

CHINA'S COMMODITIES DEMAND, THE FINANCIAL CRISIS AND ECONOMIC RECOVERY: WHAT NOW FOR RESOURCE RICH AFRICAN ECONOMIES?

Abstract

The 2003-2008 Commodity Price Boom was largely driven by China's demand in the metals and minerals sector. China's resource-intensive economic growth, linked to its expanding infrastructure and manufacturing expansion has contributed to a Super Cycle emerging in Commodity Prices. With a strong and quick recovery of the Chinese economy after the financial crisis in 2008, it has continued to deepen its resource driven engagement with African countries. Given the Aid, Trade and FDI that flow around the commodity sector from China to Africa, this paper highlights the risks and opportunities linked to a commodity based development trajectory for African countries. With continued expectations of China's economic growth and commodity demand the paper argues that African countries can still benefit from higher commodity prices in the medium term.

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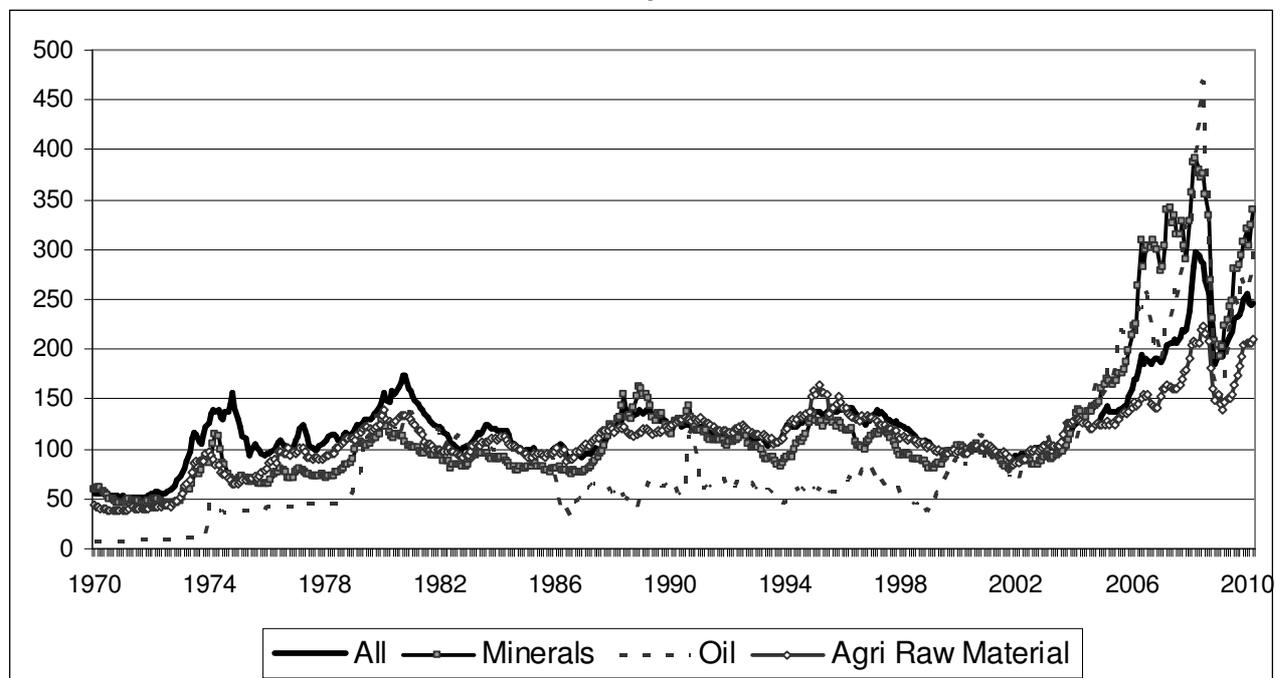
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The 2003-2008 commodity price boom was the longest period of commodity price increase seen since the Second World War. The first of these was in 1950-51, largely linked to fears about supply security of industrial raw materials due to the Korean War. When the conflict did not spread to a larger region, and security fears subsided, commodity prices returned to their pre-boom levels. The second was in 1971-1975 triggered by a fall in agricultural output in the Soviet Union and then in the United States. Labour conflicts in the mining industry in Latin America and the first OPEC oil price shock exacerbated the price rise. With the global economic recession in 1976, commodity prices declined, held up marginally by the permanent increase in oil prices (Figure 1).

The 2003-2008 commodity boom came at a time where the global economy was recovering from the East Asian Currency Crisis in 1997 and the bursting of the Dot Com bubble on Wall Street. To a large extent, removed from these financial events was the strong GDP growth in China, which was sustaining an average eight percent growth rate per year for over a decade. The 2003-2008 price boom was largely linked to China's increasing demand for commodities, particularly in base metals. The increased investor activity in commodity markets pushed up prices higher than fundamentals would dictate in 2007. With the collapse of Lehman Brothers in mid 2008 and the global financial melt down that followed, commodity prices crashed heavily in the later half of 2008.

**Figure 1: UNCTAD Monthly Commodity Price Index (200=100)
(1970 – April 2010)**



Source: UNCTAD Commodity Price Statistics Accessed May 2010.

As 2009 progressed, and the spectre of the 'Next Great Depression' receded, commodity prices have begun to rise again, and as Figure 1 shows by April 2010 prices had regained their 2003-

2008 average. The recovery in base metal prices is particularly linked with the Chinese economy recovering quickly and its resurgent demand for raw materials.

