Deutsche Bank Research

China's commodity hunger

Implications for Africa and Latin America

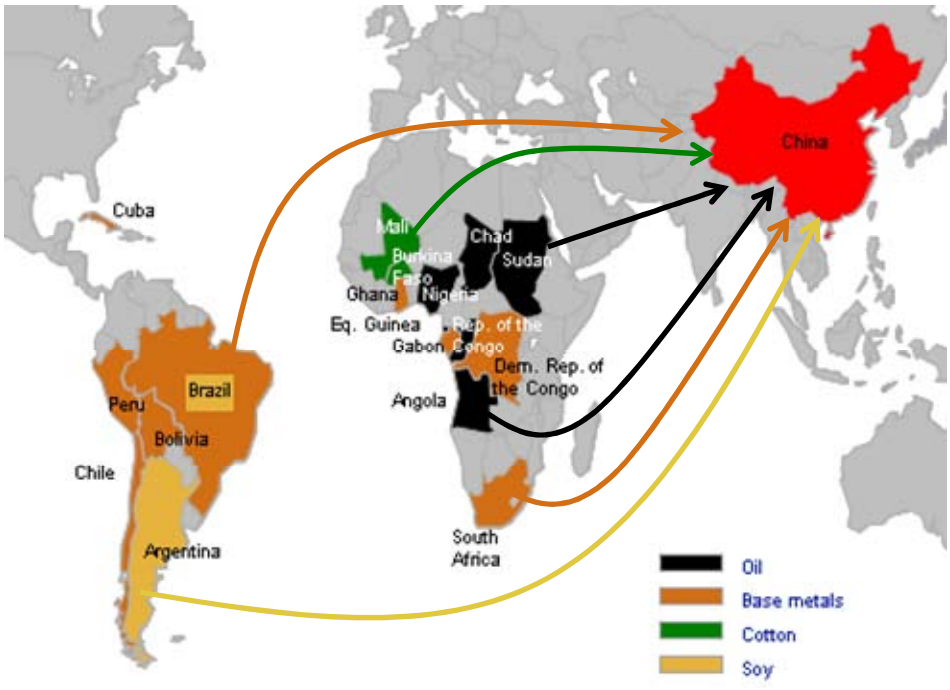
June 13, 2006

China will remain hungry for commodities over the coming 15 years. Crude oil and metal ores lead China's commodity imports. As incomes rise and agricultural land becomes scarcer, China's demand for agricultural products such as meat and wood is set to increase. Our forecast model for China's import demand until 2020 shows that demand growth rates will remain in lower double-digit territory over the next decade for most commodities.

Latin America and Africa will continue to profit from the projected surge in Chinese commodity imports. Latin America's share in Chinese imports doubled while Africa's rose fourfold in the last decade to 4% and 3%, respectively. In Africa, China mainly buys oil and metals, while Latin America has benefited from China's rising demand for agricultural products.

Chinese investments in the two regions will increase. Driven by economic, political and strategic considerations, Chinese firms have increased investment activity abroad. While Latin America and Africa still receive only about 1-2% of China's overseas direct investment (ODI), excluding round-tripping, this will likely increase significantly in the medium term.

Commodity windfalls need to be invested wisely. Countries in Africa and Latin America need to use the commodity windfall to diversify their economies towards manufacturing and services in order to generate sustained growth in the medium term.



Source: DB Research

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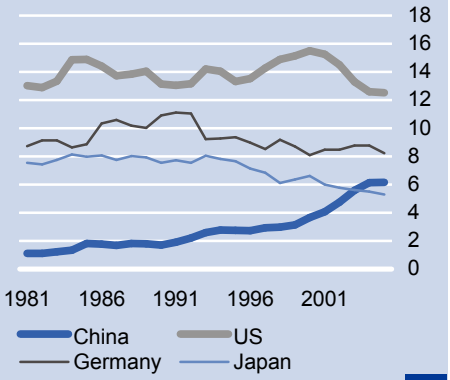
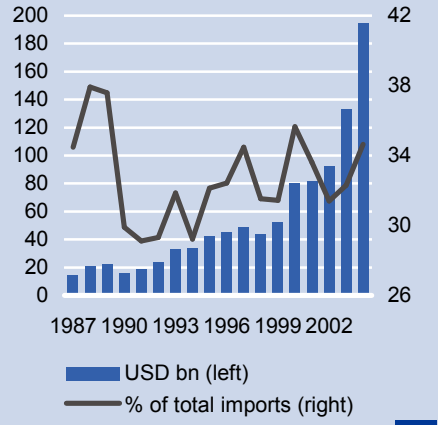
China's share in world trade is rising rapidly
% of world trade



Source: IMF Direction of Trade Statistics 1

Chinese commodity imports on the rise



Source: UN Comtrade database 2

China's trade with the world has increased rapidly following reform steps initiated by Deng Xiaoping in the late 1970s. Since then, China's total trade value increased by a factor of 30 to USD 1.3 tr in 2005. China recently surpassed Japan to be the third largest trading nation world wide, behind the US and Germany (see chart 1). At the same time, China's importance in commodity trade has grown. The country's fast rising demand for commodities, spurred by industrialisation and higher living standards, is having an increasingly significant impact on world commodity markets and prices as well as the resource-rich regions of the world – particularly Africa and Latin America.

We start out this study with a simple forecasting exercise for China's import demand for the main commodities. Then, we take a closer look at two regions which have been benefiting hugely from China's hunger for commodities – Africa and Latin America – and their current trading and investment ties with China. We end with a short assessment of the consequences of the China-driven commodity boom for the outlook of Latin American and African countries.

I. China's commodity demand between today and 2020

Chinese commodity imports have surged by a factor of 20 over the past two decades to nearly USD 200 bn in 2004 (see chart 2). Interestingly, commodity import demand did not rise faster than overall import demand and remains at about one-third of total imports. Crude oil, metal ores and plastic materials lead the list of China's top 10 commodity imports (see table 3). Together, these commodities account for roughly 40% of commodity imports and 15% of total imports. China is in fact the world's leading importer of plastic materials, metal ores, oil seeds, textile fibres and pulp and paper (see table 3).

