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Chinese State Capital as a Partner for Resource-Based Structural Transformation? The Belt and Road Initiative and Downstream Linkages in Bolivia and Kazakhstan

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Abstract

Lee argues that outbound Chinese state capital (CSC) is distinct from global private capital in terms of a greater willingness to accommodate recipient country priorities. This article uses the cases of Kazakhstan and Bolivia to explore this claim in relation to state-led efforts to foster structural transformation via upgrading in extractive industries (lithium and iron/steel in Bolivia, and petrochemicals in Kazakhstan). We focus particularly on attempts to move into domestic downstream processing. The article explores variation in the degree of accommodation with local demands on the part of CSC and proposes an explanatory framework for these differences, grounded in three axes. These are (i) mix of BRI drivers motivating a particular project from the Chinese side (export of industrial surplus, political relations with partner states and/or concern for resource security); (ii) nature of state-capital investment partnership (the mix of Chinese institutions and firms involved in negotiating and implementing the deal, as well as the time horizon implied by contract type); and (iii) a range of local contextual factors such as availability of alternative sources of capital, host state industrial capacities and local political conditions. Further research will be needed to refine and test this framework across other sectors and developmental goals beyond upgrading in extractives.

Keywords Belt and Road Initiative · Kazakhstan · Bolivia · China · Structural transformation · Extractive industries

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Résumé

Lee soutient que le capital d'État chinois sortant (CSC) se distingue du capital privé mondial en termes de plus grande volonté d'accommoder les priorités des pays récipiendaires. Cet article utilise les cas du Kazakhstan et de la Bolivie pour explorer cette affirmation en relation avec les efforts menés par l'État pour favoriser la transformation structurelle via la modernisation dans les industries extractives (lithium et fer/acier en Bolivie, et pétrochimie au Kazakhstan). Nous nous concentrons particulièrement sur les tentatives de passer à la transformation en aval domestique. L'article explore la variation du degré d'adaptation aux demandes locales de la part du CSC et propose un cadre explicatif pour ces différences, basé sur 3 axes. Ceux-ci sont: (i) le mélange de moteurs BRI motivant le choix d'un projet particulier du côté chinois (exportation de surplus industriel, relations politiques avec les États partenaires, et/ou préoccupation pour la sécurité des ressources); (ii) la nature du partenariat d'investissement État-capital (le mélange d'institutions et d'entreprises chinoises impliquées dans la négociation et la mise en œuvre de l'accord, ainsi que l'horizon temporel impliqué par le type de contrat); (iii) une gamme de facteurs contextuels locaux tels que la disponibilité de sources alternatives de capital, les capacités industrielles de l'État hôte, et les conditions politiques locales. Des recherches supplémentaires seront nécessaires pour affiner et tester ce cadre dans d'autres secteurs et objectifs de développement au-delà de la modernisation dans les extractives.

¿El capital estatal chino como socio para la transformación estructural basada en recursos? La Iniciativa de la Franja y la Ruta y los vínculos descendentes en Bolivia y Kazajstán

Resumen

Lee argumenta que el capital estatal chino (CSC) saliente es distinto del capital privado global en términos de una mayor disposición para acomodar las prioridades del país receptor. Este artículo utiliza los casos de Kazajstán y Bolivia para explorar esta afirmación en relación con los esfuerzos liderados por el estado para fomentar la transformación estructural a través de la mejora en las industrias extractivas (litio y hierro/acero en Bolivia, y petroquímicos en Kazajstán). Nos centramos particularmente en los intentos de pasar al procesamiento subsiguiente, interno al país. El artículo explora la variación en el grado de acomodación a las demandas locales por parte del CSC y propone un marco explicativo para estas diferencias, basado en 3 ejes. Estos son: (i) mezcla de motivadores del BRI que motivan la selección de un proyecto particular desde el lado chino (exportación de excedentes industriales, relaciones políticas con estados asociados, y/o preocupación por la seguridad de los recursos); (ii) naturaleza de la asociación de inversión de capital estatal (la mezcla de instituciones y empresas chinas involucradas en la negociación e implementación del acuerdo, así como el horizonte temporal implicado por el tipo de contrato); (iii) una serie de factores contextuales locales como la disponibilidad de fuentes alternativas de capital, las capacidades industriales del estado anfitrión, y las condiciones políti-



cas locales. Se necesitará más investigación para refinar y probar este marco en otros sectores y objetivos de desarrollo más allá de la mejora en extractivas.

Introduction

Alongside broader calls for a focus on productive structure as key to understanding development challenges (Chang and Andreoni 2021), the past decade has seen renewed interest in mapping potential developmental paths in commodity-dependent economies, including forward and backward linkages within extractive value chains (Morris et al. 2012; Ovadia 2016). This revival of attention to commodities as a possible basis for structural transformation (ST) is connected to the rise of China (Jepson 2020). By outcompeting manufacturing sectors elsewhere, Chinese goods have been blamed for a ‘reprimarisation’ of emerging economies and for closing off previously trodden routes to ST via export-oriented manufacturing (Jenkins 2015; Rodrik 2016). Conversely, China’s shift into higher value-added activities has raised hopes for development opportunities elsewhere as older Chinese industries move abroad, in a potential repeat of the ‘flying geese’ pattern observed previously with Japanese manufacturing (Brautigam and Tang 2014; Oqubay and Lin 2019).

Debate around this Chinese offshoring has often concentrated on labour-intensive manufacturing (Whitfield et al. 2020; Calabrese et al. 2021). Because many resource exporters have unpromising factor endowments for these industries, it is also important to consider how China’s economic globalisation via the Belt and Road Initiative (BRI) affects extractive value chains. Downstream activities such as metal processing and manufacture, or oil refining and petrochemicals, are prime candidates for Chinese offshoring (Kenderdine and Ling 2018). More widely, the BRI’s function as an outlet for China’s surplus industrial capacity represents a potential supply of credit, investment and technology.

In her study of China’s economic engagement in Zambia, Lee argues that Chinese state capital (CSC) abroad serves a broad set of geopolitical and geoeconomic interests—rooted in China’s domestic political-economic structure—beyond the short time-horizon profit maximisation of global private capital. In turn, this ‘encompassing accumulation’ strategy on the part of CSC produces a greater flexibility, potentially more accommodative of partner states’ developmental priorities (Lee 2017). This holds out the possibility that CSC arriving via the BRI may have considerable promise as a partner for ST, particularly in states with clearly articulated developmental aspirations. Other authors have suggested that the nature of CSC’s interests and how they translate into specific behaviours can vary by sector, contract and project type, as well as local political and economic contexts (for example, Camba 2020; Gonzalez-Vicente 2020; Zajontz 2022; Apostolopoulou 2021; Goodfellow and Huang 2021; Huang and Lesutis 2023).

In this article, we use the cases of Kazakhstan and Bolivia to examine CSC’s potential for facilitating ST, particularly in terms of forward linkages in resource sectors. These are both middle-income resource-dependent economies with ambitious national development plans aimed at moving away from primary commodity dependence, with a focus on upgrading within extractive value chains. Kazakhstan



holds central importance for China as an overland route to the markets of Eurasia and as a source of oil and gas. Bolivia, by contrast, is a distant, relatively small economy which has seen relations with China grow closer since the mid-2010s, most likely as a consequence of rising global demand for lithium (Bos and Forget 2021), a critical mineral for energy transition in which Bolivia possesses perhaps the world's largest (and largely untapped) reserve.

The article aims to move beyond Lee's conceptualisation of CSC as a single ideal type, counterposed against global private capital. With a particular concern for the circumstances under which CSC may or may not facilitate local industrial policy ambitions in extractive value chains, our goal is to contribute to an understanding of how and why CSC's accommodation with local development priorities may vary as it appears in distinct contexts around the world. This article is, therefore, primarily an exercise in exploratory desk-based theory building, with theorisation formed via iterative engagement with the literature on state capitalism and the BRI, analysis of our empirical cases and with existing case studies, particularly though not exclusively those by Lee on Zambia and Gonzalez-Vicente in Jamaica (Lee 2017; Gonzalez-Vicente 2020). Through this process, we propose an explanatory framework for variation across instantiations of outbound CSC, based on three axes: (i) the particular combination of BRI drivers present (these drivers being political relations, resource security and export of industrial overcapacity); (ii) nature of investment partnership—the mix of Chinese and local actors involved in a given project (be these ministries, banks, or firms) as well as the time horizon implied by the contract type (for example, a short-term construction contract, or a longer-term concession); and (iii) local contextual factors (which might, for example, include sectoral characteristics, the availability of alternative sources of capital, host country industrial capacities, or local political conditions). Importantly, and in part because some of the projects we review have yet to be completed, we do not seek here to map out the means through which resource-dependent states might implement effective industrial policies via engagement with CSC (a topic for future research). Instead, the point is to understand the sources of variation in CSC behaviour with respect to local priorities in these sectors—how flexible CSC may be in the face of local desires for upgrading in extractives, as opposed to whether the completed projects prove to be successful.

The remainder of the article proceeds as follows. In the next section, we briefly outline arguments around resource-based pathways to ST, particularly concerning downstream activities. We then review the literature around state capitalism and outbound state capital. We particularly note arguments which suggest a correspondence between the political and economic foundations of a given form of capital, on the one hand, and its likely behaviours, on the other. The following sections then explore the modalities of CSC as it appears in our two cases. We provide an empirical overview of the following: (i) Bolivian attempts to develop new lithium and steel sectors on the Altiplano salt flats and at El Mutún on the Brazilian border, respectively; and (ii) upgrading within Kazakhstani hydrocarbon value chains, particularly the Shymkent oil refinery and Atyrau polypropylene plant. These sections are based on secondary literature including peer reviewed articles,



government and policy documents, and media reports.¹ We then set out our proposed explanatory framework for identifying sources of variation within outbound CSC in terms of its degree of accommodation to local developmental goals, grounding this in insights from existing literature. Following this, we return to the case material in order to probe and extend the framework.² Finally, we move to draw conclusions and point to possible policy implications and future research directions, noting that attention to sources of variation in CSC behaviours may provide clues as to where states and societal actors might exert pressure on Chinese partners in order to maximise developmental leeway and reduce predatory practices.

