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Beyond Minerals: China-Latin American Trans-Pacific Supply Chain

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Abstract

In this paper, we highlight three characteristics of China-Latin American economic relations. China-Latin American economic relationships are asymmetric, comparative-advantage driven and motivated by both political and economic considerations. There are several co-operative measures that China and Latin America can focus on. China can be encouraged to invest in not only mining in Latin America, but also in infrastructure and in manufacturing facilities. China and Latin America can deepen their Trans-Pacific production network. Utilizing the advantages of being close to and in the same time zone as the U.S. market, this pan China-Latin America supply chain can be a potent supplier and exporter to the United States.

Keywords: International trade, commodity dependence, supply chains

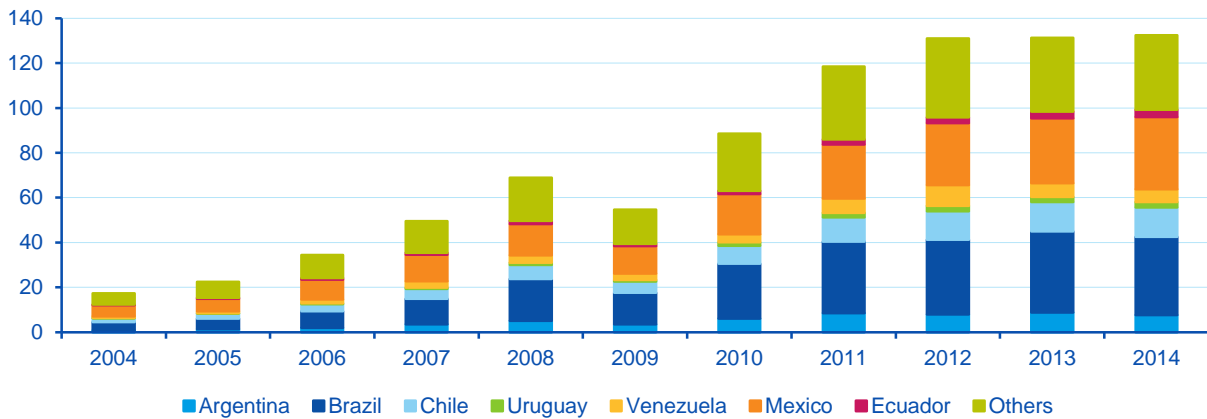
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1 Three Characteristics of China-Latin America Economic Links

In the last decade, the economic relationships between China and Latin America have deepened and intensified. Exports from Latin America to China increased from US\$11 billion in 2003 to close to US\$ 106 billion in 2013. China is the second largest export market for Latin America as a whole, behind only the United States. Indeed, for Brazil, Uruguay and Chile, China is the largest export market in the world. China also ranks as the second largest export market for Argentina, Colombia, Cuba and Peru. Furthermore, between 2005 and 2013, China committed about US\$98 billion of loans to Latin America—mostly to Venezuela, Argentina and Brazil (Figure 1).

Figure 1
China's Imports from Latin America by country (US\$ billion)



Source: IMF DOT

Latin America consists of many heterogeneous countries. Latin America includes economies as different as Argentina, Bolivia, Brazil, Chile, Columbia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Mexico, Panama, Peru, Paraguay, El Salvador, Uruguay and Venezuela (Fung and Alicia Garcia-Herrero 2014). It would be inaccurate to lump so many diverse countries into one entity. Nonetheless, we can distill three features of China-Latin America economic links.

First, the economic relationships can be viewed as asymmetric. Other than Hong Kong, China's top export markets include the United States and Japan. China is also trading more than 1 billion euros per day with the European Union. Latin America is important to China, but it is not among China's most important export markets. As Table 1 shows, China's top export markets include Hong Kong, the United States, EU 28, Japan, South Korea, Russia, Vietnam and India, etc. None of the Latin American countries shows up as the top ten markets. In contrast, as Table 2 shows, China is either the largest or the second largest export market for many Latin American economies, including Brazil, Argentina, Peru and Chile.

