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China's Trade and FDI in Africa

Mary-Françoise Renard

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China's Trade and FDI in Africa

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Abstract

China's growth and its capacity to move in thirty years from under-development and extreme poverty to an emerging global power and one of the largest exporter of manufactured goods has attracted the attention of many developing countries. China has served as a development model for Africa and an alternative source of trade and finance from Africa's traditional development partners. The impact of China on African economies has been diverse, depending in part on the sectoral composition of each country's production. Overall, China's increased engagement with Africa could generate important gains for African economies. This paper analyzes the different impacts of China on Africa, quantifies the advantages and disadvantages, and policy suggestions necessary to maximize the development impact of China. One overriding consideration is that reaping the full benefits from Chinese trade and investment will require substantial improvements in governance in African economies.

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1. Introduction

China's growth and its capacity to move in thirty years from under-development and extreme poverty to an emerging global power and one of the largest exporter of manufactured goods has attracted the attention of many developing countries. China has served as a development model for Africa and an alternative source of trade and finance from Africa's traditional development partners. The impact of China on African economies has been diverse, depending in part on the sectoral composition of each country's production. Overall, China's increased engagement with Africa could generate important gains for African economies. However, analysis is required to quantify the advantages and disadvantages, and to design the policies necessary to maximize the development impact of China. One overriding consideration is that reaping the full benefits from Chinese trade and investment will require substantial improvements in governance in African economies.

This paper presents a historical and comparative perspective of the trade and FDI relationship between China and Africa. The first section provides an historical overview of Sino-Africa trade and investment relationships. The second section discusses China's overall international economic policies, while the third section highlights the evolution of China's engagement in Africa through trade and investment. The fourth section presents a quantitative approach to evaluating the potential benefits of Africa's trade with China. A final section emphasizes the importance of governance in ensuring that African benefits from China's engagement.

2. China's Engagement in Africa: A Historical Perspective

Historically, trade relations between China and Africa date back to the first Han emperors of the Second Century B.C. The best example is the Chinese navigator, Zheng He, who reached the coast of Africa four times, disembarking in Somalia and Kenya, in the early 15^{th} century. However, the period of explorations was followed by several centuries of disengagement from the world. Only with the establishment of the Peoples Republic of China in 1949 did China take renewed interested in other developing countries, in particular after the Bandung Conference. This conference aimed at promoting Afro-Asian economic and cultural cooperation and opposition to colonialism. China also supported independence movements in various countries (Burma, Malaysia and Vietnam) as well as provided economic assistance (Mongolia, North Korea) (Richer, 2008).

In the post colonial period, China sought to extend its influence in other developing countries and export the communist revolution. The newly independent countries looked to China as an alternative to domination by the former colonial powers. For example, China signed an economic and technical cooperation agreement with Guinea in 1960, a year after independence; subsequently provided an interest-free loan of $20 million to Ghana, the first African country to establish diplomatic relations with China; and recognised Mali upon independence and sent a trade mission the following year. These three countries were close to China politically. However, China also established relationships with other countries, for example in North Africa, with Algeria, Morocco and Tunisia. China signed an economic and technical cooperation agreement with Algeria and granted it a $50 million loan in the 1950s, although Algeria did not renounce its relations with the Soviet Union.

Sino-African relations were maintained in the 1960s, and China was present at various Afro-Asian Conferences held in Africa. Gradually, such conferences became strongly marked by Sino-Soviet differences. The Cultural Revolution in China and various Chinese interventions had a detrimental effect on Sino-African relationships, although they did improve in the late 1970s. Relations with China offered a number of advantages compared to western countries, as China: (i) demanded fewer conditions on providing assistance; (ii) granted assistance at very low rates, repayable over a very long period; and (iii) offered training to professional and technical personnel. "The west's employment of conditionalities, merely the latest in the decades of humiliating experiences at the hands of former colonial powers and the United States, echoes the humiliations of the "inequal treaties" foisted on China by the west in the nineteenth century. Indeed, China's ability to recognize this is part of the genius of its foreign policy endeavours toward Africa" (Alden, 2008, p.20).

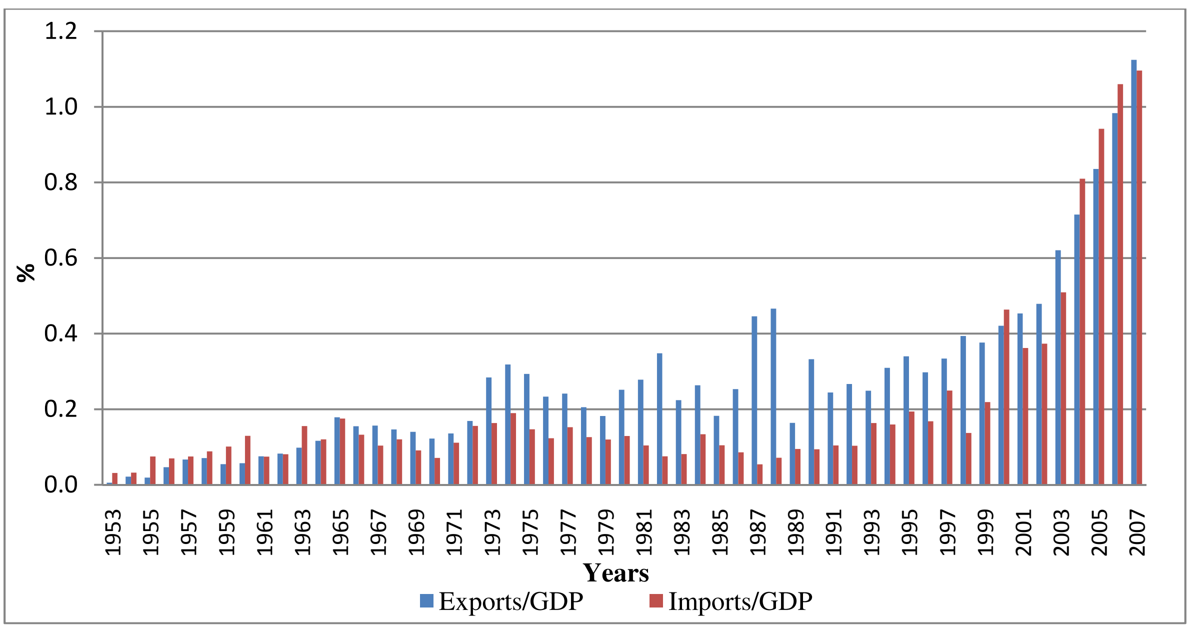
From a political perspective, China gave priority to highly-visible, prestige projects such as stadiums and hospitals. China also financed the construction of a railway line between Zambia and Tanzania between 1973 and 1976, and dispatched 15,000 Chinese for the project, although this investment was earlier turned down by the British Government and the World Bank (Chaponnière, 2008). China's role in providing development assistance, as well as some military support, was striking, in that China was even poorer than some African countries. These activities probably contributed to the backing by most newly independent countries of China's efforts to obtain a permanent seat on the United Nations Security Council in 1971.

China's relationship with Africa changed following the opening up of China's economy initiated by Deng Xiaoping, a dramatic shift from policies followed under Mao. Relations were no longer dominated by ideological concerns, except for the sensitive issue of Chinese Taiwan. However, the official principles of engagement, including equality among partners, mutual benefit, respect for sovereignty, use of interest-free grants and loans, beneficiary capacity building, compliance with obligations, provision of equipment made in China and the same living conditions for both Chinese and local experts, did not change (Larkin, 1971, Chaponnière, 2009). More recently, China's growing dependence on energy has lead to Africa gaining prominence on China's agenda.

Trade between China and Africa has increased dramatically (Figure 1). China's trade with Africa was minimal until 1954. Trade then grew steadily, but did not rise significantly until 1974, before China's opening up. The gradual liberalization of the Chinese economy from 1978 was accompanied by strong growth in trade with Africa.

