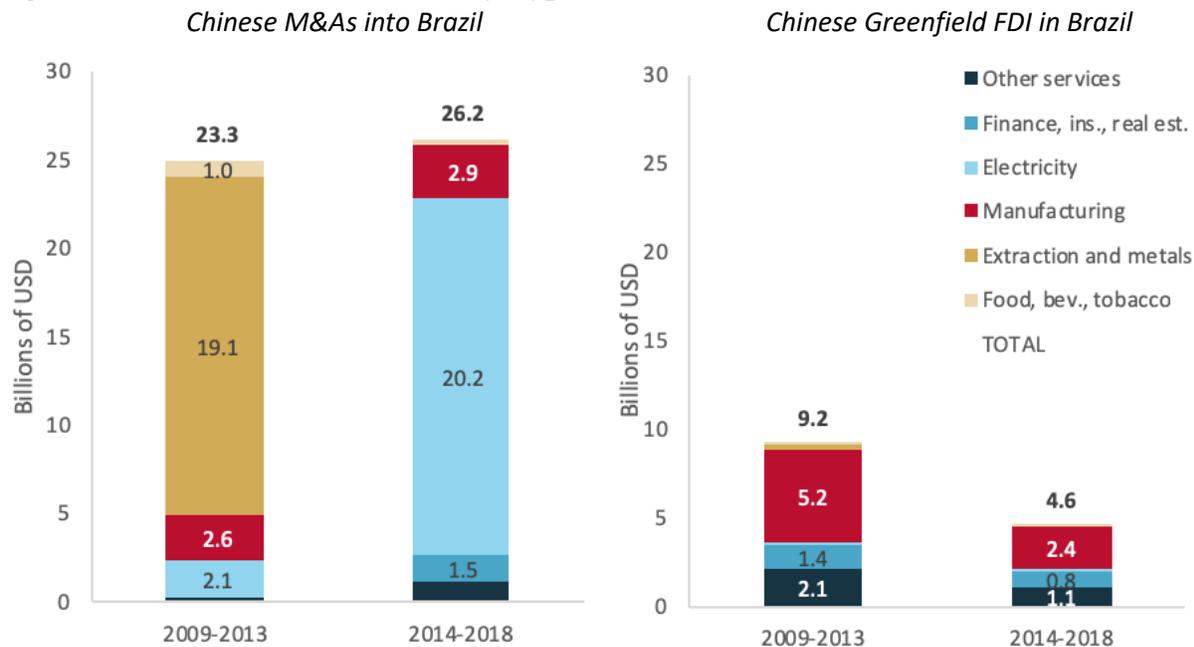


Appendix E Country Snapshots

Brazil Snapshot

Because of the size of Brazil’s market and its wealth of natural resources, the South American nation has been a primary destination for Chinese companies from the onset of Chinese economic engagement with the region (Figure E.1). Chinese firms and banks have shown a preference for engaging Brazil even during periods of economic and political crisis, including the recent *Lava Jato* scandal. Chinese financiers also continue to engage Brazil despite the country’s very vocal anti-China interest groups, in addition to numerous trade- and investment-related disputes. Brazil has registered several complaints against China at the WTO, for example. And in 2010, Brazil went so far as to change its Land Law to restrict all foreign investment after an attempt by Chongqing Grain Group to purchase land for a soy processing facility in Bahia.

Figure E.1. Chinese FDI in Brazil, by Type, Sector, and Time Period



Source: Authors’ calculations using FDIMarkets and DeaLogic data.

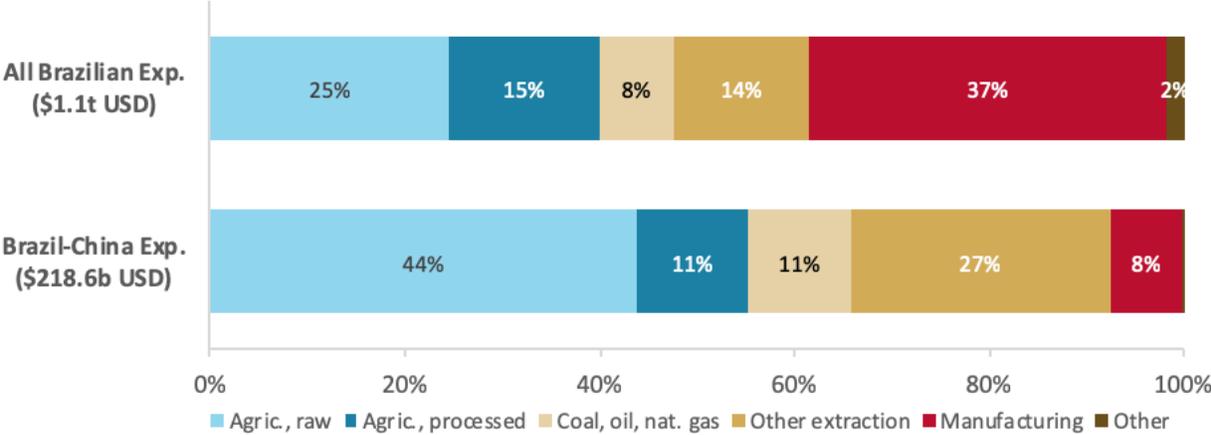
Brazil and China nevertheless maintain relatively strong government-to-government ties. In 1993, Brazil and China established the Strategic Partnership. The China-Brazil High-Level Coordination and Cooperation Committee (COSBAN) was created in 2004 and has been an important platform for bilateral communication ever since. Although the Temer administration is perhaps less committed than its predecessors to the promotion of a South-South agenda, Brazil is engaged in the New Development Bank (NDB) and is a founding member of the Asian Infrastructure Investment Bank.