China's top 10 import commodities in 2004*

Commodity	Value (USD bn)	Global rank	Share in world imports (%)	Share in total Chinese imports (%)
Crude petroleum	33.9	3	6.1	6.0
Chemical elements and compounds	27.7	2	9.5	4.9
Plastic materials, etc.	25.3	1	12.9	4.5
Iron and steel	23.2	2	9.0	4.1
Metalliferous ores and metal scrap	23.1	1	21.7	4.1
Non-ferrous metals	14.3	3	8.5	2.6
Oil seeds, oil nuts and oil kernels	7.2	1	27.8	1.3
Textile fibres, not manufactured, and waste	6.7	1	23.9	1.2
Chemical materials and products	5.6	4	6.0	1.0
Pulp and paper	5.3	1	19.2	0.9

*sorted by import value; values are for gross imports; two-digit SITC-1 classification

Source: UN Comtrade database 3

Large commodity demand is here to stay

To gauge China's future demand for commodities we have built a simple forecasting model (see box). Our results for crude oil, copper, iron ore, manganese, soy, wood and meat show that although Chinese import demand growth rates have peaked or are likely to peak soon, they will nevertheless remain in lower double-digit territory over the next decade for all commodities except for soy. In absolute terms, these growth rates translate into staggering increases in import demand quantities for these commodities (see table 7).

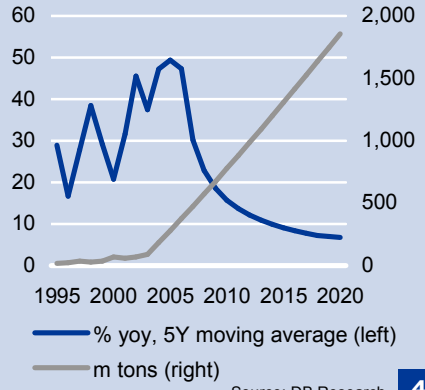
Box: Forecasts for China's commodity demand based on level of economic development

We have forecast China's import demand for certain commodities under the assumption that China will follow a similar development path as South Korea, Japan, or Spain. Basically, we assume a relationship between GDP per capita of a country and its demand per capita for a certain commodity at a certain point in time.

Using our forecast for China's GDP per capita in 2020, we compare it with the commodity demand per capita of the more advanced economies at a similar development stage (see copper example in chart 9). We pick South Korea as the "benchmark" in the case of hard commodities, because its path of industrial development is in our view one which China is likely to follow as it is a big emerging Asian net commodity importer. We used two developed countries – Japan and Spain – as additional benchmarks for soft commodities demand. Japan is another Asian economy which has experienced a "miracle growth performance" in the past; Spain is a country which used to be a large agricultural economy before undergoing rapid development and industrialisation. Using population forecasts we then convert the per-capita demand figure into overall demand in 2020.

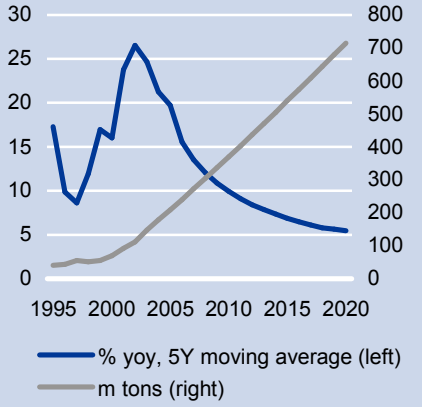
Our results show huge increases in import quantities, which may look implausible at first sight. On second sight, however, expressed in growth rates, our forecasts do look realistic (see charts 4-6, 8, 12, 14, 15). Obviously, these are stylised forecasts, which assume that China will follow the development path of these economies and that import demand will follow a linear trend. However, this might not be compatible with a finite supply of commodity resources, i.e. at one point it is likely that scarcity and high prices for these commodities will force China to switch to a somewhat different path of industrial and economic development which will in turn influence its demand for these commodities. For example, current efforts to save energy could, if successful, dampen growth in oil import demand going forward. Therefore our forecasts are only indicative of China's potential demand.

Oil imports



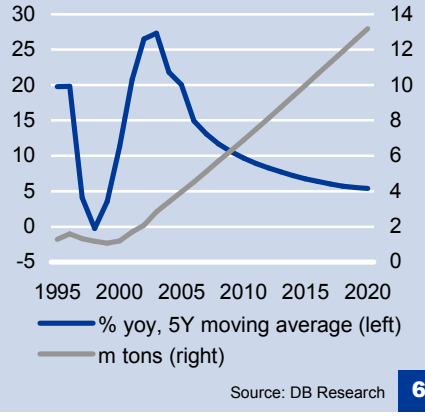
Source: DB Research 4

Iron ore imports



Source: DB Research 5

Manganese imports



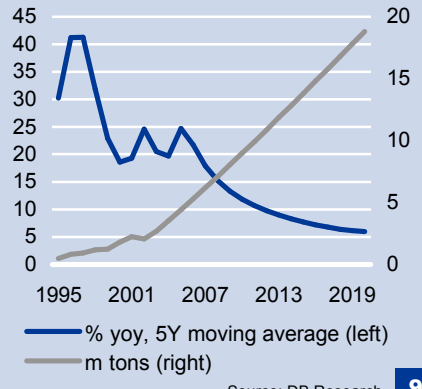
Source: DB Research 6

Projections for China's commodity import demand

Commodity	Unit	Annual demand		2006-2020, % change	
		Latest	2020	Total	Avg. p.a.
Iron ore	m tons	148	710	380	10
Oil	m tons	91	1860	1940	20
Soy	m tons	26	50	80	4
Coal	m tons	11	810	7400	20
Copper	m tons	3	20	600	10
Manganese	m tons	3	13	360	10
Meat	m tons	0.3	4	1260	20
Wood	m cubic meters	34	150	330	10

