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Chapter 7

**China’s Structural Demand and Commodity Prices:
Implications for Africa**

Masuma Farooki

1. Introduction

As a source of wealth, commodities offer a great domestic resource, and yet their ability to deliver on growth – especially for developing countries – has been under question. From the 1950s onwards, commodities suffered from volatile prices, short lived price booms and terms of trade deterioration relative to manufactures. The low and often volatile commodity prices over a short term can have negative consequences for export revenues. Sustained changes over a medium or long term have relevance for a country’s terms of trade and therefore the industrial and trade policies and the priority that is given to the commodities sector within an economy. Countries that have natural resources can benefit from trading with countries in need of these resources. In a growingly integrated world, emerging economies unable to meet their demand from domestic sources are increasingly turning towards international markets to source raw materials for their growth. As the demand and supply of commodities becomes increasingly global, the factors affecting the price of these goods are also increasingly international.

Commodity prices, particularly in the metals and minerals category, began to rise towards the end of 2003, and continued to rise for the next five years. The 2003-2008 commodity boom was the third price boom experienced since the Second World War. The price rise in base metals brought new opportunities for investment in resource rich countries, including those in Africa. China, the largest expanding economy in this period, was seeking raw materials to fuel its domestic infrastructure and manufacturing growth. In the middle of 2008, a financial crisis interrupted this

trend, and by June 2009, commodity prices had lost half their value compared to their peak in early 2008. Advanced economies have been in recession and China has seen the slowest gross domestic product (GDP) growth for over a decade. The 2008/09 global financial crisis induced slowdown in Organisation of Economic Co-operation and Development (OECD) economies and emerging economies has depressed the demand for commodities. With the prospect of lower commodity demand from these countries lingering as a consequence of the expected slow recovery from the crisis, what expectations can we have for commodity prices? How will the behaviour of these prices affect the resource material driven engagement between China with Africa?

In order to answer these questions, this chapter first examines the three post World War II commodity booms in 1951-1953, 1972-1975 and 2003-2008, looking at the supply and demand factors behind the price rises. It then contrasts the 2003-2008 period with the previous two to assess whether the latest boom was unique in any manner. Thereafter, we examine the largest driver of commodity demand, China and the structural nature of this demand. In the following section, we turn towards the resource-driven trade and investment from China towards Africa and the policy issues that arise from the long-term nature of this engagement. Since the metals and minerals sector experienced the most sustained price gains in this period, we focus on base metals in particular and the term commodities refers to this sector.

2. Commodity Price Behaviour and the Commodity Boom

2.1 Context

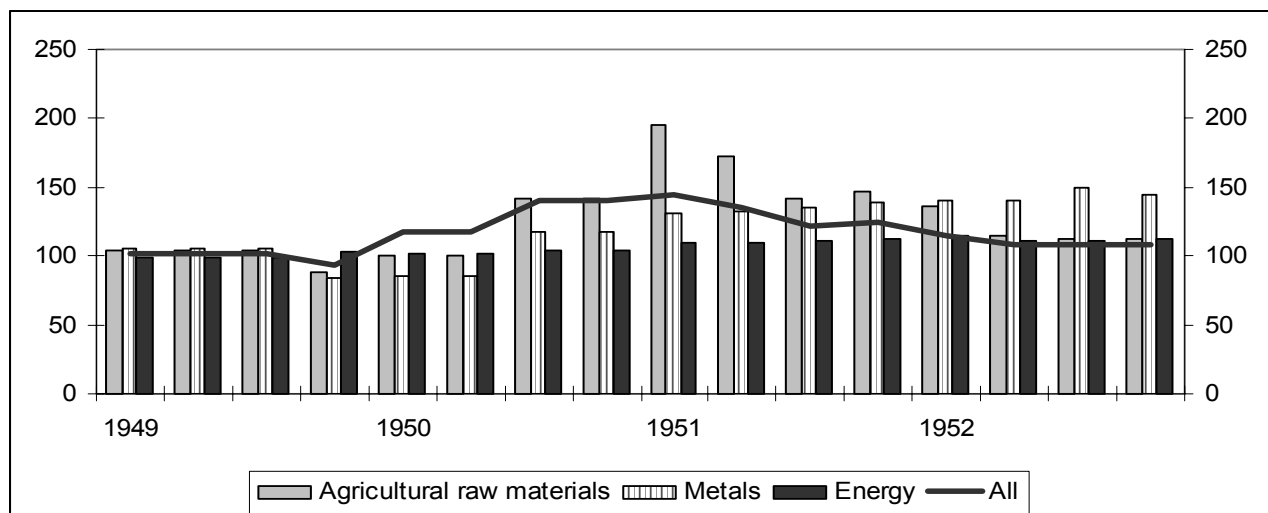
Commodity prices tend to be cyclical, fluctuating over a period of time. They tend to respond to physical market fundamentals as well as other financial indicators such as interest rates, stock-markets and currency fluctuations. Commodity cycles tend to be asymmetrical and expansion and contraction phases are not equal in length. Studies by Labys *et al* (2000) and Cashin *et al* (1999) both indicate that commodity prices tend to spend longer times in contraction when compared to expansion. The length of the expansion and contraction will differ between agricultural and mineral commodities and within each sector. Cashin *et al* (1999) also indicate that the time spent in expansion is not an indication of time spent in contraction and *vice versa*.

A commodity price boom occurs within a price cycle, and is identified as its expansionary phase. A commodity boom is a sharp increase or ‘explosion’ in international commodity prices in all the sub-categories of agricultural, minerals and metals and energy commodities (Radetzki 2008). Since there is no formal definition of a commodity boom, for our purposes we define a commodity boom as one in which a price peak is achieved that is higher than previous localized peaks and study the three identified price booms. Increases in prices are usually triggered by a shock in market fundamentals, which may be caused by unanticipated changes in either demand or supply or both. Although shocks can drive changes in cyclical movement, some shocks are temporary while others are permanent. Depending on their nature, the degree of persistence of the shock will differ as well (Cuddington 1992, Reinhart and Wickham 1994). For commodities, three price booms have been identified post World War II. The first was in 1951-1953, the second in 1972-1975, and the latest started in 2003 and ended in mid-2008.

