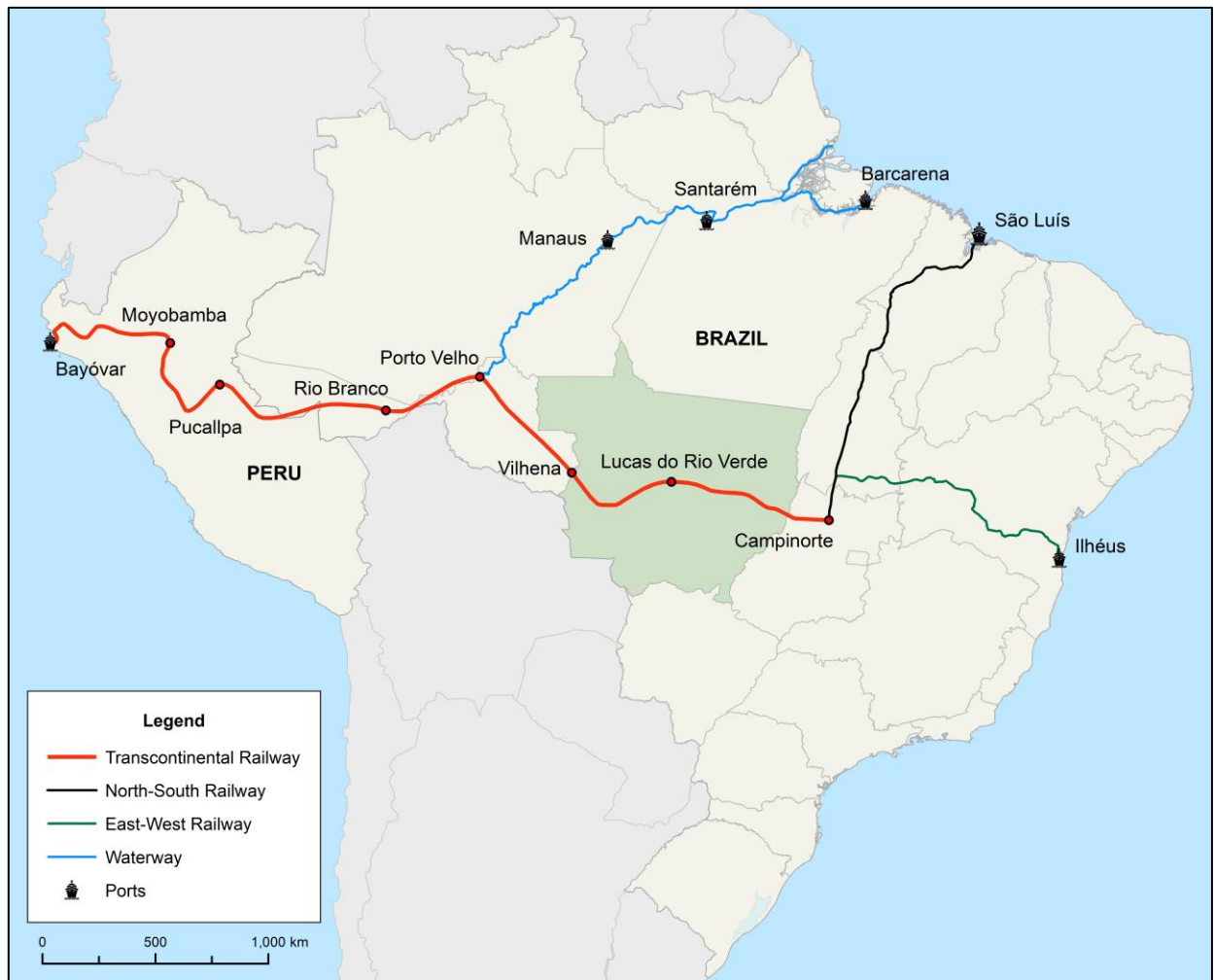
China showed great interest in this initiative, as evidenced by the fact that President Xi Jinping himself, together with his counterparts, announced his country's official engagement with the initiative in 2014. It is argued here that China was mainly driven by its "going global strategy," the well-known Chinese policy of promoting the internationalization of its companies introduced over two decades ago. As stated by officials of the Ministry of Commerce of China (2015), the "going global" strategy of Chinese railway export is changing from the initial equipment supply mode to the whole industry-chain output mode encompassing design and technical guidance, project construction and operation and maintenance," including "engineering and technical standards." In this case, the Chairman of the National Development Reform Commission (NDRC), the Chinese institution in charge of overseeing this trilateral cooperation, argued that the country's participation in the Brazil-Peru Transcontinental Railway, together with other projects, would represent a "breakthrough" for the promotion of Chinese technology overseas (People's Daily, 2016). In summary, as stated by the Vice-President of CREEC (the company responsible for the feasibility analysis), this project had "great strategic value," as it would "help China's railway technology truly go global and control the entire industry, from preliminary research to construction, operation and maintenance" (Zheng & Meng, 2015).

