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China - Latin America Commodity Trade & Investment: Enduring Trends Towards 2027...

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Trade & investment between China and Latin America has increased more than tenfold since 2000, a result of China's economic reforms and over 30 years of sustainable growth. Soybean, copper, oil and timber are some of Latin America's commodities that are being increasingly exported to China. This report aims to provide a general overview of the commodity trade and sample investments between these two regions, its current environment, and future trends. By studying Japan and South Korea's per capita commodity consumption patterns, we develop a reference forecast of selected commodities through the year 2027...

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Overview

China's 30 years of sustainable economic growth, the emergence of a vibrant middle class and massive spending in infrastructure has resulted in a significant increase in the total and per capita consumption of virtually every product consumed on a daily basis.

Commodities such as minerals, fuel, forestry goods, and agriculture crops are a cornerstone of today's global economy. These are produced, transported, and processed to satisfy our everyday needs of food, energy, and raw materials for virtually every product we consume on a daily basis.

Major factors driving commodity demand include population growth, economic development, and consumption behavior patterns. China stands out in all three aspects – with 1.33 billion people in 2008, it is the most populous country in the world, it has had neck-breaking real GDP growth rates of 9.8% on an annual compound basis since 1978 to 2008², and its rapidly increasing urban population (600 million people, almost three times more than thirty years ago³) is quickly catching up with western standards of living. The emergence of a vibrant middle class, the development and consolidation of a number of industries (e.g. steel, automotive), and massive spending in infrastructure are further stimulating commodity demand.

The economic development of East Asia (particularly China, Japan, and South Korea) has been one of the most important events in recent history. These countries have followed the so-called “export driven” path, relying on the development of an efficient infrastructure and training of a skilled labor force to transform imported commodities into final products that are shipped to overseas markets. Thanks to these policies, the region experienced several decades of hyper-expansion with average GDP per capita growing around 7-8% annually (Japan 1955 to 1982 and South Korea 1971 to 1998).

Japan and South Korea's economic development in the second half of last century allow us to estimate China's future consumption of a number of commodities that are produced and imported from Latin America, since domestic supply and reserves are limited.

Since domestic supply and reserves of certain commodities are insufficient to satisfy domestic and export-driven demand, these countries have had to rely on other resource-abundant regions like Africa, Latin America, and Australia. To this end Japan, and subsequently South Korea, have engaged in bilateral relations with the supplying countries, encouraging Asian manufactured goods exports, financing infrastructure projects, setting up refineries and other intermediate goods factories, and acquiring stakes in commodity-related companies abroad.

The fact that China has followed the same export-driven economic model of both Japan and South Korea, on top of their similar consumption patterns and shared cultural heritage, allows us to draw on past and present experiences to gain insights into China's future demand of commodities. Based on the relationship between consumption per capita of selected commodities and real GDP per capita in these three countries, and also looking at the historical commodity trade between China and Latin America, we set a point of reference on future trends of Chinese imports from this region.

By doing so, we aim to illustrate the magnitude of the mutual interdependence and complementarities between Latin America and China in trade, and the investment opportunities that will follow.

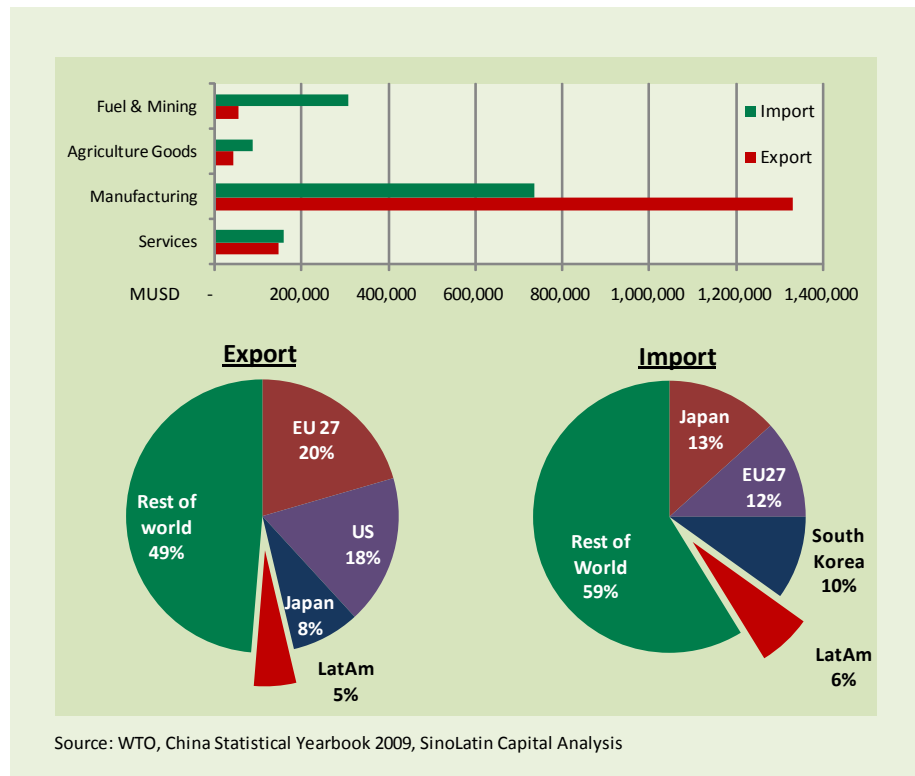
² China Statistical Yearbook (CSY) 2009, using constant price, real GDP in 2008 is 1663.1 when 1978 = 100
³ CSY 2009, 172 million in 1978 and 607 million in 2008

China & Latin America: Import & Export Composition

Although the economic and commercial links between China and Latin America go back to the XVI and XVII centuries, in this section we will only limit our attention to the last three decades⁴. Growing at a 20% annual compounded basis in the last 30 years, China’s total trade balance reached 2.56 trillion USD in 2008 (exports 1.43 trillion USD and imports 1.13 trillion USD)⁵.

In 2008, China’s trading structure depended primarily on manufacturing operating with the European Union, United States, South Korea and Japan; Latin America, though small, has an important share and is expected to increase its importance in the near future

Exhibit 1: China Trading Structure (consumption & regions, 2008)



Having 22% of the world’s population but only 7% of the world’s arable land, China is forced to rely on resource-rich regions such as Africa and Latin America

Whereas China’s trade surplus mainly comes from exports of manufactured goods to the United States, Europe, and Japan, its trade deficit mainly comes from fuel, mining and agricultural commodities imports. This is accompanied by a series of structural constraints (e.g. China has 22% of the world’s population but only accounts for 7% of the world’s arable land⁶) that forced the country to rely on resource-rich regions such as Africa and Latin America. China’s commodity imports have increased 21.1% compounded yearly since 1990.