Source: DB Research 7

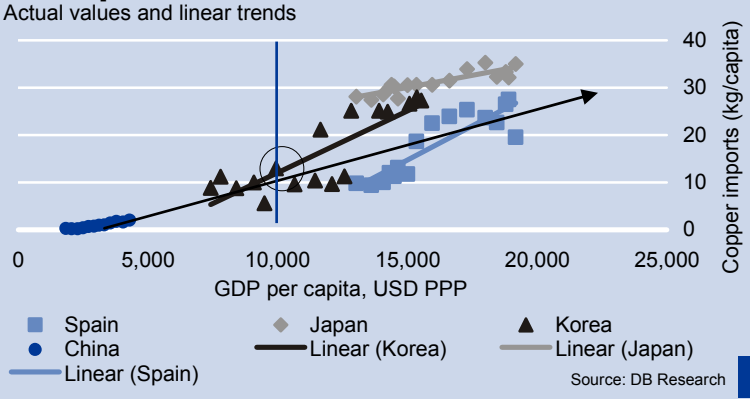
Copper imports



Source: DB Research 9

Copper import demand at different stages of development

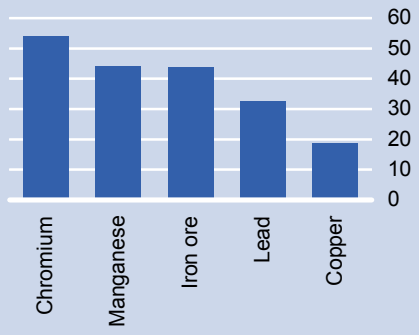
Actual values and linear trends



Source: DB Research 8

China is the leading base metal importer

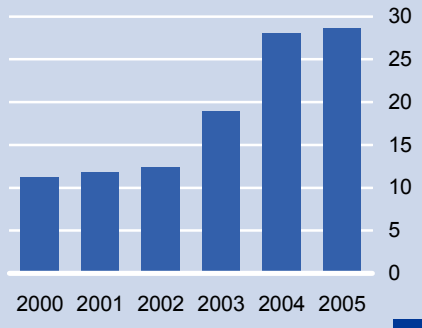
% of world imports as of 2004



Source: UN Comtrade database 10

Chinese agricultural imports have risen sharply

USD bn



Source: Ministry of Agriculture (MOA) 11

Specific commodity trends

Crude oil: China's dominant import commodity is crude oil. China has turned from a net oil exporter, which it was until 1993, into a net oil importer and is today the world's third-largest importing nation, accounting for 6% of world imports (see table 3) and 8% of world consumption.[1] In the next few years, measures aimed at energy conservation will likely be outweighed by the build-up of strategic oil reserves for energy security reasons[2] contributing to further growth of China's demand for crude oil (see chart 4). At some point in time, energy savings measure could, however, "kick-in" sufficiently to moderate oil demand to more sustainable levels.

Metal ores: As to the different metal ores, China is the number one importer of iron ore, manganese, lead, and chromium with shares of world imports ranging from 32% to 54% (see chart 10). Most of these base metals are used in steel production – a fast growing industry in China. While China has become the world's second-largest steel importer after the United States, the growing domestic steel industry will potentially further raise the demand for the above mentioned base metals (see charts 5 and 6).

Copper: In terms of world copper ore imports, China had a share of 19% in 2004, which made it the second largest importer after Japan. Adding copper waste and scrap, China's share in world imports rises to about one quarter. Copper is mainly used in electrical products (e.g. wires, conductors in integrated circuits) and metal products (e.g. pipes, tubes, machine tools), i.e. almost any Chinese industry from IT hardware, to automotive and construction. As a result, the demand for this metal is unlikely to subside any time soon (see chart 8).

Agricultural imports: While agricultural imports only account for about one-fifth of total commodity imports, Chinese demand for most agricultural commodities has been rising rapidly in recent years on the back of higher per-capita income, as well as rising protein and meat demand. In fact, agricultural imports more than doubled between 2000 and 2005 (see chart 11). The need for China to import agricultural commodities is likely to rise further in the future. With rapid urbanisation and the resulting loss of arable land as well as soil erosion and impending water shortages, China's agricultural sector is facing growing problems. The situation for water is

[1] Based on figures from BP (2005).
[2] Ma (2005).

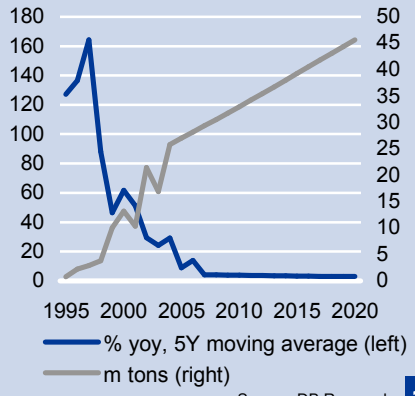
especially dire: renewable water resources per capita in China are about a quarter of the world average. Due to unequal distribution of rainfall, groundwater and surface water, this share is even lower in the dry west and north of the country; in some places it is only a tenth of the global mean. Deserts are spreading by around 3,000 km² a year.[3] Hence, planting crops which need a lot of irrigation could become increasingly difficult in China. Self-sufficiency is likely to become unachievable in the future and could make way for rising agricultural imports. China's potentially vast number of consumers, due to its large population of 1.3 bn people, offers a huge market for a large range of products. China is already today the world's biggest importer of soybeans, cotton and wood.

Soy: China became a net importer of soy beans in 1996 and today accounts for almost 40% of world soy bean imports, worth USD 7 bn in 2004. In accordance with the theory of comparative advantage, China tends to import land-intensive commodities like grains, soybeans and cotton and exports labour-intensive commodities like e.g. fruits or vegetables.[4] Soy imports have risen steadily as domestic production struggles to fulfil rising demand. Growth in soybean demand has been mainly driven by increased consumption of soybean oil and soybean meal (both outputs of the crushing process). Especially demand for soybean meal which is used to feed livestock and is thus driven by demand for meat – was a major driver of Chinese soybean import growth.[5] This makes future Chinese demand for soybeans difficult to predict. While human consumption of soybeans and soybean oil is likely to increase further, demand growth for soybean meal could decrease as livestock cultivation faces limits and imports of meats and other animal products gain ground. Therefore, overall demand growth for soybeans is likely to lag behind other commodities (see chart 12).

Meat: China's meat consumption has increased in recent years as dietary patterns have changed with rising living standards (see chart 13). This development is expected to continue and might even accelerate[6] (see chart 14), considering that Chinese meat consumption at 50 kg per person is still significantly below that in the US (130 kg per person). Moreover, as mentioned, possible limits in livestock cultivation (due to the scarcity of land) could further sustain import demand for meat.

Wood: China's imports of rough and shaped wood have also increased dramatically over the past decade to USD 4.2 bn in 2004, driven by the country's booming furniture industry as well as construction and paper industries. For rough wood (about 50% of total wood imports), which is mainly used in the furniture industry, China held a share of almost a quarter of world imports in 2004. This trend is going to continue and as forest resources at home are limited, import demand will continue to grow (see chart 15). Estimates from the World Wildlife Fund (WWF) go even beyond our model's expectations, predicting that China's import demand for industrial wood, which comprises timber as well as paper and pulp, will grow by at least 33% within the next 5 years[7] to meet the rising demand of China's booming construction and furniture industries. The WWF predicts that by 2010, China will only be able to meet half of its demand for industrial wood with domestic production.