Between 2008 and 2014, there was limited progress concerning the project; hence, Chinese participation brought new life to this enterprise. The host countries had invited the private sector to make offers to develop feasibility studies of some segments of the railway,² but only one out of four was completed. In the case of the three unsuccessful calls for bids, the compensation for the service would have had to be derived from the project itself if and when it was implemented (ProInversión 2011; Senate of Brazil, 2017), while the successful bid in Brazil was paid using resources from the government budget (Federal Court of Accounts of Brazil, 2011). Therefore, it is reasonable to suggest that the lack of public financial resources and the risks involved in a project of this magnitude were major obstacles for any significant progress regarding its feasibility study. Against this background, according to a Chinese interviewee who was involved in the project (personal communication, 2021a), Brazilian officials reached out to Chinese diplomats in Brazil. She noted that, after several meetings between Brazil, China, and Peru to

² In Peru, it was kept as a single project (ProInversión, 2011), while it was segmented in Brazil (see EPL, 2015).

discuss a potential collaboration, eventually an agreement was reached, as announced in 2014. Thereafter, China's engagement, particularly because of its financial and technical capacity, revived the initiative.

Figure 1. Brazil-Peru Transcontinental Railway Layout



Source: designed by the author based on CREEC (2016a: 18).

The Chinese side became the leading player in the development of the basic feasibility study of the Brazil-Peru Transcontinental Railway project. The company in charge of preparing the study, the aforementioned CREEC, was selected and financed by the Chinese side. Meanwhile, Brazil and Peru assigned governmental institutions to perform supporting tasks and review the inception, interim, and final reports prepared by the Chinese company (MOU on the Joint Conduction of the Basic Feasibility Studies for a Bioceanic Railway Connection, 2015). On paper, CREEC reported to a trilateral group formed by the governments of the three countries, but, as explained in the following sections, the Chinese side had the final say on what the company would do.

4. Technical Issues with the Basic Feasibility Study

In the beginning, it was not clearly agreed how exactly the basic feasibility study would be developed. When a company is entrusted with such a job, usually there is a contract

and terms of reference detailing the scope and manner in which the work should be developed; the latter documents for similar projects can reach over 100 pages (e.g., VALEC, 2013). Meanwhile, the three countries signed two MOUs, which amounted to less than 10 pages.³ No specific terms of reference or similar documents were prepared and agreed upon for this job because of the timeframe established and the “lack of sufficient time to prepare [such documents]” (EPL, 2019). Instead, the host countries provided the Chinese side with the terms of reference of the *segments* of the Transcontinental Railway project that had such material available and the one feasibility study that had been carried out for a segment of this project (originating from the tenders mentioned above; EPL, 2019). These materials contained local technical standards, norms, and detailed components of the study (e.g., VALEC, 2013). The Brazilian side noted that CREEC did not indicate any doubts, so the former considered that “contacts between the three parties were enough for the study to be carried out without the need for specific terms of reference” (EPL, 2019). However, the issues discussed in the following paragraphs suggest otherwise.