⁴ In the XVII and XVIII Centuries, trade between Asia and the Americas (the New Spain) accounted for a large proportion of the world’s trade. Coins minted in Mexico were used in China as a means of payment.

⁵ From WTO, the total exports FOB are composed of USD 1.22 trillion merchandise goods and USD 0.12 trillion in services. Total imports CIF are composed of USD 0.96 trillion merchandise goods and USD 0.13 trillion in services.

⁶ “National Food Security Mid-Long Term Plan, 2008 - 2020” released by Chinese State Council (Nov 2008)

Shift in global trade happened largely in response to China's increasing manufacturing capacity and incoming Foreign Direct Investment.

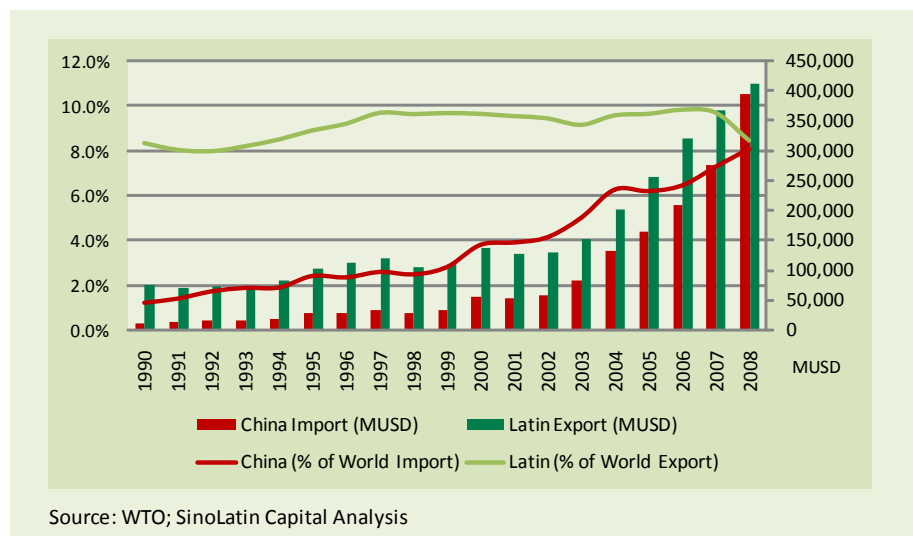
In relative terms, China's proportion of world commodity import raised from 1.2% (10 billion USD) in 1990 to 8.1% (394 billion USD)⁷ in 2008; in this decade, China's commodity imports from Latin America increased 37.7% per year on a compound basis (higher than that of Africa - 35.5% - and Asia - 24% - excluding China)⁸. This trend is expected continue in response to sound economic policies encouraging trade and outbound investments aimed at securing long term supply of commodities and to massive spending in infrastructure⁹.

Among other reasons, this shift in global trade happened in response to China's increasing manufacturing capacity and incoming Foreign Direct Investment (FDI). The urbanization rate and the emergence of a large and vibrant middle class that has stimulated domestic consumption (from 1978 to 2007, urban population increased from 172 to 594 million) play a significant role as well.

To put these facts into perspective, we just need to look at the total trade balance between China and Latin America, which increased from less than 10 billion USD in the year 2000 to over 143 billion USD in 2008. Today, Latin America is one of China's and the world's most reliable long term suppliers. In 2008, alone, Brazil, Chile, Argentina, and Peru accounted for more than 75% of China's commodity imports from Latin America.

Exhibit 2: Share of World Commodity Trading, China and Latin America

From 1990 to 2008, China's imports from the world have increased its share from less than 2% to 8% of the world total



To better assess commodity trading between China and Latin America, we divided this segment into three broad categories:

- 1) Agribusiness, encompassing industry raw materials, foodstuffs and forestry;
- 2) Metals & mining, including ferrous and non-ferrous alloys; and,
- 3) Energy, including coal, petroleum and natural gas.

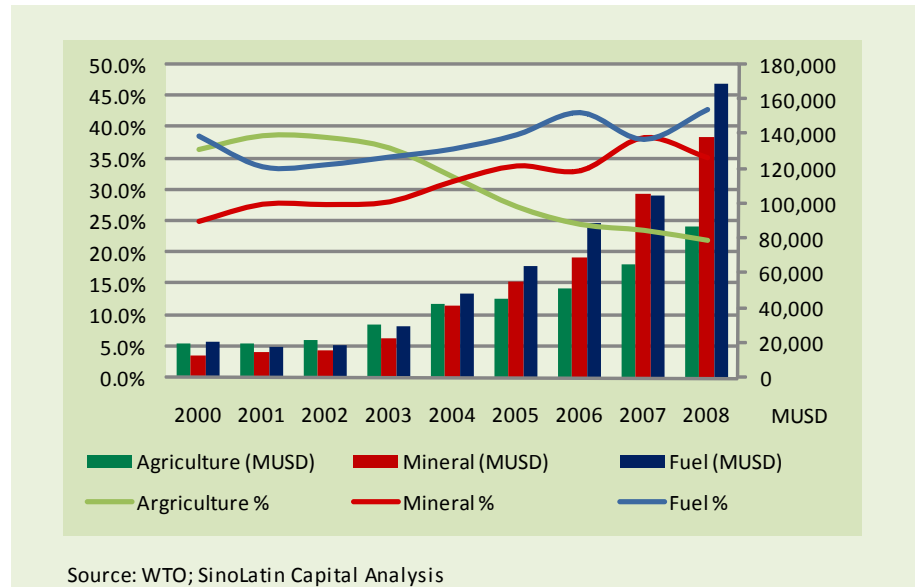
7 From WTO, Latin American commodity exports is consistent with the share of world's, from 8.4% (75 billion USD) to 8.5% (413 billion USD), The proportion of the world commodity trade of the EU, the US and Japan decreased from 65% in 1980 to 36% in 2008.

8 Calculated from WTO statistics

9 According to what happened in China during the first half of 2009, large investments (through loans and SOEs direct investments) in real estate and infrastructure (especially railway) were the main drivers.