Table 1
China's Top Export Markets, 2013

Economy	Rank as Export Market
Hong Kong	1
USA	2
EU 28	3
Japan	4
South Korea	5
Russia	6
Vietnam	7
India	8
Malaysia	9
Singapore	10

Source: European Commission, 2015

Table 2
Importance of China as an Export Market for Various Latin American Countries, 2014

Country	Rank of China as Export Market
Argentina	2
Brazil	1
Chile	1
Columbia	2
Cuba	2
Peru	2
Uruguay	1
Latin America	2

Source: Deutsche Bank Research, 2015

Second, the China-Latin America trade relationship can be described as comparative advantage-driven. Chinese exports to Latin America are mostly manufactured products. In exchange, much of the exports from Latin America to China consist of minerals and agricultural products, particularly copper, iron and soy (Figure 2). Only about 8% of Latin American exports to China are manufactured goods. As an illustration, China is the largest consumer of iron ore in the world. In 2005, Brazil exported 60 million tons of iron ore to China. In 2013, such exports reached 170 million tons.

This pattern of trade can be explained by different endowments. China is labor-abundant while many Latin American economies are well endowed with land, minerals, fuels and water. For example, Latin America is estimated to be endowed with more than 22,000 m³ of fresh water per capita, more than 0.016 sq. km of forests per capita and about 0.013 sq. km of land per person. In contrast, China is estimated to have only less than 3,000 m³ of fresh water per capita, less than 0.002 sq km of forests per capita and about 0.004 sq km of land per person (Estevadeordal, Moreira, Martincus and Blyde 2014).

Third, Chinese loans and investment in the region seem to have political-economic motivations. In Fung and Garcia-Herrero (2012), we ran an augmented gravity model regression equation on the determinants of Chinese foreign direct investment outflows:

$$\begin{aligned}
 \ln FDI_{eit} = & \beta_1 \ln GDP_{it} + \beta_2 \ln PGDP_{it} + \beta_3 \ln D_{ei} + \beta_4 B_{ei} + \\
 & \beta_5 Cr_{it} + \beta_6 LW_{it} + \beta_7 \ln (IMP+EXP_{it}) + \beta_8 FTA_{eit} + \beta_{10} Kc_{it} + \\
 & \beta_{11} \ln FS_{it} + \beta_{12} \ln FuS_{it} + \beta_{12} \ln OS_{it} + \beta_{13} \ln RD_{it} + \beta_{14} \ln IT_{it} + \\
 & \beta_{15} \ln GDP_{et} + \beta_{16} \ln BX_{eit}
 \end{aligned} \tag{1}$$

FDI_{eit} : foreign direct investment outflows from China to host economy i in year t

GDP_{it} : gross domestic product of the host economy i in year t

$PGDP_{it}$: per capita gross domestic product of the host economy i in year t

D_{ei} : the distance between China and the host economy i

B_{ei} : a dummy variable denoting border sharing between China and host economy i

Cr_{it} : the corruption index of host economy i in year t

LW_{it} :the index for law and order of host economy i in year t

$IMP+EXP_{it}$: total trade as a proportion of GDP in host economy i in year t

FTA_{eit} : a dummy variable denoting the existence of a free trade agreement
between China and host economy i in year t

Kc_{it} : capital control index in host economy i in year t

FS_{it} : the share of food in total exports from host economy i to the world in year t

FuS_{it} : the share of fuel in total exports from host economy i to the world in year t

OS_{it} : the share of ores and metals in total exports from host economy i to the world in year t

RD_{it} : research and development spending in host economy i in year t

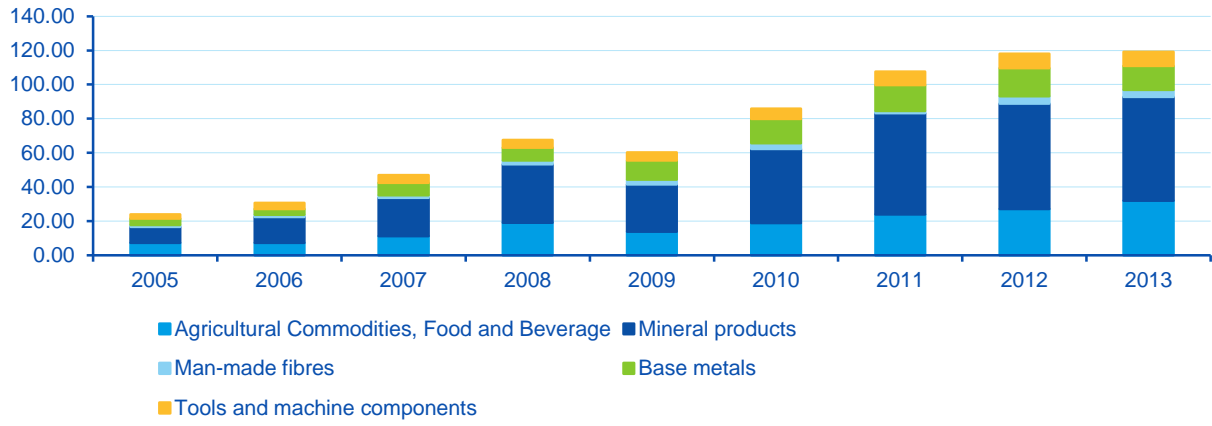
IT_{it} : information technology expenditure in host economy i in year t