4.1. Flaws reported by the host countries

The basic feasibility study did not meet the requirements of the host countries. CREEC developed the study using Chinese technical standards for items such as minimum curve radius and maximum ramp. In doing so, the initial instructions were not observed, since the Brazilian team had stressed that the use of local technical parameters was indispensable for the study to be approved (EPL, 2016). Similarly, Peru also expressed dissatisfaction with the technical standards and the use of tunnels to cross the Andes (CREEC, 2016a: 6, 38, 39). Brazil complained that the construction costs were significantly inflated because of the norms applied, as the cost per kilometer was three times higher than the Brazilian national benchmark (EPL, 2017a). Moreover, there was no analysis of or reference to the documents provided by the host countries, which would be “important and pertinent” to have an idea of the differences between the study developed by CREEC and the reference material they received (EPL, 2016; 2017b). By not following the host countries’ norms, the study was incompatible with local practices and cost-benefit requirements, and, therefore, bound not to be approved.

Closely related, there was a certain level of neglect (or even disregard) concerning the host countries’ legal framework. CREEC requested Brazil and Peru to examine their respective legislation and policies to identify potential constraints on the project and, if possible, change the inconvenient conditions to facilitate the implementation of the railway (CREEC, 2016b: 75). Notably, CREEC specifically failed to observe laws concerning social-environmental protection, labor, and public procurement. As the railway would cross part of the Amazon rainforest, the possible socio-environmental impact was one of the greatest concerns regarding this project. Indeed, CREEC noted that the rail line would cross a legally protected preservation area, which would entail difficulties in obtaining an environmental license. As a solution, the company proposed that a bill should be passed to reduce the perimeter of the protection area (CREEC, 2016a: 47). Furthermore, labor laws were requested to be changed to accommodate certain practices related to work shifts in the eventual construction of the railway (CREEC, 2016b: 99-101). Finally, local regulations requiring open competition in public procurement were overlooked, as the basic feasibility study prescribed the use of Chinese goods and services (e.g., CREEC, 2016a: 9, 149). That is, the rules were

³ Considering the content of the MOU on the Creation of the Trilateral Working Group for a Brazil-Peru Bioceanic Railway Connection (2014) and the MOU on the Joint Conduction of the Basic Feasibility Studies for a Bioceanic Railway Connection (2015).

expected to bend to the project, rather than the converse. In response, the Brazilian side stressed that local laws and regulations must be observed as they were (EPL, 2017a; CREEC, 2016b: 100).

The host countries reported a series of technical deficiencies in the basic feasibility study. Most notably, several key estimates were presented in oversimplified tables with limited explanation of how values were calculated; there was no clear methodology, calculation reports, and sources for the input data. To illustrate, the most important faulty estimates included: demand forecast, investment needed, operation costs, revenue, and internal rate of return (CREEC, 2016a: 123, 125; 2016c: 283, 452; EPL, 2016; 2017b). Moreover, the Brazilian team said that there were “extremely high” mathematical and conceptual mistakes in the cargo capacity calculation throughout the whole feasibility study (CREEC, 2016c: 49). Finally, the demand forecast was considered inaccurate because it did not include two important alternatives (one railway and one waterway) that would compete to move the same cargo as the Transcontinental Railway, even though CREEC was repeatedly instructed to consider these alternatives (EPL, 2017a). These critical technical flaws compromised the basic feasibility study.

The social-environmental impact analysis did not offer a basis for a definitive conclusion regarding the feasibility of the project. The study included a chapter on this issue that was only 12 pages long, which represented less than one percent of the full-length of the study of over 1750 pages (see CREEC, 2016a, b, c, d). According to the Brazilian side, the analysis simply mentioned social-environmental risks, but it lacked a thorough diagnosis and propositions for mitigation measures (CREEC, 2016a: 47). CREEC’s team highlighted that the issue of environmental protection in the Amazon was complex and required further studies to support the railway feasibility (CREEC, 2016a: 7). Nonetheless, they also repeatedly affirmed that the project was environmentally feasible (e.g., CREEC 2016a: 7, 200, 201). The Brazilian team disagreed, asserting that it was “too hasty” to consider that there would be no “critical environmental issues” that could cast doubts on the project feasibility (e.g., CREEC, 2016a: 7). Indeed, without a comprehensive impact assessment and a plan for mitigation measures, it would not be possible to reach a reasonable conclusion on the matter.

