

China's quest for natural resources in Latin America

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Abstract

This article describes and analyses China's pursuit of natural resources in Latin America, particularly oil, iron, copper and soybeans, which account for over 70% of its imports from the region. This is motivated by the rapid growth and relative scarcity of natural resources in China itself, and the country's long-term planning that sees the region as a major supplier. In the case of oil, access occurs mainly through loans for oil and direct investments, while in iron and copper it is obtained through direct investments and imports. The method chosen by China to guarantee supply security seems to involve physical control of the resource in question. In the case of soybeans, the path chosen has involved imports increasingly intermediated by trading companies already present in the region, which have recently been taken over by China.

Keywords

China, imports, natural resources, petroleum, iron ore, copper ore, soy beans, economic relations, economic development, economic dependence, Latin America

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I. Introduction

China is building global commodity supply chains, for which purpose it seeks to trade with the largest possible number of producing countries; and, drawing on its more than US\$ 3.5 billion of reserves, it encourages its natural resource firms to invest abroad and directs its public banks to make loans repayable in oil and gas around the world.

The Latin American region plays an important role in China's strategy for gaining access to natural resources worldwide. Between 2000 and 2015, the value of Chinese imports originating in Latin America surged from US\$ 5 billion to US\$ 103 billion.

This article describes China's intense pursuit of natural resources in Latin America in recent years. In particular, it reviews the various strategies deployed to secure its supply of oil, iron ore, copper ore and refined copper and soybean and its derivatives, which in 2015 accounted for approximately 70% of China's imports from Latin America.

The article is divided into four parts, in addition to this introduction and the conclusion. In section II, the focus of the study is contextualized in theoretical and empirical terms. Section III then analyses Chinese access to Latin American oil and argues that, for economic rationality reasons, Chinese oil companies sell much of the Latin American oil under their control to the United States and within the region itself, while purchasing fuel from markets closer to China, which has characteristics better suited to its refining capacity. Section IV describes Chinese access to Latin American metallic minerals, focusing particularly on trade and foreign direct investment (FDI). The analysis concentrates specifically on copper (both ore and refined) and iron ore. Section V then describes China's access to Latin American soybeans and analyses how its strategy of investing in trading firms avoids the legal uncertainty associated with land purchase in Latin America. The work concludes with some thoughts on the way Latin America responds to the Chinese quest for natural resources, which is considered inappropriate for the region's development.²

II. Theoretical and empirical considerations

1. The Chinese pursuit of natural resources and the centre-periphery approach

Although this article is essentially empirical, interest in the subject relates to the centre-periphery focus of the Economic Commission for Latin America and the Caribbean (ECLAC) and the "historical-structural" approach that characterizes the institution. The study was motivated by a perception that current Chinese involvement in Latin America represents a new historical trend that affects the region's production structures, by strengthening the commodity-export model. In particular, the perception that this engagement reflects a new type of centre-periphery relationship, to which the region seems to be increasingly subordinated, and which includes China as the new vehicle of dependency on the central economies. The analysis of the recent surge in Chinese interests in the region seeks to enhance understanding of the process of reconfiguring centre-periphery relations, which is currently unfolding in Latin America.

² This article does not consider Chinese investments in natural resource access infrastructure because it is still an embryonic modality (although recurrently referenced by the press, such as the case of a potential interoceanic canal through Nicaragua and a possible railway connecting Brazil with the coast of Peru).

As is well known, the centre-periphery model dates back to the origins of ECLAC,³ starting in the inaugural years of the organization under Raúl Prebisch (Prebisch, 1950; ECLAC, 1951). It was based on an analysis of the effects that trends in the central economies had on the countries of the region and the detection of an adverse long-term trend, based on slow technical progress and deteriorating terms of trade.

It was argued that, in the absence of well-managed industrialization — considered necessary but problematic, owing to poor production diversity, structural heterogeneity and an institutional framework that was unsuited to productive investment and technical progress (Rodríguez, 1981 and 2006; Bielschowsky, 1998 and 2009)— the region's international integration was destined to widen the gap in income and wealth relative to the central countries. The “dependency” theorizing of the 1960s and 1970s, generated a narrative in which the industrialization process unfolding in Latin America was seen as technologically and financially dependent on the centre.⁴

In the “lost decade” of the 1980s, caused by the debt with the banks that paralysed the region, and an initial perception of “financialization” (ECLAC, 1985) and passivity towards the unfolding technological revolution, the centre-periphery model continued to underlie the political-economy tradition of the regional reality —although the frequency with which the concepts “centre-periphery” and “dependency” are used may have diminished in those years as development theory faded. In the 1990s, the clear perception of “peripheral” behaviour was to be reinforced by the notion of subordination to financialization and the volatility of capital, generating major macroeconomic instability in Latin America (ECLAC, 1995), and the unfavourable conditions of Latin America's international engagement in the globalization of production (Di Filippo, 1998).