Over the years, Chinese investment in Brazil has largely concentrated in mergers and acquisitions (M&As) rather than greenfield projects. M&As have shown a tendency to shift from extraction to infrastructure. From 2008 to 2012 the largest sector for Chinese acquisitions in Brazil was coal, oil, and natural gas (representing \$15 billion out of \$22.7 billion in Chinese acquisitions in Brazil), but since then Chinese firms have not made any investments in this sector in Brazil, either through M&As or greenfield projects. Instead, in the last five years the emphasis has changed to electricity and manufacturing. Brazil’s electricity sector has attracted major investment from three major Chinese state-owned enterprises: the China Three Gorges Corporation, the State Grid Corporation of China, and the State Power Investment Corporation. The largest of these deals was the purchase of a 95% stake in CPFL Energia SA, Brazil’s largest private electricity distribution company (which also operates in the Amazon) for \$12.2 billion in 2017. Other major deals include China Three Gorges’ purchases totaling \$5.7 billion of the assets of Duke Energy, as well as hydropower including the Jupia, Ilha Solteira (both in São Paulo), and São Manuel projects, wind, and other power facilities throughout the country, and State Power Investment’s \$2.3 billion purchase of the São Simão hydroelectric station.

After five years of no financing activity, official Chinese lending to Brazil began again in 2015. In the last four years, Chinese policy banks have lent \$30.9 billion to Brazil’s government and state-owned enterprises. Almost all of this financing – \$28.2 billion – was in the form of loans to Petrobras, Brazil’s state-owned oil company. In the last two years alone, the China Development Bank has lent Petrobras \$20 billion in the form of oil-backed loans, in exchange for 400,000 barrels per day of exports. (For comparison, Brazil’s total oil exports were 6.3 million barrels per day in 2017, according to the US Energy Information Administration.)

China has been Brazil’s most important export destination since 2009. In 2017 Brazil’s exports to China were 2.4% of Brazilian GDP and 20.6% of all Brazilian exports. China’s trading relationship with Brazil is more diverse in imported products than China’s trade with Brazil’s neighbors, but still is concentrated in raw agricultural goods and metals mining (Figure E.2).

Figure E.2. Sector Distribution of Brazilian Exports by Market, 2012-2016

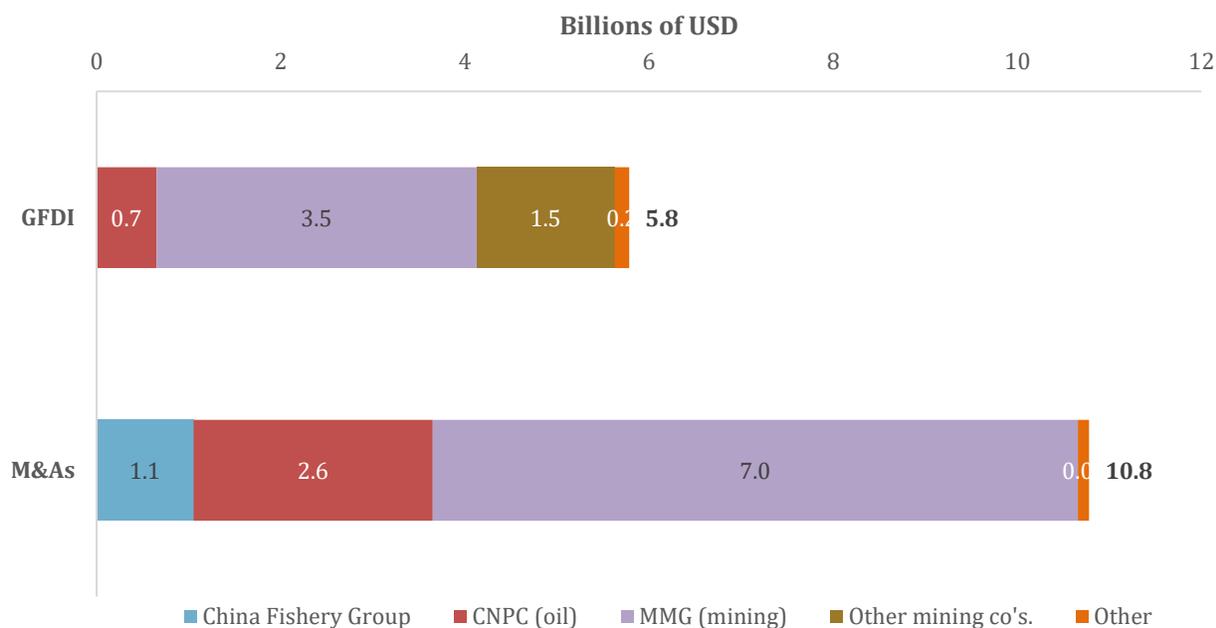


Source: Authors’ calculations using UN Comtrade data.