2.2 The First Commodity Price Boom of 1951-53

The first post World War II boom in commodity prices occurred over 1951-1953. Commodity prices peaked in the first quarter of 1951, and were 45 percent above their 1949 values. However, the boom rapidly lost momentum, with prices only rising by 16 percent over their 1949 values in the second quarter of 1952 (Figure 7.1). The rise in prices was not spread equally across all commodities. Agricultural prices rose more than metals and peaked in early 1951 while metal prices peaked in mid 1952. Energy prices remained stable around their 1949 values.

Figure 7.1 Quarterly Index of Commodity Prices in Nominal US\$, 1949-52 (1949=100)



Source: Radetzki (2006)

The 1950 price boom appeared at the end of an economic recession as the global economy experienced a recovery. As industrial production (IP) began to pick up pace, demand for industrial raw materials increased. The International Monetary Fund's (IMF) IP index for advanced industrial countries rose from 16, to 21 over 1949-1953. However, expectations of widespread shortages, spurned by memories of the Great Depression led to an increase in consumer purchases and hoarding. The second impetus underlying commodity demand in the early the 1950s was a result of the Korean War. As the United States went on to a war footing, increased industrial production increased the demand for commodities. The metals sector saw the second highest increase in prices in this boom and can be linked to the increased spending within the US, reflecting the strong demand for metals.

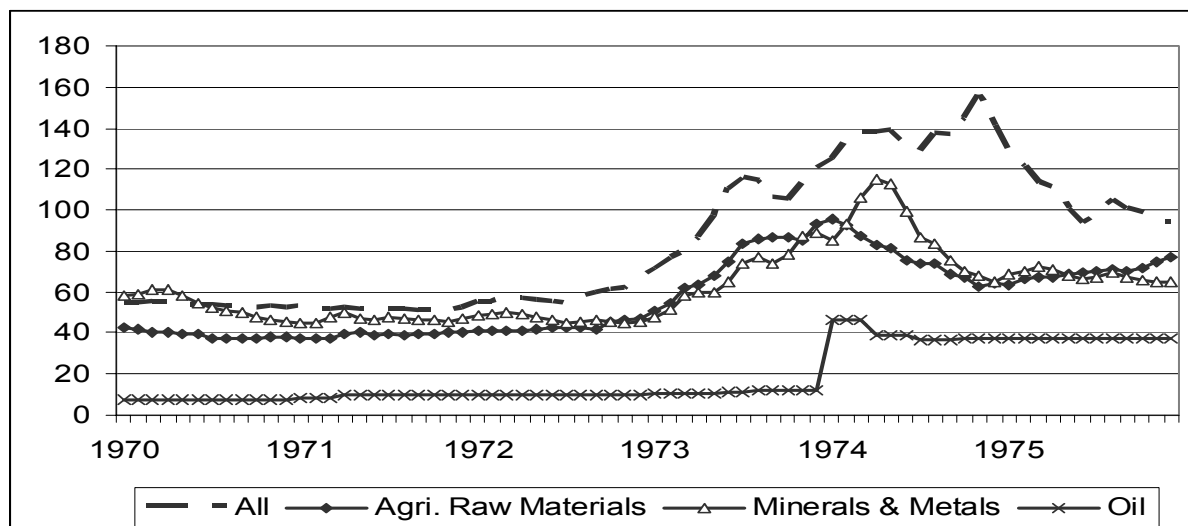
Threats to the security of supply, with the Korean War in a major production area of industrial raw material, led to increasing pressure to build inventories, and prices in this sector responded by rising quickly. The push for increased inventories was responsible for short term supply constraints rather than fundamental constrictions in the supply side. The two sectors, energy and food, where supply security was not perceived, and therefore stockpiling was not an issue, did not experience the same level of price increase as industrial raw material. The major consumers of agricultural products and energy were in general self-sufficient at this period of time, and so a major import demand did not originate in the global economy. The United States was an oil exporter at this stage and there had been no significant harvest failure to cause security scares in the food sector. Security issues did not arise in the energy and food, and so no efforts were made to stockpile in these sectors.

The 1951-1953 commodity boom was more about perceived supply security issues rather than actual bottleneck in the supply side. Eventually the very increase in inventories responsible for rising prices was also the cause of the end of the price boom when large destocking took place.

2.3 The Second Commodity Price Boom of 1972-75

In the Second Commodity price boom all commodities experienced increasing prices, with differences in the timing and duration of that price increase. Prices started to rise in the last quarter of 1972, finally peaking in the last quarter of 1974 (Figure 7.2).

Figure 7.2 Monthly Averages of UNCTAD¹ Commodity Index, 1970-1975 (2000=100)



Source: UNCTAD Statistics online [<http://www.unctad.org/Templates/Page.asp?intItemID=1889&lang=1>] accessed February 2009

Agricultural raw material prices were the earliest to peak in the first quarter of 1974 followed by food prices peaking in the last quarter of 1974. Compared to 1971, prices had just about doubled in these two sectors. The largest price increases were seen in the oil sector, prices initially doubled between the first and last quarter of 1973, but by the end of 1975 rose by four and a half times their 1971 values. By contrast metals prices only doubled between the first quarter of 1972 and second quarter of 1974. Although the price index for all commodities was higher at the end of 1975 than

¹ United Nations Conference on Trade and Development.

its value in 1972, only the increase in oil prices was permanent, while the others returned near to their pre-boom levels.

The early 1970s was a period of expanding economic activity in the Western world. The IMF IP index for the advanced economies rose by 15 percent between 1971 and 1976. The demand surge for commodities came from the simultaneous economic expansion of three major industrial regions: the US, Western Europe and Japan. On average, the OECD economies experienced annual GDP growth of 4.4 percent in 1969-71 and 3.2 percent in 1972-75. Japan's annual average GDP growth was 9.3 percent and 4.6 percent over the same period. The Soviet Union experienced bad harvests for two consecutive years in 1971 and 1972 with South Asia and North America suffering crop failure in 1972. The resultant short fall of supply to meet demand led to an increase in food prices. Agricultural raw material prices were affected when the traditional producers of these commodities turned land towards growing food crops rather than cash crops. Thus, the supply deficits from the food sector were passed on to the cash crops sector.