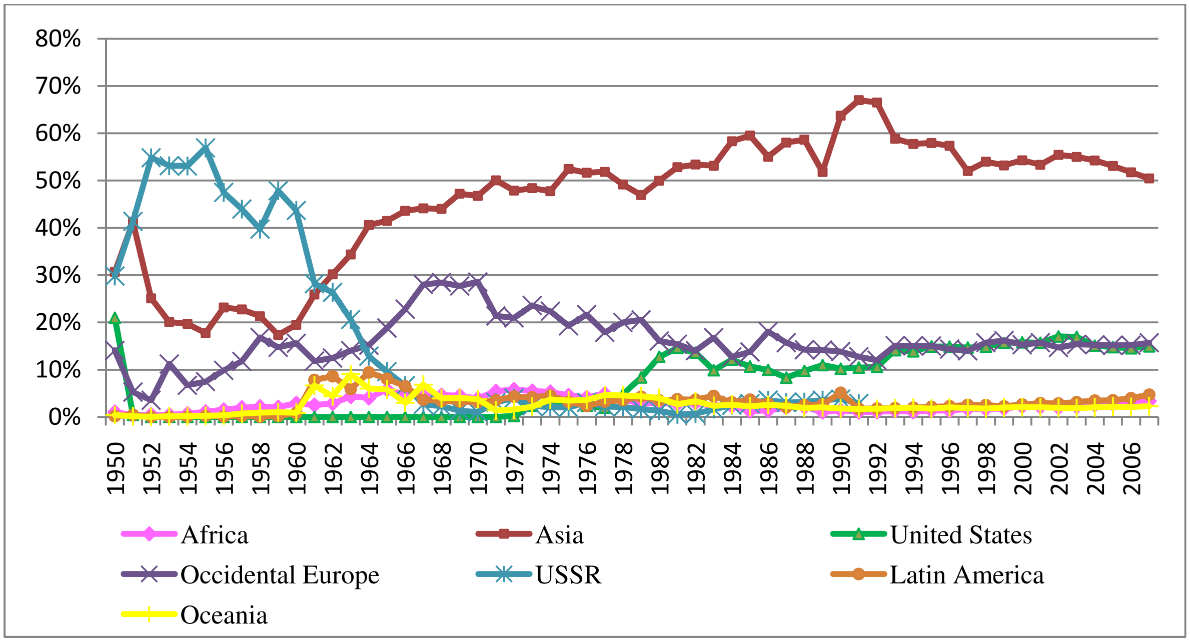
Figure 1: Trend of Chinese imports and exports with Africa, 1953-2007

(In percentage of GDP)



Source: Author's calculations using data from "Almanac of China's Foreign Economic Relations and Trade", 1984

Figure 2: Share of regional trade with China (1950-2007, X+M in percentage)



Source: Author's calculations using data from "Almanac of China's Foreign Economic Relations and Trade", 1984 and "China Statistical Yearbook", 1985-2008

Nevertheless, Africa remains a marginal trading partner compared to China's trade with other regions (Figure 2). China's trading relationships have reflected its political ties: the Soviet Union was China's principal trading partner until the early sixties but bilateral trade then plummeted, and China had no trade with the United States from 1951 until President Nixon's visit in 1972. Western Europe's trade shares have been volatile, but since the mid-sixties Europe has ranked second among China's partners, mainly due to Germany. Asia has had a growing share since the early 1960s, and now accounts for more than half of China's trade.

3. China's International Cooperation Strategy

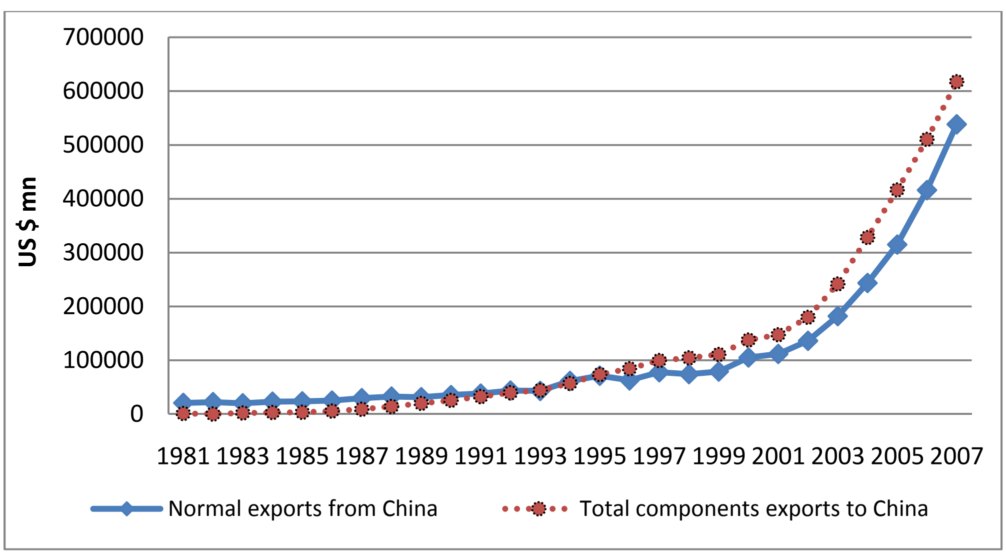
Until the end of the 1970s China's trade largely reflected government to government relations rather than comparative advantage. However, following Mao's death and two years of political uncertainty, Deng Xiaoping took power and embarked on a spectacularly successful reform program to transform China into a market economy open to international competition.

The opening was gradual, beginning with the establishment of four Special Economic Zones in the southern provinces (Guangdong and Fujian) in 1978-1979. China's trade increased rapidly, notably with support from the local Chinese governments that were given very strong incentives to promote exports. The spread of trade liberalisation to the rest of the country resulted in a marked increase in imports. Despite criticisms from conservatives in China, the essence of the process was no longer challenged. Trade became responsive to market forces, although protection of the domestic market remained very strong, with extensive use of tariffs, quotas, and licenses (Lardy, 2002). WTO accession further motivated China to lower its protectionist barriers.

Trade developed rapidly following the 1987 exemption from customs duties of raw materials and components destined for re-export. China has drawn heavily on the Southeast Asian development model, where components are first imported, then assembled, and finally re-exported, either for further processing or directly to markets in developed countries. This trade was boosted by increases in foreign investment in the 1990s, aided by the establishment of Special Economic Zones and the role of Hong Kong and the Chinese Diaspora.

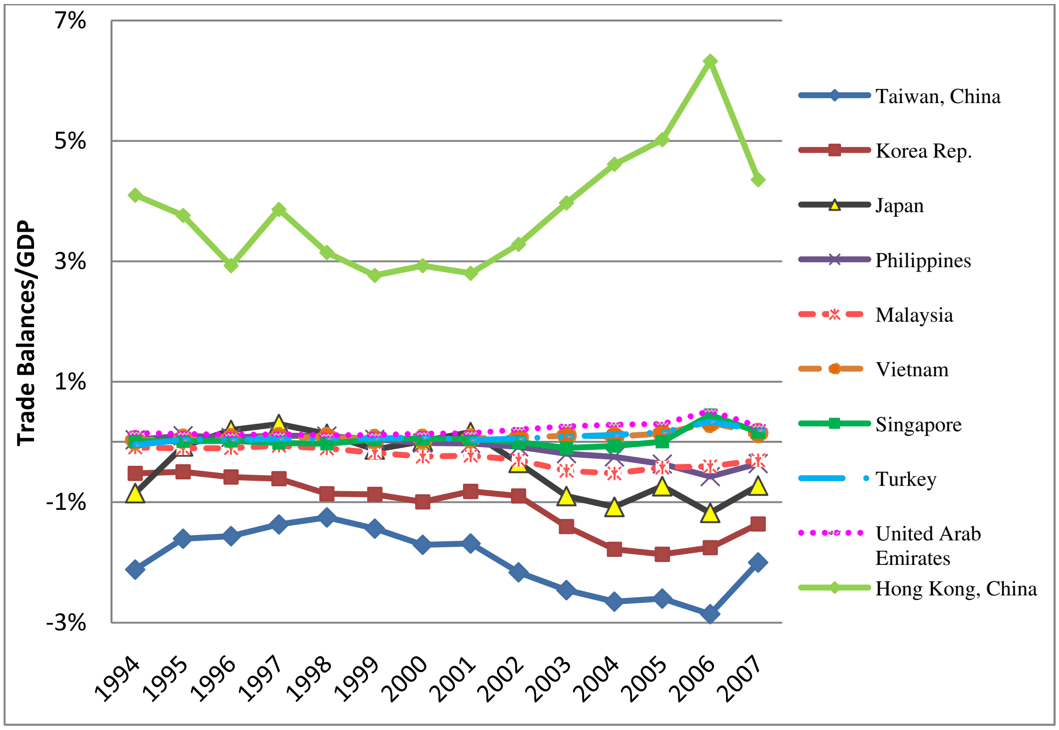
The importance of the components trade helps to explain the high level of China's trade with other Asian countries (figure 3). The trade in components has increased the interdependency of Asian countries, and was assisted by policies designed to further integration, as reflected in the establishment of the Asian Free Trade Area (AFTA). China's trade balances also demonstrated the intermediary role this country plays in the component trade (Figure 4). China's increasing trade deficit with Taiwan, Korea and Japan, and, to a lesser degree, Malaysia and Philippines, in part reflects the import of components that are then transformed into exports to other markets, such as the United States.