In addition, there were issues regarding other key components of the study. According to Brazil, there was no proper financial-economic modeling, budget, phasing for the project implementation, transshipment solution for the different gauges used in Brazil and Peru, and definition of cargo hubs along the railway outline (EPL, 2017b). While some of these components were presented with varying degrees of development, the Brazilian team considered them to be incomplete. Since the aforementioned components were considered indispensable at this stage of the project analysis (EPL, 2017b), their reported absence or incompleteness represented another important shortcoming.

4.2. Difficulties reported by the Chinese side

As a pioneering initiative, this enterprise brought some challenges. According to the Chinese interviewee who was involved in the project (personal communication, 2021a), CREEC had no experience in the host countries; therefore, she added that it faced difficulties in understanding local practices, norms, and legal frameworks, especially concerning social-environmental protection. In effect, in the final report of the basic feasibility study, the company reported that its job had been affected by its lack of knowledge about the Brazilian and Peruvian railway sector (CREEC, 2016d: 11). The unfamiliarity of CREEC with the rail sector in the host countries made an already complex job even more challenging.

Regarding technical standards, it would not be possible to meet the request to use local parameters. CREEC stated that the company was not allowed to change the technical standards used in the study. The change would have to be agreed upon at the government level (EPL, 2016). In addition, CREEC argued that there was a “certain level of irrationality” in the use of Brazilian technical standards, while the Chinese parameters would allow to adequately design and estimate the investment necessary to implement the project (CREEC, 2016b: 159). A Chinese engineer specializing in railways (personal communication, 2021b) proposed that, from the Chinese perspective, the Brazilian technical specifications would result in low performance because it would reduce the speed of the rail line.⁴ However, in her study on China-backed railways in Ethiopia, Chen (2021) suggested that the use of Chinese technical standards is meant to accommodate their equipment, especially rolling stock. Hence, CREEC’s resistance to use local technical specifications in the basic feasibility study could be explained by China’s interest in exporting its railway technology.

As for the social-environmental analysis, conflicting interpretations of responsibilities contributed to its deficiency. In the MOU on the Joint Conduction of the Basic Feasibility Studies for a Bioceanic Railway Connection (2015), it was agreed that the host countries would make a “preliminary environmental assessment.” Brazil delivered a “preliminary diagnosis” (CREEC, 2016a: 10), which CREEC reviewed and asked the Brazilian technical team to expand it, as the aforementioned company understood that the host countries had taken responsibility for the environmental analysis. Conversely, the Brazilian side considered that they had fulfilled their responsibilities of preparing a preliminary environmental assessment; thus, they would not provide a more in-depth analysis on the subject (CREEC, 2016b: 73). Yet, as noted above, Brazil also expected the social-environmental study to be more thorough. Hence, China and Brazil thought it was the other’s responsibility to address that aspect of the study in the Brazilian territory.⁵

5. Political Issues in the Host Countries

As the technical work was taking place, political developments in the host countries had a direct impact on the trilateral cooperation and prospects of the project. In 2016, President Dilma Rousseff was ousted in Brazil. Consequently, the project lost its most important proponent in the Brazilian government. Vice-President Michel Temer took office as the new president with the mission of controlling a mounting budget deficit and economic recession; at the same time as the government faced public pressure posed by corruption scandals involving politicians. Some analysts argued that the crisis in Brazil created obstacles to the trilateral cooperation (e.g., Gillespie, 2018). However, while the project might have lost priority in the presidential agenda and the conditions were not conducive to the development of such a massive piece of infrastructure, Brazil did not abandon the initiative and its team continued to participate in the technical collaboration to study the feasibility of the railway.⁶ In fact, the Temer administration publicly declared “strong support” for the project (China Daily, 2018). Hence, despite the political change, Brazil remained engaged with the trilateral cooperation, and the technical work went on as planned.

⁴ For instance, CREEC used 600 meters as the minimum curve radius, whereas Brazil proposed 344 meters or less (CREEC, 2016a: 42)

⁵ Note that there was no such conflicting interpretation in the case of Peru.

⁶ The Brazilian technical team worked during and after the process of impeachment (April-August 2016), as can be seen from the dates of meeting minutes (EPL, 2017a: 2017b).