Peru Snapshot

Although not a top recipient of Chinese finance, Peru has strong bilateral ties with China and consistently favorable views of the Asian nation as a trade and investment partner (Figure E.3). China has expressed some interest in Peruvian infrastructure of late, including La Oroya smelter renovation, the Hidrovía Amazónica, and the Lima-Huacho and Lima-Chosica railways. In 2017 Peru also borrowed \$428 million from the China Development Bank for the San Gabán III hydropower project near the Bolivian border.

Figure E.3. Chinese FDI in Peru by Investing Firm, 2008-2018

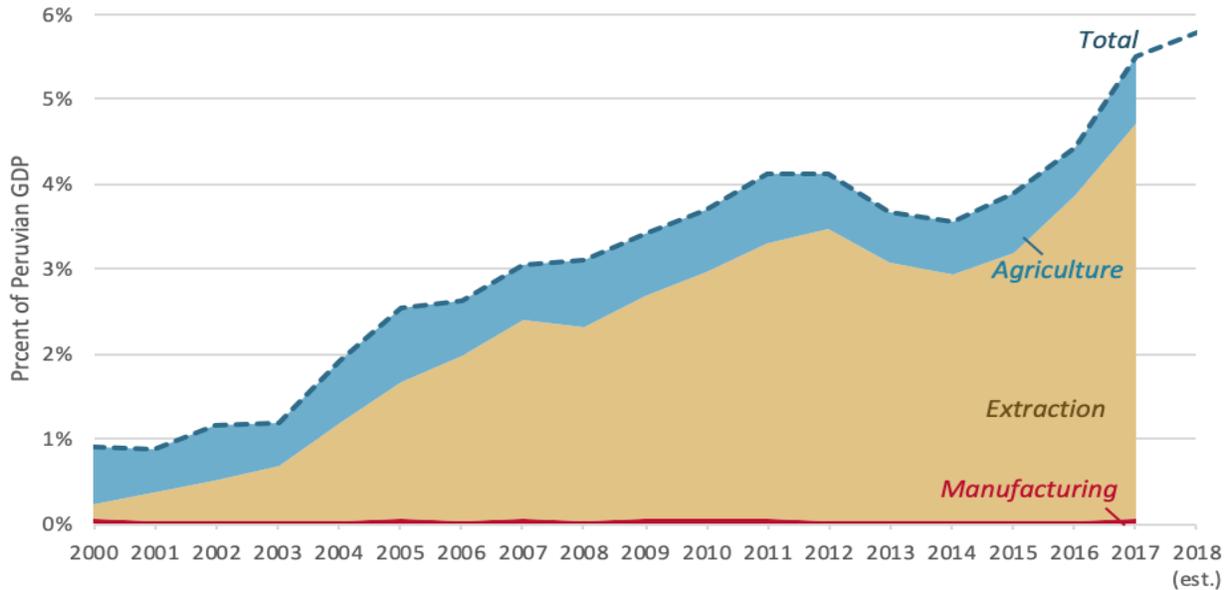


Source: Authors' analysis of FDIMarkets and DeaLogic data.

In general though, Chinese engagement in Peru is highly concentrated in mining (Figures E.4, E.5). The most active Chinese firms in Peru to date follow: (i) China Minerals and Metals Group (also known as MinMetals or MMG), which purchased the Las Bambas copper mine from Glencore. (ii) China National Petroleum Corporation (CNPC), which has been active in Peru since 1993 but expanded its Peruvian operations in 2014 by acquiring new concessions. (iii) Aluminum Corporation of China (also known as Chinalco), which acquired the Toromocho copper mine in 2007 and has continued to invest in it.

Trade with China has been especially high for Peru: preliminary estimates for 2018 put it over 5.5% of Peruvian GDP. In 2017, the last year for which detailed data are available, Chinese demand accounted for more than 40% of all Peruvian exports in the extractive sector, and more than 25% of all Peruvian exports overall.