Figure 3: Trend of Chinese total exports and imports for component manufacturing sector, 1981-2007



Source: Author's calculations using data from "China Yearbook" (2008)

Figure 4: China's five largest trade surpluses and five largest trade deficits, 1994-2007



Source: Author's calculations using data from "China Yearbook" (1995-2008)

The trade in components also explains why China is sometimes considered (Rodrik, 2006) as exporting more sophisticated products than countries with the same factor endowments and at lower prices than products exported by countries with similar per capita income (Schott, 2008). These trends reflect the re-export of sophisticated goods that were initially imported, and not produced in China (Branstetter and Lardy 2008). Apart from the trade in components, China's principal imports are energy and primary products (fertilizers, grains, ores, etc), and exports are mainly consumer products with low capital intensity, although it is endeavouring to move towards more technology-intensive products. Thus it appears that China does specialize in labour-intensive products (or in the case of the trade in components, labour-intensive services embodied in products), reflecting the country's relatively low labour costs.

China's opening to the outside world has also transformed the global organisation of trade. China has outpaced a number of Asian countries, including Chinese Taiwan and South Korea, in exports to the rest of the world, particularly the United States (Branstetter and Lardy, 2008). In addition, the growth of foreign trade and investment over the past decade has been guided by the desire to secure energy resources, leading to increased relations with Australia, Latin America and Africa. A key question is whether China's growing interest in Africa fits this global trend, or whether Africa presents a unique case in China's strategy?

4. China's Presence in Africa

China's relations with African countries, and indeed its global economic strategy, have been shaped by the need to obtain energy resources to support economic development. However, political considerations have also played an important role. In 1971, African countries were instrumental in preventing Chinese Taiwan from obtaining a seat at the United Nations Security Council. And while Taipei had until recently retained the support of numerous African countries, China's diplomatic interventions, financial incentives, aid proposals, and military assistance to Africa have been premised on receiving countries' abandoning diplomatic relations with Chinese Taiwan. This strategy has proven successful.

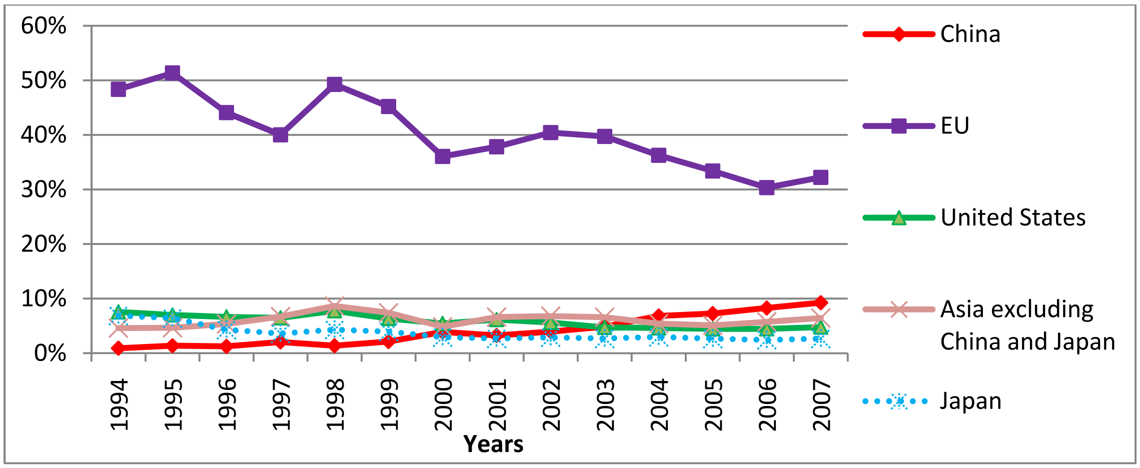
Chinese diplomacy in Africa, in particular that carried out by the Ministries of Foreign Affairs and Trade, has focused on bilateral relationships with African governments. In addition, several State-owned banks have backed China's presence in Africa. Exim Bank (China Export-Import Bank) was established in 1994 to promote Chinese exports and foreign direct investment (FDI) specifically in the infrastructure sector: roads, power plants, pipelines, telecommunications, etc. (Wang, 2007). This bank has a less risk-sensitive profile compared to private banks, but is still more willing to support some investment projects than Western counterparts. China Development Bank (CDB), also established in 1994, provides loans to Chinese firms and has launched the China-Africa Development Fund to support Chinese FDI in Africa. SINOSURE (China Export and Credit Insurance Corporation) has since 2001 provided insurance against the risks involved in Chinese exports and foreign investment. China's presence in Africa also involves a broad range of private-sector actors, including multinationals, small businesses, traders, and migrants, as well as Chinese local governments which at times act directly, mainly through the firms they own (Chen and Jian, 2009). In the following section, we will present the main features of the reciprocal trade and investment flows between China and Africa.

4.1. Major China-Africa Trade Trends

China has emerged as a major trading partner for Africa. While European countries remain Africa's leading trade partners, Europe's share of Africa's exports has fallen steadily (figure 5). China's importance as an importer of African goods also has risen (figure 6), while the share of the United

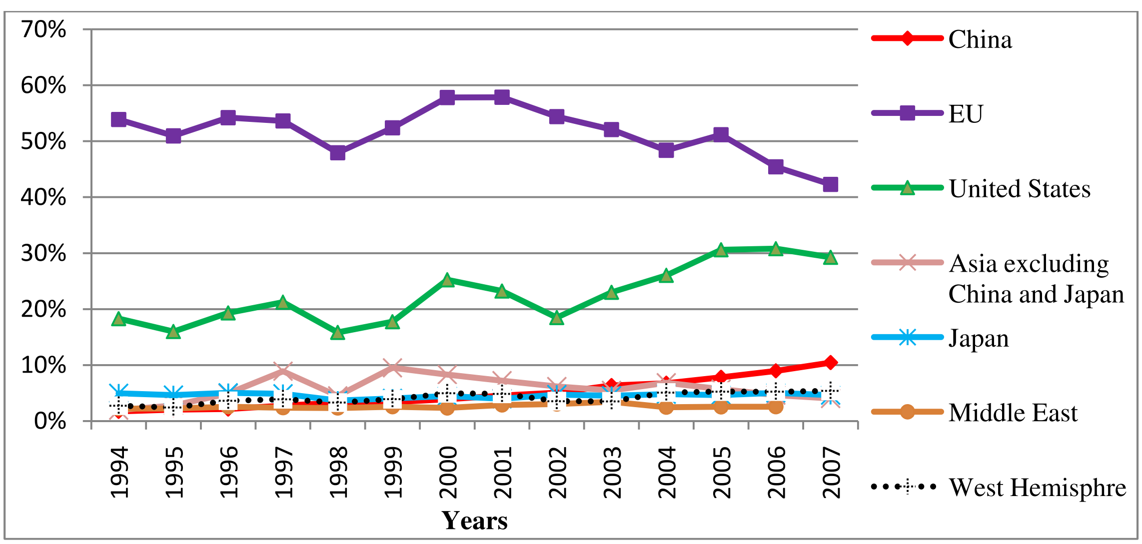
States continues to increase and Europe's share declines. Africa's share of China's total exports and imports - despite recent increases - remains less than 4 percent (figure 7), and is even smaller for manufactured goods (table 1). Trade with China is somewhat more important for Africa, representing almost 10 percent of exports and imports.