From the outset of the decade of 2000, China's performance in the region — and in its acknowledged new role as a central player— has constituted the new element that needs to be understood in depth, within the framework of the centre-periphery concept; for that reason, it deserves special empirical attention. This study contributes to that task.

Apart from being relatively sparse, research thus far into the quest for natural resources in Latin America has not invoked conventional theories relating to the internationalization of multinational enterprises. There are three reasons that explain the orientation of these studies and also the one followed in this article.

First, and as shown in this paper, conventional foreign direct investment (FDI) is only one of the avenues through which China gains access to Latin America's natural resources; in fact, FDI is relatively scarce in several natural-resource sectors (such as metals and food).

Second, Chinese FDI already existing in the region is almost entirely targeted on access to natural resources, so conventional theorizing on the subject has limited explanatory power. For example, Dunning's (1988) important theories on the search for an internal market, cheap labour, and technological assets are of little use in this case.

Third, and even more relevant, the behaviour of Chinese multinationals, especially in the natural resources sector, is essentially dictated by the planning interests of the Government of China. The latter is centralized and led by the Communist Party, which dictates the general orientation of the country's relations with Latin America, viewing the region as an important global source of raw materials.

The literature on the Chinese strategy for gaining access to natural resources shows that the interest of the Government of China is centred on national security and autonomy objectives, to enable it to grow in the long term (Corréa, 2015; Jian, 2011; Peine, 2013; Sharma, 2014). These objectives are probably followed by three others, namely: to reduce the prices of the basic products they need; to find

³ For a good review of the centre-periphery approach, see Love (2007).

⁴ Expressed both in non-Marxist versions, such as Sunkel (1970), and Marxist versions, such as Dos Santos (1970).

alternative ways to invest the country's foreign reserves (currently excessively biased towards United States Treasury securities); and to ease pressure for exchange-rate appreciation. It is thus reasonable to assume that Chinese multinational companies operating in the sphere of natural resources, whose key management posts respond to directives from the Central Committee of the Communist Party of China, are encouraged to seek investments, in the world at large and in Latin America in particular, as providers of strategic services to the Government of China. Although this does not mean they no longer pursue profit-seeking objectives, the behaviour of these firms in their internationalization in Latin America represents a research field that is yet to be explored, and analytical work still needs to be done.

The present article introduces some of the patterns of Chinese engagement in Latin America, which differ across sectors and convey a sense of pragmatic adaptation by China to the competitive contexts prevailing in each sector. Nonetheless, this study does not intend to launch a typology according to the specific behaviour of firms in each sector. In future work, the principle that Chinese firms' investment decisions in Latin America are influenced by the State will likely be combined with the conventional theoretical interpretation of the behaviour of transnational firms.

Rather than theorizing about multinationals, the empirical contribution made by this article is more closely related to research on the "curse of natural resources". As is well known, the work of Sachs and Warner (1995) revived an old debate about whether natural resources would be a blessing or a curse. The authors presented empirical evidence for, and verified the existence of, a negative relationship between natural resources and their predominance in the export model, on the one hand, and economic growth on the other. Various explanations have been put forward for this, ranging from "Dutch disease" and the theory of commodity-export-driven growth (staple theory), to institutionalist theories that argue that the abundance of natural resources is associated with barriers to democracy, capture of the State, corruption and the outbreak of civil wars.⁵

Clearly, if applied to the case of China's quest for natural resources in Latin America, the natural resource curse hypothesis would logically be that, by intensifying commodity-export activities, China's effect on Latin American development tends to be negative. In that sense, it would not differ from the conclusions drawn from Prebisch's theories in the late 1940s and 1950s on centre-periphery relations — which, not by coincidence are considered a precursor of the natural resource curse hypothesis. From the ECLAC standpoint, the problems of commodity-export specialization include its lack of innovative capacity, and the fact that productive chains tend to "leak" abroad, through imports, thereby slowing growth. No less relevant are claims that this form of specialization subjects economies to deteriorating terms of trade and tends to expose them to an income elasticity of import demand that is greater than the income elasticity of global demand for their exports, thereby generating balance of payments deficits and, consequently, hampering growth and development.