Meanwhile, in Peru, regular elections put in office a new administration that effectively, though not officially, withdrew from the trilateral cooperation. Based on the interim report of the basic feasibility study (the final report was still in progress), President Pedro Pablo Kuczynski cast doubt on the Transcontinental Railway project due to the enormous implementation costs and the potential social-environmental impact. For these reasons, he argued that his country had other priorities (Ortiz, 2016). Subsequently, the Peruvians did not review or comment on the final report of the study (Ministry of Transportation of Brazil, 2017). In effect, according to the Ministry of Transportation of Peru (2019), the central government decided not to continue with the development of subsequent studies. However, Brazil and China were not informed about this decision, as they expected Peruvian participation in the final report (CREEC, 2016b: 66; EPL, 2017b). Thus, in the case of Peru, political change did lead to a reversal, as the country abandoned the trilateral cooperation.

It is worth noting that other underlying domestic factors may have influenced the Peruvian decision. First, President Kuczynski's concerns regarding environmental protection of the Amazon echoed those raised by several civil society organizations, academic circles, and the press (e.g., Watts, 2015). Second, just a month after the president voiced his concerns regarding the Transcontinental Railway project, the then Vice-President and Minister of Transportation of Peru, Martin Vizcarra, travelled to Bolivia, where he declared his support for the Central Bi-oceanic Railway Corridor project (RPP, 2016). This is a different initiative, with a completely different layout that would connect Bolivia, Brazil, and Peru. A month later, President Kuczynski himself visited Bolivia and also declared support and preference for the bi-oceanic railway promoted by this Andean neighbor. He claimed that this initiative presented a more efficient route and would avoid negative impacts on the Amazon (Gestión, 2016). Interestingly, Vice-President and Minister Vizcarra had been promoting this project since 2013, when he was the governor of his home department of Moquegua, a region that would become the gateway of the Central Bi-oceanic Railway Corridor (El Vocero Regional, 2013). Therefore, pressure due to the potential environmental impacts and regional interests within Peru may have contributed to the dismissive position adopted by the new Peruvian leadership towards the Transcontinental Railway project.

6. No Consensus

The Chinese side was convinced that the project was feasible and should move towards implementation. While CREEC acknowledged that there were issues that needed more in-depth analysis, it asserted that the basic feasibility study successfully “identified the minimum conditions for the project implementation” (CREEC, 2016a: 172). Therefore, the Brazil-Peru Transcontinental Railway project was considered feasible, as stated several times throughout the study (e.g., CREEC, 2016a: 8, 131). Furthermore, it was proposed that the company responsible for the project should be established to undertake further studies and start the construction in the following year (i.e., 2017), which would be completed by 2025 (CREEC, 2016a: 131, 132). However, it was noted that, to make the project financially feasible, it would require government investment in a public-private partnership and/or it would be “indispensable” to offer “preferential policies” (i.e., subsidies) to the company responsible for building and operating the railway (CREEC 2016b: 55, 56). To circumvent Peru's loss of interest, CREEC proposed to start the implementation in Brazil and eventually connect to Peru after the railway started operating in Brazilian territory (Senate of Brazil, 2017: 6). Hence, for the Chinese side, regardless of pending issues, the Transcontinental Railway project was indubitably feasible, and the implementation process should start.

Conversely, the basic feasibility study did not convince the Brazilian technical team. They noted that there was no evidence to support the claim that the project should go ahead (CREEC 2016a: 8). In fact, given the astronomical costs of almost 72 billion dollars and the low rate of return,⁷ the Brazilians considered that CREEC's study suggested the initiative was infeasible (CREEC, 2016a: 170). Nevertheless, it would be imperative to provide "corrections, adjustments and supplements" before the study could actually offer any basis by which to analyze the basic feasibility of the project (EPL, 2017b). The adjustments required (and reported here) were provided to the Chinese in meetings and in writing (EPL, 2016, 2017a, 2017b). Finally, it was asserted that if the deficiencies noted in the interim and final reports were not addressed, the study would not be approved by Brazil (EPL, 2017b). For the Brazilian side, the study as delivered by CREEC had little use.