Exhibit 3: China Commodity Import Composition, Value

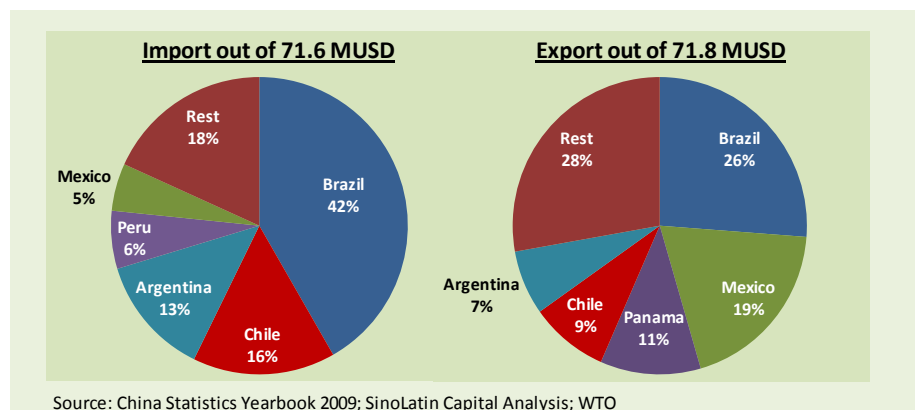
Fuel and mineral imports from the world have shown the most important increases since 2000 and have maintained their share at 35% and 43% respectively; agriculture, imports have increased at a lower scale resulting in a 10% decrease in its share to 26%



As detailed in Exhibits 2 and 3, Latin America's exports of agriculture, mineral and energy commodities account for a significant proportion of China's overall imports, not only in absolute but also in relative terms¹⁰. In light of this and aside from country-level differences / unbalance in trade accounts, both regions recognize the strategic importance of strengthening bilateral and multilateral cooperation¹¹.

Exhibit 4: China Import / Export with Latin America by Country, 2008 (%)

China's most important trading partners in 2008 in Latin America were Brazil, Mexico, Argentina, and Chile



¹⁰ The proportion of mineral exports to China vs. to the world increased 6 times in 7 years.

¹¹ Chile and Peru, have advanced further by signing free trade agreements with China. Others like Brazil, Argentina and Venezuela have secured long term supply of petroleum, iron ore and other commodities through off-take agreements.

Securing long term supply

In 2008, China had 19.6 billion bbl of proven oil reserves. Hence, the country had to import 55% of the crude oil consumed domestically

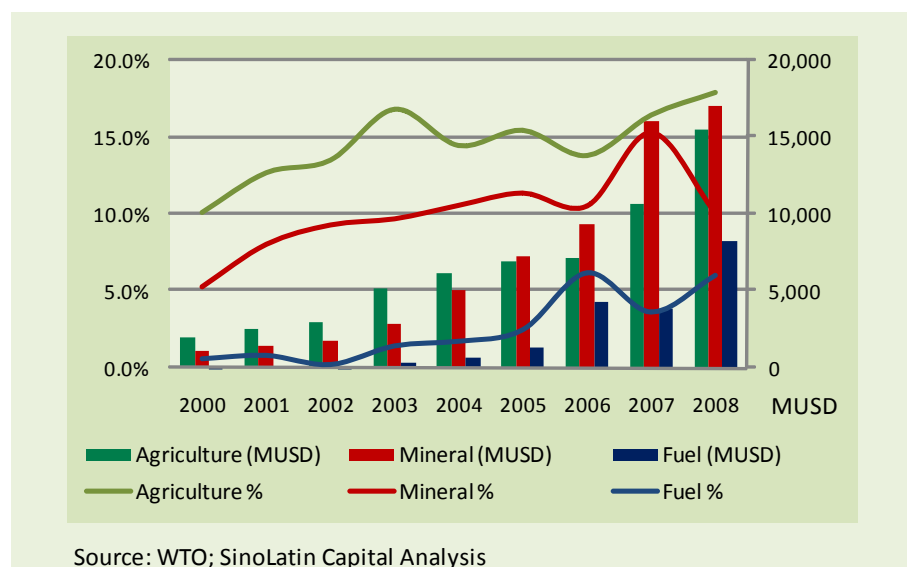
China's thirty years of uninterrupted economic development have increased the country's needs of raw materials to satisfy the demand of thousands of State-Owned Enterprises (SOEs), private corporations and millions of increasingly-sophisticated consumers. This is a result of China's scarcity of domestic resources, coupled with its inability to exploit them and its desire to preserve them for future use.

In 2008, China had 19.6 billion bbl of proven oil reserves and 2.265 trillion cubic meters of proven natural gas reserves; the 14th and 16th largest reserves in the world, respectively¹². Despite this, such reserves are insufficient to keep up with the country's economic development, forcing China to import 55% of the crude oil consumed domestically in 2008.¹³

Not surprisingly, China is expected to experience a shortfall of 50 to 100 billion cubic meters of natural gas a year by 2020¹⁴; a situation that has triggered large Chinese investments overseas (e.g. PetroChina's deal in Australia on LNG¹⁵).

Imports from Latin America to China have increased since the start of the millennium; agriculture shows a favorable trend reaching 18% of the world total from 10% in 2000

Exhibit 5: China's Import from Latin America: Value & Percentage of World Total



Even when it comes to China's most abundant resources, the country is consuming them at a higher rate than the world's average. In the case of coal, although China has the world's third largest reserves, it sustains a reserve / production ratio of 41, whereas the world's average is 122. China has no option but to secure long term supply and/or acquire strategic reserves abroad.

12 From CIA World Fact Book

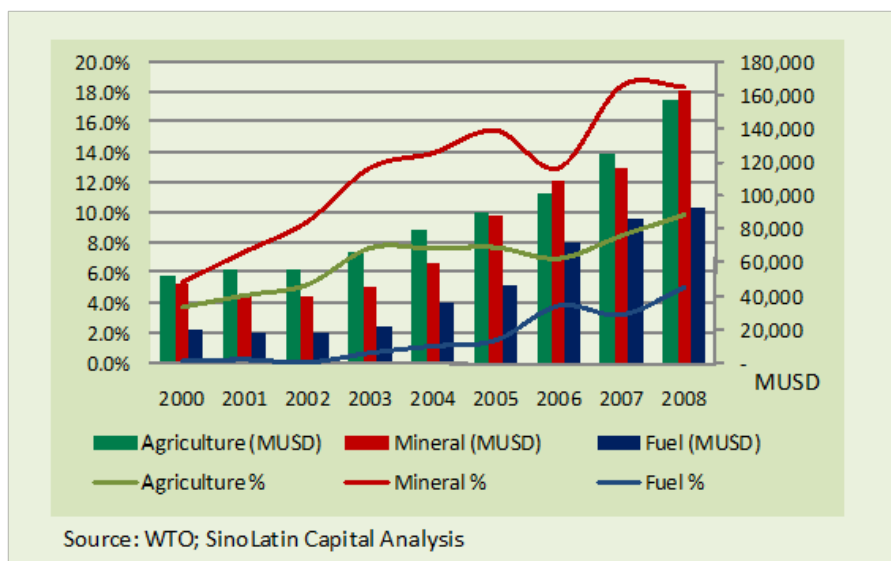
13 China National Information Center, Dec 2008

14 Yang, Zhi-Yi, Deputy Chief Engineer, Sinopec's natural gas

15 According to Reuters, PetroChina signed 10 to 25 years supply contract in different fields in Australia (Woodside, ExxonMobil).