In recent years, ECLAC has contributed an approach that has some similarities with the natural resource curse model, through its work on "natural resource governance" (ECLAC, 2014; Bárcena and Prado, 2016; Altomonte and Sánchez, 2016). Although this study does not evaluate the development effects of investments in natural resources, arguments of this type are considered in the final section of the article.

2. The importance of Latin American natural resources for China

As a continental country with an area of 9.5 million km², China has major fossil-fuel resources (coal, oil, natural gas), the world's greatest hydroelectric potential, large swathes of agricultural land and considerable metal reserves. Nonetheless, relative to the size of its population and economy, its resources are far

⁵ See, for example, Maciel (2015), which makes an extensive review of the literature on the natural resource curse and its different approaches.

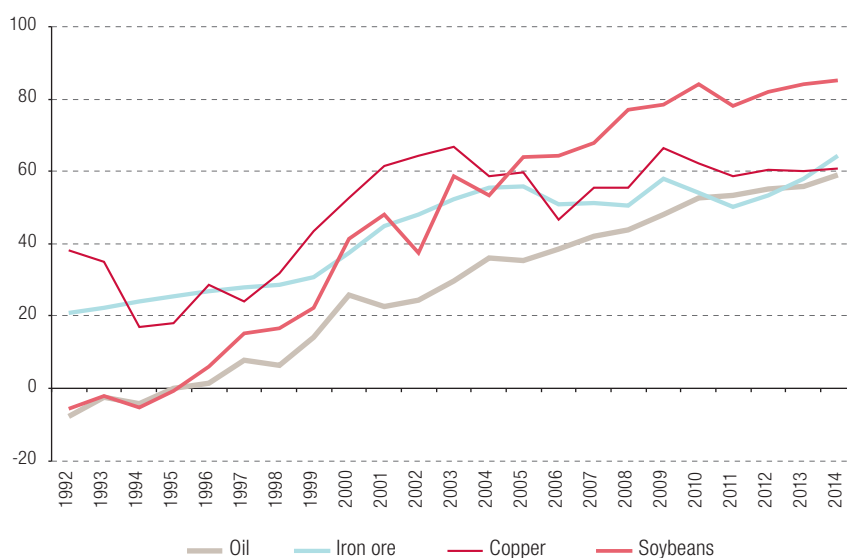
from abundant. Although it has for 19% of the world's population and generates 16.5% of global gross domestic product (GDP), China possesses 13% of global reserves of coal, 8.5% of the world's iron ore, 4% of its copper ore, 2% of total oil reserves and 2% of all natural gas, plus 10% of all agricultural land and 6.5% of the world's fresh water.

This relative scarcity has been revealed in all its intensity by China's rapid growth. In the last 35 years, Chinese GDP has grown at an average rate of 10% per year and turned the country into the second largest economy on the planet, at the same time making its production and consumption increasingly dependent on commodity imports.

In addition to the relative shortage, the production of raw materials in China suffers from a number of specific problems, which make it even more difficult to significantly increase the domestic supply of natural resources: large mature oil fields with declining production (EIA, 2015); high production costs in iron ore and bauxite (Carvalho and others, 2014; Yu, 2011); a low ratio of reserves to production in the case of various minerals, such as copper (17 years), manganese (15 years), lead (7 years) and zinc (8 years), among others. In the case of soybeans, the country's food security policy has made cereal cropping more attractive than oilseed production (Gale, Hansen and Jewison, 2015; Wong and Huang, 2012; Sharma, 2014).

In 1996, China became a net importer of oil and soybeans; and, in 2007 and 2009, respectively, it became a net importer of natural gas and coal. Net oil imports increased from 1.2 million barrels per day in 2000 to 6.7 million in 2015; iron ore imports grew from 44 million fine tons in 2000 to about 580 million in 2015; those of copper expanded from 1.1 million fine tons in 2000 to 7.2 million in 2015;⁶ and soybean imports, which were at the level of 10 million tons in 2000, had surged to more than 82 million tons by 2015. The degree of China's reliance on imports of natural resources, measured as the ratio of net imports to consumption, is already 60% in the case of the main commodities, such as oil, copper and iron ore, and as high as 85% in the case of soybeans (see figure 1).

Figure 1
China: reliance on imports of selected raw materials, 1992–2014
(Percentages)



Source: Prepared by the authors, on the basis of F. F. Rocha, "Acesso chinês a recursos naturais na América Latina", Rio de Janeiro, Institute of Economics, Federal University of Rio de Janeiro (UFRJ), 2016.