Figure 5: Distribution of African exports among the major blocs (1994-2007)



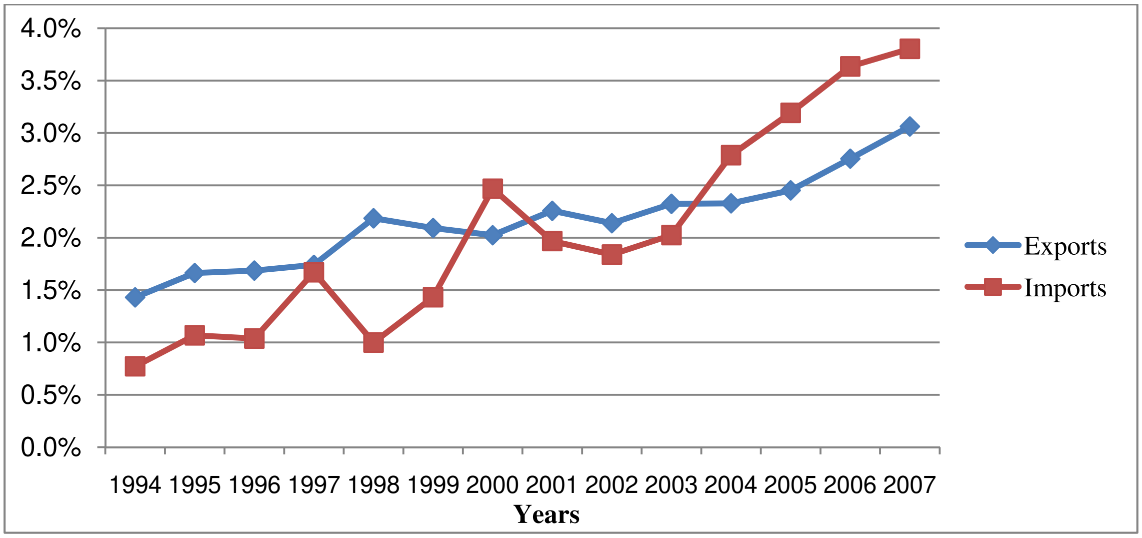
Source: IMF, Dots, different years

Figure 6: Distribution of African imports among the major blocs (1994-2007)



Source: IMF, Dots, different years.

Figure 7: Africa's share in total Chinese exports and imports



Source: Statistical Yearbook, different years, NBS.

Table 1: Chinese trade in manufactured goods by origin and destination

	Exports			Imports		
	Share		Annual percentage change	Share		Annual percentage change
	2000	2007	2007	2000	2007	2007
World	100	100	27	100	100	17
North America	31.9	27.6	15	11.8	8.7	16
South and central America	2.5	3.3	15	0.3	0.8	16
Europe	21.5	26.6	30	17.5	15.5	21
CIS	1.3	4.0	74	1.9	0.7	23
Africa	**2.0**	**3.0**	**41**	**0.2**	**0.4**	**40**
Middle East	2.5	3.7	51	0.7	1.0	19
Asia	38.3	31.7	25	67.6	72.9	16

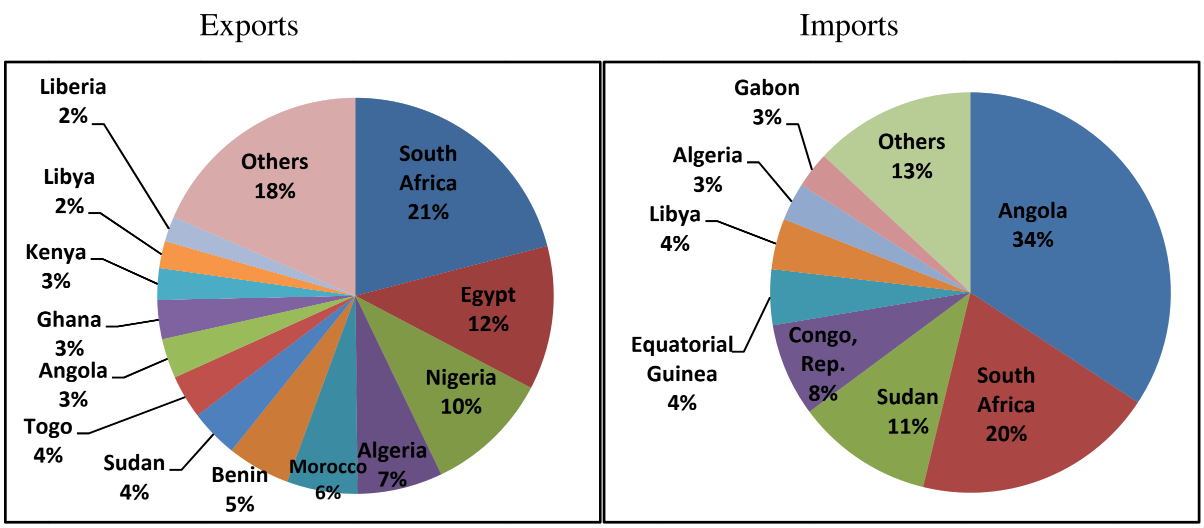
Source: WTO International Trade Statistics, 2008.

China's trade with Africa is highly concentrated (figure 8). About 60% of Chinese exports are destined for only six countries: South Africa (21%), Egypt (12%), Nigeria (10%), Algeria (7%), Morocco (6%) and Benin (5%)[2], while over 70% of Chinese imports originate from four countries: Angola (34%),

[2] China Exports to Africa: South Africa, 20.95%; Egypt, 11.75%; Nigeria, 10.18%; Algeria, 6.96%; Morocco, 5.76%; Benin, 5,14%; Sudan, 3.95%; Togo, 3.55; Angola, 3.25%; Ghana, 3.18%; Kenya, 2.58%; Libya, 2.21%; Liberia, 2.06%; Others, 18.48%.

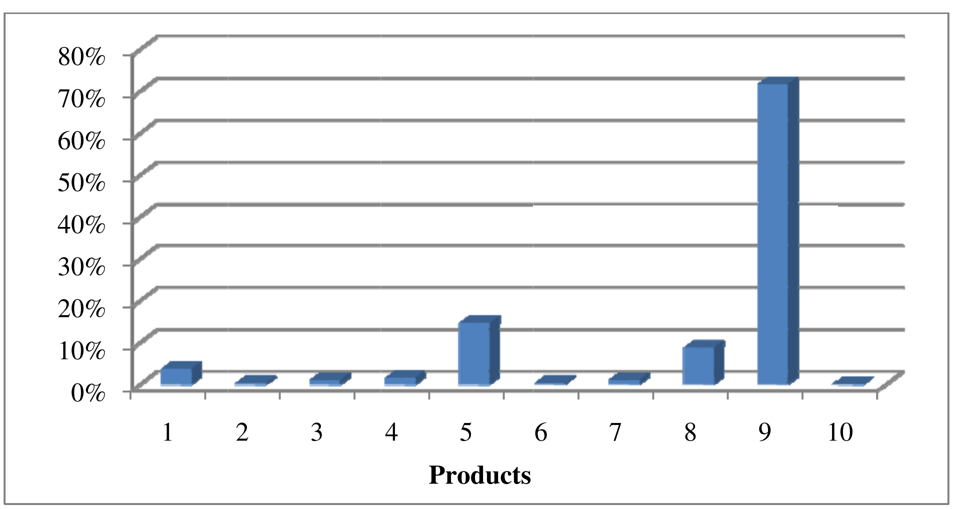
South Africa (20%), Sudan (11%) and Republic of Congo (8%)[3]. The high country concentration of China's imports in part reflects the importance of crude oil (70 percent of imports from Africa (figure 9), which accounts for almost all of China's imports from Angola and the Sudan. China's agricultural imports have a modest share, although they constitute the bulk of imports from several African countries.