Politically, the major event during this period was the Arab-Israel war that led to oil embargos being raised by certain Middle East oil producers on western countries. This was also the period where the Organisation of the Petroleum Exporting Countries (OPEC) cartel asserted its power over oil prices leading to the first of the oil price shocks to the global economy in 1973. In the hard commodities sectors, prices rose due to supply constraints. Strikes in Chile had reduced copper exports, while Jamaica and later other bauxite producers imposed huge tax increases on this mineral commodity (Fried 1976). This led to increasing supply constraints in the metals and mineral sectors leading to rising prices in the metals category. More generally, these supply constraints occurred at a time when demand was strong. The price boom receded when economic recession took hold towards the end of 1975 and most prices receded near to their pre-boom levels of 1971.

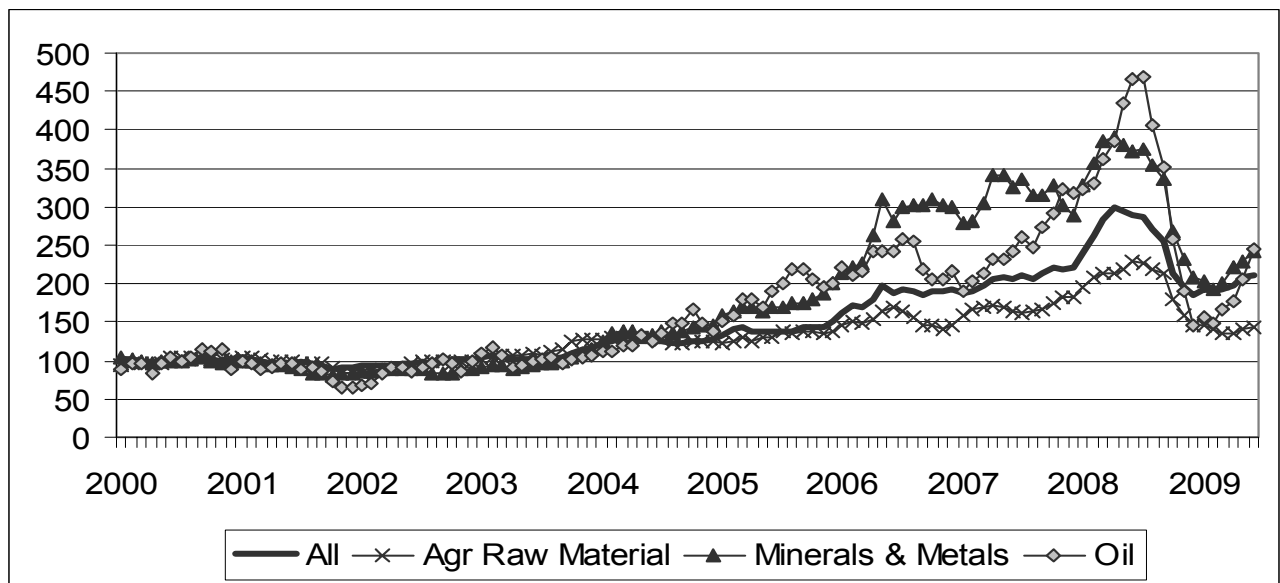
2.4 The Third Commodity Price Boom of 2003-2008

The 2003-2008 commodity boom is associated with a major expansion of the global economy. International commodity prices began to rise for most sectors from 2003 and continued on an upward trend until mid-2008. Between 2000 and 2003, the United Nations Conference on Trade and Development (UNCTAD) All Commodities Price Index rose from 100 to 105, and by 2007 it had doubled to 207. Different commodities experienced different price increases, and as Figure 7.3

shows, oil and metals and minerals experienced much higher prices than agricultural or soft commodities. By mid-2008, when the global financial crisis emerged, prices crashed for all sectors, although by the end of 2008 the indices for all sectors were still above their 2000 values.

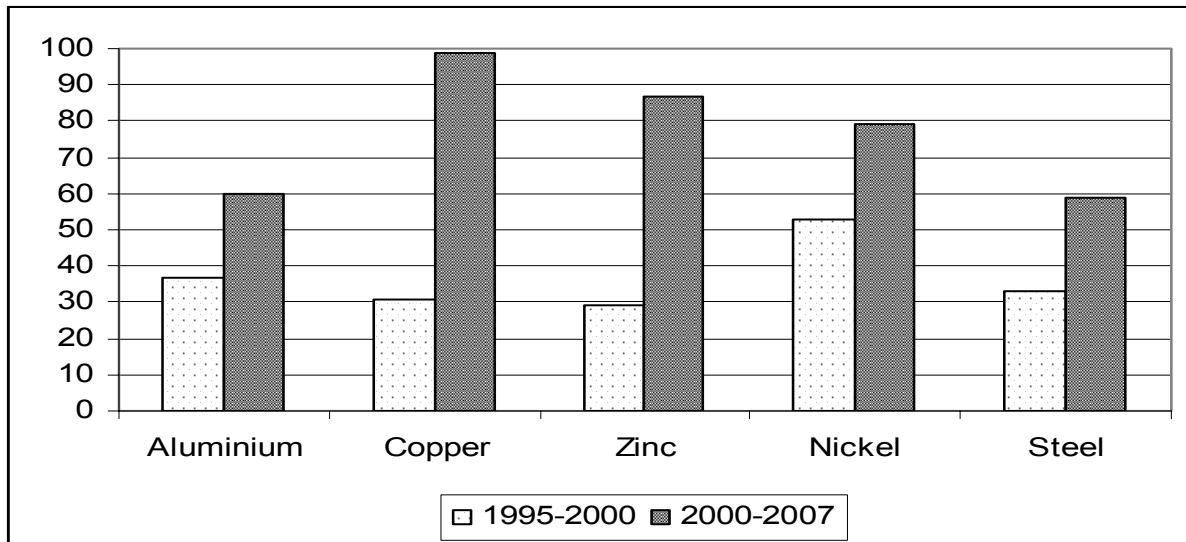
The demand for commodities was generated in two main country groupings. The first was the IMF IP Index for the advanced industrial economies (70 percent of world GDP) which rose from 98 in 2003 to 108 in 2007. The second was the non-OECD economies, such as China and India, which exhibited growth at an per annum average of 10 percent over the 2000-2007 period. The demand for base metals from China has been responsible for the bulk of increase seen in global demand for base metals (Figure 7.4). Over 1995-2000, China's share of new demand was less than 50 percent, but in 2000-2007 it accounted for more than half the increase in demand for aluminium, nickel and steel, and nearly all of the increase in demand for copper and zinc.