Structural Transformation in Extractive Industries

Extractive industries have long been viewed as unpromising bases for ST, owing to their relative capital- rather than labour-intensiveness and enclavic nature (Singer 1950; Cardoso and Faletto 1979). However, many cases of successful resource-based development have been cited, from the United States to Botswana (Wright and Czelusta 2004; Imi 2007). Morris et al. (2012) argue that traditional advice for resource-dependent states to seek diversification into unrelated sectors is less applicable in the contemporary world, owing to intense competition in labour-intensive manufacturing. They instead emphasise the potential for backward linkages in extractives, given a trend towards outsourcing of inputs by global mining firms. However, there has also been recent debate around the possibilities for fostering forward linkages. For example, both Oman and Trinidad and Tobago have successfully parlayed heavy state investment into growing export industries in hydrocarbon derivatives (UNCTAD 2019). Such upgrading may generate significantly higher levels of local employment than extraction alone, as well as reducing vulnerability to commodity price swings (Lebdioui and Bilek 2021). Beneficiation in extractive value chains also holds out the prospect of spillover effects, engendering learning and technological upgrading through, for example, the development of metallurgy and engineering capabilities, and thus, reducing the enclavic nature of resource sectors (Bocoum 2000).

Conventional development orthodoxy may be becoming more receptive to some forms of industrial policy (Gabor 2021; Schindler et al. 2023) and state-led domestic commodity processing now features in many national development plans (UNECA 2013). Nevertheless, such initiatives are still generally discouraged in mainstream

¹ While the case study sections are based on secondary literature and data, these draw from local language sources as well as materials in English. The authors have between them previously conducted research in Bolivia and Kazakhstan.

² For the purposes of clarity, we first present the framework, with reference to existing literature, before introducing an analysis of our cases with reference to this framework. However, it should be noted that the framework, as presented in Table 1 below, has been derived through engagement with both existing studies and material from our cases. In this sense, hypothesis building and testing are understood as part of a co-constitutive process of retroductive analysis, rather than being treated as separable analytical moments (Ragin 1994). Findings from Lee and Gonzalez-Vicente's case studies are used additionally to our own cases in a manner consistent with principles of secondary data analysis (Johnston 2014).



circles (e.g. Geipel and Hetherington 2018; Salinas 2021) and many scholarly analyses (Östensson and Löf 2018), as well as by the global mining industry (Kutty Abraham 2018). Given this, if CSC is indeed more accommodative of host country priorities than northern capital or development agencies, then state-led efforts to develop local resource-based downstream industries are one area where such differentiation might be most plausibly expected, making such sectors particularly useful cases for study.

From State Capitalism to Chinese State Capital

In a general sense, state capitalism refers to forms of capitalism where the state exercises a leading role in some combination of supervising, managing or directly owning capital. Debates remain over the analytical utility of the concept, since the state is a constituent element of any capitalist system and because states are often highly interventionist even in ostensibly free market economies (Witt et al. 2018). Nevertheless, use of the term state capitalism has experienced something of a revival in recent years. This is connected to the global growth of State-Owned Enterprises (SOEs) and Sovereign Wealth Funds (SWFs) (Bruton et al. 2015; Prequin 2018) and post-2008 comparisons between North Atlantic capitalism and fast-growing emerging economies which, to varying degrees, had followed a state-led development path (O'Connor 2008; Bremmer 2010).

State capitalism has been evoked as an emergent rival to western-centred liberal capitalism, most closely (though not exclusively) associated with China (Bremmer 2010; Milanovic 2019). Here state capitalism is often characterised as a deviant form, undermining markets and liberal norms. In a different strand of literature, comparative capitalism scholars have identified state-led national varieties of capitalism (e.g. Walter and Zhang 2012; Nölke 2014; Fainshmidt et al. 2018). The new state capitalism has also been more ambitiously conceptualised as an uneven, world-historical process. In this view, states have tended to expand their roles in supervising and directly owning capital in response to (though also partly constitutive of) turbulence associated with contemporary shifts in the global economy (Alami et al. 2021). This version of state capitalism is not territorially bounded, nor is it limited to China or other emerging economies in particular.

The stress of this last approach on the variety of state-capital relations and institutional landscapes in which state capitalism might manifest (and therefore, on the diversity of forms it might take) may risk stretching the concept to the point that it becomes difficult to differentiate state capitalism from other forms. However, building on Sperber (2019), the authors clarify some of this vast terrain by introducing the idea of state-capital hybrids, a particularly useful concept for our purposes. State-capital hybrids involve “...more direct forms of intervention, whereby the state owns or controls capitalist production and accumulation...”, manifested as “...organisational forms and policy instruments...[which] blend political and economic power and blur (commonly defined) boundaries between public and private spheres...” (Alami et al. 2021, p. 1298). In focusing on specific manifestations of state capital, rather than state capitalism as a national regime



type, state-capital hybrids provide a lens with which to examine instantiations of outbound Chinese (and other) state capital such as SOEs. As two of the same authors discuss in another article, this concept highlights the need to "...critically interrogat[e] the specific relations between state and capital and the particular configurations of *political and economic power* in each of the concrete instances of state capitalism under investigation" (Alami and Dixon 2020, p. 85, emphasis in original). This provides useful context for Lee's argument that the nature of CSC's embeddedness within Chinese state and society leads this form of capital to seek not only profit, but also strategic and political goals. What matters in this determination is not some essentialist notion of Chineseness, nor state ownership, per se, but the nature of the interests which a particular manifestation of capital serves. Since CSC is ultimately beholden to some combination of Chinese state actors, its imperatives reflect those actors' objectives. Lee contrasts CSC in this regard against global private capital, seen as responsive solely to shareholder interests and, therefore, driven only by shareholder value (Lee 2017, pp. 31–32).

Debates on the BRI have explored similar questions around underlying motives for outbound Chinese state capital. Echoing the 'state capitalism as threat' literature, at times this is reduced to a binary which counterposes profit-orientation with coordinated grand strategy on the part of the Chinese state (Robins 2013; Meckling et al. 2015). Other work has problematised the capacity of the central state to directly control SOEs, instead positing a more nuanced relationship whereby firms are directed to follow state priorities, but often also maintain considerable autonomy (Jones and Zou 2017; Breslin 2021; Lu 2022). All of this suggests that Chinese state-capital hybrids are likely to be both market-facing and reflective of state interests simultaneously (de Graaff and van Apeldoorn 2018).

The leeway generally given to Chinese firms in how they interpret and implement high-level objectives allows for flexibility in responding to host country priorities (Breslin 2021). This flexibility may or may not translate into a more developmental engagement on the part of CSC, however. Lee's most notable example of developmental CSC in Zambia is the Chambishi Multi-Facility Zone (CMFEZ), built and run by China Nonferrous Metals Company, with a focus on copper and cobalt processing as well as related manufacturing. A longstanding part of Zambian governments' development plans, the project was rejected by mining firms and development agencies as economically unviable. Nevertheless, Chinese representatives, motivated by developing long-term relations with Zambia, proved willing to take it forward (Lee 2017, pp. 43–45).

Lee's account of Chinese construction firms in Zambia is less positive. In her view, the Zambian state and society's lack of developmental vision in this sector means that it is local demands in terms of rent-seeking and patronage distribution which have shaped their ventures. Perhaps more importantly, Chinese construction projects in Zambia often appear to have subverted rather than accommodated local priorities. Chinese contractors suggested potential infrastructure projects to Zambian officials, who then felt pressured to request loans for construction out of concern for the broader relationship with China (Lee 2017, pp. 49–50). Chinese policy banks and construction firms were thus able to sign deals at inflated prices for projects of uncertain value (see also Zajontz 2022).



This evidence of differentiation between two forms of Chinese state capital even within one host country points back to Alami and Dixon's state-capital hybrid concept. Imperatives and actions cannot simply be read off the fact of (Chinese) state direction or ownership, but must be interrogated by examining the specific forms of political-economic power standing behind each instantiation. This is a useful departure point from Lee's analysis, by asking not only whether Chinese state capital might be more flexible in respect of host country priorities per se, but how and why such flexibility might vary across projects, sectors and countries. The following sections begin to delve into these questions via an empirical survey of our four sectors across two cases, beginning with Bolivia.

Bolivia

Bolivia's economic prospects have suffered from a combination of difficult terrain, poor transport infrastructure and landlocked status (Andersen and Nina 2007). As such, the country is a less obviously attractive partner for China than some other states in the region. Policy bank loans amounted to \$600 million up to 2015, contrasted to \$2.8 billion borrowed since that year, allocated to a variety of industrial and infrastructure projects (Gallagher and Myers 2021). Reflecting strengthening ties, in 2018 the two countries signed a strategic partnership deal and a memorandum on cooperation within the framework of the BRI (Bernal 2018).

This shift probably reflects changes on both sides. For Bolivia, falling commodity prices likely added urgency to an agenda of economic diversification and ST, while also sharpening the need for external finance. For China, the mid-2010s saw economic collapse or electoral defeat for several friendly Latin American governments and so likely increased the relative appeal of Bolivia as a partner (Achtenberg 2017). The rising importance of lithium in green energy value chains, combined with a greater Bolivian openness to foreign involvement in the sector (Obaya 2021), as discussed below, may also have been significant. Chinese actors' interest in fostering good political relations with Bolivia is, therefore, likely to have been relatively high in the post-2015 period, though the country remains less geopolitically important for China than an energy-supplying neighbour like Kazakhstan.

President Evo Morales of the *Movimiento al Socialismo* (MAS, or Movement Towards Socialism) (2006–2019) followed a relatively heterodox economic programme, including part-nationalisation of the natural gas industry and de-dollarisation of the financial sector (Kaup 2010; Molero Simarro and José Paz Antolín 2012; Naqvi 2019).³ Bolivia's main developmental goals under Morales are set out in the *Agenda Patriótica 2025* (GoB 2009, 2014), stressing economic sovereignty and a drive to shift the productive matrix by industrialising Bolivia's raw materials sectors.

³ Morales and the MAS were overthrown in a coup following a disputed election in 2019, but the party returned to power in new elections a year later, under new President Luis Arce (Morales' former finance minister) (Hetland 2019; Valdez 2020).



This includes development of domestic steel and lithium value chains, both of which have been long-run aspirations in Bolivia (Obaya 2021).

El Mutún Iron and Steel Complex

El Mutún, on Bolivia's border with Brazil, is one of the world's largest iron ore deposits. In 2007 the Morales government signed an agreement with India's Jindal Steel for \$2.1 billion in investments which, if realised, would have made Bolivia the world's 12th largest steel producer, creating an estimated 21,000 jobs (GoB 2007). The project quickly became mired in delays and disputes, with Jindal eventually pulling out and then winning an arbitration judgement against Bolivia (Mitra 2016). While the details remain unclear, this incident contributed to the country's reputation as a hostile place for foreign investors (Schipani 2012).