Figure 8: Breakdown by country of Chinese exports and imports in Africa (2007)



Source: COMTRADE, UNCTAD (2008)

Figure 9: African exports to China by product, 2007



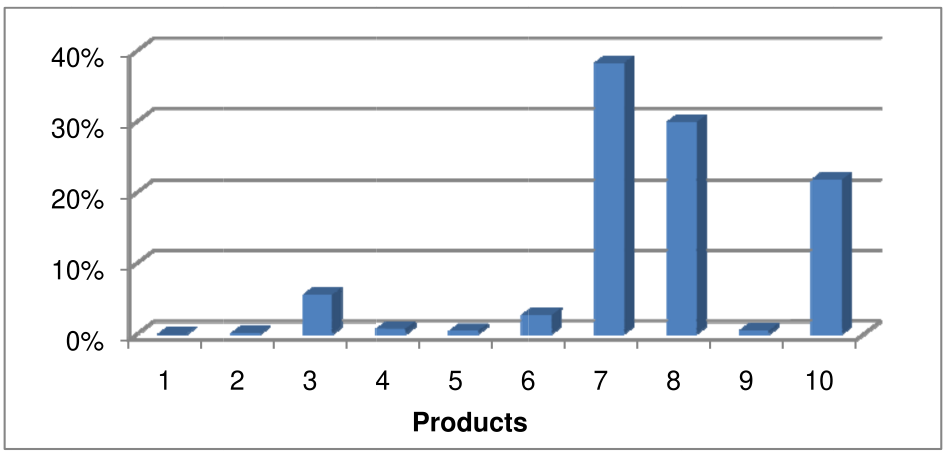
Source: COMTRADE

[3] China Imports from Africa: Angola, 34.25%; South Africa, 19.55%; Sudan, 11.05%; Rep. Congo, 7.52%; Equatorial Guinea, 4.49%; Libya, 4.10%; Algeria, 3.08%; Gabon, 2.91%; Others, 13.05

1: Animal and vegetable oils and fats – 2: Beverages and tobacco – 3: Chemicals 4: Commodities and transactions, n.e.s – 5: Non-edible crude materials - 6. Food and live animals - 7: Machinery and transport equipment – 8: Manufactured goods mainly classified per raw material – 9: Mineral fuels, lubricants and related materials – 10: Miscellaneous articles.

African imports from China are somewhat more diversified, although machinery and transport equipment, manufactured goods and handicrafts account for the bulk of imports (figure 10). Chemicals and food products account for less than 10% of the total. Chinese manufactures (e.g. electronic toys, textiles) have relatively low prices, making the products accessible to a larger number of people and enabling African consumers to expand their range of products. Machinery and transport equipment imports are linked to the strong presence of Chinese firms in the infrastructure sector, specifically in telecommunications, road construction and construction of public buildings.

Figure 10: African imports from China by product, 2007 (% of total)



Source: COMTRADE

1: Animal and vegetable oils and fats- 2: Beverages and tobacco- 3: Chemicals 4: Commodities and transactions, n.e.s -5: Non-edible crude materials- 6: Food and live animals- 7: Machinery and transport equipment- 8: Manufactured goods classified mainly per raw material- 9: Mineral fuels, lubricants and related materials- 10: Miscellaneous articles.

The structure of imports from China is similar among leading African trading partners, with machinery and transport equipment, as well as manufactured goods, accounting for large shares (figure 11). Exports to China from the major African exporters (except South Africa) consist mostly of crude oil (figure 12).

Africa's bilateral trade deficit with China amounted to $10 billion in 2008 ($52 billion in exports and $62 billion in imports), with the oil and gas exporters (except Algeria and Nigeria) running surpluses with China and other countries deficits (figure 13).

Figure 11: Key African imports from China (by country and by product)