Exhibit 6: Latin America's Export to World: Value & Latin America (%) of World Total

Latin America's exports have had important increases in all three sectors; in 2008, minerals represented the most imports with 18% of the region's total from roughly 6% in 2000



Whereas Chinese reserves of copper, manganese and nickel are 5.4%, 8%, and 2.5% of the world's total, it consumes 27%, 48% and 22% of the world's total

Beyond energy, strategic metals and minerals are also in short supply in China. According to the USGS, although Chinese reserves of copper, manganese and nickel are 5.4%, 8%, and 2.5% of the world's total, respectively, China accounts for 27%, 48% and 22% of the world's total consumption of these metals¹⁶.

As for agriculture, even though China is making an important effort to become self-sufficient, particularly in grain cultivation, some structural constraints (e.g. limited arable land) are driving up the volume of imports of selected agricultural commodities. Soybean is a good example - China currently imports over 60% of its annual 50 million tons consumption.

In terms of forestry, China is one of the largest importers of wood pulp and industrial round wood (7.4 million tons and 38.6 million tons in 2007 respectively) not only to satisfy the domestic but also the export-driven demand of its paper and furniture industries¹⁷. It is of strategic priority to China to secure a steady supply of all of those imported resources as well.

To this end, China's SOEs and large private corporate entities, with the support of policy and commercial banks, are implementing multiple approaches that would allow them to guarantee long term supply.

¹⁶ According to USGS, ICGS, INGS and SinoLatin Capital Analysis

¹⁷ From United Nation, FAO

Among other investment approaches, we focus our attention in the following:

Most Chinese companies' lack of knowledge and expertise in risk management to deal with highly volatile commodity derivative markets

Investment Approaches by Chinese entities:

1. **Long term contract + Hedging**; entering into long term contracts with overseas suppliers and hedging their bets in the derivative market.
2. **Long term contract + Negotiation of price (Off-take agreements)**; signing long term contract with overseas suppliers for specific periods of time and renegotiating the price periodically.
3. **Investing in equity at company level**; acquiring minority or majority stakes in companies
4. **Investing in specific project/asset**; structuring project finance deals for exploration or infrastructure in exchange for equity and/or long term supply; and/or investing in Greenfield projects along with experienced local management teams.

A vertical integration whereby Chinese firms proactively guarantee resources by directly investing may result in a better outcome

From these four approaches, long term contracts fixing volume but leaving price determination to the derivatives markets is the most common practice in commodity trading today, particularly in the energy sector. However, this approach faces major challenges in China: the country's deficiency in risk management compounds the risks inherent in operating in the highly volatile commodity derivative markets (e.g. the price of Uranium - U308 – experienced a sevenfold increase from USD20/lbs in mid-2004 to USD140/lbs in mid-2007¹⁸).

Generally speaking, Chinese companies are not as sophisticated when it comes to hedging commodity prices.¹⁹ It is hard to standardize commodities with different qualities into future contracts or derivatives. In recent years, several scandals related to commodity derivative hedging have forced government intervention, resulting in tightened regulations in this sector, especially for SOEs and large private corporations.

We believe that a vertical integration whereby Chinese firms proactively guarantee resources by directly investing in companies, acquiring assets, establishing strategic alliances or setting up joint ventures with local partners can result in a better outcome. This is precisely the message conveyed by the Chinese government when it released its "Go Outward" (走出去) policy²⁰.

¹⁸ UxC Consulting Company Pricing

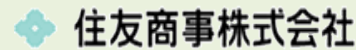
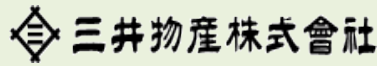
¹⁹ Most Chinese companies are aware of these mechanisms, but not well equipped with necessary skills and talent to benefit from these derivatives.

²⁰ "To better implement the "going out" strategy", State Council General Office PRC, Mar 2006

Japan's Half Century Resource Expansion Overseas

Japanese firms like Mitsubishi and Marubeni can be set as a point of reference for Chinese firms in their global expansion, especially in the process of securing long term supply of certain commodities

Japan's half century resource expansion overseas



Mitsubishi mineral fields:

Japan can serve as a reference for China when it comes to securing resources abroad. Since the 50s Japanese large corporations (Keiretsu) such as Mitsubishi, Mitsui, Marubeni, and Sumitomo have been building a portfolio of mines, energy sources and even arable land throughout the world.

(Source: Mitsubishi web site).



China has not only the economic resources but the political will to support outbound investments in Latin America

To this end, the Chinese government has put in place a series of measures to facilitate outbound investments and secure resources overseas, including low-interest loans from Chinese policy and commercial banks encouraging domestic and cross-border M&A's²¹. Within such measures, the Chinese government unveiled a policy paper on "Latin America and the Caribbean"²² in November, 2008, which lays out the foundation for a wide-ranging cooperation between the two regions and sets the framework for sustainable bilateral trade and investment.

21 In the "National Iron & Steel Industry Consolidation and Development Plan" released by China State Council in March 2009, it is stated that China will proactively make use of foreign resources and implement the "Go Outward" strategy. These measures include the Free Trade Agreements (FTA) and Currency Swaps to provide trade finance and regulation for bilateral economic activities.

22 "China and Latin America, Caribbean Policy White Paper", http://www.sinolatincapital.cn/show_Library.asp?id=264

Latin America, source of abundant commodities

Latin America is not only a sustainable source of commodities but one of the largest and most promising emerging markets for Chinese investment

Latin America²³ has 542.5 million people, which is more than the combined population of the 27 countries of the European Union. Such a heavily populated region has the potential to offer Chinese exporters an alternative destination to diversify away from traditional export markets in developed countries. Beyond absolute figures, what is remarkable is that this large population is spread over a vast surface of 20 million square kilometers, resulting in an average population density of just 28 people / km², well below the world average of 45 (and several times less than China's average of 138²⁴).