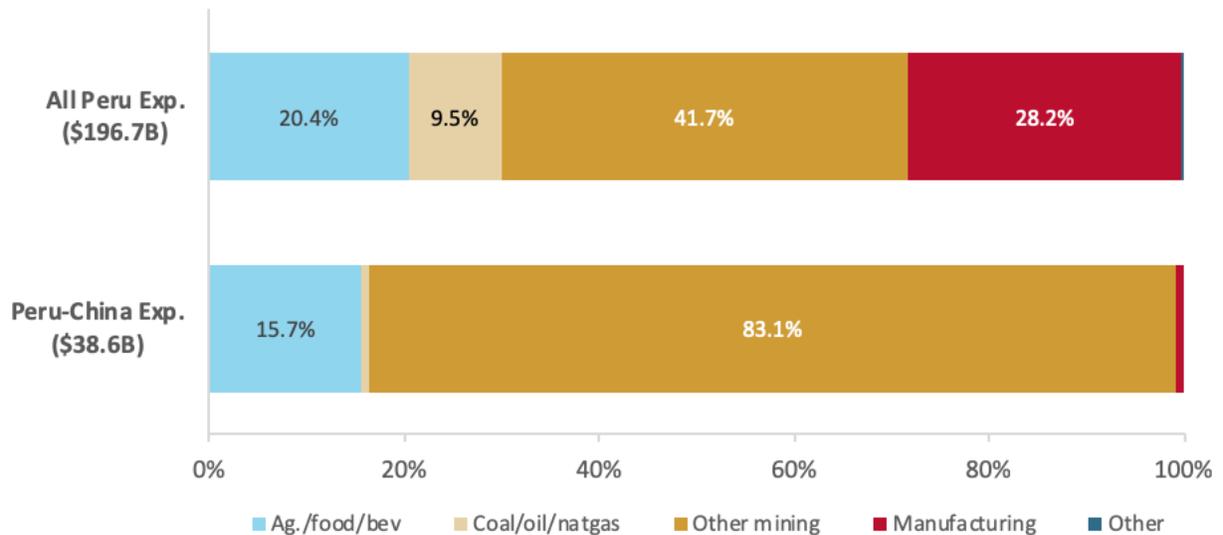
Figure E.4. Peru-China Exports by Sector as a Share of Peru's GDP, 2000-2018



Source: Authors' calculations using UN Comtrade, IMF WDI, China Customs Information Center data.

Similar to other countries studied here, Peru's exports to China are overwhelmingly concentrated in metals mining, which account for over 80% of this export basket over the last five years: twice as great as its importance in Peru's exports overall. In contrast, manufactured goods are almost completely missing from Peru-China exports, though they make up nearly one-third of the nation's overall exports.

Figure E.5. Peruvian Exports by Market and Sector, 2012-2016



Source: Authors' calculations using UN Comtrade data.

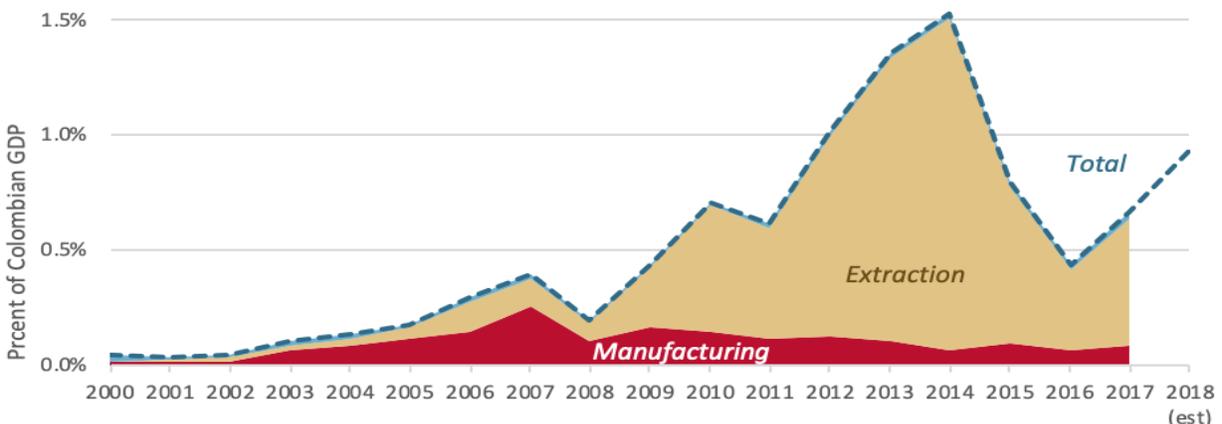
Colombia Snapshot

In comparison to its neighbors, Colombia's relationship with China is limited. Colombians generally attribute this to the country's historical and security-related ties to the U.S., and to a general lack of interest in forging cross-Pacific ties due to the country's focus on domestic issues over the past few decades. The FARC's capture of Chinese employees of Emerald Energy in 2011 also had a dampening effect on Chinese investment at the time. China has sought to take part in a number of Colombian infrastructure projects with limited success. Completed in 2014, Hydrochina's plan to convert the Magdalena River into an aquatic superhighway never made it off the ground. A contract awarded to Odebrecht was rescinded. As of 2017, Power China expressed interest in taking Odebrecht's 87% stake in the dredging project. China Harbour Engineering won a stake in Colombia's 4G highway project in 2016, but has been delayed by environmental licensing requirements.

Chinese oil companies Sinopec (officially the China Petroleum and Chemical Corporation) and Sinochem (formerly China National Chemicals Import and Export Corporation) have been present in Colombia since 2006. Their production is relatively small, at 4.8% of national output in 2016 (the last full-year data available at the time of writing). Sinopec first invested in Colombia through a joint venture with Indian state firm ONGC Videsh, in the Colombian oil firm Mansarovar. In 2010 Sinopec expanded by purchasing the Huapecol oil field operations from Houston American Energy Company for \$281 million, forming the New Grenada Energy Colombia. Sinochem has operated through subsidiary Emerald Energy since 2006, and expanded in 2012 by purchasing Total's Colombian oil assets in 2012 for an undisclosed sum.