China's demand for base-metals and other commodities is linked to its current resource intensive stage of growth. With its expenditure on infrastructure, urbanisation and manufacturing sectors, China's demand for industrial raw material is expected to be high for the medium term. Although geographically a large country, China is unable to meet most of its base metal demand from domestic resources. It relies on global commodity markets to fulfil its needs. China has pursued a strong commodity supply security agenda, most notably in Africa. Its imports from the continent have doubled between 2005 and 2009. Although oil accounts for a large share of this trade, its non-oil trade has increased from \$5.9 billion to \$14.7 billion over the same period¹. China's resource driven engagement with Africa often combines aid, trade and FDI together into a single strategy allowing for a more widespread engagement within a country rather than just economic.

This paper examines the nature of China's resource driven engagement with Africa, particularly after the financial crisis. In section one, we highlight the nature of China's demand for commodities and its expected trajectory. In section two, we take an African perspective highlighting the nature of the aid, trade and FDI engagement with China. Section three then looks what this resource based engagement means for African countries. Although all commodity prices experienced an increase in the 2003-2008 period, given China's resource intensity of GDP, this paper will focus on base metals² in particular.

Section 1: China's Commodity Demand

The period of 2000-07 saw world GDP grow at an average of 3% per annum, with most of the growth being led by the East Asian economies. Within this group, China has been the fastest and the largest emergent country, achieving double digit growth rates for most of the 2000s. China's GDP growth averaged around 10% p.a. from 1990 to 2007. In 2006 and 2007 this rate climbed to 12% per year. GDP per capita (PPP constant 2005 \$) increased from \$2,644 in 2000 to \$5,083 in 2007³. Since 2003, China's annual growth rates have been in double digits, with the size of the economy doubling between 2000 and 2007. It is expected to double its output again by 2030.

With its accession to the WTO in 2001, China began to emerge as a large export orientated economy. Based on a combination of state-led and market-orientated export growth, it became the top exporter in one market segment after another. Starting from low technology products, such as

¹ COMTRADE statistics website

² Base metals include Copper, Aluminium, Iron Ore, Zinc, Lead, Nickel, Tin

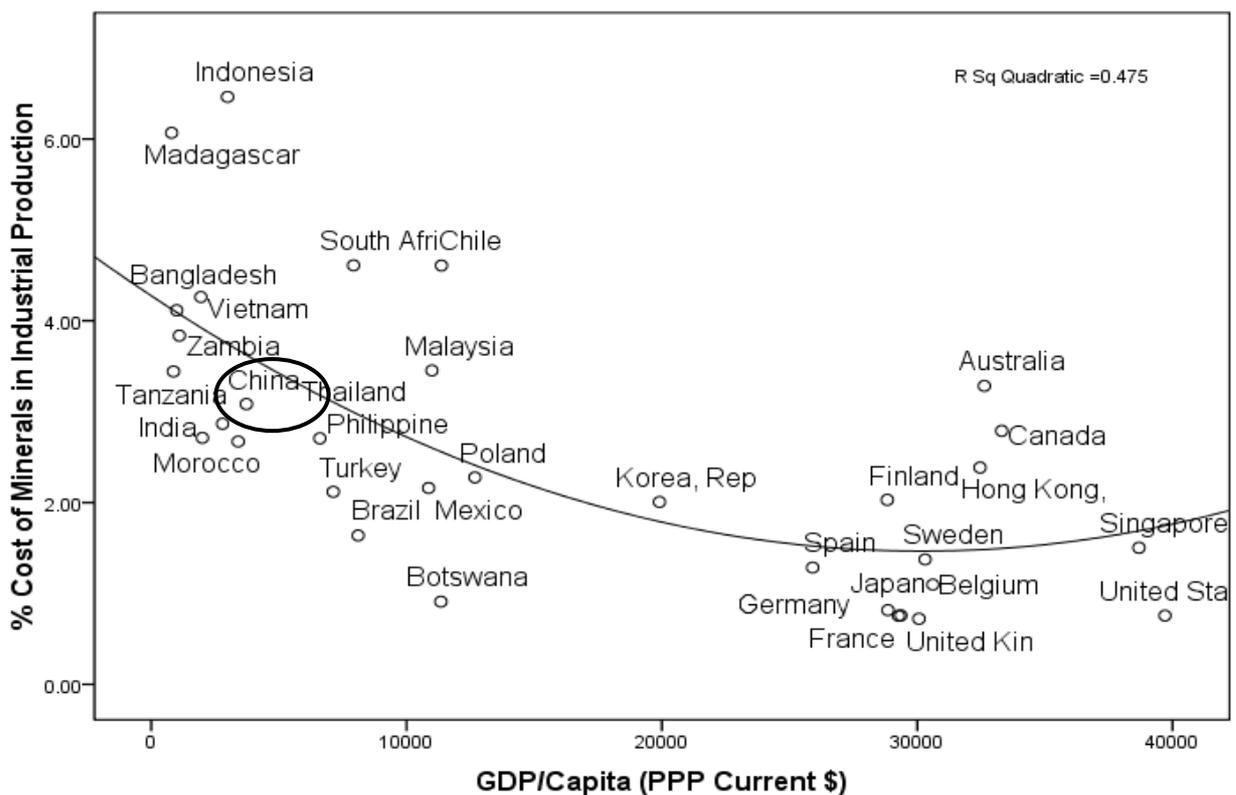
³ Source: World Development Indicators via ESDS accessed December 2008

toys and shoes, its expansion continued into higher technology products, such as laptops and mobile phones. In 2003 its imports of raw materials also began to increase.