Economic Indicators 2008

Real Sector

Population (million)	542.5
GDP per capita (US\$)	7,907
GDP (US\$ billion)	4,290
GDP (annual variation in %)	4.2
Unemployment (%)	6.4
Fiscal Balance (% of GDP)	-0.4

Monetary Sector

CPI (%-change)	8.4
Interest Rate (%)	11.8
Stock Market (US\$-terms, %)	-52.8
Bonds (EMBI+ Latin)	746.0
Exchange rate depreciation	17.4

External Sector

Current Account (% of GDP)	-0.7
Trade Balance (% of GDP)	0.9
Current Account (US\$ bn)	-29.5
Trade Balance (US\$ bn)	38.4
Exports (US\$ bn)	879.2
Imports (US\$ bn)	823.6
Exports (%-change)	16.0
Imports (%-change)	19.1
Int. Reserves (US\$ bn)	500.1
Int. Reserves (ms imports)	7.3
External Debt (US\$ bn)	803.8
External Debt (% of GDP)	18.7



Land availability and intricate geology are among other reasons that characterizes Latin America

Land availability is one of the reasons why Latin America can afford to specialize in land-intensive activities such as agriculture, livestock farming, and forestry. A wealth of biodiversity, water resources and climate conditions set the stage for the region to become a world-leading producer, in terms of volumes and quality, of all sorts of commodities. Latin America also has a unique, intricate geology that has endowed the region with vast amounts of minerals and petroleum.

23 Note: Latin America refers to the sum or the GDP (current US\$) weighted average of Argentina, Bolivia, Brazil, Central America, Chile, Colombia, Dominican Republic, Ecuador, Mexico, Paraguay, Peru, Uruguay, and Venezuela.

24 US Census Bureau and China Population and Development Research Center

Bolivia, for example, has 5.4 million tons of Lithium reserves, (49% of the world proven reserves²⁵). Lithium has increasingly become a strategic and scarce asset in the automobile and renewable energy industry. Demand for this and other metals and minerals in the region (e.g. copper) have motivated large investments from China such as the recent USD 792 million investment of China Aluminum Corporation (Chinalco) in Peru Copper.²⁶

Latin America has turned into one of the most important agriculture trading partner in the world; in 2007 the region accounted for roughly 80% of the total world export

Exhibit 7: Latin America Agricultural Commodity Trading: Share of World Export, 2007(%)

Latin America	Top Exporters, % of world		Ranking in Trading	
	Latin America	Export, value	the world	Value
Soybean		Argentina 60.1	1	4,260
Oil, Crude	79.4	Brazil 17.2	2	1,222
		Paraguay 2.1	6	152
Soybean	44.3	Brazil 29.3	1	6,709
		Argentina 15	2	3,435
Orange Juice	40.8	Brazil 38.1	1	2,252
		Mexico 2.7	7	160
Corn	21.8	Argentina 11.0	2	2,252
		Brazil 9.4	3	1,919
Wood Pulp	20.1	Paraguay 1.4	8	283
		Brazil 11.3	2	3,012
		Chile 8.8	3	2,347

Source: UN Comtrade; SinoLatin Capital Analysis

As for minerals, in 2007, Latin America played an important role as the most important trading partner to the world for several metals such as lithium ore accounting for 55% of the world total

Exhibit 8: Latin America Minerals Commodity Trading: Share of World Export, 2007 (%)

Latin America	Top Exporters, % of world		Ranking in Trading	
	Latin America	Export, value	the world	Value
Lithium Ore	55.4	Chile 48.5	1	209
		Argentina 6.9	5	30
Molybdenum Ore	49.4	Chile 32.1	1	3,086
		Peru 10.2	2	984
		Mexico 7.1	7	682
Copper Ore	33.4	Chile 19.7	1	13,476
		Peru 6.7	2	4,601
		Argentina 4.0	6	1,358
Zinc Ore	31.4	Peru 22.4	1	2,319
		Bolivia 6.7	4	693
		Mexico 2.3	10	236
Iron Ore	27.7	Brazil 26.7	2	10,558

Source: UN Comtrade; SinoLatin Capital Analysis

25 <http://www.coha.org/2009/02/lucky-bolivia-and-the-future-of-lithium-in-the-world-economy/>

26 www.reuters.com/article/mergersNews/idUSSP15255420070612

In May 2009, Brazil's national oil company, Petrobras, signed a USD 10 billion loan contract with China Development Bank and Sinopec to guarantee 10 years of oil supply to China

On the energy side, Latin America's production emanates from crude oil (52%), gas (17%), biomass (15%), hydroelectric (8%), coal (7%), and nuclear power (1%). Among them, hydroelectric power, biomass and crude oil are the three sources of energy in which the region has considerable competitive advantage in relation with China. In light of this, in May 2009, Brazil's national oil company, Petrobras, signed a USD 10 billion loan contract with China Development Bank and Sinopec to guarantee 10 years of oil supply to China²⁷.

In the alternative energy sector, extensive woodland and pioneering renewable energy technologies are driving Latin America's production of biomass fuel. An example of this is the highly publicized case of Brazil, which has become a world leading producer of ethanol after decades of investment.

In terms of agriculture, Latin America's potential derives not only from the large swathes of arable land (a total of 145 million ha), but also from enhanced productivity resulting from excellent soil substrates, an advantageous climate and agricultural expertise accumulated over generations²⁸. These are some of the reasons that led China Investment Corp. (CIC, China's National Sovereign fund) to acquire a 15% stake in Noble Group at USD 850 million. The proceeds will be mainly used to develop agricultural commodities in Latin America²⁹.

Forecasting iron, copper, soybean and oil to 2027

Japan, South Korea and China share a similar culture, behavioral traits and economic practices; a comparison among them makes sense

Consumption of mineral and agricultural commodities is largely influenced by the economic development, consumption habits, food structure and income level of any given country or region. As Japan, South Korea and China are all in the East Asia region and share a similar culture, behavioral traits and economic practices, a comparison among them makes sense.

The fact that the Japanese and South Korean economies are in a more advanced stage of development than China's helps us further understand the socioeconomic transformation that the country is experiencing and also anticipate trends in the years ahead; or at least until the year 2027, when the aging population phenomenon is expected to affect the country's economic structure and consumption patterns³⁰.