Figure 7.3 Monthly Averages of UNCTAD Commodity Indexes, Jan 2000 - June 2009 (2000=100)



Source: UNCTAD Statistics online [www.unctad.org/Templates/Page.asp?intItemID=1889&lang=%201] accessed September 2009

Figure 7.4 Percent Increase in Global Demand for Metals Accounted for by China



Source: Macquarie Commodities Research (September 2008) 'Overview of Commodities Outlook with Focus on Copper, Zinc and Coking Coal', Company Presentation.

Whereas substantial growth was seen in the demand for commodities, the supply side remained constrained in the metals sectors in 2003-2008. The initial increase in demand in the early 2000s was met by using long built up inventories and stocks at producers, consumers and international exchanges. The London Metals Exchange, which is the premier metals trading exchange, saw inventories of copper drop from 856 kilo ton (kt) in 2002 to 49 kt. in 2004, and slightly rising to 199 kt. in 2007.² Only in the second half of 2008, as the recession set in and global demand decreased, did inventory levels begin to rise again. Exploration budgets in mining, and investment into new capacity was also limited during the initial years of the price boom and only began to materialise after 2005. Exploration budgets in the 1990s averaged at US\$3.7 billion per annum, and only after 2003 did budgets begin to rise from US\$3.8 billion in 2004 to US\$10.5 billion in 2007. The 2003-2008 commodity prices were mainly driven by unanticipated demand surge from China and inadequate supply response from the minerals and metal sector. As inventories began to be drawn down, with limited new supply coming on line, the price surge was a logical reaction to the physical market fundamentals. Only as growth slowed and demand receded in the second half of 2008 were inventories rising, leading to an end in the commodity price boom.

2.5 Comparing the Commodity Booms

² Bloomsbury Mineral Economics (2009) *The Copper Briefing Service*, January edition, London: Bloomsbury Mineral Economics.

Supply and demand imbalances are likely to trigger a commodity price hike. In the 1951-1953 and 1972-75 period, price increases were a response to events occurring in the supply side of the equation rather than unanticipated demand itself. Demand for hard commodities is generated by industrial production and GDP growth. The 1951-1953 boom occurred at a time when the world was recovering from both a serious economic recession and the aftermath of World War II. The recovery started as early as the end of 1949 and in 1950, and demand for commodities was expected to continue to rise. It was the possibility of supply disruptions due to the Korean War (1950-1953) that increased inventory demand as a response to supply insecurities. In the 1972-1975 boom, economic expansion had been prevalent in the previous few years and industrial demand for commodities had been fulfilled. Western Europe and Japan's industrial expansion was gradually building up in the late 1960s and was not unanticipated. As in the previous boom, it was supply side insecurities that triggered responses in demand to build up inventories. As global recession started to set in by 1975, the demand for commodities also decreased. The 2003-2008 commodity boom came at a time where the global economy was recovering from the East Asian financial crisis of 1997/98, and the bursting of the Dot Com bubble in 2000/01. Removed from these financial events to a large extent, was the strong GDP growth in China, which was sustaining an average 8 percent growth rate per year for over a decade. No major supply disruptions are evident in this period, and it was the unanticipated demand from China that played a more important role in the 2003-2008 boom.

The first two booms were driven by disruptions in supply and were also over when supply came back in balance with demand. The third boom on the other hand was very much about demand, and subsided after the demand element receded rather than due to a major response from the supply sector. In the two earlier booms, the demand drivers were the industrialised economies. However, in contrast, the 2003-2008 commodity prices have been driven to a very large extent by the economic expansion in China. In order to understand the impact of Chinese demand on commodity price trends, we turn to examine the structural nature of China's GDP growth.

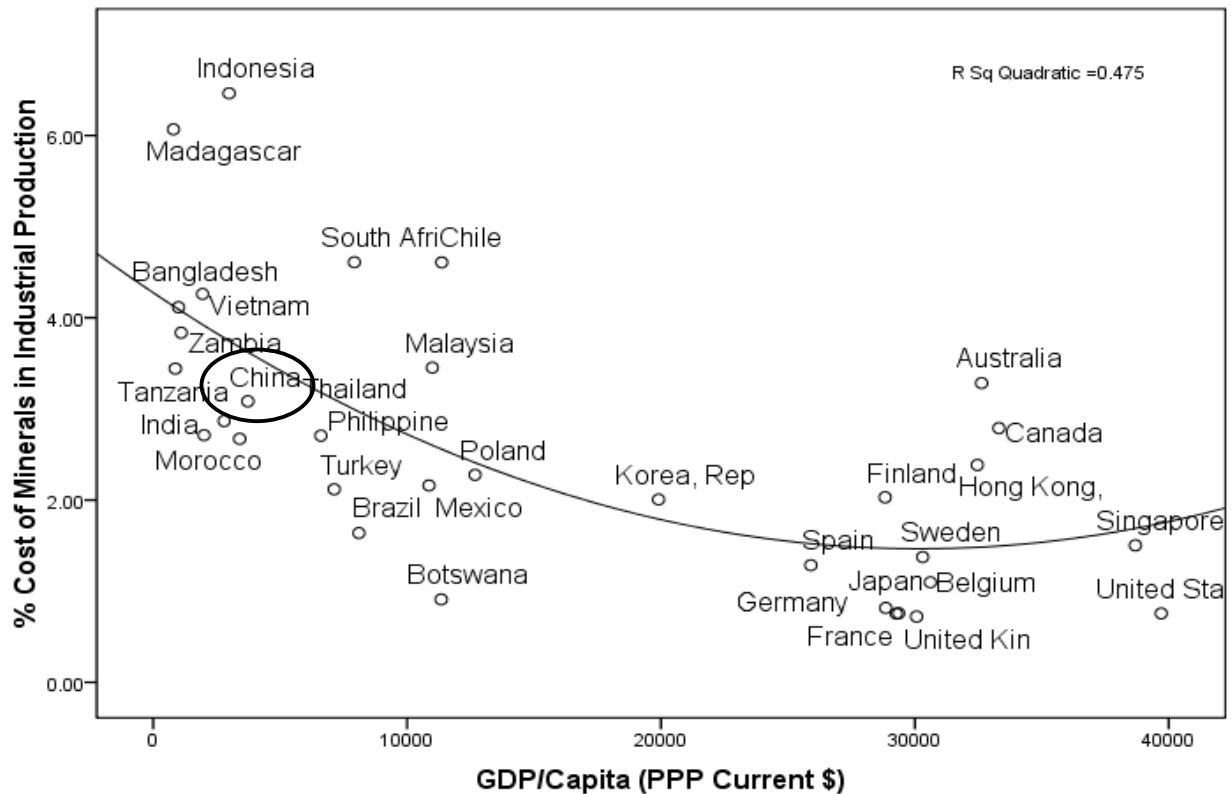
3. Structural Change in China and Commodity Demand

Commodity demand in the real economy is derived from their usage as inputs or intermediate products. The intensity of usage per capita is dependent on the structural nature of the economy.