Base Metals Demand: In general, economic growth accompanied by increasing industrial expansion, rising urban populations and increased infrastructure investments will increase the demand for hard commodities. Structural change and commodity demand can be considered across similar income levels or along a time series. Countries with similar income levels and sectoral distribution of GDP will have similar commodity usage. Likewise, countries with different income levels or different sectoral distribution, will exhibit differences in their consumption. The resource intensity of an economy will change along a time series as its sectoral distribution changes.

Figure 2 provides a cross country comparison of GDP per capita as well as the share of mineral and metals costs in industrial production for selected emerging and advanced economies. GDP per capita is used to indicate development levels, while the share of mineral costs is used as a proxy for metals consumption within an economy. A simple quadratic equation is fitted to the data points to indicate a trend line.

Figure 2: Percentage Share of Costs of Minerals/Extractive Sector in Industrial Production and Per Capita Income (PPP) 2004



Source: Farooki (2009) calculations from GTAP and World Development Indicators

Starting from the left hand side of the figure, low per capita income is associated with the highest relative consumption ratios of minerals and metals within an industrial economy. As we move along the curve, middle income countries correlate with lower consumption; while towards the right hand side, the clustering of advanced economies are associated with the lowest consumption of metals and minerals in the industrial sector.

From Figure 2, we note that China is in the region of low income countries, and lies just below the curve. This would indicate that its expenditure on minerals and metals conforms to patterns seen in other developing countries and is in no way exceptional. China's current consumption patterns of metals are in line with the normal patterns of growth. As its income levels rise, we expect it to move down and along the curve.

The pattern of growth observed for most cross sectional and time series data supports this pattern. The development of physical infrastructure was seen as a key ingredient for economic development in the mid twentieth century (Ingram and Fay, 2008). Aschauer (1989) showed a positive impact of infrastructure investment in explaining the total factor productivity growth in the US. While Banerjee (2004) reports evidence that of infrastructure spending being higher in rich countries relative to low income economies, Canning (1999) and Auty (2008) argue that returns to infrastructure fall as economies mature, and they are at their highest at the early stages of economic growth. Hulten (1996) in comparing East Asia and African economic growth finds that the efficient use of infrastructure stocks accounts for 40 percent of the difference between low and high growth rates.

Global populations are increasingly living in urban centres and for the first time in history urban populations may be higher than rural populations. Increasing urbanisation is strongly correlated to higher levels of economic growth (NRC, 2003) even though cities may house large segments of low income earners in slums.

Base metals demand in the real economy is derived from their usage as inputs or intermediate products. Metals and minerals are intensively used in a number of sectors like infrastructure, construction (urbanisation) and manufactures. The intensity of usage per capita is dependent on the structural nature of the economy. The income elasticity of demand for commodities will change as an economy moves from an agrarian base to an industrial one. This move will also be accompanied by populations migrating from rural to urban centres, where the latter's rate of expansion will generate higher rates of commodity demand.

The resource-intensive stage for China is likely to continue for the medium to long term; although it is one of the largest economies in the world, it is still a developing country. In comparison to

high-income OECD economies, where the per capita income (PPP in constant 2005 \$) was around \$35,000 in 2007, China's per capita income was just \$5,0834. As China moves towards higher income levels, its consumption patterns should be similar to that of a middle-income country, such as Korea, and eventually of an advanced economy such as the United States. With rising income levels, its demand for commodities will eventually taper off. Currently China is in the beginning phase of a resource-intensive stage of growth, as its structural changes are focused on infrastructure development and manufacturing.

GDP Growth vs. Resource-intensive GDP Growth: Although the OECD economies account for 52% of global GDP in 2005, and developing Asia for just 27%, the latter is experiencing a more resource-intensive stage of development as compared to the former. Every dollar generated in developing Asia will absorb twice as much commodities relative to the de-materialising OECD economies. This results from the nature of GDP growth, with developing countries focused on expanding infrastructure and their manufacturing sectors, while the developed economies focus on maintaining infrastructure and expanding the services sector. With developing Asia growing at nearly twice the rate of the OECD, its commodity demand growth rates would have been much higher relative to the advanced economies.

China's GDP growth has averaged at around nine percent per year since the 1980s, but its increase in demand for metals has only been seen in recent years. Table 1 shows the average per capita consumption of aluminium and copper for China, and its GDP per capita growth rates for the past four decades. In the earlier periods of 1962 through to 1994, China's GDP per capita growth rates averaged around five to nine percent per year, while consumption of metals per capita steadily increased. After 1995, the consumption of metals more than doubled for both aluminium and copper, while GDP per capita has on average grown less than in the 1984-1994 period.

Table1: China's Per Capita Metal Consumption and GDP Growth Rates (1962-2005)

Time Period	Consumption per capita		GDP per Capita Growth (in Percentage)
	Aluminium	Copper	
1962-1972	0.2	0.2	6.3
1973-1983	0.5	0.4	5.4
1984-1994	0.8	0.6	9.3
1995-2005	2.9	1.7	8.4

Source: Authors' calculations from World Economic Outlook (2006) and World Development Indicators

⁴ Source: World Development Indicators via ESDS accessed December 2008

The increase in per capita consumption in recent years indicates that even though China's GDP has been growing steadily for over thirty years now, it has in the recent two decades entered a resource-intensive stage of GDP growth. The consequence of China's growth for global demand for commodities is therefore a more recent event, relative to its preceding decades of GDP growth.