The government then unveiled more modest plans for an entirely state-owned iron and steel complex (Diálogo Chino 2015). It would be developed over three stages: (i) mining and refining of ore along with a 0.23 mtpa structural steel plant; (ii) expansion of steel production to 2 mpta; and finally, (iii) attracting a foreign partner with a captive market for export. The first phase was estimated to create 1500 jobs directly and would allow Bolivia to substitute almost all the country's steel imports used in the construction sector (SteelOrbis 2014). For the first phase plant Bolivia obtained a \$396 million loan from China Export–Import Bank (Eximbank), added to \$70 million in financing from the Bolivian state. Three Chinese firms bid for the contract, with Sinosteel Equipment and Engineering being selected in 2016. Much of the loan was spent on importing equipment and materials from China, something which has been a concern in other Chinese construction projects in other parts of the world (e.g. Shakil 2021). In this case, however, such considerations do not seem to have overly troubled the Bolivian government, which instead prioritised speed of completion, given the delays experienced with Jindal along with local demands for jobs (BNamericas 2012). Nevertheless, the new venture with Sinosteel also suffered delays, caused in part by political turmoil in 2019–2020 and the COVID-19 pandemic. After the MAS returned to power the project was re-started in June 2021 and was scheduled to begin producing steel in 2024 (Sinosteel 2021; Flores 2023).

Expected production volumes in phase one alone would be significant for an economy the size of Bolivia, while the latter phases have raised hopes of an important new export sector and domestic spin-offs such as toolmaking (Diálogo Chino 2015). Potential to scale-up production for export will depend on development of transport infrastructure in what is currently a rather remote and ecologically sensitive area (de Wet et al. 2017). It is, therefore, by no means certain that Bolivia's ambitions to parlay iron ore reserves into a significant domestic steel industry will be fully realised soon. However, after the experience with Jindal it is highly unlikely that a private mining or steel company would have invested in the project. As such, CSC appears to have been Bolivia's only option, given its flexibility along these dimensions and willingness to work with a government seen as hostile by global capital.



Lithium Extraction and Processing

Bolivia may house around one quarter of the world's lithium resources (USGS 2021). For this reason, there are longstanding aspirations that the metal could deliver prosperity in a country with a history of external exploitation for its natural resources (Revette 2017). Despite a series of failed attempts to develop the sector, recent years have seen renewed hopes, as markets for energy storage systems and electric vehicles (EVs) are projected to grow rapidly (World Economic Forum 2019). The Morales government aimed to develop both extraction and domestic processing, first into compounds like lithium hydroxide and lithium carbonate, and then into battery components such as cathode and anode materials (Bos and Forget 2021). Yet more ambitious were plans for Bolivian battery and even electric vehicle manufacture (Sanchez-Lopez 2019). The country's geography, small domestic market, and relatively poor infrastructure has aroused doubts as to the feasibility of battery production in the country, given a need for imported components (Economist 2021). Likely for these reasons, no foreign partner has yet shown willingness to invest in a full Bolivian domestic value chain, though CSC has gone the furthest in this direction.

After failing to attract international partners under a wholly Bolivian state-owned model, the sector was reorganised in 2017 (Obaya 2021). New SOE *Yacimientos de Litio Boliviano* (YLB—Bolivian Lithium Reserves) was established, and conditions for foreign joint venture participation relaxed (Aguirre 2022). German firm ACI Systems won a \$1.3 billion contract for development of the Uyuni salt flat, while the Chinese consortium Xinjiang TBEA Group-Baocheng secured a \$2.3 billion deal for two smaller deposits at the Pastos Grandes and Coipasa flats (Ramos 2019).⁴ In Pastos Grandes, basic chemical plants were planned as fully YLB-owned ventures, with TBEA as an Engineering, Procurement and Construction (EPC) contractor. Another facility producing lithium metal, meanwhile, would be organised as a joint venture, meaning domestic manufacture of pure lithium (used in some batteries as an anode material) and, thus, representing significant upgrading. In Coipasa the deal encompassed a potassium sulphate plant under full YLB ownership, with TBEA again as contractor, while facilities producing lithium hydroxide and other chemicals would proceed as part of the joint venture. Some reports also suggested that a joint venture battery plant would follow—though located in China rather than Bolivia (Ramos 2019).

All of these plans were derailed by the political crisis of 2019–2020 and as a result neither of the agreements with ACI or TBEA was in force at the point when the MAS returned to power in late 2020. The new government of Luis Arce instead started afresh, selecting companies to conduct pilot projects using new direct lithium extraction (DLE) technology (Crompton 2021; Morse 2022). In 2023 the Arce government signed deals totalling \$2.8bn for industrial scale DLE joint ventures with two Chinese firms—a consortium headed by CATL (the world's largest electric

⁴ While it lies beyond the scope of this article, the ACI deal is particularly interesting since it represents a non-Chinese state-coordinated investment partnership. The German state reportedly promised guarantees, access to German technical expertise and a captive market as supplier to the German auto industry (Bednarski 2021). These sorts of ventures are a promising avenue for further research on state capital, particularly in critical mineral sectors where there is an increasing strategic inflection to economic policy in the global North (Singh 2022).



vehicle battery manufacturer) and conglomerate CITIC Goan—as well as a similar deal with Russian SOE Rosatom (Ramos 2023). While the projects are initially for export of lithium carbonate, some reports suggest they may progress to battery manufacture by 2026 (Ibáñez 2023a).

Overall, then, Bolivia has struggled to find investors willing to sign up for the totality of its vision in the sector, though the results of the recently agreed ventures remain to be seen. Future growth of the Latin American market for electric vehicles may make Bolivian battery manufacture look more realistic given nascent EV production in the region (Celemín Mojica 2023). In the meantime, although lithium carbonate production is unlikely to create large numbers of jobs, if Bolivian capacities in these stages of the value chain could be developed there may be important spillovers for other extractive and chemicals sectors. Despite a number of false starts, long-term demand expectations and geoeconomic considerations have kept foreign investors interested and apparently willing to share extractive technologies (Ibáñez 2023b).

Kazakhstan

Boasting a high-level political understanding, Kazakhstan is one of the most important China's BRI partners, particularly in terms of China–Europe freight train routes and oil and gas pipelines from Central Asia to Xinjiang (Bitabarova 2018, pp. 154–158; Tjia 2020, pp. 72–73). As such, Kazakhstan presents an opportunity to examine CSC in a context of the highest political and geoeconomic importance for China. As in Bolivia, we compare between one venture where CSC involvement amounts to financing and an EPC contract (petrochemicals) and another where Chinese capital has a longer-term stake (oil refining). Kazakhstani priorities in these fields include (i) local content requirements as a lever for job creation and expansion of domestic production; and (ii) avoiding overreliance on Chinese technology and capital. In the Kazakhstani case, we find CSC largely willing to accommodate these demands in both ventures. Perhaps surprisingly, this extends to construction of the Atyrau polypropylene plant, where China Development Bank (CDB) and the main contractor China National Chemical Engineering Corporation (CNCEC) was responsible for the purchasing of equipment and materials, and accepted significant involvement by Kazakhstani and other non-Chinese firms (KPI 2019). Furthermore, while other global investors, such as Korean LG Chem and Austrian Borealis (bne IntelliNews 2016; Shaku 2020), withdrew, the Chinese companies (with CNCEC replacing Sinopec Engineering Co.) stayed in the project (AidData 2023b). This persistence and the capacity of CSC to shoulder more risk and accommodate the country's local content policy, first introduced in Kazakhstan in 1995, suggests that Chinese concern for the wider relationship with its neighbour outweighs the interest in using policy bank finance to support the export of Chinese industrial overcapacity. However, to some extent this is also reflective of Kazakhstan's own relatively strong economic position, since it was able to offer substantial part-financing for the deal as well as manufacture crucial capital goods in a way which would not have been possible for many other states dealing with CSC.



Despite the concern to avoid overdependence, Kazakhstan's state development plans have depicted China as a key partner since the early 2000s (Nazarbayev 2003). In the past three five-year plans, from 2010 to 2025, China appears as one of the most important consumers of Kazakhstani commodities, an accessible market for processed products, a source of technology transfer and, broadly, as a model for industrialisation (Government of the Republic of Kazakhstan 2019; Nazarbayev 2010, 2014). The fall of oil prices from 2014 pushed the Kazakhstani government to pursue the *Nurly Zhol* (Bright Path) programme, combining structural reform with a new development and infrastructure push, and officially linked it to the BRI by signing a Memorandum of Understanding (MoU) in 2019. One such avenue is hydrocarbon processing, aimed at reducing dependence on primary commodity exports. In 2019, oil and gas earnings accounted for almost 44% of the government budget (Forbes 2020) and oil rents made up 13.3% of the country's GDP (World Bank 2021), rendering the prospect of diversification into refined oil and value-added petrochemicals an attractive hedge against export price volatility, as well as a chance to generate linkages between the extractive sector and the wider economy.

The Kazakhstani authorities have a record of repeatedly announcing new oil and gas chemical plant projects with considerable financial backing, to disappointing results (Smirnov 2020). Poor planning, corruption, high capital intensity of projects, a lack of home-grown R&D capacities, distance from main markets, plus greater interest among domestic and international extractive firms in maximising crude oil and gas exports have hobbled most of these efforts (ibid. 2020). Here, the Chinese investments in Kazakhstani oil refinery and petrochemical production make an interesting case to both analyse the behaviour of CSC and understand the role of the country's positioning vis-à-vis China and other actors that could provide alternative patient capital to such projects.

Shymkent Oil Refinery Plant Modernisation

Kazakhstan relies heavily on imported oil products and experiences fuel shortages. Dependence on outdated Soviet refineries, state-level price controls, limited supply of crude oil to the domestic market and high transportation costs have all made local production of petroleum products unprofitable (IEA 2020; Butyrina 2020; Afanasyeva and Yagova 2022). Refurbishment of the country's three operating refineries, announced in 2009 and finalised by 2020, costed \$6.3 billion, with financing from KazMunayGas (KMG), Development Bank of Kazakhstan (DBK), Export–Import Bank of China (Eximbank), CDB, Japan Bank for International Cooperation and the European Bank for Reconstruction and Development (Government of the Republic of Kazakhstan 2009a; Butyrina 2020; EBRD 2020). However, as of late 2023 these are still not able to meet domestic demand for fuels and lubricants (Smirnov 2023).

One of the three, Shymkent oil refinery (operating as PetroKazakhstan Oil Products), is currently co-owned by China National Petroleum Corporation (CNPC) and Kazakhstan's KMG. Its modernisation project was first planned under the framework of the New Industrialization Program in 2011 (DBK 2018).