In line with the objective and scope of this document, we selected a set of basic commodities (iron ore, copper, soybean, and crude oil) representing each of the three sectors described herein. We looked at the relationship between the consumption per capita of each commodity with the GDP per capita in Japan, South Korea and China in periods of economic expansion (Japan from 1950s – 1970s, South Korea from 1970s – 1990s, and China from 1990 onwards).

27 People's Daily, <http://english.people.com.cn/90001/90778/90857/90859/6661269.html>. The deal includes \$10 billion loan and crude oil export contract between Petrobras and Unipac Asia, subsidiary of Sinopec.

28 In addition to exhibit 9 about the major export of selected Latin America agriculture commodities, appendix-II includes a list of Latin America's major agricultural outputs in terms of volume and value.

29 www.bloomberg.com/apps/news?pid=20601208&sid=atgmjy6i5lWI

30 Goldman Sachs Global Economics Paper No. 138: "Will China Grow Old Before Getting Rich?", Feb 2006

Iron Ore Consumption

Chinese iron ore consumption could surpass the level of 1,200 kg per capita by 2012, and then stabilize at around 1,400 kg onwards

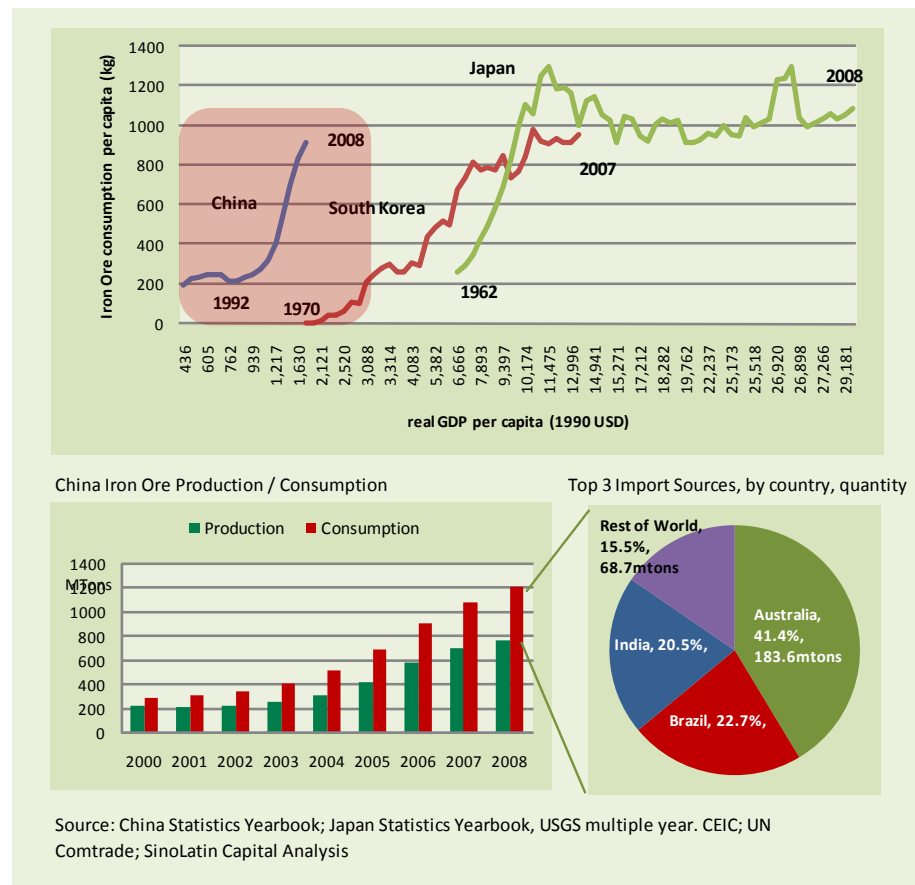
By looking at the Japanese and South Korean experience, and applying them to China's socioeconomic conditions, we can infer the following patterns:

- As GDP per capita increases, iron ore consumption will most likely go up and then stabilize. In the case of Japan that level is in the range of 1000 - 1200 kg; in South Korea the range is of 800 - 1000 kg per person.
- Although the correlation between consumption and GDP per capita seems to be unrelated, Japan and South Korea maintained a similar consumption of iron ore (800 - 1000 kg) at a USD 10,000 GDP per capita level onwards.

Massive investments in infrastructure influenced China's iron ore consumption since 2001. If this growth remains constant over the next 5 - 10 years, Chinese consumption could easily surpass the level of 1,200 kg per capita by 2012, and then stabilize at around 1,400 kg per capita. In 2007 already, China imported 300 million tons of iron ore while domestic production reached 700 million tons³¹. Even though, China's reserve base of iron ore of 22.3 billion tons is sizable³²; only 2.5% of these are of high content level (iron content > 55%), which makes China dependent on imports of high-grade iron ore.

Exhibit 9: Iron Ore

In 2008, iron ore imports from Brazil accounted for 22.7% of China's total imports. Among other countries in the region, Peru and Mexico are increasingly exporting this mineral



31 UN Comtrade; UNSD Industry Statistics; UNSD National Account; China Statistical Yearbook; SinoLatin Capital Analysis
32 2007 China Statistical Yearbook

Copper Ore Consumption

Although China's copper ore consumption will not reach Japan and/or South Korea's per capita levels (30-40 kg), it will likely increase from 4 to 20 kg by the year 2020