Source of Commodity Intensive Demand: The increasing share in value added by the industrial sector is a major driver for China's domestic growth. In 2006, the share of the industrial sector accounted for nearly half (48%) of its national output, compared to that of the more advanced economies such as the United States (22%) and Japan (29%), or even transition and emerging economies such as South Korea (40%) and Russia (40%). Expenditure on Gross Fixed Capital Formation, a proxy for infrastructure investments, in China was 43% of GDP in 2006, which is much higher than the 18% for Germany and 29% for South Korea⁵. The industrial sector is more resource-intensive than the services sector, but it is difficult to measure the ratio of metals and minerals used in various sectors with any precision. This inability arises as the properties of most metals overlap to certain degrees. Projects such as residential construction will require more steel, whereas as car production requires a variety of metals. The intensive sectors of metals consumption are in the manufacturing and construction sectors. Of total global consumption of aluminium, 26% is used in transport and 22% in packaging (22%). Copper is mainly used in wiring (22%) and in construction (28%), while zinc is used in galvanizing pipes (47%)⁶.

China as a Large Economy: Large sized economies, geographically and by population, will generate larger physical outputs in terms of demand and supply, than similar growth rates when experienced by smaller countries. The relationship between country size and economic development has been recognised for years (Smith, 1776; Kuznets, 1959, 1960, 1964; Chenery and Syrquin, 1975). Larger countries tend to follow a more balanced growth strategy, and tend to share similar economic structures with other large countries. Perkins and Syrquin (1989), in examining the influence of size on economic development, show that there are no major differences in the share of agriculture, manufacturing and services in GDP between small and large countries at similar income levels. China's structural growth can be expected to grow along similar lines as that of the United States. The share of the manufacturing sector will continue to expand until higher GDP per capita levels are achieved, and the services sector begins to take over as the largest contributor to the economy.

China as a Developing Economy: A developing country has a different intensity of commodity demand than more advanced countries, and this remains true even when size is held constant.

⁵ Source: World Development Indicators accessed December 2008

⁶ Source: Addock (2009)

For example, the United States and China are very similar in size in terms of land mass⁷, but their raw material needs are very different given the variation in income levels. In 2007, metal ore and concentrate accounted for 7% of total imports for China, and only 0.4% of the United States. In real terms (\$value), China's ore and concentrate imports were nearly nine times the value of those imported by the United States even though its total imports were nearly half of that of the United States⁸. The volume of resources and raw materials that China demands at its current stage of economic development are different from those of advanced economies such as the United States. Secondly, due to its size, the volume of these imports is large.

China as Southern Engine of Growth: A demand disruption is likely to occur in today's global economy when growth is un-expectedly driven by a large emerging economy. China and India, known as the Asian Drivers are two such economies (Kaplinsky and Messner, 2008). Together they account for one third of the global population and cover a large land mass. China is expected to be the second largest economy in the world by 2016, and India the third largest by 2035. China, more than India, has sustained high GDP growth rates over the past two decades, but has much progress to make before it can achieve an advanced economy status. India, following in the footsteps of China, can be expected to reach the current Chinese growth levels in a decade's time.

With their size, economic structure and trading patterns, China and India have a large impact both on the developed world as well as the developing world. The rise of a large emerging economy has caused disruptions in the global economic system. Kaplinsky (2008) highlights five major reasons for China's disruptive impact on the global economic systems. The first is the size of the Chinese economy, where although China is following similar growth paths to South Korea or Japan, its large size makes a much larger impact on the global economy. Secondly, China's current account surplus can cause global financial imbalances. Thirdly, China's economic development has been a unique combination of a strong state with capitalistic markets compared to other industrialised countries. Fourthly, China has combined low wages and income with a high innovation potential, resulting in cheaper manufactured products. Finally, China is focused on securing supplies of raw materials for the future, and its business strategy in some countries tends to follow a resource driven agenda (Kaplinsky and Farooki, 2009).

China in International Commodity Markets: Increasingly China has led the global consumption of base metals, while other advanced economies have decreased their consumption in the 2000s. The level of fall in the consumption of metals of the advanced economy is much lower than the

⁷ Source: CIA World Fact book; both cover nearly 9,000,000 sq. km.

⁸ All values from UN Statistics Division COMTRADE accessed 6th June 2009

increase in consumption of China. Even if there was a displacement of demand due to a shift in manufacturing centres, it would account for a very small change in China's overall consumption.

China's accounts for almost all the increase in global demand for base metals over the past decade. Between 1995 and 2000, China's share of new demand for base metals was less than 60%. However between 2000 and 2007, it accounted for nearly all the increase in global demand for copper, zinc and nickel, as well as around 60% of the increase in aluminium and steel⁹. The substantial generation of 'new' demand and instead of a substitution for other economies indicates that global consumption of these metals has increased. This increase in demand has led to the seeking of new sources of supply (Farooki, 2009).