The total cost amounted to \$1.9 billion, financed by parity loans from both shareholders and taking place in two stages: the first one (2014–2017) was aimed at improving product quality, the second (2015–2018) at increasing refining volumes (DBK 2023; Petroleum 2022). In 2017, CDB signed a \$607 million export buyer's credit agreement with the DBK for Phase 2, which was then lent onto PetroKazakhstan Oil Products (AidData 2023a). Additionally, a syndicated credit of \$225 million involving French, German and Japanese banks went to DBK for on-lending, with Sinosure providing insurance (ibid. 2023a). According to the DBK database, the bank provided up to \$932 million (or at least 48.87%) from its own funds and from the State Program for Industrial-innovative Development of Kazakhstan for 2015–2019, with the rest financed by PetroKazakhstan Oil Products (DBK 2023). Equipment and technology were acquired from various international companies—UOP (USA), Axens (France) and CPE (China) (DBK 2021). China Petroleum Engineering and Construction Corporation supplied engineering services and equipment and materials procurement, along with Italian and Romanian firms (Hydrocarbons Technology 2021). At a later stage, Swedish-Swiss ABB won a contract to provide digital solutions for the oil refinery (Hand 2019).

The firstcomers to post-Soviet oil and gas extraction in Kazakhstan, North Caspian Operating Company, Tengizchevroil, and Karachaganak Petroleum Operating, are majority owned by multinational consortia and still account for most of the country's oil and gas production. These firms operate under production sharing agreements, whereby investors recoup costs of oil field development through sales of up to 80% of extracted oil (Chervinskii 2019). Almost all of this production is exported—in part owing to domestic prices set by the government at \$20–25 per barrel (Zakon.kz 2021), well below market rates—leaving little as potential feedstock for local refineries.

Being a relative latecomer to the Kazakhstani oil and gas market, Chinese companies instead have significant contractual obligations to supply oil to Kazakhstan's refineries (Jalilova 2021). Most significant is PetroKazakhstan (CNPC owns 67%, KMG—33%), which exports only a small share of production to China (about 2.5 million tonnes per year out of 12 million tonne capacity) via the Alashankou-Bozoy pipeline (Akhmetbekov 2021). The rest is left for domestic consumption and refinement at their co-owned plant in Shymkent. Thus, supporting the Shymkent refinery modernisation contributes to both commercial and strategic interests of the CNPC to both process its oil locally and maintain stable relationships with local actors. Here, the CSC is accommodative to the needs of Kazakhstani government to ensure stable supply of domestic market with oil products. Additional factor may be the ability of the CNPC to pursue its interests with the help of CDB. Furthermore, from documentary evidence, we do not observe the dominance of Chinese equipment and service providers during the implementation stage of the project which could be explained by an existing variety of funding sources and the primary role of DBK in the financing of the project.



Atyrau Polypropylene Plant Construction

Apart from shortages in oil products, Kazakhstan imports most of its current petrochemical needs. Construction of the first integrated petrochemical complex in the National Industrial Petrochemical Technopark special economic zone (SEZ) in Atyrau region was put on the list of the state strategic investment projects in 2009 (Government of the Republic of Kazakhstan 2009b). The project operator became Kazakhstan Petrochemical Industries Inc. (KPI) owned by SOE United Chemical Company (99%) and the Kazakhstan investment group ALMEX (1%). The first phase of the complex, a polypropylene production plant, was planned to be commissioned in 2015 and the second phase, polyethylene production, in 2016. However, the project was delayed due to the financial crisis and withdrawal of potential international funders (bne Intellinews 2016).

In 2015, China National Chemical Engineering Corporation (CNCEC) signed an EPC contract with KPI to construct the polypropylene plant. In 2016, the Xinjiang Branch of CDB agreed to a \$2 billion loan with KPI (AidData 2023b). Another \$600 million in financing came directly from Kazakhstan's sovereign wealth fund, Samruk Kazyna. In 2018, the project was transferred to the trust management of KMG as the project stalled (Akhambekova 2023). Construction began the same year and did not stop during the COVID-19 pandemic. Later, KMG became part of KPI as a shareholder with a 49.5% stake (Forbes 2023). Local content requirements were an important factor during project construction. For example, the critical propane and propylene splitter was manufactured domestically, at the AtyrauNefteMash plant (KPI 2019), with further local contracts in design and logistics (Aq Jayiq 2020). In total, 42 companies were involved in the construction work, 39 of which were Kazakhstani (AidData 2023b). Simultaneously, 77% of the critical equipment of the complex was manufactured at factories in Western Europe, mainly in Germany, as well as in the USA and East and Southeast Asia (South Korea, Singapore, Japan) (Akhambekova 2023).

Target production of 500,000 tonnes of polypropylene annually, with gas sourced from nearby Tengiz field, would make the plant one of the largest polypropylene producers in the world, diversifying the Kazakhstani economy and linking the downstream sectors of the oil and gas industry. Additionally, despite high levels of automation, KPI officials anticipated the factory to provide 631 jobs (Kazininform 2022a). In November 2022, President Tokayev launched the polypropylene plant; the first batch of produced polypropylene was exported soon after (Kazininform 2022b). Exports from November 2022 to July 2023 amounted to 95.6 thousand tonnes, of which to China—65.5 thousand tonnes, Europe—14.9, Russia—13.5 and Turkey—1.7 thousand tonnes (Forbes 2023). The plant is located in a SEZ designed to attract small and medium businesses and create a petrochemical cluster in Atyrau. Thus, the success of this polypropylene plant could determine the future development of the whole petrochemical industry of Kazakhstan.

The Atyrau polypropylene plant is the largest hydrocarbon project from 56 joint industrial ventures on listed in a 2015 Kazakhstani-Chinese intergovernmental agreement. Notwithstanding the almost full financing of the plant construction by the CDB, procurement and additional services were sourced internationally and with additional focus on the local content requirement. The fact that other



international investors (e.g. Korean LG Chem and Austrian Borealis) withdrew (bnc IntelliNews 2016; Shaku 2020), while the Chinese companies (CNCEC replaced Sinopec Engineering Co.) persisted (AidData 2023b) also points to the special high-level relationship between the two countries and ability of CSC to take on more risk and accommodate interests of its strategic partner. Given the strategic importance of stable high-level relationship between the countries and Kazakhstan's ability to link its industrial policy plans and own state-capital investments to China's BRI, CSC appears to be more willing to engage in such a collaboration.

Having set out the empirical story of CSC in these four sectors across our two cases, the next section sets out a provisional explanatory framework for variation in CSC behaviours across resource sectors and projects, building upon observations from existing literature. Following this discussion, we then return to our case material in order to probe and elaborate upon this initial framework.

Building an Explanatory Framework

Factor 1: Mix of Belt and Road Drivers

A range of literature tends to suggest that the strengthening of political relationships and interdependencies (e.g. Camba 2020; Tritto 2020; Carmody and Wainwright 2022) and security of resource supply (e.g. Corkin 2016; Patey 2014; Zhao et al. 2019) are key drivers behind the BRI and the wider internationalisation of CSC. Lee's account also argues that CSC in Zambia arrived seeking '...political patronage and influence and access to commodities at their source...' in addition to profits⁵ (Lee 2017, p. 32). Another impetus often stressed in the BRI literature is the export of China's surplus capital and productive capacity. This encompasses financial capital (Huang 2018; Liu 2023) but is especially prominent in domestic industrial sectors suffering from overproduction and declining profit margins at home (e.g. Lai 2021; ChinaPower 2020). These problems led to the creation of the International Capacity Cooperation (ICC) Program aimed at offshoring in key industries alongside the BRI (Kenderdine and Ling 2018).⁶ Along these lines, several authors have conceptualised the BRI as a form of spatial fix for China's domestic overaccumulation problems (e.g. Apostolopoulou 2021; Zajontz 2022).

Taken together, these three BRI drivers (political influence, resource security and overcapacity export) collectively comprise our first factor in understanding variation in CSC's degree of accommodation with local priorities. The relative importance of each of the three drivers will differ across instances of CSC and in turn influence the degree of flexibility with regard to host country interests. Since

⁵ Unlike some earlier accounts which posited Chinese mineral and metal investments as seeking to directly control and divert commodity production to China (e.g. Moyo 2012) Lee shows that Chinese mine owners sell for profit on the open market, in the same manner as other extractive firms. However, she quotes a Chinese mining CEO noting that such investments are also in part meant to guarantee stable supplies to the Chinese market, for example in the event of an embargo (Lee 2017, p. 34).

⁶ Perhaps significantly, Kenderdine and Ling describe ICC as '...unencumbered with the political goals of Belt and Road'.



they involve fostering ongoing relationships, the pursuit of resource security and bilateral ties both correspond to the broader, longer-run concerns of Lee's 'encompassing accumulation', while the goal of providing an outlet for surplus Chinese production suggests shorter-run profit maximising behaviour. Thus, we would expect CSC to be less accommodative in cases where export of overcapacity forms the main impetus for a project, in comparison to instances where political relations and/or resource security play the larger role.

Factor 2: Nature of Investment Partnership

The BRI drivers discussed above are not the only factor in determining the behaviour of CSC. The nature of the Chinese and local actors involved in making and implementing a project deal, along with the structure of the deal itself, are likely to have a significant impact. One element here is the length of commitment entailed in various contract types. A Chinese construction firm working on a build and transfer project will usually have some incentives to satisfy the partner country's government. The firm may hope for repeat business, and there may well be some concern for broader political relations. However, these are weaker motivations for accommodating local interests against short-run profit maximisation than might be expected in projects that involve a longer-term presence of the firm in the partner country—a joint venture, equity stake, for example, or when construction projects are tied to a wider long-term deal (see Corkin 2016, on Angola).

Huang and Lesutis (2023) complicate the picture by pointing to the involvement of multiple Chinese institutions in each CSC venture overseas, as well as underlining the heterogeneity of these institutions (see also Lu 2022). As Gonzalez-Vicente notes in relation to the Kingston-Ocho Rios highway project in Jamaica (contracted to China Harbour Engineering Company, financed by CDB and arranged via ministerial bilaterals) focusing on the contractor and, thus, treating CSC in such cases as construction capital is likely inadequate for understanding the range of imperatives involved (Gonzalez-Vicente 2020). Instead, Gonzalez-Vicente proposes the concept of state-coordinated investment partnerships, agglomerations of Chinese actors (in this case, a construction SOE, a policy bank and the upper ranks of the central state) that may come together for a particular project, but which each individually have their own priorities and logics of accumulation. This is a helpful refinement, because it moves beyond state-capital hybrids understood either in terms of a sector as a whole, or as individual SOEs, and foregrounds the need for analysis at the level of individual projects, with attention to the specific combination of Chinese state actors involved. Notably, according to Gonzalez-Vicente, the central role of ministerial negotiations in initiating the Jamaican highway project seems to have resulted in greater accommodation of the Jamaican government's priorities, contrasting with the record of roadbuilding projects in Zambia instigated by construction firms.