⁶ In this study references to copper include both concentrates of this metal and refined copper.

As Medeiros (2011, p. 211) notes, the twin processes of urbanization and heavy industrialization combine to make the Chinese pattern of accumulation intensive in natural-resources. Even with the expected shift towards a greater emphasis on domestic consumption as a source of growth, projections see the need for large-scale imports of natural resource-based commodities in the medium and long terms (Rocha, 2016).

China gains access to natural resources in ways that differ from sector to sector. The oil sector absorbs most of Chinese financing for production activity in Latin America, through loans repaid in oil (Gallagher, Irwin and Koleski, 2013). Oil, copper and iron absorb the majority of Chinese FDI in Latin America, which is undertaken by public companies (Chen and Pérez-Ludeña, 2014). In the case of soybeans, due to the legal difficulties associated with land purchase, the strategy has been to acquire two international trading companies that were already present in the region and seek to turn them into major operators in Latin America, in competition with the four main commodity traders, Archer Daniels Midland (ADM), Bunge, Cargill and Louis Dreyfus, collectively known as the “ABCD companies”.

The relationship is profoundly unequal: China essentially views the Latin America as a source of raw materials; and, as argued in the conclusion to this article, Latin American governments and economic agents treat Chinese demand as just another market opportunity, rather than as an element to be harnessed for long-term sustainable development.⁷

III. Chinese access to Latin American oil

Chinese oil consumption more than doubled between 2000 and 2015, from 4.7 million to 10.8 million barrels per day. This has been driven mainly by burgeoning growth in gasoline and diesel consumption in the transport sector, resulting from expansion of the vehicle fleet (Rosen and Houser, 2007; IEA, 2012). Although industry is also a major consumer, its share of demand has shrunk from 50% in 2000 to 35% in 2013.

The International Energy Agency (IEA) predicts that Chinese demand for oil will increase by nearly 5 million barrels per day between 2014 and 2040, owing to the forecast vertiginous growth of the vehicle fleet, from 146 million units in 2014 to around 500 million by 2040 (IEA, 2015; EIA, 2014; Huo and Wang, 2012). It is estimated that, even with the use of improved oil extraction techniques and the development of oil production from compact formations (tight oil), Chinese oil production will dwindle over the next few decades, because its main oil fields products are mature and their output is declining (IEA, 2015; EIA, 2014).⁸ As a result, net imports of this fuel are expected to grow to between 12 million and 14.5 million barrels per day by 2040, representing about 70% of Chinese consumption in that year (EIA, 2014; IEA, 2015; OPEC, 2015).

Among China’s main supply sources (the Middle East, Africa, the Commonwealth of Independent States (CIS) and Latin America), its imports of Latin American oil grew by most between 2003 and 2015 (42% per year). Having been virtually non-existent in 2003, they had grown to around 854,000 barrels per day by 2015, corresponding to 13% of China’s oil imports and 8% of its consumption. Roughly 91% of that amount was produced in three countries: the Bolivarian Republic of Venezuela (38%), Brazil (33%) and Colombia (21%).

⁷ This does not mean China does not make investments in Latin American processing industries and services, just that those sectors are not considered a priority, and investments in them are still embryonic in the region.

⁸ If the price of oil remains low, the future investments of the large State oil companies could be affected and further reduce Chinese oil production in the medium and long terms (EIA, 2014 and 2015).

China uses diplomacy to forge permanent trade links with other countries, both with respect to oil and for trade in general. In addition, as part of its autonomous development strategy, it also uses two instruments to secure its supply of oil, namely: direct investments by Chinese public companies, and financing by Chinese public banks which is repaid in barrels of oil. It is estimated that the first of these instruments has secured nearly 1.9 billion barrels of Latin American oil reserves,⁹ while the second —considering only the contracts signed in 2008–2011— covers about 2.3 billion barrels (the sum of these amounts is equivalent to approximately 17% of proven reserves in Chinese territory).

Chinese FDI first entered the Latin American oil sector through an investment made in Peru by the China National Petroleum Corporation (CNPC) in 1994. According to Ortiz Velásquez (2016), in addition to non-disclosure of the values involved, there are several problems in measuring Chinese investments. Bearing this proviso in mind, the available figures show that the process of gaining access to oil in this way has been rapid.

Between 2001 and 2013, at least 23 Chinese investment projects were undertaken with the aim of securing access to Latin American oil, with a known value of nearly US\$ 33 billion (Rocha, 2016). The four major Chinese State oil companies (CNPC, China National Offshore Oil Corporation (CNOOC), China Petroleum and Chemical Corporation (Sinopec) and the Sinochem Group) all entered Latin America in that period. As most of these investments in Latin America, both in value (US\$ 25.4 billion) and in number (15), were made between 2010 and 2013, China's investments in the region's oil sector are a recent phenomenon.