Developing countries are benefitting from increased raw material exports to China. Table 2 shows the share of low and middle income regions in China's imports of ores and metals. In 2000, they collectively accounted for 43 percent of China's ores and metals import, with Latin American countries being the largest contributors. By 2008 they accounted for 55 percent of the share, again with Latin America dominating. SSA became the second largest region, outpacing East Asia and Pacific low and middle income countries. China largely imports Tin from the latter. Although China's imports do fall in 2009, SSA's continues to show a steady increase in its share of Chinese imports.

Table 2: China's Ore and Metals Import from Low and Middle Income Countries (2000-2009)

	2000	2005	2008	2009
Imports from World	\$13 bn	\$56 bn	\$139 bn	\$126 bn
% Share of Region				
Low and Middle Income	43%	50%	55%	53%
Latin America	14%	20%	22%	24%
Sub Saharan Africa	4%	5%	7%	8%
East Asia and Pacific	7%	6%	6%	6%

Source: Author's calculations from COMTRADE via WITS accessed in June 2010.

The Financial Crisis in 2008: At the end of 2008, the financial crisis hit the advanced economies, which then entered a recessionary phase. Economic growth contracted for the world in 2009, before starting a recovery in 2010. The IMF (2010) expects the world economy to expand by 4.25 percent after a 0.5 percent contraction in 2009. Asia's growth is projected at 7 percent for 2010

⁹ Source: Macquarie Commodities Research (2008)

and 2011. China's growth in 2009 was higher than the targeted 8 percent, and the IMF estimates this to be around 10 percent in 2010 and 2011. Growth in China was initially helped by the government stimulus package focused on infrastructure, but domestic consumption and investment are expected to perform a stronger role in maintaining the growth rates. China's current account balance fell from 9.4 percent of GDP in 2008 to 5.8 percent in 2009. However, the balance is expected to recover to 6.2 percent in 2010¹⁰.

In 2008-2009, the Chinese government was focused on increasing domestic growth, given the deterioration in its export markets. Part of the growth was to come from the stimulus package of \$585 billion announced by the State in November 2008. The package included infrastructure and construction projects as well as attempts to replace the loss of export markets by increasing domestic demand. After running a once percent budget surplus for years, China was looking at a budget deficit of 3% of GDP in 2009. China is one of the few countries in the world not facing a liquidity crisis, and can well manage a budget deficit for the short to medium term given its large un-deployed deposits in its banks, as well as \$2000 billion of foreign exchange reserves.

In terms of how productive the spending by the government will be, it must be remembered that China needs roads and infrastructure. Construction in the real estate sector accounts for a larger expenditure than net exports in China. The stimulus package directly impacts growth and commodity demand. Developments in China, which accounts a large share of the global consumption of base metals, remains central to the commodity markets.

The 2008 financial crisis brought into sharp focus the imbalanced nature of the global economy, with over consumption in the North and aggressive savings in the South. On a more long term basis Kaplinsky and Farooki (2010) chart the gradual trends in shifting consumption patterns across the globe, linked largely to the growing middle class in China. The consumption patterns of the Chinese economy are more likely to determine the direction and nature of global trade in the coming decade.

The Commodity Super Cycle: The pattern of resource intensity use in China is not very different from other economies that have experienced similar structural change (Figure 2). Its per capita consumption of metals in the manufactures and urbanisation sectors conform to what other countries, at similar income levels, have experienced. The share of infrastructure costs in GDP is high due to the large size of the country and hence greater demands of its urbanisation efforts. As a result of this volume, China accounts for nearly all the increase seen in demand of base metals in the past few years.

¹⁰ IMF World Economic Outlook April 2010

Generally the income elasticity of demand for commodities is low, indicating that a rise in income levels will generate a less than proportional rise in commodity demand. However, when an economy is experiencing a resource-intensive phase of economic growth, each percentage increase in GDP does generate a higher degree of commodity consumption, relative to a country not experiencing such a phase (Radetzki, 2006). Merge this higher elasticity with volume and China's impact global commodity prices for the 2003-2008 period becomes clear. And it's strong growth since 2009 also explains the quick and strong recovery of commodity prices.

The drivers of China's demand for commodities indicate that these are not short term disruptions, and that they are likely to continue to be strong in the medium term. This has led some to conclude that we are experiencing a Commodity Super Cycle. A Super-Cycle is a medium to long term phenomena, and is defined as '[...] a prolonged (decade or more) trend rise in real commodity prices' (Heap, 2005). There have been two to three metal price super cycles in the past 150 years. Heap (2005), on a cursory examination of price trends suggests that there were two, the first experienced in the late 1800s that ran until the early 1900s, corresponding with the economic growth in the United States. The second was between 1945 and 1975, driven mainly by the post World War II reconstruction in Europe and Japan's industrial expansion. Cuddington and Jerrett (2008) offer a closer examination of data and argue for three periods where Super Cycles were in their expansionary phases; from 1890 to 1911, from 1930-1951, 1962 to 1977, and finally the latest starting in from 1999 which is still to complete its expansionary phase.