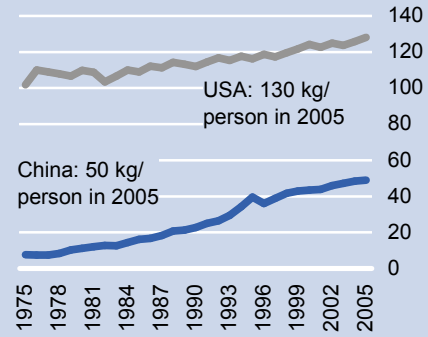
Soy imports



Source: DB Research 12

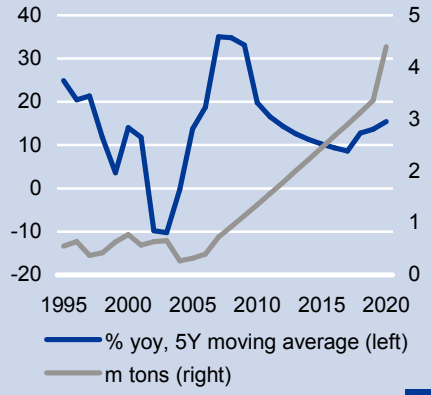
China's meat consumption set to grow further

Meat consumption per person per year, kg



Source: USDA 13

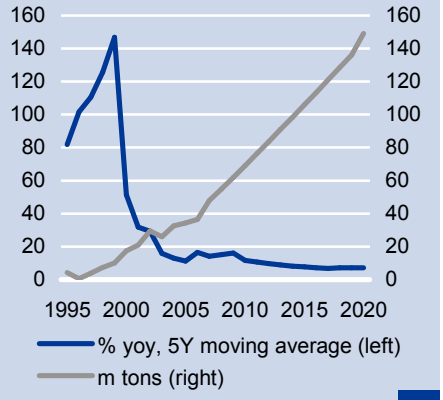
Meat imports



Source: DB Research 14

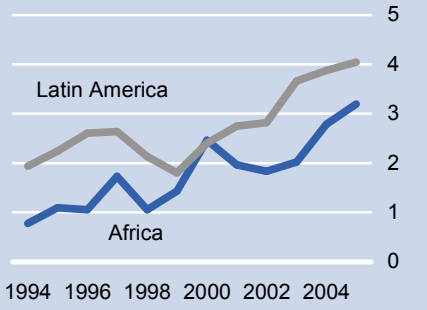
[3] Heymann (2006).
[4] Carter and Rozelle (2002).
[5] Tuan et al. (2004).
[6] Goldstein et al. (2006) take same view.
[7] WWF (2004).

Wood imports



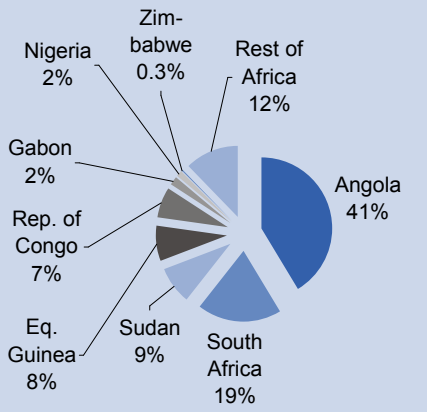
Source: DB Research 15

China buys more in Africa and Latin America
% of total Chinese imports



Source: CEIC 16

China focuses on a small number of countries
% of imports from Africa (2005)



Source: IMF Direction of Trade Statistics 17

Cotton: Although China is the world's largest producer of cotton it still has to import increasing amounts of the fibre to meet the demand of its textile industry. Again, this is a case where the path of future demand is difficult to predict. The textile industry is known to shift very quickly to lower-cost countries. Moreover, China's very large market share in textiles and clothes and increasing protectionist measures could become limiting factors as well. On the other hand, China's supply of low-skilled labour remains vast, keeping wages in this sector relatively inexpensive compared with other countries. It is therefore likely that although growth rates of the Chinese textile industry and thus for Chinese import demand for cotton will remain positive, these two forces could cancel each other out, so that growth of cotton demand might stabilise.

II. Impact on Africa and Latin America

Africa and Latin America have rich endowments of mineral resources like ores and petroleum, and, particularly in the case of Latin America, vast agricultural sectors. They are therefore an ideal source to still China's growing hunger for commodities and it is not surprising that China has been increasingly importing from African and Latin American countries in recent years. We expect the two regions to continue to profit from China's strong demand for commodities. This will be the case in particular for oil and metal ore producing countries, but also increasingly for agricultural producers. In addition, African and Latin American countries are receiving increasing amounts of Chinese investment.

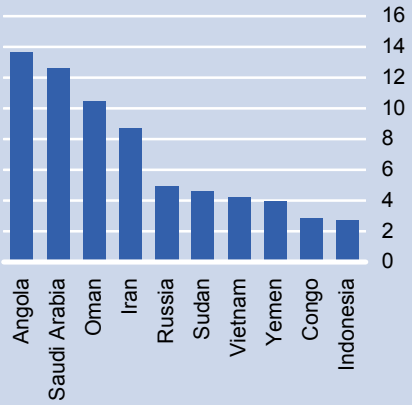
A. China increasingly shops in Africa & Latin America

While Asia still accounts for two-thirds of China's total imports, the shares of Africa and Latin America have risen rapidly in recent years and the two regions today provide 3% and 4%, respectively, of Chinese imports (see chart 16).

Chinese trade with **Africa** has surged since the late 1990s, with strong growth in both Chinese imports from and exports to Africa. With a total trade value of USD 42 bn in 2005, China has become Africa's third largest trading partner after the United States and France. China's traditional trade surplus with Africa turned into a deficit in 2005[8], reflecting rapidly growing imports from Africa (+50% yoy on average since 2002). Chinese exports to Africa mainly consist of manufactured products such as low-tech durable consumer goods (household appliances, TVs, clothing). Breaking down Chinese trade with Africa into countries and products, it turns out that China focuses on a small number of countries and a narrow range of products. China's top 5 trading partners – Angola, South Africa, Sudan, Equatorial Guinea, and the Republic of Congo – account for more than 80% of all Chinese imports from Africa (see chart 17). The lion's share of Chinese imports from Africa is made up of oil and metals. One notable exception is cotton: various countries from the Gulf of Guinea are producers of cotton and important trading partners for China.

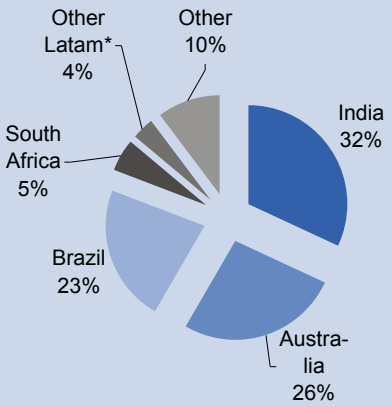
[8] Using numbers reported by African countries we obtain a contradictory picture that shows a trade deficit for Africa in 2004. – **Note on trade data**: The trade data used in this study are from CEIC, the IMF's Direction of Trade Statistics and from United Nations' Comtrade database. Import and export data in some cases differ considerably depending on the selected reporting country. Besides differences due to usage of c.i.f and f.o.b values other reasons are differences in reporting trade shipments via third-party ports.