Factor 3: Local Context

Finally, it seems clear that local context (and the relative bargaining power of local actors) in receiving states will tend to influence the actions of CSC. In Jamaica, for example, the country's already considerable debt burden led the government to push for (and obtain) a deal whereby the cost of construction was met through the transfer of 1200 acres of land and a 50 year concession on the toll road (Golding 2018; Gonzalez-Vicente 2020). Chinese workers and equipment were imported to complete the project, features replicated in a number of CSC deals around the world (see for example, Barkin and Vasovic 2018; Shakil 2021), though there are other cases where governments have been able to insist on greater local content and employment requirements (Corkin 2016; Jenkins 2018, pp. 289–290). Even where states have been relatively successful in incorporating CSC into furthering their industrial policy visions, developmental impacts have varied depending on the nature of host state policy choice and strategic priorities (e.g. DeBoom 2022; Camba et al. 2022). This also demonstrates the need to separate the degree to which CSC accommodates local priorities from questions of whether such accommodation results in developmentally positive outcomes.

Explaining Chinese State Capital Behaviours in Kazakhstani and Bolivian Resource Sectors

Our assessment of CSC across our four sectors (Bolivian steel, Bolivian lithium, Kazakhstani oil refining, Kazakhstani polypropylene) in relation to the framework set out above is summarised in Table 1 below. Overall, relative flexibility of CSC in the face of local demands appears to hold across different sets of industrial strategies and priorities, various types of resource sector and two very distinct states with differing levels of importance to China. This accommodation is clearly not without limits, however, as is seen in the Bolivian lithium sector. While firm generalisable conclusions as to the behaviours of CSC across the world cannot be drawn solely from our cases, thinking in terms of BRI drivers (resource security, export of overcapacity and political relations), nature of investment partnership and local context provides a framework through which to begin moving towards a more nuanced and systematic picture of sources of variation in CSC behaviours (particularly in resource sectors), drawing upon the empirical material in the previous sections.

Beginning with the El Mutún plant in Bolivia, steel and construction are sectors where we would expect export of Chinese surplus capacity to be a major driver in BRI projects (Lai 2021) and, thus, shorter-term profit maximisation to play a relatively stronger role in Chinese motivations. However, Bolivia's plan for the complex was developed domestically, before a loan was secured from Eximbank, only after which was Sinosteel selected from three potential contractors. Since the plant had not been completed at the time of writing, its results remain to be seen. Nevertheless, the project, thus, far has shown a similar mix of features as seen in Gonzalez-Vicente's Jamaican case. The overall structure of the deal, agreed with Eximbank, appears to accommodate Bolivian priorities (in terms of developing steel production rather than



Table 1 Chinese state capital in Bolivian and Kazakhstani Resource Sectors

	Bolivia (iron and steel)	Bolivia (lithium)	Kazakhstan (oil refining)	Kazakhstan (polypropylene)
Project(s)	El Mutún iron and steel complex	Lithium extraction and processing at (i) Salar de Uyuni; (ii) Pastos Grandes; (iii) Coipasa	Shymkent refinery	Atyrau polypropylene plant
Developmental intention	Create new steel sector, import substitution, eventual potential for export and spin-offs (e.g. tools)	Avoid primary commodity export dependence, develop forward linkages domestically to degree possible (ideally battery and EV manufacture)	Modernise domestic refining sector, meet domestic demand for fuel and lubricants and avoid fuel shortages	Plant part of SEZ designed to create petrochemical cluster in Atyrau
Financing	\$396 m Eximbank loan/\$70 m Bolivian financed	Joint venture investments: \$800 m (CITIC), \$1.4bn (CATL)	\$607 m CBD loan/\$225 m French/German/Japanese syndicated loan/\$932 m Kazakhstan financed	\$2bn CDB loan/\$600 m Kazakhstani financed (Samruk Kazyna)
Explanatory factors for variation in CSC behaviours	Factor 1: BRI Drivers	Moderately important: Distant, not one of larger Latin American economies; but growing importance of lithium as critical mineral	Very important: China–Europe freight train routes and oil and gas pipelines from Central Asia to Xinjiang	Not significant
	Resource security	Significant	Significant	Moderately significant
	Export of overcapacity	Not significant	Moderately significant—many elements sourced domestically or from non-Chinese suppliers	Moderately significant—many elements sourced domestically or from non-Chinese suppliers
	Export of some components sourced from non-Chinese suppliers	Significant—though some components sourced from non-Chinese suppliers		



Table 1 (continued)

	Bolivia (iron and steel)	Bolivia (lithium)	Kazakhstan (oil refining)	Kazakhstan (polypropylene)
Factor 2: Investment partnership	Actors SinoSteel (EPC contractor), Eximbank	Joint ventures with YLB (Bolivia); TBEA (deal cancelled), CITIC Goan, CATL	Joint venture CNPC and KMG (Kazakhstan)	CNCEC (EPC contractor), CDB
	Negotiations Initiated by Bolivian government-selection from several contractors	Initiated by Bolivian government, competitive tenders (including non-Chinese)	Initiated by Kazakhstani side-part of 2011 New Industrialisation Programme	Part of 2015 bilateral deal encompassing 56 projects
	Time-horizon/ contract type Short—EPC contract and loan	Long—direct investment	Long—stake in oil extraction and refining	Short—EPC contract and loan
Factor 3: Local context	Prioritisation of speed of delivery over local content by Bolivian government following failure of previous Jindal steel project. Lack of local industrial base means machinery imported	2019 political crisis leads to cancellation of initial deals. Small market, poor infrastructure, geographical isolation means less attractive as potential location for battery production	Joint venture with KMG able to finance half of project. Existing Chinese contractual relationships to supply Kazakhstani refineries	Local capacities to carry out key production processes domestically. Significant financing available via Samruk Kazyna



merely iron, with full Bolivian ownership), though the specifics of the construction contract are favourable to Sinosteel in the sense of permitting import of most inputs, rather than emphasising local content. In this sense, while short-run profit-seeking is clearly an element of the deal from the Chinese side, the fact that it was first negotiated with Eximbank according to a plan developed by the Bolivian authorities (rather than being driven by a contracting firm, as in Lee's roadbuilding cases) may account for the relatively accommodative nature of the project to Bolivian concerns.

In lithium, we might expect a high degree of accommodation on the part of CSC, for two reasons. First, on the grounds of the resource security imperative, given that this is a strategically important mineral which has become an increasingly significant component of BRI investment (Nedopil Wang 2024). Second, both current and previous failed Chinese deals for Bolivian lithium involve equity shares and so a long time horizon for involvement. While some Chinese commitments to domestic Bolivian upgrading have been made, however, the MAS government's ambitions for domestic battery production have, thus, far been frustrated. By contrast, our two Kazakhstani cases both show relatively high levels of responsiveness to local priorities, despite one involving a long-term CSC equity stake (Shymkent) and the other amounting only to a build-transfer contract (Atyrau).

These otherwise surprising findings are likely explained by a combination of two other factors from our framework: the relative salience of political relations for China with Bolivia versus Kazakhstan, and local contextual factors. In addition to Kazakhstan's position on BRI transport networks leading west, the country is an important component of China's efforts to shift away from dependence on seaborne oil imports and towards overland pipelines and transit routes (Chen 2021, p. 15). In this context CSC seems content to incorporate Kazakhstani demands for both local content and the use of a range of international contractors in its loan-financed projects and joint ventures. This might well be expected in the case of the Shymkent refinery, where CNPC part-owns the facility and has a long-term presence in the sector. Perhaps surprisingly, it also holds true for the Atyrau polypropylene plant, where we might expect the focus to be on maximising returns for the Chinese contractor, since their involvement ends with completion of the project. However, the fact that design, logistics and some of the most important equipment manufacture was carried out by Kazakhstani firms demonstrates that short-term maximisation of gains from the contract itself was not the main priority here. It is also notable that the Kazakhstani deals were primarily financed by CDB rather than Eximbank. This may reflect a more comprehensive approach to offshoring Chinese industrial production and integrating Kazakhstan with the Chinese economy, rather than Eximbank's somewhat more ad hoc role in supporting Chinese contractors to win deals abroad (Chin and Gallagher 2019; Kenderdine and Ling 2018). In part, too, differences in CSC's deals with Bolivia and Kazakhstan reflect local contexts and capabilities.⁷ Kazakhstan was able to self-finance a larger proportion of each deal, putting it in a stronger bargaining

⁷ The consideration of local perceptions towards China emerges as another salient factor within this context. In light of pronounced sinophobic sentiments prevalent in Kazakhstan (Owen 2017), it is plausible that the Kazakhstani government limited the presence of Chinese firms in these projects for these reasons. This proposition warrants further research.



position than the Bolivian state, which has relied more heavily on Chinese finance for lithium and steel projects. Additionally, Kazakhstan's larger industrial base meant that elements such as machinery could be contracted locally, unlike in Bolivia.

One final element may be found in the sectoral particularities of lithium, combined with the high degree of ambition inherent in the Bolivian state's pursuit of deals for domestic upgrading up to the point of battery manufacture (Sanchez-Lopez 2019). In Zambia, CSC was able to meet the partner state's developmental goals (which had been rejected by traditional IFIs and donors) by constructing the Chambishi MFEZ. While this industrial park hosts downstream activities such as copper smelting, equipment assembly and household appliance manufacture, these tend to be SMEs, less capital- and technology-intensive than lithium electrode and battery manufacture, and geographically closer to viable markets (Zheng 2016; ECLAC 2023).

Conclusion

It seems clear from the degree of variation within and across these cases that CSC should be understood as a more complex phenomenon than can be captured by a single ideal type. Our cases (combined with those of Zambia and Jamaica) are useful in pointing to sources of this variation and how they may play out in practice. If CSC is likely to be less flexible in cases where the export of domestic overcapacity is the main motivator for the Chinese side, this is particularly significant for upgrading within extractive value chains, which correspond to some of the main areas of China's industrial surplus. The finding that, in such cases, deals where Chinese officials and/or policy banks play the main role may afford partners a greater degree of policy space, suggests that host states should seek to negotiate with these elements first, rather than directly with Chinese firms. Local partners should also be aware of their level of geoeconomic and strategic significance to China and be prepared to leverage it where possible.