Apart from rising prices for a medium term, prices will tend to be driven by growth in an emerging economy. The 'Super' part of the term implies that cycles are 5 to 35 years long in their expansionary phase, indicating that the complete cycle may be as long as thirty to seventy years, when considered from trough to trough. Prices are driven by growth in an emerging economy, as their growth tends to be more resource-intensive than other economies

The behaviour of the 2003 to 2008 commodity boom supports the hypothesis that this period was indeed the start of a Commodity Super Cycle. The interruption caused by the financial crisis is being over-come, and pressures for commodity prices to resume their upward trend are present and are likely to gain strength in 2010-2011. By the end of April 2010 the UNCTAD Minerals and Metals index has risen to 339, compared to 222 level a year ago. As the super cycle continues its expansionary phase, prices for commodities are likely to continue on their upward trend for five to twenty years into the future. This has important implications for resource rich developing countries, particularly in Sub Saharan Africa.

Section 2: Sub Saharan Africa's Commodity Engagement with China

SSA's importance for China has been steadily increasing, linked to its potential as a largely untapped source for oil and minerals and metals. SSA also offers China new markets for its products and opportunities for investment. The China-Africa Summit in Beijing in 2006 was a major event in developing this relationship, and China's trade with Africa hit the \$100 billion mark in 2008.

One of the major areas of engagement has been around the natural resources sector. Africa has some of the largest reserves of metals and minerals and therefore has the potential for being the new sources of supply. For example in 2006, the ratio of production to reserves for Manganese, Cobalt and Aluminium was as low as 34%, 33% and 9% respectively (Table 3) indicating that a large amount of reserves were untapped. In other metals the production to reserve ratio is quite high such as for Platinum (90%), Gold (48%) and Chromium (91%). The United States Geological Survey estimates that between 2000 and 2013, African production of Platinum, Aluminium and Copper will increase by 119%, 109% and 360% respectively.

Table 3: Africa's share of Global Production and Reserves (% share)

Mineral	Production	Reserves	Ratio
Platinum Group Metals	54	60+	0.90
Gold	20	42	0.48
Chromium	40	44	0.91
Manganese	28	82	0.34
Vanadium	51	95	0.54
Cobalt	18	55+	0.33
Aluminium	4	45	0.09

Source: Calculated from African Development Bank(2008)

Raw material supply security for the future is a major issue for the Chinese, and given the recent period of high international commodity prices, China is looking for continued access to raw materials. The Chinese presence within Africa is increasingly being viewed as China's attempts to secure its 'resource basket'¹¹. China's activities in the continent are mainly seen as resource seeking where trade, aid and FDI are often linked to the resource rich countries. The Chinese government itself acknowledges that part of its strategic policy is to secure supply of essential commodities and oil for its own development.

¹¹ For a detailed discussion see Kaplinsky and Farooki (2009)

Aid: Chinese assistance to Africa is covered by the State Council and three main ministries: The Ministry of Finance, the Ministry of Commerce, and the Ministry of Foreign Affairs. Other institutions such as the Export-Import Bank of China and Chinese embassies in African countries also assist in finding and funding projects.

Between 2007 and 2009, the Forum on China Africa Cooperation (FOCAC) aimed to provide preferential loans of \$3 billion and credits of \$2 billion for preferential export buyers in Africa. The China-Africa Development Fund would provide \$5 billion to support Chinese firms investing in Africa and the establishment of Special Export Zones.

Other financial assistance includes debt cancellation for some of the Least Developed Countries in Africa. Between 2000 and 2003, an estimated \$1.27 to \$1.38 billion loans were converted to grants. In 2005, a further commitment to reduce loans by a value of \$1.3 billion was made. Broadman (2008) reports concessional loans to Africa reached \$800 million in 2005, covering 55 projects in 22 countries.

Chinese aid between 1949-2006 totals around \$5.6 billion to Africa. Some of this takes the form of small or medium projects, such as a \$8.6 million loan to construct administration buildings in Burkina Faso. Agricultural projects are also a favoured form of assistance with projects being funded in Niger, Nigeria, Uganda and Rwanda amongst others. Sugar refineries, paper mills, grain mills, forestry and irrigation have been common themes in projects (Brautigam, 1998). A number of projects related to health, education, agriculture and sports are also being planned. Most of the major projects receive financial assistance from the Chinese Export Import Bank and the China Africa Development Fund.

Foreign Direct Investment (FDI): As China began to emerge in the international global scene, its outward FDI flows remained small; equivalent to just \$916 million in 2000, not much higher than the \$830 million in 1990¹². However, post 2000, FDI outflows have been rising, reaching \$17.8 billion in 2006. The flows are expected to continue to increase and reach an impressive \$72 billion by 2011 (EIU, 2007).

According to UNCTAD (2007b) China's FDI in Africa has risen from just \$1.5 million in 1991 to \$60.8 million by 2003. Besada, Wang and Whalley (2008) using various sources estimated Chinese FDI flows into Africa to be just above \$500 million in 2006, rising from \$400 million in 2005. Cheng and Ma (2007) estimate Africa's share in Chinese FDI flows rose from 2.6% in 2003 to 5.8% in 2004, falling back to 3.2% in 2005.

¹² The reporting mechanism for FDI may have also changed after 2000, and therefore may account for change in reported figures.

China's investment in Africa is fairly well divided over different sectors. Between 1979-2000, 46% of investment was in the manufacturing sector, textiles being the main category. Services, mainly construction, accounted for 18% of the FDI inflows, with Resource Extraction accounting for 28% (UNCTAD, 2007a).

China's FDI in oil and gas exploration has been in Nigeria, Angola, Equatorial Guinea, Sudan and Gabon. Investments worth \$757 million in Sudanese Oil and \$2.7 billion in Nigerian oilfields have been made in the past few years by China. Both of these were in ventures with other Oil MNC's.