Chinese firms have preferred to access Latin American oil by acquiring rights over fields belonging to firms already established in the region, or else by taking over the firms that hold those rights. Recently, they have begun investing in more technologically challenging projects, such as deep-water drilling in the Libra oil field off the Brazilian coast.

The reserves of these firms in the region include 750 million barrels in the Bolivarian Republic of Venezuela, 700 million barrels in Brazil, 284 million barrels in Argentina and 140 million in Ecuador. China's oil production on Latin American soil amounts to almost 400,000 barrels per day (see table 1), producing mainly in the Bolivarian Republic of Venezuela (200,000 barrels per day), and also in Argentina (50,000), Brazil (46,000), Ecuador (43,000), Colombia (28,000) and Peru (20,000). In addition, CNPC has a project to produce 1 million barrels per day in the Bolivarian Republic of Venezuela in conjunction with *Petróleos de Venezuela, S.A. (PDVSA)*.¹⁰ According to the National Agency of Petroleum, Natural Gas and Biofuels (ANP, 2014), production from the Libra field could attain 1.4 million barrels per day, generating a production equivalent of 140,000 barrels per day for both CNPC and CNOOC in Brazil. Accordingly, as China started to invest in Latin America only recently (2010–2013), its oil production on Latin American soil is likely to increase in the years to come.

Along with the expansion of imports and direct investments, since 2008 Chinese loans have been made with repayments in oil as a counterpart. The availability of reliable and disaggregated data on this modality is still sparse, and it is concentrated in 2008–2011.

⁹ This estimate could double if reserves in the Libra field are confirmed; and it does not include the MPE3 (Orimulsion) and Junín 10 fields, located in the Orinoco Belt (Bolivarian Republic of Venezuela), one of the largest oil reserves in the world.

¹⁰ See Bolivarian Republic of Venezuela (2014).

Table 1
 Estimation of Latin American oil under Chinese control (FDI and loans) whether
 or not exported to China, around 2014–2015
 (Thousands of barrels per day)

Country	Production via Chinese FDI	Repayment of Chinese loans	Total	Sent to China (Chinese imports)	Not sent to China
Argentina	50	0	50	6	43
Brazil	46	200	246	141	105
Ecuador	43	68	111	15	96
Peru	19	0	19	0	19
Venezuela (Bolivarian Republic of)	200	400	600	277	323
Subtotal	358	668	1 026	439	586
Colombia	28	0	28	203	0
Others	0	0	0	18	0
Subtotal	28	0	28	221	0
Total	386	668	1 053	660	586

Source: Prepared by the authors, on the basis of F. F. Rocha, "Acesso chinês a recursos naturais na América Latina", Rio de Janeiro, Institute of Economics, Federal University of Rio de Janeiro (UFRJ), 2016.

In that period, China signed nine such contracts in three of the region's countries: four in the Bolivarian Republic of Venezuela, with PDVSA, for a total of US\$ 32.6 billion, which will provide China with at least 1,300 million barrels of oil over 12 years; one in Brazil, with Petrobras, for US\$ 10 billion dollars, which will provide 700 million barrels of fuel to China over 10 years; and four in Ecuador, with EP Petroecuador (and the Ministry of Economy and Finance), for US\$ 5 billion, which will generate at least 300 million barrels of oil for China over a 10-year period.¹¹ If these volumes are added to those underpinned by Chinese FDI, the country has already secured close to 10% of Brazil's oil reserves, 6% of Ecuador's, and 0.7% of those of the Bolivarian Republic of Venezuela.

This type of agreement involves more oil than is necessary to repay the loan. In all cases for which data are available, the time needed to pay back the loan principal (without accounting for interest) in barrels of oil is less than half the term of the agreement. In other words, oil is not being assigned to China simply to repay the debt, because there are contractual clauses that envisage sales to China after it has been paid.

In addition to directly securing rights to Latin American oil, loans for oil act as an additional way to facilitate access. Several cooperation agreements have been signed between China and Latin American countries as a result of Chinese loans (Downs, 2011; Sanderson and Forsythe, 2012; Alves, 2013). For example, in Brazil, after the Chinese loan for oil in 2009 to Petrobras, Sinopec and the Brazilian company also signed a strategic cooperation agreement, which gave the Chinese firm a share in two

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