As we have noted, however, a range of other factors complicate this picture, including local agency (tied to host state financial and industrial capacities), sectoral specifics and choice of Chinese lending institution. Further, China's lending via the BRI has recently begun to decline, with a potential shift towards more equity stakes and public-private partnership deals (Mingey and Katz 2021; Nedopil Wang 2022, 2024). More work across a larger set of cases and over time is, therefore, needed in order to systematically map the relevant vectors of CSC, both in extractive sectors and more widely. We would particularly anticipate that the kind of granular analysis of local context (e.g. political factors, issues of local capacity) which would be enabled by fieldwork might yield greater analytical insights in this. Such endeavours hold out the promise of identifying when, where and in which industries or production processes partner states may have the best chance of securing developmentally beneficial deals (or indeed, greater leeway for predation), as well as points of pressure where both state and society actors might be able to discipline CSC in terms of some of its more damaging practices.



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Conflict of interest The authors state that there is no conflict of interest concerning the content of this paper and any third party involved.

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References

- Achtenberg, E. 2017. Financial sovereignty or a new dependency? How China is remaking Bolivia. *NACLA*, August 10. <https://nacla.org/blog/2017/08/11/financial-sovereignty-or-new-dependency-how-china-remaking-bolivia>.
- Afanasyeva A., and O. Yagova. 2022. Kazakhstan wants more oil output to stay at home to tackle fuel problems. <https://www.reuters.com/business/energy/kazakhstan-wants-more-oil-output-stay-home-tackle-fuel-problems-2022-02-04/>.
- Aguirre B, F. 2022. The lithium triangle—The importance of Bolivia. *Journal of Energy & Natural Resources Law* 40 (2): 183–202.
- AidData. 2023a. CDB provides \$607 million USD buyer's credit loan for Phase II of Shymkent Oil Refinery Reconstruction and Modernization Project. <https://china.aiddata.org/projects/53576/>.
- AidData. 2023b. China Development Bank provides a \$2 billion USD loan for the Atyrau Petrochemical Complex Construction Project. <https://china.aiddata.org/projects/53553/>.
- Akhambekova, I. 2023. Человеческий капитал – ключевой приоритет для КПИ [Human capital is a key priority for KPI]. <https://orda.kz/chelovecheskij-kapital-kljuchevoj-prioritet-dlja-kpi/>.
- Akhmetbekov, A. 2021. Кому принадлежат казахстанские нефтеперерабатывающие заводы? [Who owns the Kazakhstani oil refineries?]. <https://rus.azattyq-ruhy.kz/interview/28324-komu-prina-dlezhat-kazakhstanskije-neftepererabatyvaiushchie-zavody>.
- Alami, I., and A.D. Dixon. 2020. State capitalism(s) redux? Theories, tensions, controversies. *Competition & Change* 24 (1): 70–94.
- Alami, I., A.D. Dixon, and E. Mawdsley. 2021. State capitalism and the new global D/development regime. *Antipode* 53 (5): 1294–1318.
- Andersen, L.E., and O. Nina. 2007. *Geographical constraints to growth in Bolivia*. Development Research Working Paper Series 5.
- Aq Jayiq. 2020. Как строится гигант по производству полипропилена [How a polypropylene production giant is being built]. <https://azh.kz/ru/news/view/70535>.
- Apostolopoulou, E. 2021. Tracing the links between infrastructure-led development, urban transformation, and inequality in China's belt and road initiative. *Antipode* 53 (3): 831–858.



- Barkin, N., and A. Vasovic. 2018. Chinese ‘highway to nowhere’ haunts Montenegro. *Reuters*, July 17. <https://jp.reuters.com/article/us-china-silkroad-europe-montenegro-insi-idUSKBN1K60QX>.
- Bednarski, L. 2021. *Lithium: The global race for battery dominance and the new energy revolution*. Oxford: Oxford University Press.
- Bernal, P. 2018. ¿Qué gana Bolivia con ser socio estratégico de China? *Latin American Post*, June 30. <https://latinamericanpost.com/es/21896-que-gana-bolivia-con-ser-socio-estrategico-de-china>.
- Bitabarova, A.G. 2018. Unpacking Sino-Central Asian engagement along the New Silk Road: A case study of Kazakhstan. *Journal of Contemporary East Asia Studies* 7 (2): 149–173.
- BNamericas. 2012. Civic leaders postpone strike over El Mutún, but could start Thursday, May 24. <https://www.bnamericas.com/en/news/civic-leaders-postpone-strike-in-puerto-suarez-to-demand-development-of-el-mutun1>.
- bne IntelliNews. 2016. LG Chem abandons \$4.2bn petrochemical project. <https://www.intellinews.com/lg-chem-abandons-4-2bn-petrochemical-project-in-kazakhstan-89370/>.
- Bocoum, B. 2000. *The mineral and energy sectors and stages of economic development: A comparative input-output analysis*. Economic Research Paper 59. Abidjan: African Development Bank.
- Bos, V., and M. Forget. 2021. Global Production Networks and the lithium industry: A Bolivian perspective. *Geoforum* 125: 168–180.
- Brautigam, D., and X. Tang. 2014. “Going global in groups”: Structural transformation and China’s special economic zones overseas. *World Development* 63: 78–91.
- Bremmer, I. 2010. Article commentary: The end of the free market: Who wins the war between states and corporations? *European View* 9 (2): 249–252.
- Breslin, S. 2021. *China risen?: Studying Chinese global power*. Bristol: Policy Press.
- Bruton, G.D., M.W. Peng, D. Ahlstrom, et al. 2015. State-owned enterprises around the world as hybrid organizations. *Academy of Management Perspectives* 29 (1): 92–114.
- Butyrina, N. 2020. Казахстан решает проблему дефицита ГСМ в регионах и вводит новые мини-НПЗ [Kazakhstan tackles regional fuel shortages and introduces new mini-refineries]. <http://casprgeo.ru/kazakhstan-reshaet-problemu-defitsita-gsm-v-regionah-i-vvodit-novye-mini-npz/>.
- Calabrese, L., Z. Huang, and R. Nadin. 2021. *The Belt and Road and Chinese enterprises in Ethiopia: Risks and opportunities for development*. ODI report. London: ODI.
- Camba, A. 2020. The Sino-centric capital export regime: State-backed and flexible capital in the Philippines. *Development and Change* 51 (4): 970–997.
- Camba, A., G. Lim, and K. Gallagher. 2022. Leading sector and dual economy: How Indonesia and Malaysia mobilised Chinese capital in mineral processing. *Third World Quarterly* 43 (10): 2375–2395.
- Cardoso, F.H., and E. Faletto. 1979. *Dependency and development in Latin America*. Berkeley, CA: University of California Press.
- Carmody, P., and J. Wainwright. 2022. Contradiction and restructuring in the Belt and Road Initiative: Reflections on China’s pause in the ‘Go world.’ *Third World Quarterly* 43 (12): 2830–2851.
- Celemín Mojica, J.D. 2023. The year of change: Snippets from the EV situation in Latin America. March 22. <https://cleantechnica.com/2023/03/22/the-year-of-change-snippets-from-the-ev-situation-in-latin-america/>.
- Chang, H.J., and A. Andreoni. 2021. Bringing production back into development: An introduction. *The European Journal of Development Research* 33 (2): 165–178.
- Chen, D. 2021. China’s Belt and Road Initiative: Changing investment priorities in pursuit of energy security and carbon neutrality. *Oxford Energy Forum* 126: 15–18.
- Chervinskii, O. 2019. Казахстан попросил у инвесторов миллиард [Kazakhstan asks investors for a billion]. <https://kz.kursiv.media/2019-10-07/kazakhstan-poprosil-u-investorov-milliard/>.
- Chin, G.T., and K.P. Gallagher. 2019. Coordinated credit spaces: The globalization of Chinese development finance. *Development and Change* 50 (1): 245–274.
- ChinaPower. 2020. How is the Belt and Road advancing China’s interests? Center for strategic and international studies. <https://chinapower.csis.org/china-belt-and-road-initiative/>.
- Corkin, L. 2016. *Uncovering African agency: Angola’s management of China’s credit lines*. London: Routledge.
- Crompton, P. 2021. Companies chosen to test lithium extraction methods in Bolivia. *Batteries and Energy Storage Technology*, September 14. <https://www.bestmag.co.uk/indnews/companies-chosen-test-lithium-extraction-methods-bolivia>.
- DBK. 2018. DBK: Shymkent oil refinery goes to the final stage of production modernization. https://www.kdb.kz/en/pc/news/news/7961/?sphrase_id=51271.