Currently an estimated 700 Chinese enterprises are operating in Africa. China established 3 of its first 8 overseas economic and trade cooperation zones in Africa: Nigeria, Mauritius and Zambia (UNCTAD, 2007b). A further \$5 billion were made available under the China-Africa Development Fund to assist with development and investment related work in Africa.

Trade: In 2000, China accounted for 5 percent of Sub Saharan Africa's exports to the world, and by 2008 this had increased to 14 percent and was valued at \$51.6 billion. China's trade deficit with SSA has remained fairly stable over the years, from 20 percent of total trade to 17 percent in 2008.

A large share of SSA's exports to China are accounted for by oil exports from Angola, and the non-oil exports were just \$15.6 billion in 2008. The non-oil trade balance shows a trade deficit for SSA, rising from 33 percent of total trade in 2000 to 40 percent in 2008. China accounts for just 10 percent of SSA's non-oil exports in 2008. The dominance of oil also explains why Angola is China's largest trade partner in Africa, accounting for 43 percent of all exports from SSA in 2008. South Africa was the second largest exporter (18 %) followed by another oil producer, Sudan (12%).

As table 4 indicates, China's imports from SSA are dominated by commodities, with oil and mineral and metal exports together accounting for nearly 89 percent of total imports. The share of manufactures and agricultural commodities remains below 10 percent over the past decade.

Table 4: Profile of SSA's Exports to China

	2000	2005	2008	2009 ¹
Total Exports to China	\$5.34 bn	\$19.22 bn	\$51.55 bn	\$37.97 bn
% Share of Category				
Fuels	67%	69%	70%	61%
Ores & Metals	9%	13%	19%	25%
Manufactures	7%	7%	5%	6%
Agricultural Raw Materials	8%	7%	3%	4%
Food	3%	2%	1%	2%

Source: Calculated from COMTRADE, accessed via WITS June 2010

¹ Data for 2009 may have incomplete reporting.

China's Strategic Interest in Africa: China engages with a large number of countries in Africa, often funding investment in regions that are considered politically risky by others. In terms of both trade and FDI, China's main endeavours have been in the oil and mineral sectors and in infrastructure. But the range of activities is growing rapidly, including small scale businesses such as trading, restaurants, beauty saloons and Chinese medicine centres. China's assistance to the continent has taken several shapes and forms, from health and education projects to the construction of official buildings, stadiums and roads. Trade is dominated by oil imports for China, and low to medium technology exports to Africa. There has been a significant strategic integration by China in its approach to the African continent. FDI and aid have been concentrated in economies which either have large oil and commodity sectors (Angola, Nigeria and South Africa), or which offer potential as raw material suppliers in the future (DRC).

Non resource rich countries have opportunities to gain from engagement with Africa as well. The spread of Chinese FDI has become more dispersed in 2005 as compared to 1990. Assistance projects cover a wide range of countries, including the non mineral economies. Fabric and telecommunication equipment are some of the largest Chinese exports to the continent and can be source of expansion of light manufacturing and the services sector. Apart from minerals and oil, China also imports cotton from Africa, which can help the agricultural sector gain from trade. From 1979 to 2000, China invested in 22 agriculture projects at a combined value of \$48 million (Kaplinsky and Farooki, 2009).

China has initiated a number of fora to enhance China Africa relationships. The largest of these was the Forum on China Africa Corporation (FOCAC). The first ministerial meeting for the Forum was held in Beijing in 2000, followed by the second in Addis Ababa in 2003. The third forum was held in 2006, also referred to as the China-Africa Summit, which was widely seen as China's attempt to shift up gears in its engagement with Africa.

In 2009, the importance of the China-Africa summit in Egypt could be gauged by the attendance of the Chinese President Wen Jiabao. A number of commitments for the next three years were made at this summit; preferential loans worth \$10 billion for Africa and efforts to apply zero-tariffs for 95 percent of exports from low income African countries. But China's interaction with Africa goes beyond promoting trade and investment ties. New measures for projects around agriculture and food production; medical care, public health, education, clean energy and clean drinking water were also announced¹³.

¹³ Source: <http://www.focac.org/eng/zfgx/dfzc/t696509.htm>

Even with the 2008 decline in commodity prices and economic growth, China has continued to pursue mineral sector based engagement with Africa. In 2008, China's investments in African had increased from \$70 billion to \$80 billion over the space of nine months. In 2009, China further announced that it was seeking to build trade up to \$100 billion with the East Africa Community countries. By 2010, China's investment in Liberia had reached \$9.9 billion while those in Nigeria had topped \$6 billion¹⁴.

Table 5 lists some of the major investments, loans and projects committed to by China, either through private or public sector companies and banks, in Africa from October 2008 to May 2010. Although the list is not comprehensive, it does indicate China's strong interest in commodity and energy related sectors in Africa. Most notable are a \$23 billion deal with Nigerian oil companies, a \$5 billion investment in the mining sector in Zimbabwe and a \$2.6 billion commitment to developing the mining and related infrastructure in Liberia, all announced in 2010.