China considered that it had completed what it promised, and any next steps would be up to the host countries. CREEC said that no further human or financial resources could be allocated to make any adjustments to the study at that stage (EPL, 2017a). Notably, CREEC highlighted that their study was audited by the most prestigious engineering consulting company in China, together with over ten departments of the Chinese government (Senate of Brazil, 2017). A statement from the Chinese embassy in Brazil read that "a final report on researching the feasibility of the railway has been completed" and the next steps would be for Brazil and Peru to "study and research detailed questions regarding the financing of construction and the sustainability of the railway" and then select the best "routes to promote the project step by step" (Global Times, 2018). Therefore, from the Chinese perspective, the basic feasibility analysis was successfully completed.

Against this backdrop, Brazil ratified that the basic feasibility study could not be approved in its current state. In the absence of corrections, adjustments, and supplements, the Brazilian experts considered the study "finished, but not approved for the purposes of pre-feasibility analysis of the project" (EPL, 2017a). The Ministry of Transportation of Brazil (2018), the official counterpart in the trilateral cooperation, endorsed the position and added that the documents delivered by the Chinese side would be regarded as a source that could be consulted in eventual future work to effectively analyze the feasibility (or pre-feasibility) of this project. In this context, the Vice-Minister for International Affairs Planning qualified the study as "very unsatisfactory" in an interview (Boadle & Goy, 2018). The Brazilian rejection, combined with the Peruvian abandonment, meant that the trilateral cooperation fell short of its objective of producing a basic feasibility study agreeable to all three parties.

7. Assessment

In terms of positive aspects, the Brazil-China-Peru partnership to study the Transcontinental Railway project was consistent with the host countries' plans and free of political conditionality. As noted here, Brazil and Peru conceived this project and considered it an integral part of their respective national transportation plans. The Chinese joined in after Brazilian officials reached out to ask for their support, as the host countries were experiencing difficulties in promoting the project. Naturally, Beijing's own interests drove them to take part in the project, but—based on the evidence examined—

⁷ In the best-case scenario, the internal rate of return (IRR) would be approximately 1 percent in four decades, whereas it would be as low as negative 6 percent over a period of almost 60 years in the worst case (CREEC, 2016a: 125).

no political conditions were attached to the technical cooperation or eventual financing of the construction. Therefore, this collaboration was demand-driven and the Chinese support offered the opportunity to analyze the basic feasibility of this railway project.

Notwithstanding its potential, several factors contributed to the unsuccessful outcome of this collaboration. Critically, China's interests clashed with those of the host countries, particularly Brazil. Consistent with the fact that international development cooperation is primarily driven by vested interests, the Chinese offered technical assistance aiming at promoting their technical standards, technology, and services. However, Brazil has norms and regulations that require the use of local technical standards to ensure, among other aspects, that infrastructure projects are consistent with national cost-benefit standards. As noted above, for Brazil, the Chinese technical standards were not consistent with local practices and significantly inflated the costs of implementing the railway. Notably, the clash of interests happened between the technical teams after the study began because the three countries did not negotiate and agree upon the details of how to conduct the basic feasibility study. Even after the issue was identified, no agreement was reached.

At the same time, the evidence examined suggests that the Chinese side held weak quality standards in the development of the study and poor accountability to the host countries. Indubitably, the basic feasibility analysis required adjustments and corrections. First, it did not observe local laws, particularly concerning environmental protection, labor, and public procurement. Second, CREEC did not strictly follow basic scientific principles, as several key estimates were not verifiable due to a lack of clear methodology, calculation details, and sources. Third, key components for an analysis of this kind were absent or incomplete. Finally, the conclusion of the study was unsubstantiated, as CREEC considered the project feasible without proper evidence. Even without commonly agreed-upon assessment criteria, these issues represent significant shortcomings. The company itself noted that the feasibility analysis needed improvements. However, CREEC indicated that they would not meet the various requests for adjustments; rather, the implementation should start with the information available and new studies should be conducted by the company that would build this transcontinental corridor. This attitude is consistent with the fact that Chinese state-owned enterprises oftentimes treat feasibility studies as a mere formality, a phenomenon highlighted by China's own Ministry of Finance (refer back to Section 2). Moreover, lack of accountability to host countries is common in technical cooperation, since the companies implementing the task tend to be primarily accountable to the country financing the cooperation (e.g., Tew, 2013). In sum, the basic feasibility study presented clear flaws, but, since the Chinese side was satisfied with CREEC's work, there was nothing the host countries could do about it.