Colombia has exported mostly extractive products to China, bringing extreme volatility to Colombia-China exports (Figure E.6), rising from 0.6% GDP in 2011 to 1.5% in 2014 before falling again to 0.4% in 2016. Exports from 2018 are estimated to have rebounded to 0.9% GDP, but even this bump represents a significant decline from the peak in 2014. From 2007 through 2017 China has swung between second and 17th place among Colombian export markets.

Figure E.6. Colombia-China Exports as a Share of Colombian GDP, by Sector



Source: Authors' calculations using UN Comtrade, IMF WDI, China Customs Information Center data.

The reason for this volatility is that Colombia's exports to China are particularly concentrated in crude petroleum oil (Table E.1), subject to huge price swings. Oil sales to China represented 80.5% of these exports from 2012 through 2016, but just 41.9% of Colombian exports overall. This tendency does not extend to higher value-added refined petroleum products, which make up 6.3% of all Colombian exports but only 0.6% of Colombia-China exports.

Table E.1. Most important Colombian exports by destination, 2013-2017

Exports to China			Exports to the World		
Rank	Category	Share	Rank	Category	Share
1	Crude petroleum oil	82.7%	1	Crude petroleum oil	39.1%
2	Pig iron	6.0%	2	Coal	12.9%
3	Non-ferrous waste scrap	4.9%	3	Coffee	6.1%
4	Leather	1.1%	4	Refined petroleum products	5.8%
5	Precious stones, pearls	0.9%	5	Gold, excluding ores	3.8%
<i>Total, top 5</i>		95.6%	<i>Total, top 5</i>		67.6%

Source: Authors' calculations using UN Comtrade data.

These export figures may understate Colombia-China crude oil exports. Colombia produces approximately one million barrels per day, but only has refining capacity for roughly one-fourth that amount. Crude oil may be exported directly to consuming countries or may be refined in intermediary countries before reaching its final destination.

The only other major Chinese investment in Colombia has come through Huawei, which established LTE data service in 2010 with an initial investment of \$68 million. It has now integrated itself into the Colombian telecom sector as the data network provider for Colombian cellular phone companies Movistar and Tigo.

Colombia is unique among countries studied here, in that it has never borrowed money from Chinese policy banks.

Bolivia Snapshot

China's involvement in infrastructure in Bolivia has taken place more recently than in neighboring countries, despite considerable continuity in the country's leadership (Table E.2). CHEXIM signed three loans with Bolivia in 2015 for the Rurrenabaque-Riberalta highway expansion in northwest Amazonia (for \$600 million); the El Sillar highway (for \$426 million) from Colomí to Villa Tunari, which creates a northern corridor between Cochabamba and Santa Cruz; and the El Espino – Charagua – Boyuibe highway in the southeast (for \$253 million).

Table E.2. Largest Chinese financing projects in Bolivia

Year	USD (million)	Sector	Lender	Project
2010	\$251	Telecom	CDB	Tupac Katari Satellite
2011	\$300	Security	CDB	Purchase of 6 Chinese helicopters
2015	\$1,400	Transportation	CHEXIM	Three highways
2016	\$1,000	Hydropower	CHEXIM	Rositas Dam
2016	\$422	Mining	CHEXIM	El Mutún iron ore exploration project

Source: IAD Database.

Chinese firm CAMC Engineering is among the main Chinese companies involved in Bolivian infrastructure development. But the company was involved in a scandal in 2016 when Bolivian President Evo Morales was revealed to have fathered a child with a young woman Gabriela Zapata in 2007, and Zapata had since become a top executive at CAMC. The company reportedly received more than \$500 million in government contracts during her tenure. CAMC has since resumed activity in Bolivia, but its Montero Bulo-Bulo iron mining deal was cancelled after investigation and suspected irregularities in the bidding process.

Chinese investment in Bolivia is otherwise centered on mining. Almost all new (greenfield) investment has involved just one mine: a \$450 million concession for Sinosteel for the El Mutún iron exploration project in 2016. El Mutún is about 40km south of Puerto Suárez on Bolivia's eastern border with Brazil. This project will be majority financed by a \$422 loan from CHEXIM and the rest will come from the government of Bolivia. Other FDI including mergers and acquisitions also have centered on mining (Table E.3), as Yunnan Chihong Zinc and Germanium Co., Inc. purchased majority shares in three Bolivian mining firms.