China's top 10 crude oil import partners
% of total oil imports, 2004



Source: UN Comtrade database **18**

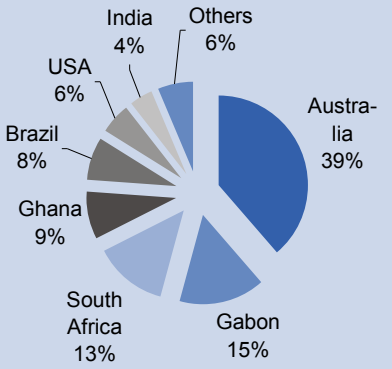
Brazil is China's third-largest supplier of iron ore
% of total Chinese iron ore imports (2004)



* Peru, Chile, Mexico, Trinidad and Tobago

Source: UN Comtrade Database **19**

Africa supplies one-third of China's manganese
% of total Chinese manganese imports (2004)



Source: UN Comtrade Database **20**

Similar to Africa, Chinese trade with **Latin America** has also risen sharply in recent years and reached USD 50 bn in 2005. Chinese imports from Latin America have risen by about 50% on average since 2000. Main import commodities are iron ore, base metals and agricultural commodities, particularly soy beans.

The table on page 8 gives an overview over how important the different commodities China buys are for countries in Latin America and Africa, implying how strongly each country might benefit from China's rising demand for a respective commodity.

Who sells what to China today?

Africa's huge and largely untapped **oil** reserves are becoming increasingly important for China's thirst for oil. In 2004, Africa accounted for 11% of world oil production with Sub-Saharan countries accounting for around 6%. Three African countries – **Angola, Sudan**, and the **Republic of Congo** – are among China's top ten oil importing partners, with Angola at the top of the list (see chart 18). But other oil producing countries, including Equatorial Guinea, Nigeria, Chad, Gabon, and Cameroon, are also increasingly exporting to China. Oil exporting countries from Sub-Saharan Africa together accounted for 28% of China's total imports of crude petroleum in 2004. For the oil-producing countries in Africa (such as Nigeria and Angola) and Latin America (such as Mexico, Colombia and Venezuela), China's growing need for oil and its products will remain one of the major sources of revenues and of economic growth.

Brazil is the largest exporter of **iron ore** world wide and the third-largest supplier of the metal for China (after India and Australia). Brazil and other import partners in Latin America (mainly Peru) for iron ore together supply more than a quarter of China's total iron ore imports (see chart 19).

South Africa – the largest **iron ore** producer in Africa – is China's fourth-largest iron ore supplier (with a share of 5% of China's iron ore imports).

Latin America is a major supplier of China's **copper** ore imports. **Chile** and **Peru** are the world's leading copper producers. In 2004, they mined nearly 6.4 million tonnes of copper or 44% of world copper production. In the same year, Chile and Peru together accounted for more than 50% of China's imports of that metal.

A significant share of China's **manganese** imports come from Africa. **Gabon, South Africa**, and **Ghana** are all among China's top 5 manganese suppliers and together account for 37% of China's total manganese imports (see chart 20). South Africa and Gabon were the world's second- and third-largest exporters of manganese ores in 2004 with shares of 23% and 19% of total world exports respectively, only surpassed by Australia.

Several African countries possess large reserves of **cobalt**. Africa is China's main supplier of cobalt, with 85% of imports coming from only three countries: the **Republic of Congo,** the **Democratic Republic of Congo**, and **South Africa**.

Who profits most from China's commodity hunger?

Share of selected commodities in Latin American & African countries' exports*

	Alumina, ferro, zinc, uranium, manganese	Chemicals (incl. phosphate)	Coffee, cocoa and tea	Copper	Diamonds	Fish, shrimp, fishmeal	Fruit	Gold and platinum	Meat	Nickel	Oil and gas	Soybeans	Sugar	Tobacco	Wood
Latin America															
Argentina											medium				
Bolivia	low							low				high			
Brazil												medium			
Chile				high			low								
Colombia			medium								high				
Costa Rica							low								
Cuba										high			low	low	
Dom Rep										high			low		
Ecuador						low	medium				high				
Honduras			medium			medium	medium								
Jamaica	high												low		
Mexico											medium				
Nicaragua			high												
Panama						low	low								
Paraguay									medium			high			
Peru				medium		low		medium							
Trinidad & Tobago		medium									high				
Uruguay									medium						
Venezuela											high				
Africa															
Angola											high				
Botswana				low	high										
Cameroon			low								high				
Cote d'Ivoire			medium								high				
Gabon	low										high				low
Ghana	low		medium					high							low
Kenya			high												
Malawi			medium										medium	high	
Mauritius													medium		
Namibia	medium				high	high			low						
Nigeria											high				
Senegal		medium				medium									
South Africa								medium							
Sudan											high				
Tanzania								high							
Uganda			medium			medium									
Zimbabwe	medium							high						medium	
Zambia				high											

*high = > 25% of exports, medium = 10-25% of exports, low = 5-10% of exports

Sources: EIU, DB Research

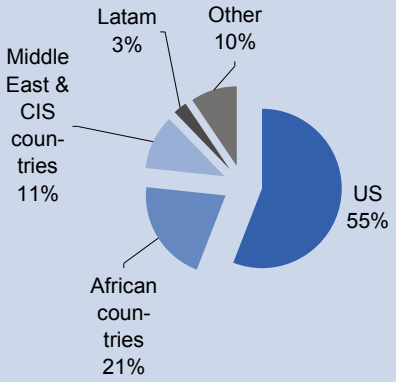
Latin America profits from China's hunger for soy

m metric tons

Source: USDA 21

Africa supplies one-fifth of China's raw cotton imports

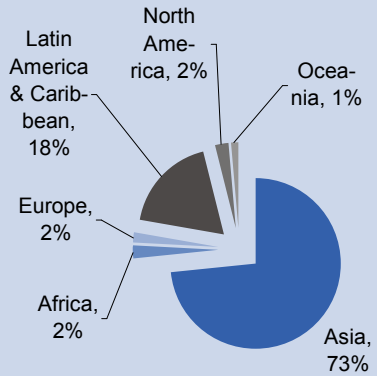
% of total Chinese cotton imports



Source: UN Comtrade database 22

Most Chinese overseas investment goes to Asia

Cumulative ODI, as of 2005



Source: DB Research estimates based on data from MOFCOM & Global Insight 23

Brazil and **Argentina**, the world's second- and third-largest producers of **soy beans** after the United States, account for 45% of world soy bean exports. Starting in the late 1990s, the soy bean production of both countries showed strong growth, partly driven by China's exploding demand. China is by far the largest importer worldwide with a share of nearly 38% of global soy bean imports. Between 1999 and 2004, China's imports of soy beans from Argentina and Brazil showed a ten-fold increase from USD 360 million to USD 3.6 bn. Brazil and Argentina together account for more than half of China's total soy bean imports (see chart 21) as second- and third-largest supplier, topped only by the US.