Finally, it is important to discuss the issue of lack of commitment from the host country's side. In Peru, a regular change in power led the country to unofficially abandon the trilateral cooperation halfway. While the preliminary findings of the basic feasibility study suggested that the project was impractical from the perspective of the new Peruvian leadership, the country had taken up the commitment to collaborate with Brazil and China to have a finished product (i.e., inception, interim, and final reports of the basic feasibility study). The Peruvian side only had to provide its observations about the reports, since China covered all costs related to the conduction of the study itself. With the Peruvian decision to not review or give feedback on the final report of the study, the final product of the cooperation would invariably be incomplete, even if CREEC had been willing to make the adjustments required by the Brazilians. In the case of Brazil, the political crisis might have generated doubts, but contrary to what some analysts have said (e.g., Gillespie, 2018), the country remained committed and did its part in analyzing every report. Hence, weak ownership from the host countries, more specifically in the form of a lack of commitment from the Peruvian side, was also a major issue.

8. Conclusion

In-depth analyses of problematic China-backed infrastructure in the Global South is a valuable exercise by which to identify the underlying reasons of its shortcomings. In this case, three main problems led this trilateral cooperation to fall short from its objective of producing a basic feasibility study agreeable to the three countries: 1) a clash between China's interest in promoting their technical standards and the Brazilian requirement to use local standards; 2) the unwillingness of the Chinese side to make corrections combined with the use of poor quality standards for the development of the study; and 3) Peruvian politics and the decision to not fulfil its commitment to analyzing the final report of the study. Therefore, regarding the effectiveness of China-backed infrastructure in the Global South and South-South cooperation in general, this research paper detailed the roles played by clash of interests, lack of accountability, and commitment.

The present research contributes to advancing knowledge on China-backed infrastructure in the Global South. Most notably, it unveiled an arguably unprecedented level of detail on the inner workings of a high-profile cooperation initiative of this kind. It provided a rich account of how the actions and decisions of the three countries' relevant actors led to the unsuccessful outcome of this trilateral collaboration, which ultimately allowed the identification of the underlying causes. At the same time, the main findings of this case study resonate with the existing related literature, thereby helping expand the pool of empirical knowledge on the analysis of shortcomings of China-backed initiatives. Furthermore, it showed how by using transparency laws in the host countries, it may be possible to obtain documents held by the government even when they are technically protected by confidentiality clauses. Such documents can reveal very important information; hence, it is worth exploring the mechanisms available to request access to public documents. Finally, regarding the specific case analyzed, it helped refute the inaccurate understanding that Brazilian domestic politics was the main cause of cooperation forestalling.

From a more applied perspective, these findings have several implications. First, it is advisable that China and host countries agree early on the details of project governance. Naturally, participants have their own interests when engaging in development cooperation projects; hence, to avoid disagreements and waste of resources, it is better to negotiate candidly at the beginning to determine whether an agreement on the key aspects of a project can be reached. Second, this case suggests that Chinese companies may still need to improve the quality standards of their feasibility analyses. As noted by Gallagher et al. (2019), Chinese entities have issued several guidelines regarding project assessment since 2000, which represent steps in the right direction, but more concrete measures are necessary to translate these guidelines into practice. Third, consistent with the principle of shared responsibility highlighted by Zha (2018), host countries must remain vigilant and critically assess feasibility studies performed by any company (Chinese or otherwise) to ensure that such studies are complete and reliable. Not only the government, but also civil society and academia must play a role in this process. Fourth, this study reaffirms the need of long-term planning in order to develop ambitious projects. If a change in government in a host country completely shifts the priority regarding key projects and international cooperation initiatives, this presents a challenge to realizing such projects and initiatives.

More efforts are needed to help elucidate the underlying causes of shortcomings in China-backed infrastructure projects in the Global South. In order to produce more generalizable findings, further studies should be undertaken, especially involving multiple cases and comparative analysis. More information is needed from a Chinese

perspective. Some interviews were undertaken for this study, but access to the Chinese company involved in this case was very limited. While very challenging, hearing from the Chinese actors involved in problematic initiatives would be of great value to learn their perspective. Hopefully, the present study will spark interest in this issue, and perhaps contribute to motivating Chinese actors to tell their side of the story.

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