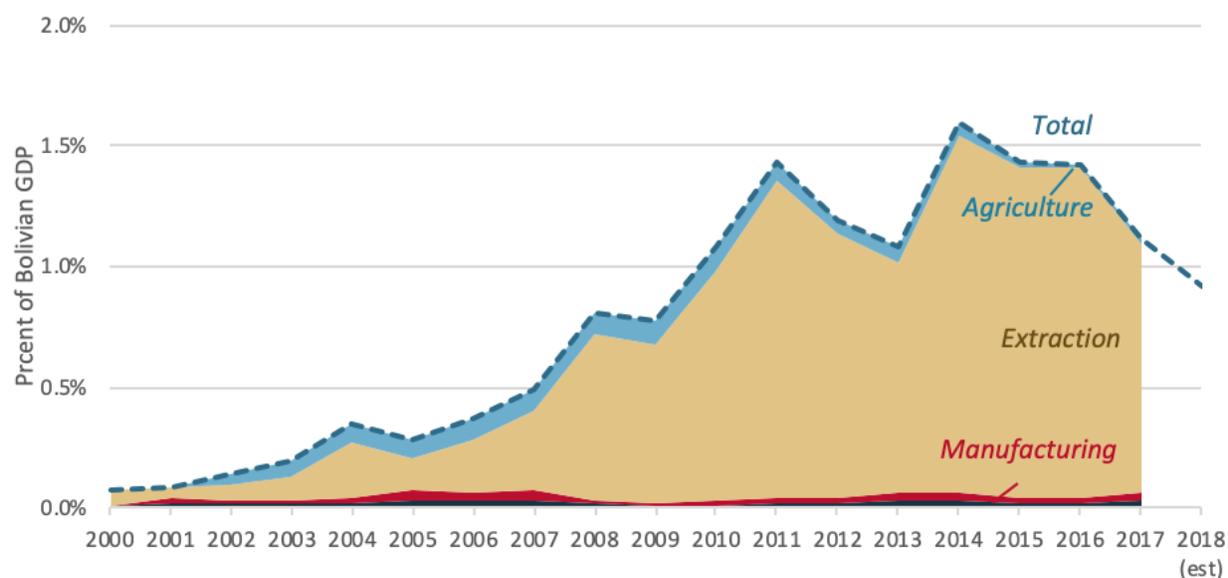
Table E.3. Largest Chinese FDI deals in Bolivia

Year	Firm	USD (million)	Description
2012	Yunnan Chihong Zinc & Germanium	\$16.9	Acquisition: 51% shares in Empresa Minera D’Cobre and Empresa Minera Yang Fan.
2013	Yunnan Chihong Zinc & Germanium	\$42.1	Acquisition: 61% share in COMABOL (Compañía Minera Amazona Bolivia)
2016	Sinosteel	\$450.0	Greenfield: El Mutún iron exploration concession

Source: Authors’ calculations using FDIMarkets and DeaLogic data.

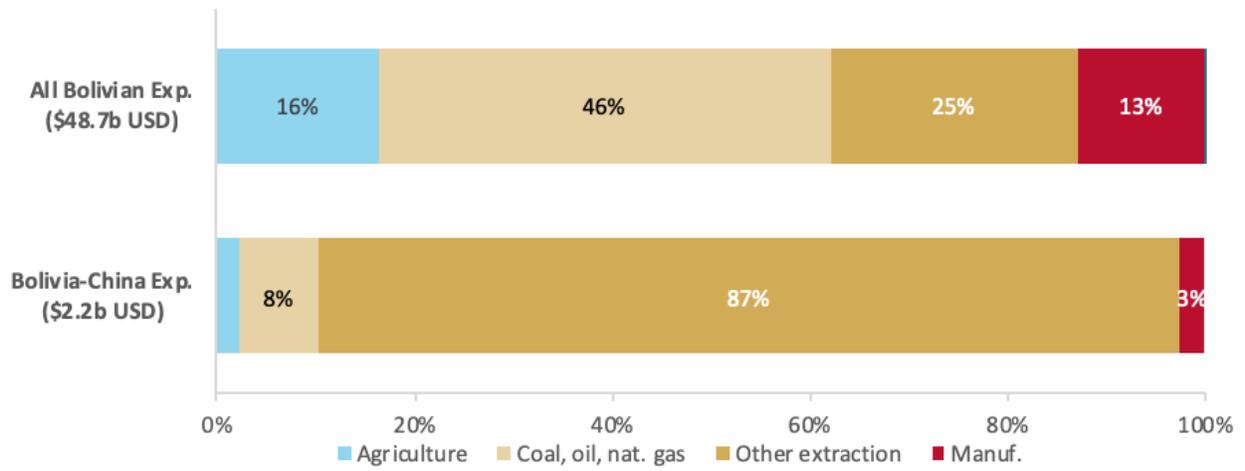
Bolivia’s exports to China have grown rapidly, from 0.1% Bolivian GDP in 2001 to 1.6% in 2014, before settling back to 1.4% for the last three years (Figures E.7, E.8). Like China’s investment in the country, the exports are concentrated overwhelmingly in mining and specifically mining with the least value added: just two categories – ores and concentrates of base and precious metals – comprised 63% of Bolivia-China exports from 2012 through 2016.

Figure E.7. Bolivia-China Exports as a Share of GDP, by Sector



Source: Authors’ calculations using UN Comtrade, IMF WDI, China Customs Information Center data.

Figure E.8. Sector Distribution of Bolivian Exports by Market, 2013-2017



Source: Authors' calculations using UN Comtrade data.

Ecuador Snapshot

The China-Ecuador relationship began in 1972 after Ecuador broke relations with Taiwan. Dozens of bilateral agreements have been signed since then, relating to development of infrastructure projects, mapping of natural resources, technical training, cultural exchange, and information and communication technologies among others. In November 2016, when President Xi Jinping visited Ecuador, the two countries signed the *Joint Statement on Establishing Comprehensive Strategic Partnership between the People's Republic of China and the Republic of Ecuador* and formally established four coordinating bodies: a Steering Committee for Cooperation on Production and Investment Capacity, a Joint Commission for Economy and Trade, a Joint Committee on Agricultural Cooperation, and a Joint Commission on Science and Technology. Ecuador currently has three permanent commercial offices in Beijing and Shanghai.