China's rising **meat** consumption is a huge opportunity for **Brazil** and **Argentina**, which are the world's second- and fifth-largest producers of meat, beef and veal and already supply close to 20% of China's meat imports (11% from Brazil and 7% from Argentina). To distinguish themselves from the domestic Chinese meat industry, Latin American producers could try to cover niches like high-quality or "green" beef products, for which demand might increase with rising living standards.

Since 1990, **Peru** has been China's most important import partner for **feeding stuff** for animals (e.g. hay, green fodder, meat & fish meal, and food wastes). Its share of China's total imports of feeding stuff for animals averaged about 45% between 1990 and 2004. The bulk of Peruvian feeding stuff exports to China were meat and fish meal. Other important exporters from Latin America like Chile, Argentina and Brazil also mostly exported meat and fish meal.

African countries, particularly **Burkina Faso, Benin** and **Mali**, supplied 20% of Chinese **cotton** imports in 2004 (see chart 22). As we said earlier, growth in Chinese demand for cotton could be limited, but absolute amounts will remain high.

While the majority of Chinese **wood** imports originate from Russia, Indonesia and Papua-New Guinea, African countries – notably **Gabon, the Republic of Congo, Equatorial Guinea,** and **Cameroon** – account for about 14% of China's rough wood imports (2004 data). These countries will profit from China's growing demand for wood.

China is also the world's leading importer of **pulp and paper**, with a global share of around 20% in 2004. Among its main partners are **Brazil** and **Chile** with shares of 8% and 7% of China's total pulp and paper imports in 2004.

B. Africa and Latin America have become destinations for Chinese investment

Even if the spotlight has been on the massive inflows of foreign investment money into China in recent years, China is increasingly investing abroad as well. We estimate the stock of Chinese overseas direct investment (ODI) to have totalled USD 44-50 bn at the end of 2005. While the largest part of these flows remains within Asia (60% of flows in 2005, 73% of the stock as of end-2005, see chart 23), China has been increasingly investing in other regions as well, including Latin America and more recently also Africa. However, the high share of Asia is likely biased by the phenomenon of round-tripping through Hong Kong[9] which would explain its dominant position in the ODI statistics (see table 24)[10].

[9] Round-tripping occurs when funds from Chinese companies are funnelled to offshore tax havens and then channelled back into China in the form of FDI to take

Top 20 destinations for Chinese ODI, year-end 2004

Rank	Country	Cumulative total (USD m)
1	Hong Kong	30,393
2	Cayman Island	6,660
3	Virgin Islands	1,089
4	United States	670
5	Macao	625
6	South Korea	562
7	Australia	495
8	Singapore	241
9	Bermuda	185
10	Thailand	182
11	**Sudan**	172
12	Vietnam	160
13	**Zambia**	148
14	Japan	139
15	Germany	129
16	**Peru**	126
17	**Mexico**	125
18	Spain	123
19	Russia	123
20	Malaysia	123

Source: Global Insight/World Markets Analysis **24**

Chinese ODI to Latin America and Africa only makes up 2% and 1% (the latter excluding round-tripping[11]), respectively, of the total, but China has stepped up its investment in the two regions recently (see boxes).

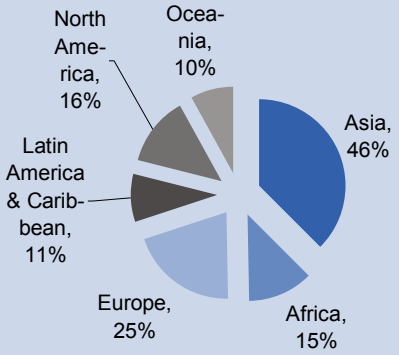
Chinese investment in Latin America

1992	Chinese steel company Shougang buys an iron ore mine in **Peru**.
2001	Sinatex, a spinning and weaving plant built by China Worldbest Group in **Mexico** (with intial investment of USD 96 m) starts production as largest Chinese overseas manufacturing facility.
2003	China signs an oil exploration deal with **Ecuador**.
2004	Baosteel signs a framework agreement with Arcelor and Companhia Vale do Rio Doce (CVRD) to build an integrated steel plant in **Brazil**; the expected total investment volume is USD 1.5 bn; there are plans between Sinopec and Petrobras to build a 2,000 km natural gas pipeline backed by an USD 10 bn energy deal.
2004	China National Petroleum Company (CNPC) buys the **Peruvian** petroleum company PlusPetrol Norte for a reported USD 200 million.
2004	China announces its intention to invest about USD 20 bn in the course of 10 years in **Argentina**, with a USD 8 bn deal to expand the railway system and USD 5 bn deal for oil exploration already signed.
2005	China Minmetals Corporation announces a joint venture with Codelco from **Chile** with a projected amount of up to USD 2 bn.
2005	China announces to invest about USD 400 million in **Venezuela's** energy infrastructure, including oil and gas fields as well as railway and refinery infrastructure.
2005	A CNPC-led consortium buys oil assets in **Ecuador** for USD 1.42 bn.
2005	Sinopec signs a shared-production agreement for prospecting and exploiting crude oil with **Cuba**petroleo.
2006	China plans to invest USD 500 m in **Cuba's** in nickel industry.

Sources: various publicly available news articles

China to invest more in Africa and Latin America

Chinese companies' investment intentions in 2-5 years, % of total



Source: Asia Pacific Foundation of Canada, September 2005 **25**

In the last few years Chinese government officials have made high-profile trips to both Latin America and Africa, announcing extensive investment plans. During his trip to Latin America in late 2004, Hu Jintao announced that China would invest up to USD 100 bn in Latin America over the next ten years. We therefore think that ODI flows could increase substantially over the next few years, as China tries to secure more and more resources in an environment of rising commodity prices. In fact, in a survey about their ODI intentions in the next 2-5 years, Chinese firms indicated that the share of ODI flowing into Africa and Latin America could increase to about 15% and 11%, respectively, of the total (see chart 25).[12]

While many of the investment projects in both Africa and Latin America are carried out by Chinese state-owned enterprises, private companies also increasingly invest abroad.[13] The Chinese government has created a framework in the form of its "Go-out" or "Going Global" strategy, which centres on active government support and encouragement for domestic firms to pursue investments abroad. Chinese firms have taken up the call: An

advantage of more favourable tax treatment that FDI enjoys compared with domestic funds.