GDP_{et} : GDP of China in year t

BX_{eit} : bilateral exchange rate between the currency of China and host economy i in year t

Among several statistical conclusions, one interesting estimation result is that outward foreign direct investment from China is actually higher to more corrupt destinations (as measured by the corruption index of the host economy). A potential interpretation of this robust positive relationship between the amount of Chinese outward investment and the extent of corruption is that Chinese outward direct investments to the world, including those to Latin America is not solely based on business and commercial considerations. Much of the outward investments to Latin America are conducted by Chinese state-owned enterprises. Indeed, we can argue that such Chinese investment is influenced by both profit motives as well as non-economic considerations such as buying good will from the Latin American countries. In other words, outward investment from China can be a part of China's foreign policy. The foreign policy-cum-economics motivation can also be seen in Chinese loans to the region. For example, more than half of the loan commitments from China went to one very close ally in the region—Venezuela.

Figure 2
China's Imports from Latin America (% Total)



Source: UN COMTRADE

2 Reversed “Dutch Disease”

As growth in China slows, the prospects of further increases in exports from Latin America to China dim. Prices of fuels and metals decline. The Chinese slowdown has two potential effects on Latin America economies.

One is a negative income effect. Commodity export revenues drop. The Latin American terms-of-trade (captured by the relative price index of commodities to that of manufactured goods) turn in favor of China. Real income and growth of Latin American countries that export minerals decrease. In 2014, iron ore export revenue from Brazil to China was US\$12.3 billion. However, this represented a decline of about 23% compared to 2013.

The second is the potential reversed concentration effect. During the decade-long commodity boom, Latin America was blessed with rising commodity prices but cursed with the “Dutch Disease”. With the Dutch Disease, the resource sector expands, wages increase, the exchange rate rises but the manufacturing sector shrinks. Economic activities in Latin America are increasingly concentrated in production and export of commodities, particularly soybeans, copper and iron. According to Fung, Garcia-Herrero and Ospina (2013), the rise of China has worsened the dependence and concentration of Latin American exports in minerals and commodities. One important negative effect of such enhanced concentration is that potential economic development into more complex and sophisticated high-tech products can be stunted. As a contrast, South Korea’s earlier big push into semiconductor manufacturing facilitated its rise in prominence first in plasma TV and laptops and more recently in smartphones.

Now Latin America is faced with a Dutch Disease reversal. Metal and food exports slow and exchange rates depreciate. With lower exchange rates and more sluggish wage growth, there is a potential possibility to expand non-commodity activities such as manufacturing. This potential “industrialization” however needs to be aided by judicious government policies, including building better physical infrastructure and further investment in schools to enhance human capital. Unfortunately it is also the time when government finances are hard to come by as export revenues deteriorate.

3 Co-operative Policies between China and Latin America

To turn the slowdown of China into potential development opportunities for Latin America, the region needs to present win-win propositions to Chinese companies and government in order to entice China to help further diversify and grow their economies.