According to the Ecuadorian Ministry of Finances, China started to lend to Ecuador in 2010 and by 2018 Chinese banks had lent US\$18.4 billion (while the Inter-American Bank, the World Bank, CAF, and the Latin American Reserves Fund had lent a combined US\$10 billion during the same period)¹ as sovereign debt, much of it as oil-backed loans. These loans have backed seven out of the eight² most important hydro projects developed during the last eight years, all of them built by Chinese companies. As a result, China has played a central role in changing the Ecuadorian energy matrix. The National Energy Agenda of 2016 projects that 90% of energy provision in Ecuador will come from hydro sources by the end of 2018.

The trading relationship between the two countries has grown asymmetrically. In Ecuador's import market, China went from being the tenth largest trading partner in 2000 (accounting for 2.2% of imports), to the second largest trading partner in 2018 (with 18.9% of imports). In Ecuador's export market, on the other hand, China's role is minimal. In 2000 only 1.2% of Ecuadorian exports were destined for China; by 2018 this number rose to 6.9% (UN Comtrade Database). Moreover, the trade balance shows a pattern that deepens the traditional role of Ecuador as an exporter of raw materials and importer of manufactured goods and technology.

As with Colombia, Ecuador's trade relationship with China is almost certainly understated by official trade statistics because of the use of oil refineries in intermediate countries. Nonetheless, those statistics are shown here as a minimum possible level of China's importance as an export destination. Ecuador sent 6.9% of its export *directly* to China, not including those oil shipments that passed through intermediary-country refineries.

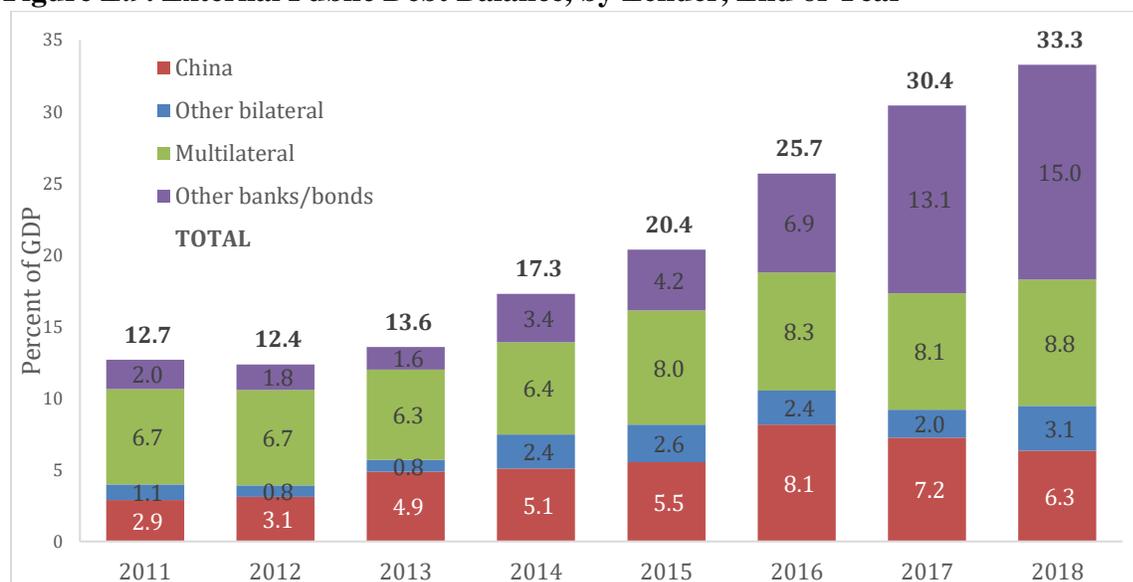
China also represents a crucial source of foreign direct investment (FDI) for Ecuador. Chinese investors first arrived in Ecuador in 2003, and by 2012 China accounted for 16.2% of the FDI stock in the country: the third highest level, behind the US and Switzerland (UNCTAD, 2014).

¹ Ecuador Ministry of Finance, Public Debt Bulletins (2009 to 2017)

² Coca Codo Sinclair (1,500 MW); Sopladora (487 MW); Minas-San Francisco (270 MW); Toachi-Pilatón (254 MW) Delsintanisagua (180 MW); Quijos (50 MW), and Mazar-Dudas (21MW)

The overwhelming majority of Chinese investment projects in Ecuador are in the oil and gas sector: 89% of greenfield FDI projects and 98% of mergers and acquisitions (DeaLogic, Financial Times). In the oil sector Chinese companies own four oil blocks outright, and one more in association with Repsol (a Spanish oil company). These five blocks surround the Yasuní National Park, located in the heart of the Ecuadorian Amazon, which is arguably the most biodiverse area in the world.³ In the mining sector, two Chinese state-owned enterprises (SOEs) and one private company have been granted three mining concessions.