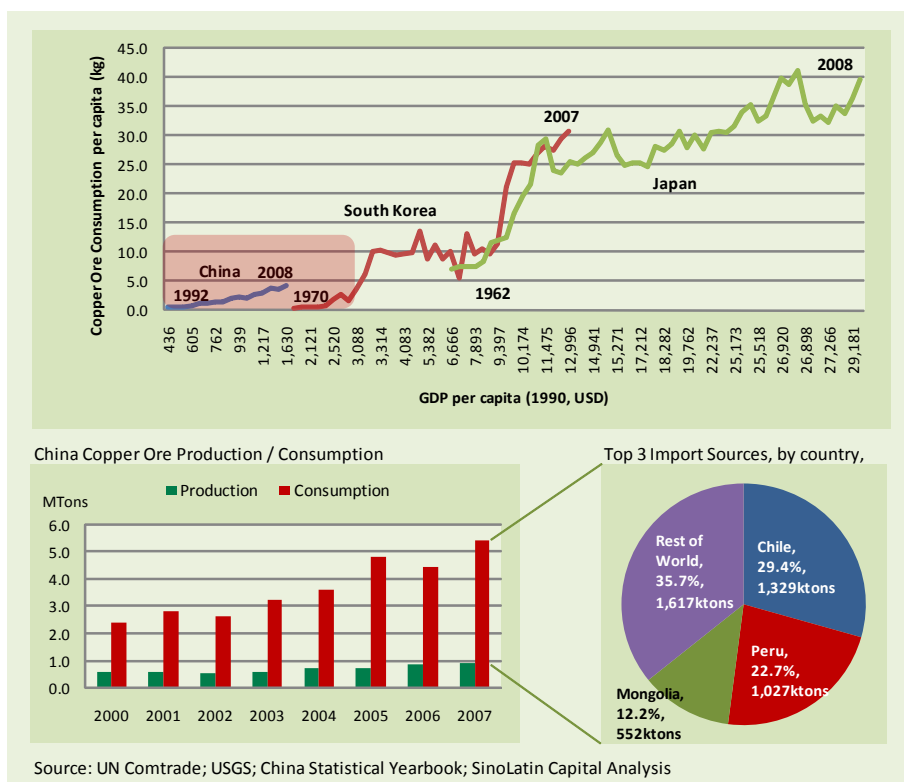
The consumption pattern for copper ore in Japan and South Korea is quite different to that of iron ore for the following reasons:

- Per capita consumption increases steadily along GDP per capita without reaching a ceiling;
- The current consumption is around 30 – 40 kg per capita even with very different levels of GDP per capita. China's consumption per capita of 4 kg of copper ore is far behind such benchmarks.

The main explanation for this pattern is that copper is widely used in electrical, IT and auto industries, which will continue growing at higher levels of income³³. As these industries further consolidate (e.g. in 2008 China surpassed the United States in the number of new passenger vehicles produced), we foresee a large demand for copper ore imports in the near future. Massive spending in infrastructure will further increase its domestic consumption. Some analysts suggest that China's copper ore consumption could reach 20 million tons per year in 2020. Given that there is a limited reserve of copper ore in China³⁴, imports of copper ore could increase to 12 million tons in 2020.

In 2008, Chile and Peru accounted for over 50% of China's total imports of this commodity. Given the country's limited reserves, Imports of copper could increase to 12 million by 2020

Exhibit 10: Copper Ore



33 According to China National Grid, China will invest 600 billion RMB for Ultra-high voltage power grid and "Smart Grid" before 2020. From the "Mid to long term railway plan" by State Council (2008 version) and Xinhua news, China will also invest more 5 trillion RMB to build 40,000 km railway by 2020, 60% electrical lines. This explains the recent copper stock building by China.

34 China Statistical Yearbook 2007, China reserve base for copper is 29.3 million tons; average content level is only 0.87%.

Soybean Consumption

China will not necessarily follow the “U” curve path seen in Japan and South Korea but rather maintain a stable consumption beyond 40 kg per capita

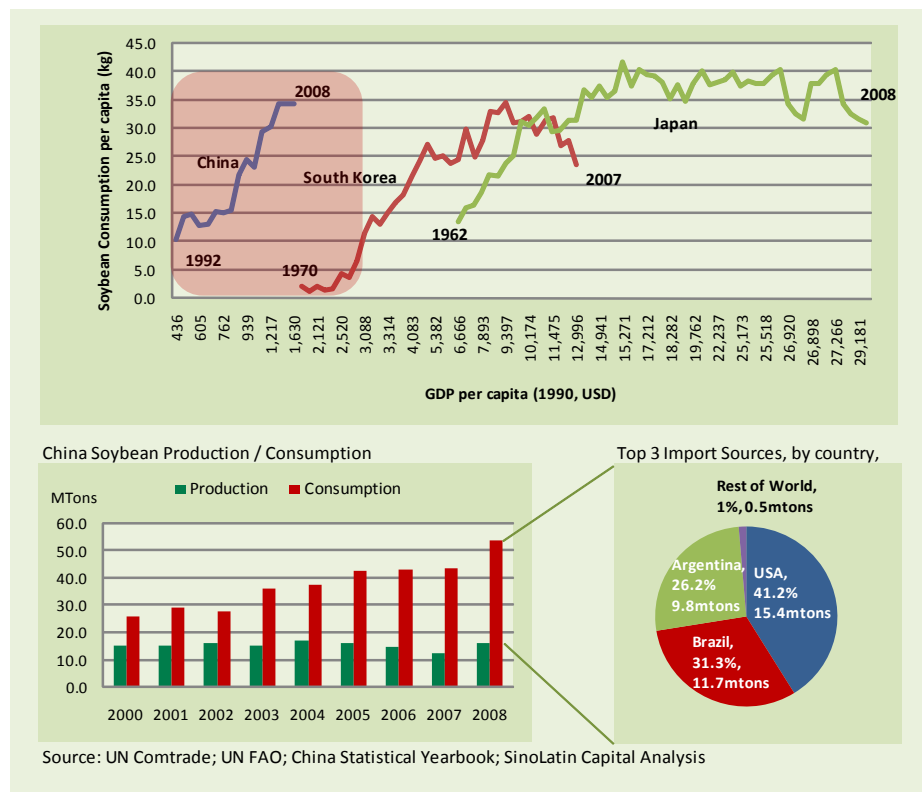
In the case of soybean, we believe that Chinese consumption per capita will not necessarily follow the inversed “U curve” path seen in the Japanese and South Korean case, but will rather grow slightly beyond 40 kg per capita level:

- As living standards increase, the consumption per capita of soybean grows until it peaks at a level of around 40 – 45 kg per capita, only to drop subsequently in response to a substitution effect (soybean oil for other vegetable oils like sunflower oil and olive oil);
- Since the food structure in China heavily relies on fried foods, more vegetable oil will be used than in the case of South Korea and Japan, therefore Chinese consumption may still have more room to grow.

China’s domestic production of soybean has fluctuated at around 16 million tons since 1993³⁵. As a contrast, total imports have increased 379 times from 99 thousand tons in 1993 to 37 million tons in 2008. The reliance on imports will remain due to the structural constraints on the supply side. In the first half of 2009, soybean imports amounted to 22 million tons, 28.2% higher than the same period in 2008³⁶. This indicates that total consumption of soybeans will stay at the current level in the future, whereas imports will still increase steadily, and domestic production will likely decrease.