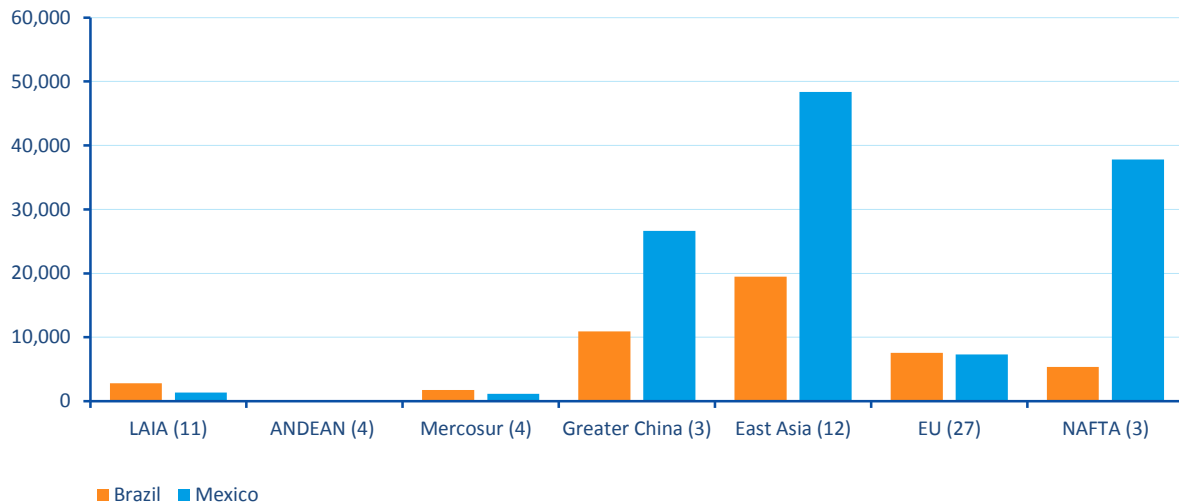
Latin America and China can have three areas of co-operation.:

First, Latin America should realize that China is very sensitive to perceived energy chokeholds. The region should further allow Chinese loans and direct investment. Through government bargaining, China should be enticed to bundle investments in resources and fuels with investment and loans in infrastructure building as well as investment in manufacturing.

Second, Latin America should enmesh China (and other Asian economies) in a joint China-Latin American supply chain. There is some recent evidence that China is exporting more electronic and telecom parts and components to the region. Indeed, much of Brazil's and Mexico's parts and components came from China, Hong Kong and Taiwan.

China should be encouraged to invest in factories to produce such parts in Latin America rather than just exporting. This initiative is related to the next move. China should be reminded of Latin American natural advantage in space and time, i.e. its geographic proximity and being in the same time zone as the United States, the largest consumer market in the world. A pan China-Latin American supply chain to serve the U.S. market will make business sense and be profitable to producers in both economies.

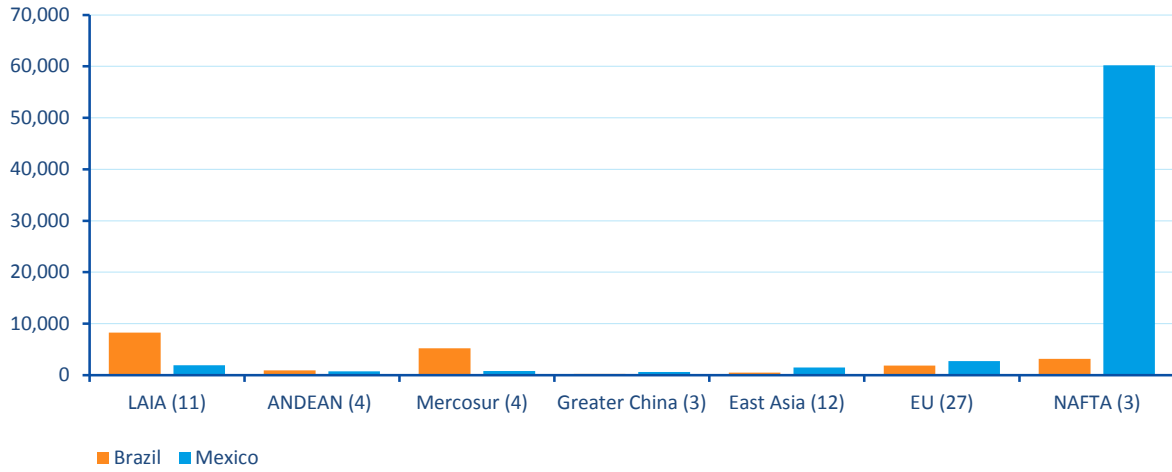
Figure 3
Sources of Mexican and Brazilian Imports of Parts and Components, 2010



Notes : The classifications of country groups are defined as follow:
 ANDEAN (4) = Bolivia, Colombia, Ecuador and Peru.
 LAIA (11) = Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Mexico, Paraguay, Peru, Uruguay and Venezuela.
 Mercosur (4) = Argentina, Brazil, Paraguay and Uruguay.
 Greater China (3) = China, Hong Kong, and Taiwan.
 East Asia (12) = East Asia (9) plus Greater China (3).

Source: UN COMTRADE Statistic, Fung, Hwang and Seade (2015).

Figure 4
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