Table 5: Major China Funded Projects in Africa (October 2008-May 2010)

Year	Country	Project	Amount
2010	Nigeria	Oil Sector	\$23 bn.
	Zimbabwe	Mining	\$5 bn.
	Liberia	Mining and Infrastructure	\$2.6 bn.
	South Africa	Mining	\$877 mn.
	Sudan	Hydro junction	\$838 mn.
	Zambia	Mining	\$600 mn.
	South Africa	Wind farming project	\$220 mn.
	Zambia	Infrastructure	\$39 mn.
	South Africa	Cement	\$17 mn.
	Ghana	Hospital	\$10 mn.
2009	Zimbabwe	Investment (unspecified)	\$8 bn.
	Zambia	Mining	\$768 mn.
	Mauritius	Export Zone	\$750 mn.
	Ethiopia	Infrastructure	\$349 mn.
	Zambia	Mining	\$150 mn.
	Mozambique	Steel	\$50 mn.
	Nigeria	Oil Sector	\$38.8 mn.
	Liberia	Investment (unspecified)	\$8 mn.
2008	Botswana	Public works	\$183 mn.
	Ghana	Infrastructure	\$62 mn.
	Mozambique	Investment/Loan (unspecified)	\$43 mn.
	Equatorial Guinea	Public works	\$7.3 mn.
	Nigeria	Oil	\$2.4 bn.

Source: Compiled from various issues of the Weekly China Briefing (The Centre for Chinese Studies at the Stellenbosch University)

Section 3: What Now For Resource Rich African Countries?

¹⁴ All data from various issues of the Weekly China Briefing (Stellenbosch University The Centre for Chinese Studies)

China's resource-intensive expansion led to an increase in the demand for commodities being sourced from resource-rich developing countries. With its size and current state of development, China can absorb the exports from developing countries for a medium to long term. This opens a window of opportunity for resource rich developing countries in Africa. China's growing presence in Africa has both positive and negative implications.

On the one hand, China has brought much needed aid, trade and investment and has also led to increased investments by Western mining firms in Africa. But environmental, labour and distribution of mineral wealth within countries remain. There are factors outside the mining sector which are not always advantageous to Africa either. Giovannett and Sanfilippo (2009) find evidence of China's manufactured export, particularly of low priced products can and have caused damage to the local manufacturing sector. But Africa has also benefited from Chinese business men. GU (2009) finds a the Chinese private sector has followed a different path into Africa than the state led sector, and is African market opportunities are a strong force driving their engagement.

On the other hand with the nature of the resource based engagement, China has been accused of being a 'neo-colonialist'. Although the relationship may have started in that manner, it has evolved over time. Deals between Chinese and African states do have a strong economic and trade focus, but a divergence of projects is beginning to appear. From health to agriculture and training, there is a concentrated effort to engage more widely. Energy projects (table 5) are becoming more common as well. It is difficult to offer a 'harmonised' view of China's engagement with Africa, simply because there are a large number of countries and China is not always represented by the State but also a migrant private sector class. However we can offer some generalisations to the post financial crisis China-Africa relations.

First, China has recovered quickly and well from the 2008 crisis, and its economic growth rate have started to reach double digit numbers again. The nature of its economic growth indicates that the country will continue its demand for commodities over a medium to long term. This demand generates a Super Cycle in Commodity prices, indicating that global values of commodities will remain high in the medium term.

Second, this provides African countries with much needed FDI and export revenues in relation to their resource sector. Given the financial crisis in 2008 and the immediate downturn in the global economy, there were fears that China's engagement with Africa would weaken at this time. However, investment and trade links within the base metals and energy sector have picked up pace again by 2010. The China-Africa forum in 2009 further supports the continued engagement.

Third, the nature of this engagement is also changing, moving from an aid based to a preferential loan based agreement. The projects listed in table 5 tend to have a large 'equity' share for Chinese actors, partnered with Africans, to generate a stronger partnership effect rather than the Chinese dominated investment we have seen in earlier projects. China is moving its relationship from one of aid giver, to more 'bi-lateral' engagement, even if it remains centred around the resource sector.

However, commodity led economic growth is not an easy task and accompanying stringent industrial and trade policies are important. Collier and Goderis (2007) find that although resource dependent economies tend to suffer from a decline in production in the non-resource sector, it is avoidable. Trade and well developed financial and institutional governance can help dissipate a resource curse impact on growth. Arzeki and van der Ploeg (2007) find countries with more open and liberal trade policies can lessen the impact of the resource curse, while van der Ploeg and Poelhekke (2008) argue that a well developed financial system can also help achieve similar results. Avendaño et al. (2008) looking at the macro management of resource exporting countries in Africa and Latin America during the latest boom, find that countries using pro-cyclical fiscal policies, retiring costly debt while improving their credit profiles have made a positive contribution to their development.

Resource rents can be accompanied by a positive growth effect as long as a country has good institutions (Collier and Goderis, 2007; Mehlum et al., 2006). Fasano (2002) documents the case for United Arab Emirates which spent its resource rents on modern infrastructure and education turning the curse into a blessing. Acemoglu et al. (2003) offer similar findings for resource rich Botswana. Arzeki and van der Ploeg (2007) and Mehlum et al. (2006) confirm this for a number of countries, using empirical evidence to show a negative impact of resource dependence on growth rates only when the quality of institutions is worse than a critical level.

Base metal and mineral exporting countries have an opportunity to benefit from the current and expected growth of commodity prices in the medium term. For base-metal ore abundant countries, commodity optimism may well define the next fifty years of global economic development. It is an opportune moment to make the most of commodities.

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