Metals and minerals are intensively used in a number of sectors: infrastructure, construction (urbanization) and manufactures. Therefore, any economy where the major share of the GDP comes from manufacturing and infrastructure expenditure, will be using more commodities relative to other economies with similar GDP levels, but where the primary or the services sector is driving growth. At low per capita income levels only basic needs can be met and as such metal consumption remains low. As income levels rise, demand for consumer products, housing and infrastructure are likely to grow, generating higher demand for minerals and metals. As advanced economy status is reached and domestic growth in infrastructure and construction slows down, consumption of metals fall as well. Therefore low income or less developed countries (LDCs) – which tend to have small industrial sectors – will have low rates of industrial commodity consumption. Advanced economies (AEs) – typically having a much larger service sector than industrial sector – will too have a low industrial commodity consumption rate. Generally, emerging or newly industrialising economies will experience higher rates of industrial commodity growth per percentage point increase in GDP in relation to both LDCs and AEs (Radetzki 2006).

The income elasticity of demand for commodities will change as an economy moves from an agrarian to an industrial based structure. This shift will also be accompanied by rural-to-urban migration, and rising urbanisation rates will further spur the demand for commodities. The income elasticity of demand for commodities is higher for economies with emerging industrial sectors in comparison to when the primary or services sector is the lead sector in GDP, leading to demand disruptions in commodity prices in the former case. Figure 7.5 provides a cross country comparison of GDP per capita and 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 7.5 Percent Share of Costs of Minerals / Extractive Sector in Industrial Production and per capita income (purchasing power parities, PPP), 2004



Source: Author's calculations based on data from the Global Trade Analysis Program (www.gtap.agecon.purdue.edu) and the World Development Indicators (December 2008) database (www.worldbank.org/data), accessed June 2009

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 7.5, 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, and as its income levels rise we expect it to move down and along the curve. However, given the large size of China, the impact that its demand makes on the international markets is through the large volume rather than differing consumption patterns.

China's economic growth has been phenomenal by any standard of development, with GDP growth averaging 10 percent per annum from 1990 to 2007. In 2006 and 2007 this rate climbed to 12 percent per year. This growth has been driven mainly by the industrial sector which accounted for 48 percent of value added in GDP in 2006. The increasing economic activity within China is a

major driver for its domestic growth. The share of the industrial sector accounts for nearly half of China's national output, considerably higher than the 22 percent average for advanced economies, 29 percent for Japan, and even in comparison to transition and emerging economies such as South Korea (40 percent) and Russia (40 percent). Expenditure on physical capital investment in China was 43 percent of GDP in 2006, much higher than the 18 percent for Germany and 29 percent for South Korea.³ Rapid urbanisation growth in China has also further intensified the country's demand for commodities. The United Nations Population Division expects Chinese urban population to rise to 684 million by 2015 and to 890 million by 2030. In order to accommodate such large urban populations, construction and infrastructure needs will generate still further demand for metals and minerals.

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 in many respects a developing country. In comparison to high income OECD economies, where the per capita income was around US\$35,000 in 2007, China's per capita income was just US\$5,083.⁴ As China achieves higher per capita 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. Therefore its demand for commodities will eventually taper off, but not in the near future.

As the scale of the financial crisis began to manifest itself in the second half of 2008, by early 2009 China's expected GDP growth rate fell to 8 percent from the anticipated 12 percent estimated the previous year. As consumption levels in its major export markets began to fall, so manufacturing activity decreased in China and unemployment increased. In order to combat the recession and avert an economic slow down, the Chinese government employed various stimulus packages to help domestic growth to replace lost export markets. In November 2008, China announced US\$586 billion to be spent on rebuilding houses destroyed in the summer earthquake and still more infrastructure projects, including railroads, airports, subways and bridges in the next two years. A fall in interest rates and other schemes to encourage domestic consumption have been put into place, although it is too early to tell as to what degree these programmes will be successful in maintaining domestic growth in the long term.

Table 7.1 China's Importance for Commodity Exporting Developing Countries, 1990-2006

³ World Development Indicators (December 2008) database (www.worldbank.org/data) accessed June 2009

⁴ Ibid.

Percent Share Region in Chinese Imports of Base Metals				
Region	1990	1995	2000	2006
Low & Middle Income	30	46	46	56
Latin America	9	17	18	27
Asia	6	6	8	13
Sub-Saharan Africa	6	9	6	5
Percent Share of China in Regions Exports of Base Metals				
	1990	1995	2000	2006
Low & Middle Income	2	7	11	27
Latin America	1	5	9	24
Asia	6	18	35	80
Sub-Saharan Africa	2	10	12	26

Source: Author's calculations from COMTRADE database accessed via WITS in July 2009.

Trade is a large driver of China's economic growth, accounting for 72 percent of GDP in 2006, but the Chinese growth miracle has not all been about its exports. In 2006, exports were valued at 40 percent of GDP, but importantly imports were valued at 32 percent. As China sources industrial and agricultural raw material through imports, its growth is increasingly becoming a source of revenue for natural resource exporting developing countries. With a rise in China's demand for commodities, increasingly developing countries are benefitting from higher exports to China. The importance of China for commodity exporting developing countries is rising, and *vice versa*. Low and middle income countries as a whole accounted for 30 percent of Chinese base metal imports in 1990 (Table 7.1). By 2006, they accounted for 56 percent of these imports. The largest increase was seen in the share of the Latin American region, which is China's main source of copper imports. Asia is China's major source of tin, and the region's share of base metal imports increased from 6 percent in 1990 to 13 percent in 2006. Sub-Saharan Africa's share in Chinese imports has tended to remain stable since the early 1990s.