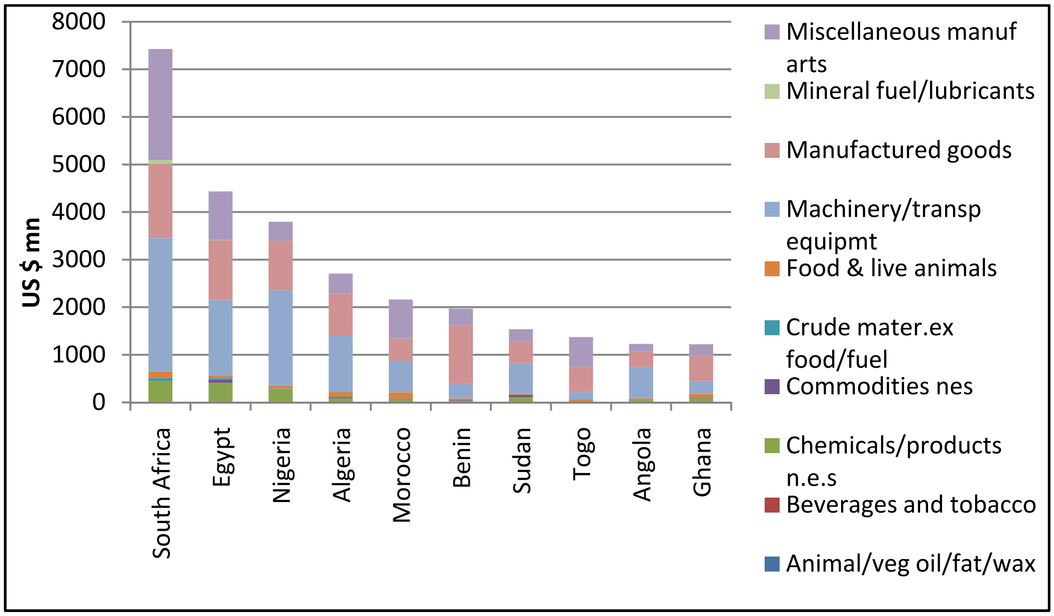


Figure 12: Key African exports by country and by product

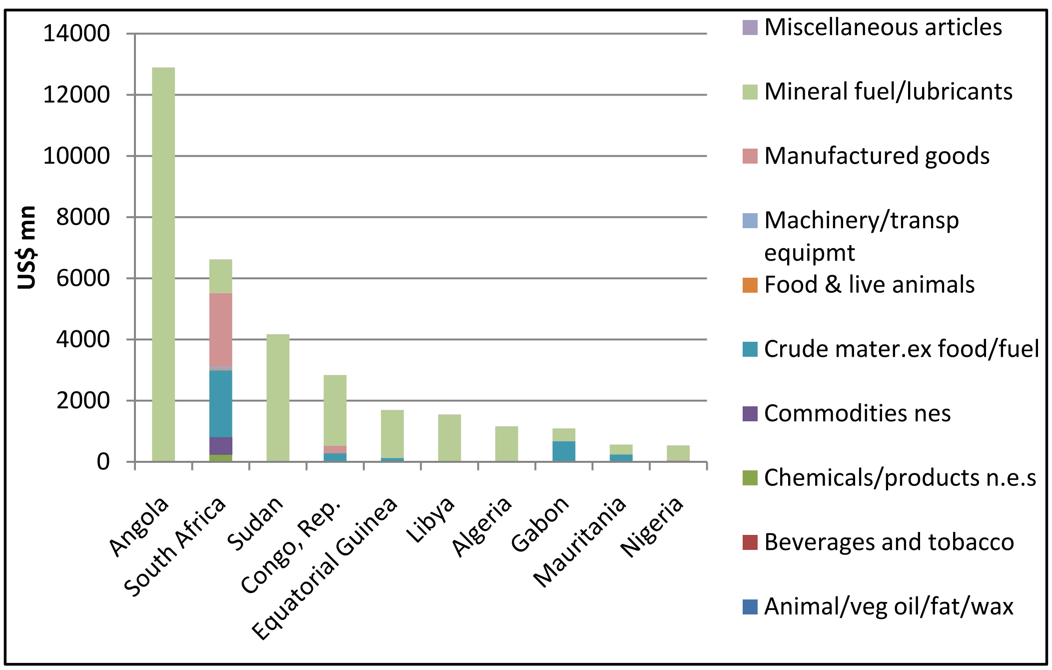
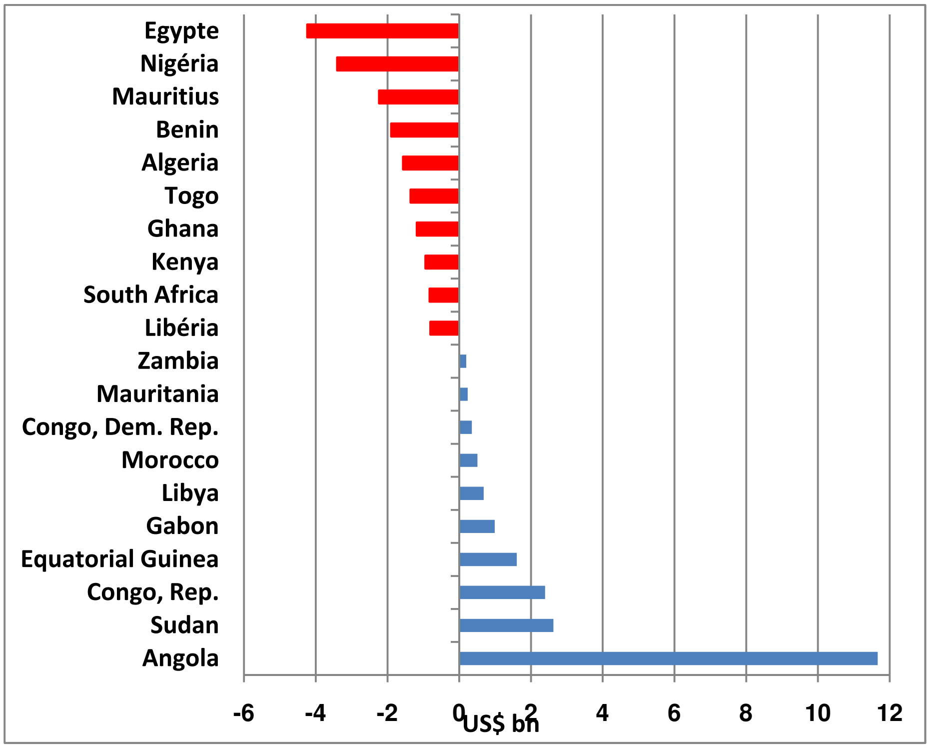


Figure 13: Africa-China balance of trade (10 leading surpluses and 10 leading deficits)



4.2. China's Foreign Direct Investment in Africa

As previously highlighted, China's FDI in Africa is closely linked to trade and development assistance. Thus FDI has increased over the past 10 years in tandem with increased Sino-African trade, although China's FDI to Africa remains marginal in terms of China's total outward FDI flows (0.2% in 1991 and 5.9% in 2007—Kaplinsky and Morris, 2009) and total FDI received by Africa from the rest of the world (3% in 2007[4]). According to the Chinese Ministry of Commerce, China's FDI in Africa has increased by 46% per year over the last decade. The stock of foreign investment stood at $4.46 billion in 2007 compared to $56 million in 1996.[5] During the first half of 2009, Chinese FDI flows into Africa increased by 81% compared to the same period in 2008, reaching over $0.5 billion. However, it is difficult to be certain about the level of China's FDI outflows, as estimates from different sources vary widely and Chinese investments are often channeled through off-shore entities registered in places such as Hong Kong, Cayman Island and others.

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4 Calculated using UNCTAD basic FDI data and "2007 Statistical Bulletin of China's Outward Foreign Direct Investment" of the PRC Ministry of Commerce.

5 "Statistical Bulletin of China's Outward Foreign Direct Investment", 2003-2007, PRC Ministry of Commerce.

Similarly to trade patterns, China's outward FDI to Africa is dominated by a few resource-rich countries, plus South Africa (figures 14 and 15). From 2003-07, over half of Chinese FDI flows into Africa were absorbed by three countries: Nigeria (20.2%), South Africa (19.8%) and Sudan (12.3%). Algeria (oil) and Zambia (minerals) came 4th and 5th, respectively. FDI to Nigeria is set to rise: according to the Financial Times, China National Offshore Oil Company (CNOOC), a State-owned enterprise and one of the three major energy players in China, is negotiating the acquisition of rights to 1/6th of Nigeria's oil reserves.[6]

Figure 14: China's FDI flows into Africa by destination (2003-2007)

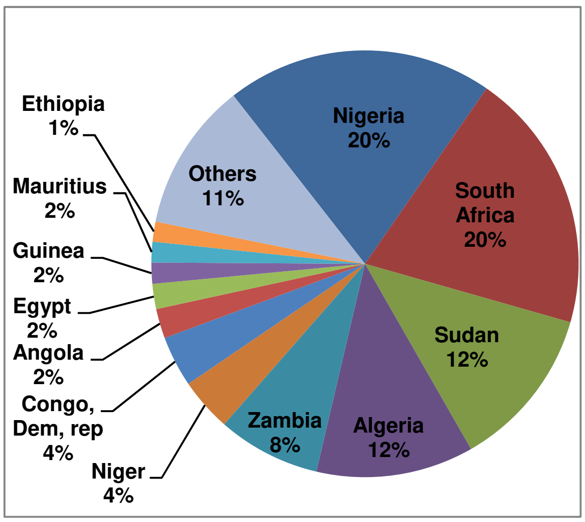
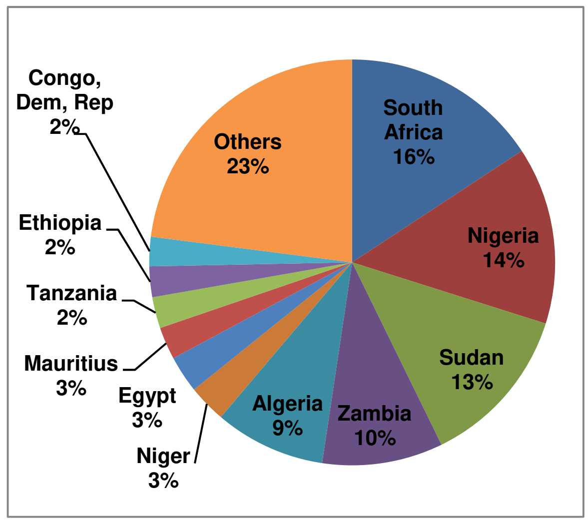


Figure 15: China's FDI stocks in Africa by location (2007)



Source: China Ministry of Commerce, 2008

Most Chinese enterprises investing in strategic sectors, such as oil, minerals or infrastructure, are state-owned (by either the central government or local governments-- Chen and Jian, 2009) and receive government grants or loans from State-owned banks. These enterprises often manage large investment projects (Kaplinsky and Morris, 2009). For instance, the State-owned China National Petroleum Corp is the leading foreign investor in Sudan. Chinese medium- to large-sized enterprises are found mainly in the manufactured goods, telecommunications and wholesale trade sectors. Small firms are found mostly in the light industry and retail sectors. Although the small firms certainly play an important role and are present in most African countries, they are not properly captured in official statistics.

[6] Burgis Tom, 29 September 2009, "Chinese Seek Huge Stake in Nigeria Oil", Financial Times.