[10] For further information on the topic of Chinese ODI, please refer to the upcoming DB Research study: Lunding (2006).

[11] Chinese ODI to Latin America, 18% in 2004 (see chart and table), is also skewed by "round-tripping". A look at the breakdown into recipient countries reveals that the main recipients in Latin America are offshore tax havens such as the Cayman and Virgin Islands and Bermuda.

[12] Asia Pacific Foundation of Canada (2005).

[13] For more on ODI by private Chinese companies, see Lunding (2006).

Chinese TNCs, ranked by foreign assets (2003)

Corporation	Industry	Foreign assets USD m	Foreign assets % of total assets
China Ocean Shipping (Group) Company	Transport	8,457	47
China National Petroleum Corporation	Petroleum	4,060	4
China State Construction Engineering Corporation	Construction	3,417	35
China National Offshore Oil Corporation	Petroleum	1,467	10
China Minmetals Corporation	Mining	1,150	21

Source: UNCTAD (2005). p. 270 f. **26**

UNCTAD report lists five Chinese (state-owned) transnational corporations (TNC) among the top 50 non-financial TNCs from developing economies[14] (see table 26). Some 700 Chinese companies are active in Africa alone.[15]

Chinese investment in Africa

Since 1996	China is a major investor in **Sudan**: 1) The state-owned China National Petroleum Corporation (CNPC) invests not only in oil exploration but also in production and transportation infrastructure in Sudan. Since 1996, CNPC owns a 40% stake in the Greater Nile Petroleum Operating Company; 2) Sinopec, is currently constructing a 1,500 km pipeline to Port Sudan; 3) In 2001, Harbin Power Engineering Company (HPE) constructs the Sudan Power Station with the help of a USD 110 m loan by China Eximbank.
Since 1997	Chinese businessmen have invested USD 24 m since 1997 in a textile mill in **Zambia**. In recent years, China has poured more than USD 300 m into mines, manufacturing projects, construction companies and agriculture.
Since 2003	Chinese companies are prospecting in **Algeria, Niger** and **Chad**.
Since 2004	Chinese companies are prospecting in **Tunisia** and **Mali**.
2004	CNPC agrees to invest USD 1 million in an oil and gas exploration project in **Mauritania**.
2004	A USD 2 bn China Eximbank credit line to **Angola** to rebuild infrastructure helps Sinopec to get concessions for further oil exploration in Angola. Furthermore, the loan is connected to the guaranteed delivery of 10,000 barrels of oil/day.
2004	Sinopec signs technical evaluation deal for three onshore oilfields in **Gabon** for possible production-sharing contract.
2006	CNOOC signs production-sharing contract in **Equatorial Guinea.**
2006	CNOOC buys a 45% take in a **Nigerian** oil & gas field for USD 2.3 bn.

Sources: various publicly available news articles

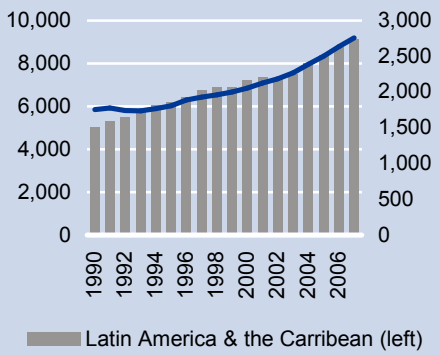
Three main goals have been mentioned as driving Chinese outward direct investment:

1. **Economic rationale:** Improving energy security and securing access to resources, markets, and strategic assets.[16] Strategic assets in this context refer to management skills, brands or distribution networks. Access to markets includes setting up production sites in countries with favoured access to major markets (e.g. access to the US market from Mexico via NAFTA, or from African countries via the African Growth and Opportunity Act).
2. **Political intentions:** Official recognition as a “market economy” from its trading partners and adherence to the “One-China” principle.[17]
3. **Strategic goals:** Supporting China’s emergence as a major global power. Concomitant with its economic success China wants to be accepted as an important international player. Closer external trade ties can be leveraged towards reaching this goal. Moreover, China supports the idea of a multi-polar world to counter American hegemony.[18]

[14] UNCTAD (2005).
[15] EIU (2006).
[16] Battat/Aykut (2005).
[17] Tull (2005).
[18] Tull (2005).

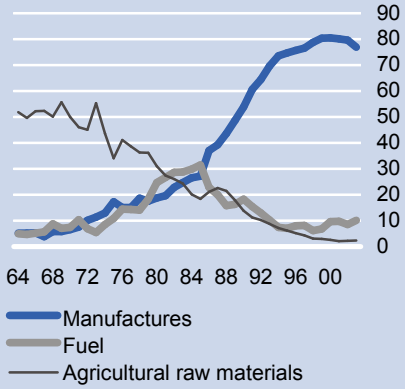
III. Commodity windfall needs to be invested into sustainable development

Rising living standards in Latin America and Africa
GDP per capita in USD PPP



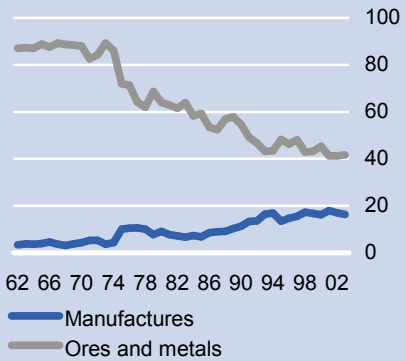
Sources: IMF WEO **27**

From commodities to manufacturing I: Malaysia
% of exports



Source: World Bank WDI **28**

From commodities to manufacturing II: Chile
% of exports



Source: World Bank WDI **29**

Economic growth in Latin America and Africa has accelerated in recent years, which has led to a gradual increase in per-capita income (see chart 27). Increasing exports, including to China, have played an important role in this development. Going forward, we expect the two regions to continue to profit from China's strong commodity demand. However, the actual gains, particularly in the medium term, will depend on the ability of the individual countries to translate the commodity windfall into sustainable development, i.e. more jobs and declining poverty. This could be achieved through investment in education, infrastructure, and poverty alleviation as well as institutional reform. These measures might attract increased investment in sectors that add more value than the pure extraction of natural resources and therefore ultimately generate more jobs and fuel domestic consumption.