Figure E.9. External Public Debt Balance, by Lender, End of Year



Source: Ministerio de Economía y Finanzas.

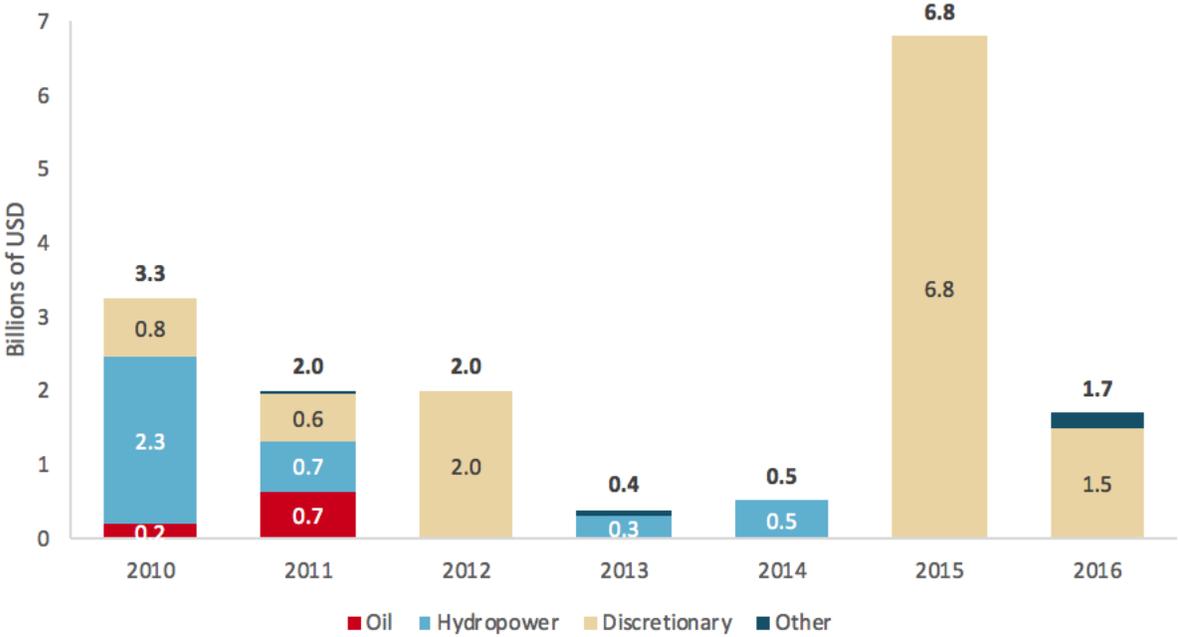
Much has been made of Ecuador's borrowing from China. However, in recent years Ecuador's public debt to China has grown more slowly than other external public debt, and in 2017 it fell as a share of GDP (Figure E.9). Ecuador did not borrow from China in 2017, making it the first year without new Chinese financing since 2009. In late 2013, Ecuador re-entered the international bond market for the first time after its partial bond default in 2008, and since then, most new lending has taken place in that form.

It should be noted that Chinese pre-purchase agreements for oil from Ecuadorian oil SOEs are not necessarily reflected in public debt statistics. As of the end of 2016, those obligations stood at a total of \$2.8 billion, including contracts with PetroChina, Unipecc/Sinopec, the Thai SOE PTT, and the Oman-based private oil firm OTI. Including them in Figure E.10 would add another 2.8% of GDP in debt, but it is unclear how much of this amount would be debt to China.

³ <https://www.smithsonianmag.com/travel/amazonian-rainforest-one-most-biodiverse-places-earth-180955364/>

Overall, most Chinese lending to Ecuador has been discretionary in nature rather than being earmarked for particular sectors (Figure E.10). Most notably, a credit line renewal in 2015 was directed to transportation, education, and healthcare projects. The next most important sector has been hydropower projects, including Coca-Codo Sinclair, followed by oil production.

Figure E.10. Chinese Policy Bank Loans to Ecuador by Sector, 2010-2016



Source: Authors’ analysis of IAD data. *Note: In the cases of loans with both oil-based and discretionary segments (i.e., to be directed as desired by the Ecuadorian Government), each is shown separately.*

References for Appendix E

China Customs Information Center. "Customs Info." Online database, consulted April 15, 2018.
<http://www.customs-info.com>.

DeaLogic. "DeaLogic Analytics." Online database, consulted April 23, 2018.
<http://www.dealogic.com>.

Financial Times. "fDiMarkets." Online database, consulted April 15, 2018.
<http://www.fdimarkets.com>.

IAD (Inter-American Dialogue). (2018). "China-Latin America Finance Database." Online database, consulted March 6, 2018. https://www.thedialogue.org/map_list/.

IMF (International Monetary Fund). (2018). "World Economic Outlook Database April 2018." Online database, consulted April 27, 2018.
<https://www.imf.org/external/pubs/ft/weo/2018/01/weodata/index.aspx>.

UNCTAD. (2014). "Bilateral Debt Statistics." Online database, consulted April 18, 2019.
<https://unctad.org/en/Pages/DIAE/FDI%20Statistics/FDI-Statistics-Bilateral.aspx>.