- DBK. 2021. Information on the ongoing projects and export operations of Development Bank of Kazakhstan JSC. https://www.kdb.kz/upload/catalog_products/brk_spravochnik_en.pdf.
- DBK. 2023. Projects on financing—PetroKazakhstan oil products LLP. https://www.kdb.kz/en/projects/on-financing/?arrFilter_648=2467687626&set_filter=Show.
- De Graaff, N., and B. Van Apeldoorn. 2018. US–China relations and the liberal world order: Contending elites, colliding visions? *International Affairs* 94 (1): 113–131.
- de Wet, P., L. Rimmelts, F. Mollerus, and B. ter Meulen. 2017. Feasibility study on transport of iron ore using the Paraguay-Parana river system. TU Delft. <https://repository.tudelft.nl/islandora/object/uuid:7123da82-3f4f-4883-a395-60596f23d033/datastream/OBJ/download>.
- DeBoom, M.J. 2022. Radioactive strategies: Geopolitical rivalries, African agency, and the Longue Durée of nuclear infrastructures in Namibia. In *The rise of the infrastructure state*, 137–152. Bristol University Press.
- Diálogo Chino. 2015. China enters Bolivia’s steel industry. July 22. <https://dialogochino.net/en/extra-ctive-industries/3016-china-enters-bolivias-steel-industry/>.
- EBRD. 2020. Atyrau refinery sustainability loan. <https://www.ebrd.com/work-with-us/projects/psd/51662.html>.
- ECLAC. 2023. Lithium extraction and industrialization: Opportunities and challenges for Latin America and the Caribbean. <https://repositorio.cepal.org/server/api/core/bitstreams/8d505030-7686-44e1-9f60-77ceb0610826/content>.
- Economist. 2021. How Bolivian lithium could help fight climate change. December 8. <https://www.economist.com/the-americas/how-bolivian-lithium-could-help-fight-climate-change/21806677>.
- Fainshmidt, S., W.Q. Judge, R.V. Aguilera, et al. 2018. Varieties of institutional systems: A contextual taxonomy of understudied countries. *Journal of World Business* 53 (3): 307–322.
- Flores, Y. 2023. Al menos seis componentes de la planta DRI del Mutún se fabrican en cuatro países. *La Razón*, August 16. <https://www.la-razon.com/economia/2023/08/16/al-menos-seis-componentes-de-la-planta-dri-del-mutun-se-fabrican-en-cuatro-paises/>.
- Forbes. 2020. 44% государственного бюджета Казахстана формирует нефтегазовый сектор [44% of the state budget of Kazakhstan is formed by the oil and gas sector]. https://forbes.kz/process/energetics/44_gosudarstvennogo_byudjeta_kazahstana_formiruet_neftegazoviy_sektor/.
- Forbes. 2023. На пути к 100% мощности: как развивается казахстанский комплекс по производству полипропилена [On the way to 100% capacity: how the Kazakh polypropylene production complex is developing]. https://forbes.kz/economy/production/na_puti_k_100_moschnosti_kak_razvivaetsya_kazahstanskiy_kompleks_po_proizvodstvu_polipropilena/.
- Gabor, D. 2021. The Wall street consensus. *Development and Change* 52 (3): 429–459.
- Gallagher, K., and M. Myers. 2021. *China-Latin America finance database*. Washington, DC: Inter-American Dialogue. https://www.thedialogue.org/map_list/.
- Geipel, J., and D. Hetherington. 2018 *Local content policy: What works, what doesn’t work*. Business Environment Reform Facility Report. London: UK Department for International Development. <https://assets.publishing.service.gov.uk/media/5c7d425aed915d4063af98df/BERF-Zimbabwe-What-Works-in-Local-Content-Policy-30Oct18.pdf>.
- GoB. 2007. *Decreto Supremo No. 29200 de 18 de Julio de 2007*. La Paz: Ministerio de Minería y Metalurgia. <http://www.mineria.gob.bo/documentos/tomo4.pdf>.
- GoB. 2009. *Agenda Patriótica 2025: 13 pilares de la Bolivia digna y soberana*. La Paz: Ministerio de Planificación del Desarrollo. http://www.planificacion.gob.bo/uploads/AGENDA_PATRIOTICA_2025_MPD.pdf.
- GoB. 2014. *Plan Nacional de Desarrollo- Agenda Patriótica 2025*. La Paz: Ministerio de Transparencia Institucional y Lucha contra la Corrupción. <https://www.fndr.gob.bo/public/normativass/Plan%20Nacional%20de%20Desarrollo%20-%20Agenda%20Patriotica%202025.pdf>.
- Golding, B. 2018. North-south highway paternity. *Jamaica Gleaner*, April 1. <https://www.jamaicaobserver.com/news/north-south-highway-paternity/>.
- Gonzalez-Vicente, R. 2020. Varieties of capital and predistribution: The foundations of Chinese infrastructural investment in the Caribbean. *Made in China Journal* 5 (1): 164–168.
- Goodfellow, T., and Z. Huang. 2021. Contingent infrastructure and the dilution of ‘Chineseness’: Reframing roads and rail in Kampala and Addis Ababa. *Environment and Planning A: Economy and Space* 53 (4): 655–674.
- Government of the Republic of Kazakhstan. 2009a. Комплексный план развития нефтеперерабатывающих заводов Республики Казахстан на 2009 - 2015 годы [Comprehensive



- development plan for oil refineries of the Republic of Kazakhstan 2009 – 2015]. https://adilet.zan.kz/rus/docs/P090000712_.
- Government of the Republic of Kazakhstan. 2009b. Перечень инвестиционных стратегических проектов [List of strategic investment projects]. https://adilet.zan.kz/rus/docs/P090001293_.
- Government of the Republic of Kazakhstan. 2019. Государственная программа индустриально-инновационного развития Республики Казахстан на 2020 – 2025 годы [State programme for industrial and innovative development of the Republic of Kazakhstan 2020-2025]. <https://adilet.zan.kz/rus/docs/P1900001050>.
- Hand, A. 2019. ABB supports digital Kazakhstan with oil refinery modernization. <https://www.automationworld.com/factory/iiot/news/13320032/abb-supports-digital-kazakhstan-with-oil-refinery-modernization>.
- Hetland, G. 2019. Understanding Bolivia's nightmare. *NACLA*, November 20. <https://nacla.org/news/2019/11/19/bolivia-morales-coup>.
- Huang, Y. 2018. Comment on “Is China’s development finance a challenge to the international order?” *Asian Economic Policy Review* 13 (2): 301–302.
- Huang, Z., and G. Lesutis. 2023. Improvised hybridity in the “Fixing” of Chinese infrastructure capital: The case of Kenya’s Standard Gauge Railway. *Antipode*. <https://doi.org/10.1111/anti.12929>.
- Hydrocarbons Technology. 2021. Shymkent oil refinery modernisation. <https://www.hydrocarbons-technology.com/projects/shymkent-oil-refinery-modernisation/>.
- Ibáñez, E. 2023a. Arce fija a la industrialización del litio como horizonte estratégico para Bolivia. *La Razón*, April 25. <https://www.la-razon.com/economia/2023/04/25/arce-fija-a-la-industrializacion-del-litio-como-horizonte-estrategico-para-bolivia/>.
- Ibáñez, E. 2023b. Dos firmas chinas y una rusa pasarán a YLB su conocimiento de desarrollo del litio con tecnología EDL. *La Razón*, August 25. <https://www.la-razon.com/economia/2023/08/28/dos-firmas-chinas-y-una-rusa-pasaran-a-ylb-su-conocimiento-de-desarrollo-del-litio-con-tecnologia-edl/>.
- IEA. 2020. Kazakhstan energy profile. <https://www.iea.org/reports/kazakhstan-energy-profile>.
- Iimi, A. 2007. Escaping from the resource curse: Evidence from Botswana and the rest of the world. *IMF Staff Papers* 54 (4): 663–699.
- Jalilova, A. 2021. Почему Казахстан, у которого есть и нефть, и три НПЗ, ежегодно сталкивается с нехваткой топлива [Why Kazakhstan, which has both oil and three refineries, faces fuel shortages every year]. <https://informburo.kz/interview/pochemu-kazahstan-u-kotorogo-est-i-neft-i-tri-npz-ezhogodno-stalkivaetsya-s-nehvatkoj-topliva>.
- Jenkins, R. 2015. Is Chinese competition causing deindustrialization in Brazil? *Latin American Perspectives* 42 (6): 42–63.
- Jenkins, R. 2018. *How China is reshaping the global economy: Development impacts in Africa and Latin America*. Oxford: Oxford University Press.
- Jepson, N. 2020. *In China's wake: How the commodity boom transformed development strategies in the global south*. New York, NY: Columbia University Press.
- Johnston, M.P. 2014. Secondary data analysis: A method of which the time has come. *Qualitative and Quantitative Methods in Libraries* 3 (3): 619–626.
- Jones, L., and Y. Zou. 2017. Rethinking the role of state-owned enterprises in China’s rise. *New Political Economy* 22 (6): 743–760.
- Kaup, B.Z. 2010. A neoliberal nationalization? The constraints on natural-gas-led development in Bolivia. *Latin American Perspectives* 37 (3): 123–138.
- Kazinform. 2022a. Глава государства запустил газохимический комплекс в Атырауской области [Head of state launches gas chemical complex in Atyrau region]. https://www.inform.kz/ru/glava-gosudarstva-zapustil-gazohimicheskiy-kompleks-v-atyrauskoy-oblasti_a3999192.
- Kazinform. 2022b. На экспорт отправлена первая партия произведенного в Атырау полипропилена [First batch of polypropylene produced in Atyrau exported]. https://www.inform.kz/ru/na-eksport-otpravlena-pervaya-partiya-proizvedennogo-v-atyrau-polipropilena_a4003420.
- Kenderdine, T., and H. Ling. 2018. International capacity cooperation—Financing China’s export of industrial overcapacity. *Global Policy* 9 (1): 41–52.
- KPI. 2019. Форум «Казахстанское содержание в проекте «Строительство интегрированного газохимического комплекса в Атырауской области (фаза I – производство полипропилена)» [Forum “Kazakhstan Content in the Construction of an Integrated Gas Chemical Complex in the Atyrau Region (Phase I - Polypropylene Production)”]. https://kpi.kz/en/press-center/news-and-events/?ELEMENT_ID=483.



- Kutty Abraham, T. 2018. Indonesia's nationalism. *Bloomberg*, December 20. <https://www.bloomberg.com/quicktake/indonesias-nationalism>.
- Lai, H. 2021. The rationale and effects of China's belt and road initiative: Reducing vulnerabilities in domestic political economy. *Journal of Contemporary China* 30 (128): 330–347.
- Lebdoui, A., and P. Bilek. 2021. *Do forward linkages reduce or worsen dependency in the extractive sector? Background paper*. New York, NY: Natural Resource Governance Institute. <https://resourcegovernance.org/sites/default/files/documents/do-forward-linkages-reduce-or-worsen-dependency-in-the-extractive-sector.pdf>.
- Lee, C.K. 2017. *The specter of global China: Politics, labor, and foreign investment in Africa*. Chicago, IL: University of Chicago Press.
- Liu, I.T. 2023. Beyond the spatial fix: Towards a finance-sensitive reading of the Belt and Road in Serbia. *Area Development and Policy*. <https://doi.org/10.1080/23792949.2023.2200546>.
- Lu, J. 2022. For profit or patriotism? Balancing the interests of the Chinese state, host country and firm in the Lao rubber sector. *The China Quarterly* 250: 332–355.
- Meckling, J., B. Kong, and T. Madan. 2015. Oil and state capitalism: Government-firm co-competition in China and India. *Review of International Political Economy* 22 (6): 1159–1187.
- Milanovic, B. 2019. *Capitalism, alone: The future of the system that rules the world*. Cambridge: Harvard University Press.
- Mingey, M., and A. Katz. 2021. China's Belt and Road: Down but not out. *Rhodium Group*, 4 January 4. <https://rhg.com/research/bri-down-out/>.
- Mitra, D. 2016. Bolivia, on hunt for Indian investment, wants to close chapter on Jindal dispute. *The Wire*, July 16. <https://thewire.in/external-affairs/settlement-with-jindal-steel-almost-finished-says-bolivian-minister>.
- Morris, M., R. Kaplinsky, and D. Kaplan. 2012. “One thing leads to another”—Commodities, linkages and industrial development. *Resources Policy* 37 (4): 408–416.
- Morse, I. 2022. Bolivia looks to opaque methods, firms to build lithium powerhouse. *Mongabay*, December 12. <https://news.mongabay.com/2022/12/bolivia-looks-to-opaque-methods-firms-to-build-lithium-powerhouse/>.
- Moyo, D. 2012. *Winner take all: China's race for resources and what it means for the world*. New York: Basic Books (AZ).
- Naqvi, N. 2019. Renationalizing finance for development: Policy space and public economic control in Bolivia. *Review of International Political Economy* 28 (3): 1–32.
- Nazarbayev, N. 2003. Стратегия индустриально-инновационного развития Республики Казахстан на 2003-2015 годы [Strategy for industrial and innovative development of the Republic of Kazakhstan 2003-2015]. https://adilet.zan.kz/rus/docs/U030001096_#z0.
- Nazarbayev, N. 2010. Государственная программа по форсированному индустриально-инновационному развитию Республики Казахстан на 2010–2014 годы [State programme for accelerated industrial and innovative development of the Republic of Kazakhstan for 2010-2014]. https://adilet.zan.kz/rus/docs/U100000958_.
- Nazarbayev, N. 2014. Государственная программа индустриально-инновационного развития Республики Казахстан на 2015-2019 годы [State programme for industrial and innovative development of the Republic of Kazakhstan for 2015-2019]. <https://adilet.zan.kz/rus/docs/U140000874>.
- Nedopil Wang, C. 2022. Beyond the 2021 numbers: An evolving Belt and Road. *Panda Paw Dragon Claw*, March 14. <https://pandapawdragonclaw.blog/2022/03/14/beyond-the-2021-numbers-an-evolving-belt-and-road/>.
- Nedopil Wang, C. 2024. *China Belt and Road Initiative (BRI) investment report 2023*. Green Finance and Development Center. <https://greenfdc.org/china-belt-and-road-initiative-bri-investment-report-2023/>.
- Nölke, A., ed. 2014. *Multinational corporations from emerging markets: State capitalism 3.0*. Berlin: Springer.
- Obaya, M. 2021. The evolution of resource nationalism: The case of Bolivian lithium. *The Extractive Industries and Society* 8 (3): 100932. <https://doi.org/10.1016/j.exis.2021.100932>.
- O'Connor, J. 2008. State capitalism on the rise? New Atlanticist. <https://www.atlanticcouncil.org/blogs/new-atlanticist/state-capitalism-on-the-rise/>.
- Oqubay, A., and J.Y. Lin, eds. 2019. *China-Africa and an economic transformation*. Oxford: Oxford University Press.