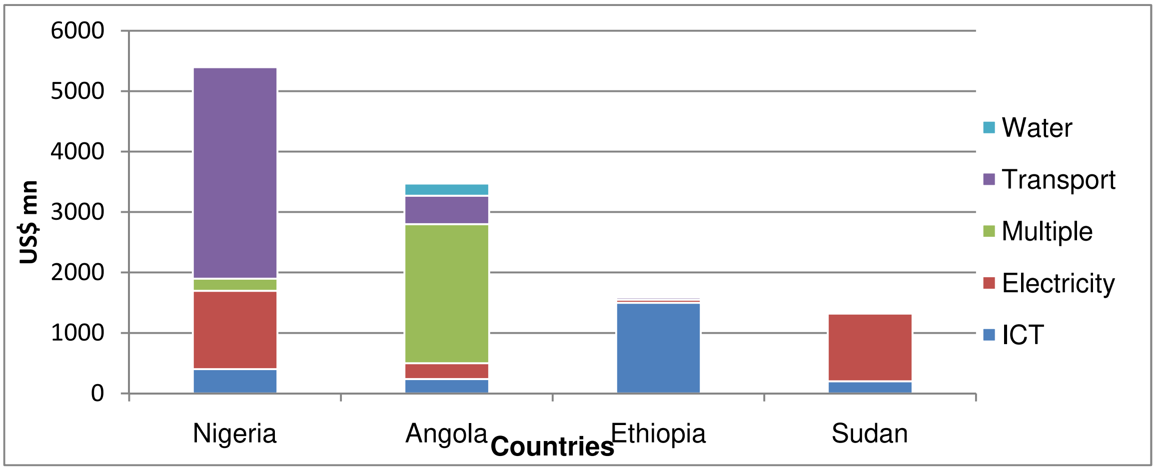
In 2006, the bulk of FDI flows involved the mining sector (40.74%), business services (21.58%), finance (16.4%), transport and telecommunications (6.57%), wholesale and retail trade (6.57%) and manufactured goods (4.33%), with the other sectors being only slightly represented. For instance, agriculture, forestry and fisheries attracted less than 1% of Chinese FDI (Kiggundu, 2008). In terms of stocks, the three leading investors in Africa are State-owned oil companies: China Petrochemical Corp., China National Petroleum Corp. and China National Offshore Oil Corp. (Kiggundu, 2008)[7].

The case of infrastructure is particularly important because the sector is a driver of economic growth; the Africa Infrastructure Diagnostic (AICD) study estimated that Africa needs $93 billion per year to address the deficit in this sector. Historically, infrastructure was one of the first sectors in which China invested in Africa. China has developed industries and competitive services with special expertise in the execution of public works, based on constructing large infrastructure projects in China. Over 35 African countries are engaged with China in infrastructure financing arrangements; the largest recipients are Nigeria, Angola, Sudan and Ethiopia (see Figure 16 & 17). China's commitments to infrastructure in Africa rose from $1 billion annually between 2001 and 2003 to $1.5 billion between 2004 and 2005, and reached $7.5 billion in 2006.[8] For example, China financed 10 hydroelectric power projects in 2007, to the tune of $3.3 billion, which increased Africa's hydroelectric power production capacity by 30%. China also has financed $4 billion in investments in road and railway network projects, including the rehabilitation of existing railway lines and the construction of new lines. The main beneficiaries of such projects are Nigeria, Gabon and Mauritania. China also contributes to Africa's information and communications infrastructure (nearly $3 billion in total), generally in the form of supplying equipment to national firms. Ethiopia, Sudan and Ghana have been major beneficiaries.

[7] It is worth noting that State-owned enterprises or collective enterprises from the Chinese provinces are increasingly investing in Africa and, in 2007, accounted for 21% of Chinese investment in Africa; for example, TCL, owner of Huizhou City, has invested in electronics in cooperation with Philips and Toshiba.

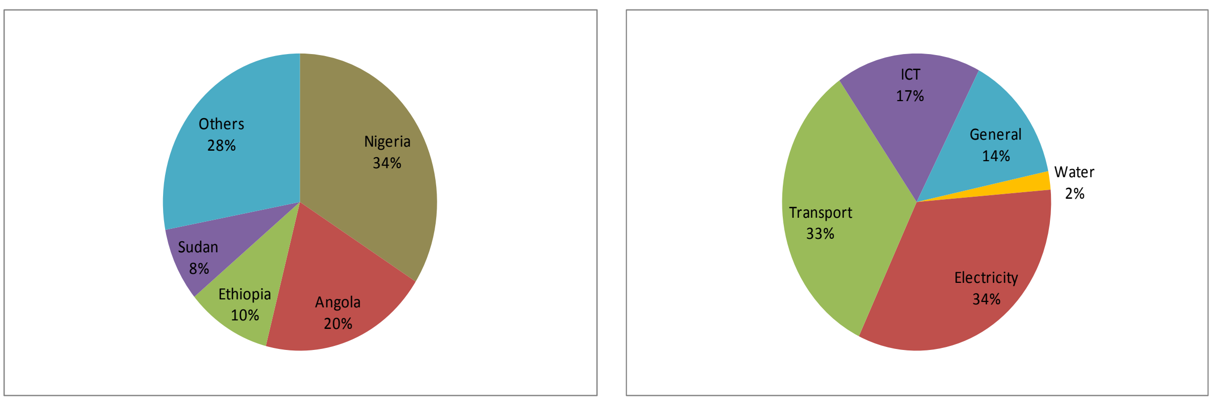
[8] Chinese commitments do not cover FDI only, but also loans, concessional loans and grants.

Figure 16: China's financial Commitments in infrastructure projects in major countries (2001-2007)



Source: World Bank, 2009

Figure 17: Confirmed Chinese infrastructure financing in Sub-Saharan Africa per country (2001-2007)



Source: World Bank, 2009

While China's FDI in Africa is likely to continue to be linked to trade, Kapinski and Morris (2009) consider that future FDI will focus more on the private sector and the development of small and medium size enterprises (SMEs) in sectors such as telecommunications, business services and manufactured goods. China is also using some African countries as a platform for re-exports, largely in the apparel industry and focusing on countries that benefit from a non-reciprocal trade agreement, such as the "Everything but Arms Agreement" of the European Union and "American Growth and Opportunity Act" of the United States.

Kapinski and Morris (2009) stress that with the exception of SMEs in search of quick, short-term profit, Chinese firms are less averse to risk than their Western counterparts and less constrained by environmental and social concerns. Similarly, Besada and others (2008) emphasize that FDI from Western countries is dominated by private firms with limited risk appetite and little long-term commitment, while Chinese investments are made with the intention of establishing long-term relationships with governments. Given that China's presence in trade and investment is becoming increasingly important for African countries, the next section reviews the effects of China's presence for economic growth and poverty reduction as well as governance and the environment.

5. Potential Impact of China's Presence in Africa

The impact of China's trade with and investment in China is difficult to determine, in part because China's increased presence is relatively recent and a valid assessment will take several years. Moreover, the Africa continent consists of 53 individual countries, with different histories, development models and political regimes. For example, Alden (2007) emphasizes the distinction between democracies with diversified economies, weak democracies specialised in primary products and "pariah" regimes. African countries differ significantly in the extent of economic diversification, with Egypt and South Africa the most diversified (and thus probably the least vulnerable), and some of the oil exporters totally dependent on oil revenues. The extent of dependence on China's trade, FDI and development assistance differs greatly. African countries also differ according to the importance of China compared to that of European countries or the United States.

China's success has encouraged a number of African countries to imitate China's policies. However, the Chinese development model is the result of the interaction between a restrictive political system, which developed internally, and economic actors largely dependent on that system (cf. for example, Naughton, 2008). This experience is not necessarily transferable. Nonetheless, an economic relationship with China does provide an alternative to dependence on Western countries. A distinction is sometimes made between the "Beijing Consensus' and the "Washington Consensus", as many Africans seek engagement with China along lines less restrictive than those imposed by European and American partners or international organisations. This freedom, however, may also be risky. China may be willing to finance projects, for example in infrastructure, that more traditional partners refuse to support because they are not sustainable.

Many African economies have reaped enormous benefits from China's rapid growth and increasingly important trade links with the continent, although other African countries have suffered from increased competition. Thus trade can generate both gains and losses (Ajakaiye et al., 2009, Ademola et al., 2009). An analysis of the effect of China's growth should take into account: (i) increased demand for Africa's exports; (ii) rising commodity prices owing to China's demand for commodities from the global market; (iii) reduced prices on consumer and investment goods in African economies; and (iv) reduced demand for African production due to competition from China, in both domestic and third markets.