True, concentration of an economy on primary products should not be seen as a disadvantage per se. On the contrary, primary commodity exporters such as Malaysia and Chile have seen significant gains in their per-capita incomes over the last few decades. However, both countries have also managed to build manufacturing sectors, which has been reflected in a declining share of commodities in total exports (see charts 28 and 29). The aim for the less developed commodity exporters in Latin America and particularly Africa should therefore be to use the commodity windfall to develop sectors that involve a higher degree of value-addition, be it in (resource-related) manufacturing or services.

If this kind of structural change is not generated, increased trade with China will only provide short-term gains. This is especially true since China's increased involvement also bears some risks.

Commodity boom might foster sense of complacency

One risk is that the commodity boom might give rise to a sense of complacency, which might prevent governments from undertaking the necessary measures to make growth sustainable in the medium term (i.e. investment in human capital and infrastructure, institutional reform, etc.).

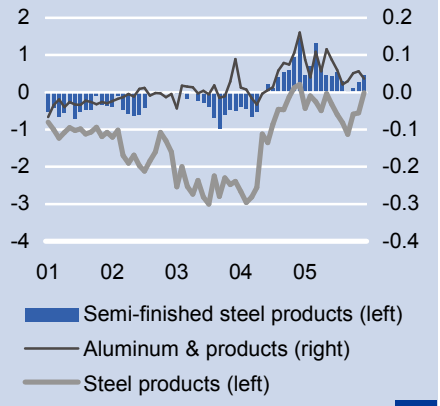
Commodity dependence might deepen

In addition, China's rising demand for commodities might lead to a deepening of the dependence of many countries in Latin America and Africa on a small range of primary commodities.[19] This will make the countries even more susceptible to negative price or weather-related shocks. In addition, this development might complicate the development of manufacturing sectors. Increased commodity exports and rising investment inflows tend to lead to an overvaluation of the currencies that makes it more difficult for the (often underdeveloped) manufacturing sectors to compete in export markets, a phenomenon known as the "Dutch disease". This development might be exacerbated by China's tendency to keep the downstream and processing activities at home and only import the pure raw materials. As a result of these efforts, China has recently turned into a net exporter of aluminium and some steel products,

[19] A recent publication by the OECD provides evidence that the exports of a number of African countries have actually become more specialised in recent years, all of them in a certain primary commodity (Goldstein et al., 2006).

China keeps the processing at home

Net exports of processed commodities, m tons

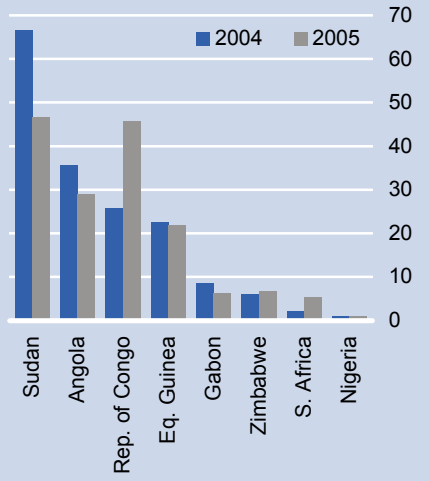


Source: Bloomberg

30

Some countries are very exposed to China

Exports to China, % of total exports



Source: IMF Direction of Trade Statistics

31

which involve processing (see chart 30). This strategy is good for China, as it creates employment for its vast labour pool and the opportunity to sell processed products at higher prices on the world market; it might, however, stifle the development of higher value-creating industries in China's commodity-rich trading partners. South African President Mbeki recently voiced concerns that cheap Chinese production of goods such as textiles and shoes could undermine the [African] continent's weak industrial base.[20]

Overdependence on China could make countries susceptible to swings in Chinese demand

Some countries – especially those with a less diversified export structure – rely heavily on Chinese demand for one commodity (see table). Two-thirds of Sudan's exports and one-third of Angola's went to China in 2004. Although the dependence has recently declined for some countries, others such as the Republic of Congo became notably more reliant on the Chinese market (see chart 31). While China is increasingly diversifying its sources of raw materials to increase the security of its supply, it remains to be seen whether this diversification will reduce the overdependence of individual countries on Chinese demand – or whether overall Chinese demand will simply rise. Especially in Africa, China has started to widen the range of its trading partners over the past years and a look at recent investment projects (see box on p. 11) shows a similar picture for investment activities. The strategy is especially obvious in the energy sector, where Chinese firms have recently invested in a wide range of oil-rich countries in Africa, including those bordering the deep waters of the Gulf of Guinea and those with oil-rich deserts like Mauritania, Mali, Niger and Chad.[21] While Venezuelan oil has been of minor importance for China until recently (0.2% of China's total oil imports), Venezuela was among Latin America's top recipients of Chinese ODI in 2005.[22]

High dependence on China

Exports of commodity X to China, % of total export of commodity X

	Iron ore	Copper	Manga-nese	Cobalt	Lead	Nickel	Tin	Pulp & paper
Gabon			25%					
S. Africa	40%		20%	72%				
Bolivia							33%	
Brazil								16%
Chile		16%						27%
Cuba						36%		
Peru	70%	37%			47%			

Source: UN Comtrade database, 2004 data

32

Spill-over effects of Chinese involvement to jobs and consumption might be limited

A number of African countries have viewed Chinese involvement in their country via concessional loans, bilateral aid or investments in a very favourable light as these funds do not come attached with conditions regarding political reforms or fiscal transparency, which is

[20] FT interview, May 24, 2006.
[21] Alexander's Gas & Oil Connection (2005).
[22] MOFCOM (2006).

often the case for funds from international organisations or developed market donors. However, Chinese involvement can come with strings attached as well. A loan from the Export Import Bank of China (Exim Bank) – one of China's three policy banks[23] – for example often requires the debtor to select Chinese enterprises as contractors (which often import Chinese workers to do the work) and to source at least 50% of equipments, materials, technology or services from China.[24] As a result, the spill-over effects of Chinese loans on domestic employment growth and goods purchases in the receiving country should not be overestimated.

IV. Conclusion

We expect Africa and Latin America to continue to profit from China's growing hunger for commodities. Our projections show that China's growing demand will be particularly favourable for the exporters of oil and metals. The gains – especially in the medium term – will be even larger if countries use the commodity windfall for development, i.e. if they invest in human capital and infrastructure, push institutional reform, and support sectors that create more value added than the pure extraction of natural resources.

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[23] A policy bank is a state-owned bank that distributes credit not based on commercial considerations but on goals such as the support of certain domestic industries.
[24] China Exim Bank: http://english.eximbank.gov.cn/business/government.jsp

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Printed by: HST Offsetdruck Schadt & Tetzlaff GbR, Dieburg

Print ISSN 1612-314X / Internet and e-mail ISSN 1612-3158