- Östensson, O., and A. Löf. 2018. Downstream activities: The possibilities and the realities. In *Extractive industries: The management of resources as a driver of sustainable development*, ed. T. Addison and A. Roe. New York: Oxford University Press. <https://doi.org/10.1093/oso/9780198817369.003.0025>.
- Ovadia, J.S. 2016. *The petro-developmental state in Africa: Making oil work in Angola, Nigeria and the Gulf of Guinea*. London: Hurst.
- Owen, C. 2017. The sleeping dragon is gathering strength: Causes of Sinophobia in Central Asia. *China Quarterly of International Strategic Studies* 3 (01): 101–119.
- Patey, L. 2014. *The new kings of crude: China, India, and the global struggle for oil in Sudan and South Sudan*. Oxford: Oxford University Press.
- Petroleum. 2022. Нефтепереработка и нефтехимия: успехи CNPC в Казахстане [Refining and Petrochemicals: CNPC's successes in Kazakhstan]. <https://www.petroleumjournal.kz/index.php?p=article&aid1=147&aid2=809&id=1870&outlang=1>.
- Prequin. 2018. *Sovereign wealth fund review*, 10th ed. New York: Prequin.
- Ragin, C. 1994. *Constructing social research: The unity and diversity of method*. Thousand Oaks: Pine Forge Press.
- Ramos, D. 2019. Bolivia picks Chinese partner for \$2.3 billion lithium projects. Reuters, 6 June. <https://www.reuters.com/article/idUSKCN1PV2F6/>.
- Ramos, D. 2023. Bolivia taps China, Russia's Rostatom in bid to unlock huge lithium reserves. Reuters, June 29. <https://www.reuters.com/world/americas/bolivia-seals-14-blm-lithium-deals-with-russias-rosatom-chinas-guaoan-2023-06-29/>.
- Revette, A.C. 2017. This time it's different: Lithium extraction, cultural politics and development in Bolivia. *Third World Quarterly* 38 (1): 149–168.
- Robins, F. 2013. The uniqueness of Chinese outward foreign direct investment. *Asian Business & Management* 12: 525–537.
- Rodrik, D. 2016. Premature deindustrialization. *Journal of Economic Growth* 21 (1): 1–33.
- Salinas, G. 2021. *Proximity and horizontal policies: The backbone of export diversification and complexity*. IMF working papers 2021.064. Washington, DC: International Monetary Fund.
- Sanchez-Lopez, D. 2019. Sustainable governance of strategic minerals: Post-neoliberalism and lithium in Bolivia. *Environment: Science and Policy for Sustainable Development* 61 (6): 18–30.
- Schindler, S., I. Alami, and N. Jepson. 2023. Goodbye Washington Confusion, hello Wall Street Consensus: Contemporary state capitalism and the spatialisation of industrial strategy. *New Political Economy* 28 (2): 223–240.
- Schipani, A. 2012. India's Jindal pulls plug on \$2.1bn Bolivia mining and steel project. *Financial Times*, July 18. <https://www.ft.com/content/4853ee35-9bf8-33bf-9f24-92c21714330a>.
- Shakil, F.M. 2021. Pakistan industry wants curbs on China's BRI imports. *Asia Times*, October 23. <https://asiatimes.com/2021/10/pakistan-industry-wants-curbs-on-chinas-bri-imports/>.
- Shaku, K. 2020. Borealis pulls out of \$6.8bn plan to build petrochemical plant in Kazakhstan. <https://www.intellinews.com/borealis-pulls-out-of-6-8bn-plan-to-build-petrochemical-plant-in-kazakhstan-183620/>.
- Simarro, M.R., and J.P.M. Antolín. 2012. Development strategy of the MAS in Bolivia: Characterization and an early assessment. *Development and Change* 43 (2): 531–556.
- Singer, H.W. 1950. U.S. foreign investment in underdeveloped areas the distribution of gains between investing and borrowing countries. *American Economic Review* 40: 473–485.
- Singh, J.T.N. 2022. Geographies in transition. *Phenomenal World*. June 29. <https://www.phenomenalworld.org/analysis/geographies-in-transition/>.
- Sinosteel. 2021. Bolivia reactivates the construction of Mutun Steel Plant contracted by Sinosteel MECC. June 22. http://mecc.sinosteel.com/EN/news_content.aspx?id=3696.
- Smirnov, S. 2020. Нефтехимия Казахстана: сказки на ночь? [Kazakhstan's petrochemicals: a bedtime story?]. <https://www.ritmeurasia.ru/news--2020-12-03--neftehimija-kazahstana-skazki-na-noch-52175>.
- Smirnov, S. 2023. Казахстан вновь может столкнуться с дефицитом ГСМ [Kazakhstan may again face a shortage of fuel and lubricants]. <https://www.ritmeurasia.ru/news--2023-10-09--kazakhstan-ynov-mozhet-stolknutsja-s-deficitom-gsm-69147>.
- Sperber, N. 2019. The many lives of state capitalism: From classical Marxism to free-market advocacy. *History of the Human Sciences* 32 (3): 100–124.
- SteelOrbis. 2014. Bolivian president announces National Steel Plan. October 2. https://www.steelorbis.com/steel-news/latest-news/bolivian_president_announces_national_steel_plan_-848124.htm.
- Tjia, L.Y.N. 2020. The unintended consequences of politicization of the Belt and Road's China-Europe Freight Train Initiative. *The China Journal* 83: 58–78.



- Tritto, A. 2020. Contentious embeddedness: Chinese state capital and the Belt and Road Initiative in Indonesia. *Made in China Journal* 5 (1): 182–187.
- UNCTAD. 2019. *Commodity dependence: A twenty year perspective*. New York: United Nations Conference on Trade and Development.
- UNECA. 2013. *Economic report on Africa 2013: Making the most of Africa's commodities: Industrializing for growth, jobs and economic transformation*. New York: United Nations Economic Commission for Africa.
- USGS. 2021. *Lithium: 2021. Mineral commodity summaries*. Reston, VA: United States Geological Survey. <https://pubs.usgs.gov/periodicals/mcs2021/mcs2021-lithium.pdf>.
- Valdez, C. 2020. Final count gives leftist big victory in Bolivia election. AP. October 23. <https://apnews.com/article/virus-outbreak-evo-morales-elections-socialism-bolivia-f8d2fb4ac80db6f7fd8face7c3f7b75d>.
- Walter, A., and X. Zhang. 2012. Understanding variations and changes in East Asian capitalism. In *East Asian capitalism: Diversity, continuity, and change*, ed. A. Walter and X. Zhang, 247–280. Oxford: Oxford University Press.
- Whitfield, L., C. Staritz, and M. Morris. 2020. Global value chains, industrial policy and economic upgrading in Ethiopia's apparel sector. *Development and Change* 51 (4): 1018–1043.
- Witt, M.A., L.R. Kabbach de Castro, K. Amaeshi, et al. 2018. Mapping the business systems of 61 major economies: A taxonomy and implications for varieties of capitalism and business systems research. *Socio-Economic Review* 16 (1): 5–38.
- World Bank. 2021. Oil rents (% of GDP)—Kazakhstan. <https://data.worldbank.org/indicator/NY.GDP.PETR.RT.ZS?locations=KZ>.
- World Economic Forum. 2019. *A vision for a sustainable battery value chain in 2030*. World Economic Forum. https://www3.weforum.org/docs/WEF_A_Vision_for_a_Sustainable_Battery_Value_Chain_in_2030_Report.pdf.
- Wright, G., and J. Czelusta. 2004. Why economies slow: The myth of the resource curse. *Challenge* 47 (2): 6–38.
- Zajontz, T. 2022. The Chinese infrastructural fix in Africa: Lessons from the Sino-Zambian 'road bonanza.' *Oxford Development Studies* 50 (1): 14–29.
- Zakon.kz. 2021. Цены на бензин выросли в Казахстане [Gasoline prices increased in Kazakhstan]. <https://www.zakon.kz/stati/6002398-tseny-na-benzin-snova-rastut-v-kazakhstane.html>.
- Zhao, Y., X. Liu, S. Wang, and Y. Ge. 2019. Energy relations between China and the countries along the Belt and Road: An analysis of the distribution of energy resources and interdependence relationships. *Renewable and Sustainable Energy Reviews* 107: 133–144.
- Zheng, D.Z. 2016. Multi-facility economic zones in Zambia: Progress, challenges and possible interventions. World Bank Working Paper. <https://documents1.worldbank.org/curated/en/720981495115586647/pdf/115143-WP-PUBLIC-Feb-2016-GTCCS-ZambiaMFEZ.pdf>.

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