Exhibit 11: Soybean

Whereas the United States has reached its harvesting capacity to produce soybean, production and exports from Brazil, Argentina and Paraguay to China accounts for over 58% of total imports



35 Chinese Statistical Yearbook multiple year
 36 China Customs data 2009, UN Comtrade

Crude Oil Consumption

By 2020, assuming population reaches 1.45 billion and per capita consumption doubles, Chinese total consumption would be 725 million tons annually, a figure similar to the total production of Latin America and the Asia Pacific region in 2008

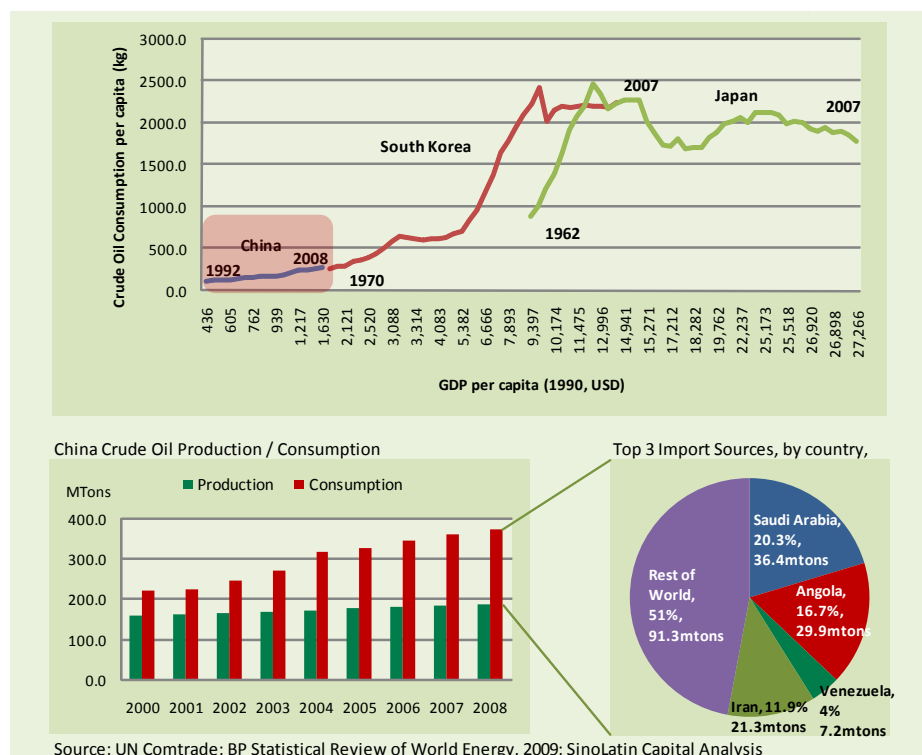
The crude oil consumption graph (Exhibit 12) provides a similar insight to that of the soybean curve. We observed a continuous growth in China whereas in Japan and South Korea we observed a peak point. Correlated with China's GDP, the country's per capita consumption of crude oil is only 1/10 of that for these Asian countries.

- From Japan and South Korea's experience, Chinese consumption per capita could increase up to 2,000 kg, and then fluctuate around this quantity.
- Although China's consumption of crude oil per capita has increased more than twice since 1992, it is still far below the average level of developed countries - in the United States, per capita consumption is 2,911 kg.

Due to several constraints on the supply side and the multiplying effect that a massive increase in domestic consumption would have on oil prices, China may never reach the same levels of consumption of crude oil per capita as Japan, South Korea, or the United States. Nonetheless, Chinese total crude oil consumption will maintain a steady growth. In 2020, assuming population reaches 1.45 billion and per capita consumption doubles, Chinese total consumption would be 725 million tons annually, a figure similar to the total production of Latin America and the Asia Pacific³⁷ region in 2008.

Exhibit 12: Crude Oil

Whereas most of China's imports of oil comes from Africa and the Middle East, Venezuela and other Latin American countries are gradually increasing its share



37 Include East Asia, South-East Asia, South Asia and Oceania only. From "BP Statistical Review of World Energy", June 2009



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Although the main reserves of crude oil are located in the Middle East (59.9% of the world's proven reserves as of 2008), Latin America has vast reserves that are concentrated geographically (Venezuela alone has 7.9% of the world's reserves while Brazil's reserves are similar to China's - 1.0% and 1.2% respectively), which could generate savings and economies of scale in exploration and infrastructure investments³⁸.

Conclusion

Latin America and China have strengthened their bilateral economic and commercial ties since 1990. China has gradually become more dependent on commodity supplies from this region; copper, iron ore soybeans and oil are a few examples of many. Latin America has been endowed with abundant reserves of a number of goods that China demands.

Whereas Bolivia is standing on top of the world's largest reserves of Lithium that at some point will contribute to the development of China's automotive and battery industry, Argentina, Brazil and Paraguay are already supplying over 50% of China's imports of soybean. In metals and mining, by the time Chile is the largest supplier of copper to China, Peru's and Mexico's are increasingly exporting zinc, iron ore and other minerals. On the energy sector, Venezuela and Ecuador are positioning themselves among China's long term suppliers of oil.

These references not only illustrate the strong interdependence between China and Latin America but evidence enduring trends based on sound socioeconomic fundamentals. We are at the beginning of a massive wave of commercial exchanges and investments in Latin America, aimed at securing China's long term supply of commodities. As per capita GDP grows and its citizens become more and more sophisticated, China's imports from Latin America will increase significantly. By comparing China's with Japan's and South Korea's per capita consumption of a selected set of commodities, we provide an indication of the growth path that the domestic consumption of these and other commodities and its reliance on imports from Latin America's will likely follow.

Commodity trade and investment between China and Latin America is only one of multiple areas of cooperation and interdependence in which both regions are currently focusing their attention. In the years ahead, we will increasingly observe massive cross-border investments that will not only guarantee long term supply, but that will also allow Chinese and Latin American corporations to expand their markets overseas, while creating economic wealth at both ends.

In the months ahead, we will be reaching more detailed information on each commodity and country mentioned herein. Our intention by presenting this paper, though, is to provide a general overview and highlight the opportunity to strengthen the economic ties between these regions. **Today and at least until 2027³⁹, China increasingly needs Latin America as much as Latin America needs China.**

³⁸ "BP Statistical Review of World Energy", June 2009

³⁹ As mentioned earlier, the year 2027 is simply used as a point of reference. Goldman Sachs and other financial institutions anticipate a contraction of GDP growth from that year onwards due to the 'ageing society phenomenon'. It is impossible and to some extent irresponsible to make a prediction and anticipate trends beyond this term.