As important as these developing regions are as a source of imports for China, China's importance for these regions as a primary destination is also increasing. As the second section of Table 7.1 indicates, China increasingly accounts for the exports of these developing countries. In 1990, as an export destination it accounted for only 2 percent of their base metals export market. By 2006 this had increased to 27 percent. Asia's exports have seen the greatest export diversion, from 2 to 80 percent, followed from Latin America (1 to 24 percent) and Sub-Saharan Africa (2 to 26 percent). China's still burgeoning economic growth rate and growing importance in commodity trade for developing regions suggests that it will continue to be an important source of export revenues for developing countries over forthcoming years.

4. Chinese ‘Resource Diplomacy’ Engagement with Africa

4.1 Context

As other chapters in this book have examined, Africa’s importance for China has been steadily increasing, linked to its potential as a largely untapped source for oil and minerals and metals. One of the major vectors of this deepening engagement has centred on natural resources sector. Africa has some of the largest reserves of metals and minerals on the planet, and the potential for further growth in production is considerable. In 2006, the ratio of production to reserves for manganese, cobalt and aluminium was as low as 34 percent, 33 percent and 9 percent respectively (Table 7.2). In other metals the production to reserve ratio is quite high such as for platinum (90 percent), gold (48 percent) and chromium (91 percent). The United States Geological Survey estimates that between 2000 and 2013, Africa’s production of platinum, aluminium and copper will increase by 119 percent, 109 percent and 360 percent respectively.

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 secured access to raw materials. The Chinese presence within Africa is increasingly being viewed as China’s attempts to secure its ‘resource basket’ (Kaplinsky and Farooki 2009). 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.

Table 7.2 Africa’s share of Global Production and Reserves (percent 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: African Development Bank (2008)

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 Corporation (FOCAC) aimed to provide preferential loans of US\$3 billion and credits worth US\$2 billion for preferential export buyers in Africa. The China-Africa Development Fund will provide US\$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 LDCs in Africa. Between 2000 and 2003, an estimated US\$1.27 to US\$1.38 billion loans were converted to grants. In 2005, a further commitment to reduce loans by a value of US\$1.3 billion was made. Broadman (2008) reports concessional loans to Africa reached US\$800 million in 2005, covering 55 projects in 22 countries.

As China began to emerge in the international global scene, its outward foreign direct investment (FDI) flows remained small, equivalent to just US\$916 million in 2000, not much higher than the US\$830 million in 1990.⁵ However, after 2000 FDI outflows rose significantly, rising to US\$17.8 billion in 2006. The flows are expected to continue to increase and reach an impressive US\$72 billion by 2011 (Economist Intelligence Unit 2007). China's investment in Africa is fairly well divided over different sectors. Over the 1979-2000 period, 46 percent of this investment was in the manufacturing sector, textiles being the main category. Services, mainly construction, accounted for 18 percent of the FDI inflows, with resource extraction accounting for 28 percent (UNCTAD, 2007). By 2007, there were an estimated 700 Chinese enterprises operating in Africa (UNCTAD, 2007). Meanwhile, China's exports to Africa increased from US\$2.4 billion in 1995 to US\$36.8 billion by 2007, and imports also saw a significant rise from US\$1.4 billion to US\$35.8 billion over the same period. China's US\$1 billion trade surplus with Africa in 1995 changed to a trade deficit of US\$1 billion by 2007. Oil related products are mostly responsible for this deficit, as China's non-oil trade balance has been in surplus, rising from US\$1.3 billion in 1995 to US\$18.8 billion by 2006 (Figure 7.6).

Figure 7.6 China's Exports and Imports from Africa in US\$ million, 1990-2008

⁵ The reporting mechanism for FDI may have also changed after 2000, and therefore may account for change in reported figures.



Source: IMF Direction of Trade Statistics (2009).

In 1995, most of the Chinese exports to Africa were in the low technology⁶ (47 percent) and medium technology sectors (26 percent). By 2006, high technology products were taking a larger share of the exports (16 percent) as well as an increase in the medium technology products (33 percent). Low technology products lost share and now account for 39 percent of Chinese exports to the continent. The top five products account for only 22 percent of its total exports to Africa. Telecommunication equipment (6 percent), cotton fabric and garments (13 percent) were some of the top Chinese exports in 2006. On the import side, China's imports from Africa were biased towards the primary (42 percent) and resource-based (39 percent) sectors in 1995. Over time this bias has been accentuated with these two categories accounting for 96 percent of total imports in 2006. Petrol oils are the largest imports from Africa, and have risen from 22 percent in 1995 to 78 percent by 2006. Ores and concentrates of base metals are the second largest and although their share has decreased from 11 percent in 1995 to just 5 percent in 2006, their value has actually increased from US\$0.1 billion to US\$1.3 billion over the same time.

Cascading tariff barriers for African exports is also an issue, where China encourages the imports of unprocessed products while taxing processed goods. This has implications for manufactured exports (or potential exports) from African countries. However, recently China has granted 'Generalised System of Preferential' (GPS) status to African exports, although it remains unclear how this will affect processed goods.

4.2 China's Strategic Interest in Africa

⁶ Technology category based on the Lall's (2000) taxonomy of such products.

China engages with a large number of countries in Africa, often funding investment in parts of the continent that are considered politically risky by other donor countries. 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. There has been a significant strategic integration by China in its approach to Africa. 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, such as the Democratic Republic of Congo.

A distinctive feature of China's presence in Africa is a traditional reluctance to exert pressure on African governments with regard to patterns of governance (e.g. refusal to participate in Paris Club transparency initiative in Angola), internal politics (e.g. Darfur and Zimbabwe) or process standards in production, for example on ethical trade and environmental standards. However, there are signs that this hands-off approach is changing, with China providing an increasing number of peacekeeping troops in Africa (see Chapter 4). China is also very sensitive to criticism of its profile in Africa, to some extent reflected in its recent aid-FDI-trade venture in the Democratic Republic of Congo, which appears to have answered some of the criticisms made of its approach towards exploiting Africa's abundant resources. China has initiated a number of fora to enhance China-Africa relationships. The largest of these is the aforementioned FOCAC (see Chapter 1), the first FOCAC ministerial meeting being 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. 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 in comparison 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 (Kaplinsky and Farooki, 2008).

The challenge therefore is to build on these mineral and agricultural sectors and improve value addition for exports. Of the emerging economies, China has the most resources at its disposal and is actively seeking markets and opportunities for engagement. Africa provides such a base, and

well-designed policies can help both regions gain from the experience. China has a clearly developed strategic approach towards Africa, involving multiple parties on the Chinese side. The strategic objectives are twofold: first, to obtain long-term access to Africa's abundant resources (oil and minerals); and second, to obtain Africa's support in the global arena. Chinese aid to Africa is free of conditionality (subject to a proviso that recipient countries do not recognise Taiwan), although there have been recent signs that it is more willing to consider the quality of internal governance in some African countries, e.g. providing peace-keeping forces, gentle pressures on Sudan with regard to Darfur. Insecurity in many parts of Africa is both a problem for Chinese operations and an opportunity. The opportunities are perhaps more evident, since it is the very insecurity of oil and mineral extraction in Africa (Sudan, Nigeria and the Democratic Republic of Congo) which provides the space for Chinese firms to enhance their presence. These bring both opportunities and risks to the African countries. Even with the 2008 decline in commodity prices and economic growth, China has continued to pursue mineral sector based engagement with Africa. In January 2009, China signed a US\$2.3 billion deal with Liberia, the biggest FDI project in the country, for iron ore mining. Revamping the country's rail network and electricity generation is also part of the agreement.⁷ Thompson (2009) reports in Zambia, Chinese owned firms opened copper smelters in January 2009, while other competitors were shutting down their plants. Despite the global downturn, Chinese investors are still looking to expand their markets in Africa, especially in the telecommunications sectors. Other firms that are looking to buy in the mineral and metals sector given the lower price for these resources due to a fall in commodity prices.

China's growing presence in Africa has both positive and negative implications. If we focus on the direct impact, consumers, producers and governments can draw major benefits from engagement with China. However policy concerns remain in connection to this engagement. The implications of China-Africa engagement cover a whole variety of direct and indirect issues, as well as macro-, micro- and meso-level outcomes. On the one hand, China has brought much needed aid, trade and investment to African countries. In return, it has access to oil and other industrial commodities which are important for the country's own economic development. While China has made contributions to developing the infrastructure in African countries, its exports may harm the manufacturing sector. Chinese demand for commodities has led to increased investments by Chinese and Western mining firms in Africa, but environmental, labour and equity issues remain. The increase in commodity prices is advantageous for natural resource abundant countries in

⁷ *Voice of America News*, 23 January 2009.

attracting a higher price for their exported product and increased investments in their commodity sectors. A change in the direction of their terms of trade – driven by growth in large emerging economies like China, India and Brazil – brings new non-Western derived opportunities of growth. However, making the most of domestic natural resources raises policy issues that must be addressed by African countries, as is discussed below.

4.3 Dealing with Rent Seeking Behaviour

Rent seeking behaviour by the state does not allow for mineral wealth to be shared for the benefit of the entire population. Development is impeded when royalties from mineral resources received by the state are not transferred to the population through redistributive expenditures on health, education and other public goods. The general population will also suffer if the state uses its mineral wealth on non-development expenditure such as presidential palaces and expenditure on luxury vehicles for state officials. Finally, the state in receiving resources from outside the country, will not consider itself accountable to its own people. This often leads to non-democratic state behaviour. In extreme cases, conflict and civil war may break out with opposing factions trying to take control of the centre to which resource rents are paid. Such rent seeking has caused conflict in most African countries that China has closer economic relations, and with increasing commodity prices there is now more wealth to fight over. Recent efforts to circumvent rent seeking states have included the Chad-Cameroon pipeline supported by the World Bank (Pegg 2005, Heller 2006). Rents from the resources were earmarked for specific development sectors from the beginning and monitoring and evaluation teams were trained to ensure that the funds flowed to their appropriate budget heads. There are also other successful cases such as Angola, where the African Development Bank has been assigned a key role in monitoring resource revenues. These kinds of policy options can be used to ensure that development from mineral resources is delivered to a wider population leading the entire country to benefit from its natural resources.

With higher competition for Africa's resources, mining deals are coming under increased scrutiny from international institutions. The case of the Democratic Republic of Congo (DRC) is the first example, and more will follow, where mining investment deals have come under strong scrutiny by other international financial institutions. The DRC government negotiated a mining investment deal worth US\$9 billion with China, giving the latter extensive mining rights in the region. A sum of US\$3 billion was to be invested in the mine area itself, while the remaining money was to be

divided further into two tranches, to be spent on developing roads, railways, hospitals and universities. Although this was the largest ever foreign investment in the DRC, the IMF and OECD were cautious about the negative impact of this deal on the DRC's debt repayment obligations. After tense negotiations, the deal went ahead, although the US\$3 billion for infrastructure support was suspended.⁸ The negotiations involving the African host country, the Chinese and the IMF indicates the growing scrutiny that new mining deals are receiving and the importance being given to ensure that such investment are not harmful to the country in the long run.

4.4. Dealing with the Dutch Disease

The Dutch Disease arises from two related processes. The first is the deindustrialization of the economy due to a growing domestic natural resource sector (e.g. oil, gas) that crowds out other sectors. The second is from the appreciation of the exchange rate due to growing demand for the same domestic natural resource that makes exports from non-resource sector less price competitive in international markets. However, as the Netherlands has shown, with a comprehensive industrial and monetary policy, these affects can be dealt with effectively. Industrial and trade policy can address issues of de-industrialisation within the domestic economy and support the non-trade sector. Malaysia has used a balanced approach to develop its natural resource and manufacturing sectors together, with success. New Zealand and Australia are both examples of commodity exporting countries that have diversified their economies without abandoning their resource sectors.

The de-industrialisation problems associated with the Dutch Disease also need to be considered in the context of resource-rich developing economies. Some of these countries do not have a substantial manufacturing sector to speak off, as applies to many if not most African nations Kaplinsky and Morris (2008). Concentrating on commodity exporting may further exacerbate problems in the fledgling manufacturing sectors. On the other hand, with China's high income elasticity of demand for commodities, the absorption of their commodity export output is largely guaranteed. The balancing act between export sectors that will generate high revenues for the medium term, at the cost of further ignoring the manufacturing sector, becomes even more important for these developing countries. These are not easy policy challenges but for the present it is argued that effective policy support is required by these countries to mitigate the effects of the

⁸ *The Financial Times*, 18.08.09 'China and Congo Change Tack on Deal'.

Dutch Disease. The use of industrial and monetary policy in these cases, to dissipate the impact of a strong commodity exporting sector, with appropriate state interventions has been suggested by a number of scholars (Ross 1999, 2001; McMahon 1997; Saaraf and Jiwanji 2001).

4.5 To Industrialise or Not to Industrialise?

Industrialization has long been held as a panacea for development and is evidenced to have delivered growth for a wide range of countries. Now that the rise in commodity prices can also contribute to growth, should natural resource abundant countries still focus on industrialisation? This is a difficult question to answer. Natural resources are now in a better position as a sector to assist growth, with the capability of generating higher export revenues relative to previous periods of lower commodity prices. However effectively using these export revenues for economic growth and development, and to ensure the proceeds are spent for the greater good of the local population remains challenging.

The enclave nature of the mining sector, with its limited forward and backward linkages, tends to restrict its multiplier effect within an economy. Given the capital-intensive nature of mining, the sector makes greater demand on capital investments which are more scarce in a developing country relative to labour. Mining will not generate the same amount of employment as does the manufacturing or agricultural sector. There are also issues of rent seeking behaviour on part of the State, which can have a detrimental effect on economic growth (Moore, 2001; Auty 2001). When a government receives royalties for its natural resources, without a strong system of accountability and responsibility to the people in place, the temptation for the State to ransack the country for its own gains can be large (Mkandawire, 2005). On the more positive side, in the late 19th century and early 20th century, commodity exploitation and industrialization moved in parallel and with the right policy mix and state intervention, economic growth was possible in a number of countries

(Wright and Czelusta 2004). If countries are to benefit from their natural resource sectors and not remain focused on industrialisation alone to deliver economic growth, strong political and institutional policies need to be developed. Resource rents can be accompanied by a positive growth effect as long as a country has good institutions (Collier and Goderis, 2007). Arzeki and van der Ploeg (2007) and Mehlum et al. (2006) show a negative impact of resource dependence on growth rates only when the quality of institutions is worse than a critical level. 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.

This chapter focuses on resource-rich developing countries, particularly those exporting minerals and metals. However there are a large number of non-resource rich developing countries. During the high oil and food prices in mid 2008, most of them suffered from ballooning import bills, while facing intense competition in their manufactures export markets from China. These countries do not have the luxury of exploiting natural resources. At the same time, manufactured exports from China are a direct threat to their domestic manufacturing sector and indirect threat in their export markets. It is difficult to offer a simple answer as to whether these countries should continue to industrialize. A helpful way forward is offered by Kaplinsky (2009) in analysing the impact of China's growth on African countries. If Africa exports what China imports then Africa benefits, as is the case when China exports what Africa imports. This leads to a win-win situation. For example, Africa's exports of minerals and metals are beneficial as Chinese demand for these products has increased prices and can generate revenues for African countries. In the case of Chinese exports, low cost manufactured items (e.g. footwear, clothing and household electronic items) when imported into Africa, benefit domestic consumers. Therefore the benefit to the African consumers of low cost Chinese imports, while the revenue from high prices commodity exports can result in a win-win situation.

Kaplinsky (2009) also points out that there are indirect trade vectors that may harm Africa. This is likely to occur when Africa exports the same goods as China, or when Africa imports the same commodities as China. For example, China's demand for oil has had some impact in increasing oil prices, which has also increased the oil import bill for African countries. While Angola and Nigeria

may benefit from high oil prices, the rest of the African nations are oil importers. Similarly, textiles and clothing are a major African export to the United States under the Africa Growth and Opportunity Act (AGOA). With increased Chinese exports after the removal of the Multi-Fibre Agreement in 2005, exports from the AGOA region declined by 21 percent between 2005 and 2007 (Kaplinsky and Morris 2008).

Domestic policy issues have to ensure that cheap Chinese imports do not severely challenge or destroy local manufacturing capability. Similarly in signing agreements over mineral rights and concessions, the State has to ensure that an equitable distribution of rents takes place, and the benefits are passed on to the local communities. Environmental and labour standards also need to be enforced. Therefore while Chinese engagement may bring opportunities, the African governments need to ensure that policies are in place to fully benefit from these ventures. These are complex political and economic issues, and the most important component of this engagement has to be the response of the African governments. The policy proposals, agreements and implementation by the African States are in large part going to determine how beneficial Chinese engagement with the continent will be.

5. Conclusion

The 2003-2008 commodity boom saw a sustained increase in prices over the period, and unlike the previous two post World War II commodity booms, was driven by unanticipated shifts in demand rather than supply disruptions. The major increase in base metals demand originated from the resource-intensive stage of economic growth in China and is likely to lead to a prolonged increase in commodity prices for over a decade or more, referred to as a **‘commodity price super cycle’**. The Chinese demand for metals and minerals is largely due to the increased expenditure on infrastructure, construction and manufacturing. China may be the world’s second largest economy by size, but it is still essentially a developing economy and far from reaching mature economy status. The structural nature of China’s commodity demand indicates its continued need for natural resources.

China’s deepening engagement with Africa has also centred on access to these resources, aimed at securing raw material over the long term, and hence it continues to invest in mining and investment

activities in the continent. Beijing has tended to focus its combination of aid, trade and FDI policies on Africa's resource rich countries, although China is also expanding into other parts of the African continent. We can expect this engagement to be a reasonably long one, until China reaches a mature economy status and its commodity consumption rate begins to decline. Yet with its size and current state of development, China can absorb potentially very high levels of imports from developing countries. As an engine of global economic growth, China plays an important role in generating development for other developing economies. This provides African countries with an opportunity to benefit from their natural resources, but policy issues remain around growth led by the commodities sector. Rent seeking behaviour and the Dutch Disease remain of notable concern for countries where their manufacturing sectors are already struggling to take root. Good governance is also under stress where resource rents are concerned, as large resource revenues can cause more harm if not handled effectively. However, international financial institute support from the African Development Bank, the World Bank and the IMF can help to balance these issues and ensure that Africa's mineral wealth is used for improved public benefit. The responsibility to deal effectively with the Chinese and to negotiate contracts for access to minerals rests primarily with the state. The DRC government's negotiations with Beijing demonstrate the opportunity to gain valuable infrastructure and social sector investments in return for mining rights. With increased competition for these commodities, African states will find themselves in a stronger position to negotiate treaties that suit their development goals more effectively. The context of commodities and growth cover complex political and economic policy issues, and the most important component of this engagement have to be the response of the developing country governments. The policy proposals, agreements and implementation by these states are in large part going to determine how beneficial economic engagement based on commodities will be.

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