Thus the impact of China will depend on the commodity specialization of each country. Countries exporting labour-intensive goods have reason to fear competition from China, while those exporting primary commodities or capital-intensive and technologically advanced goods will gain (Eichengreen and Hui, 2006). Countries that export oil, metals, and certain industrial inputs (for example, cotton) will enjoy increases in export volumes and prices. Various AERC studies (cf. Ademola et al., 2009) conclude that the countries that gain from exporting to China are: (i) Oil exporters: Angola, Chad, Congo, Cameroon, Nigeria and Sudan; (ii) Ore and metal exporters: Angola, Cameroon, Ethiopia, Ghana, South Africa, Tanzania, Zambia and Zimbabwe; (iii) Cotton exporters: Cameroon, Chad, Cote d'Ivoire, Mali, South Africa, Sudan, Tanzania, Zambia and Zimbabwe; and (iv) log timber exporters: Cameroon, Congo, Cote d'Ivoire, Nigeria and South Africa.

China also has an important impact on African countries' import prices. African economies benefit from the expanded availability and lower prices of consumer goods, for example: transport vehicles (South Africa, Kenya, Mauritius, Ethiopia and Nigeria), motor vehicles (South Africa, Nigeria, Kenya, Ghana), textiles and apparel (South Africa, Mauritius, Nigeria and Gambia) and rice (Nigeria, South Africa, Côte d'Ivoire and Kenya) (Ademola et al., 2009). The purchase of capital goods and transport equipment at lower prices than products imported from Europe has significantly lowered investment costs. This has particularly benefited Africa's infrastructure sector, where the strong Chinese presence relates to both trade and FDI. By contrast, countries importing primary commodities, particularly raw materials and energy, suffer from higher prices. An IMF study covering 21 African countries concludes that the increase in primary commodity prices between 2003 and 2004 resulted in a neutral trade balance for 14 of the countries. For those countries, the gains from the non-oil primary commodity price increase roughly balanced the loss arising from higher oil prices (IMF, 2004).

Some African sectors suffer from reduced production and employment owing to competition from China, both domestically and in third markets. Ademola (et al. 2009) cites several examples of countries with industries that are threatened by Chinese imports, leading to numerous factory closings. For example, in the textile industry, South Africa apparently lost between 23 000 and 85 000 jobs. Ghana also had to close down businesses. Furthermore, competition in this sector accounts for declining trade between African countries, with nations such as South Africa, Cameroon, Kenya and Madagascar losing market share in neighbouring countries due to the penetration of Chinese apparel. A study on the crowding-out effect of Chinese exports highlights the link between rising Chinese textile exports and declining African exports (Giovannetti and Sanfilippo, 2009). On the whole, in the sectors where China and Africa compete, increased Chinese exports translate into reduced African production.

For some countries, the effects of China trade are mixed. For example, Benin, Burkina Faso and Mali, which are cotton exporters, have gained from the rising price of this commodity, but have seen higher prices on their oil imports (Zafar, 2007).

Moreover, there are distributional impacts within African economies: consumers have greater access to labour-intensive goods, firms may enjoy lower input costs, while some firms will see demand for their production decline. The impact on poverty may also be mixed: the poor may benefit from increased access to low-cost consumer goods, although with the exception of Uganda, Ghana, Tanzania and Ethiopia, basic consumer products imported from China account for less than 10% of total imports. Poor agricultural labourers working in the production of tradable commodities could see a rise in wages and/or employment, while poor urban workers producing consumer goods may see a decline.

A more detailed empirical analysis can provide more insight into the impact of China's trade on African economies, including how China may influence the development of Africa's exports going forward. One important issue is the extent to which trade with China will encourage further specialization in primary commodities, or can help African economies diversify their production structure and benefit from the economies of scale, productivity improvements, and more stable prices that can accompany increased production of manufactures.

A first approach to this question is to compare the intensity of trade between selected African countries and China and the African economies' comparative advantage in particular commodities. The intensity of trade[9] between two countries, i and j, during year t can be calculated as follows (see Calderon et al., 2007):

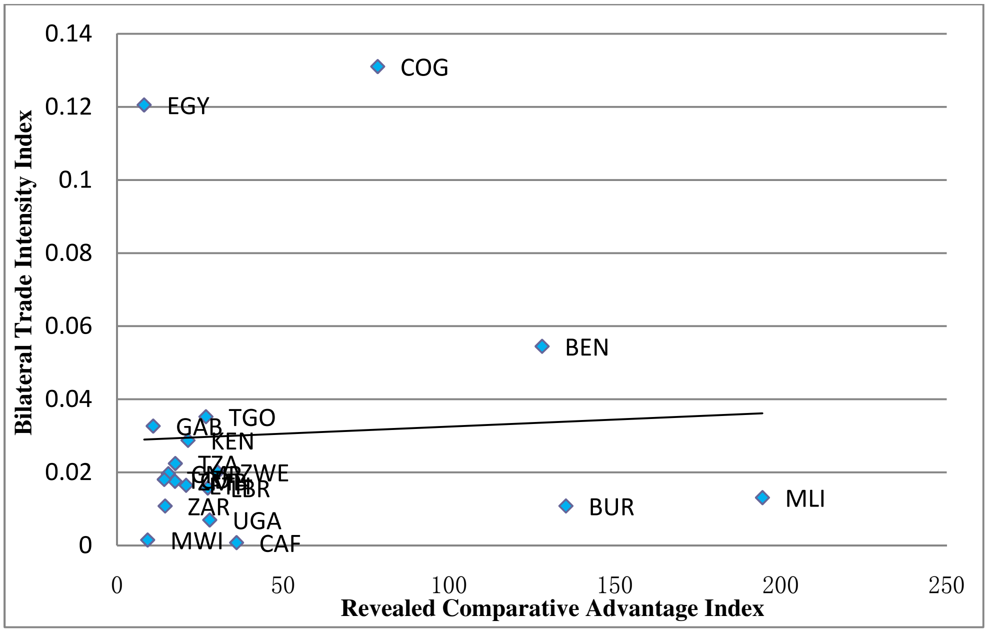
(1) $T_{i,j,t} = 100 \text{ x } f_{i,j,t}/(F_{i,t}+F_{j,t})$

Where $\mathbf{f}_{i,j,t}$ represents the amount of bilateral trade flows between countries i and j. F_{it} and F_{ij} represent the total trade between countries i and j. This indicator was calculated based on United Nations COMTRADE data. The comparative advantage by commodity group was calculated using a widely used World Bank index (see Annex 1**).** The comparative advantage index was calculated for each type of product in 2004, based on data from several sources: the World Bank for manufactured goods (Nicita and Ollareaga, 2006), and UNCTAD for unprocessed agricultural and petroleum products. The goal of this analysis is to see whether sectors in which African countries have a comparative advantage are also sectors with a high intensity of trade with China. As the intensity of trade varies widely, we restricted the analysis to products that are included in the top 25% ranked according to Africa's comparative advantage (by value),

Africa has a substantial comparative advantage in unprocessed agricultural products, and the correlation between country indices of comparative advantage and Africa-China trade intensity is low, but positive (figure 18). Chinese agriculture is not competitive, China has reduced import barriers significantly since joining the WTO, and China has entered into trade agreements providing for zero tariffs with many African countries (Fan 2007). Thus there should be considerable potential for African economies to benefit from exporting agricultural products to China. However, agricultural exports to China are only about 3% of Africa's total agricultural exports (Brazil, the United States and Canada dominate China's agricultural imports), and these exports are concentrated in a few products from a limited number of countries. As noted above, China's increased demand for agricultural products has pushed up prices, with implications for African economies depending on whether they are net exporters or net importers. For instance, there is limited coincidence between China's agricultural import demand and Southern African countries' export supply: "In particular, none of the top exports of Tanzania appears as top imports of China". So, on the surface, it looks as though the effects of China on SA's exports due to direct demand are negligible" (Villoria, 2009, p.5**).**

9 This indicator is more difficult to interpret when the two countries are of very different sizes. For some African countries with a modest economic size, the denominator is almost entirely made up of Chinese trade

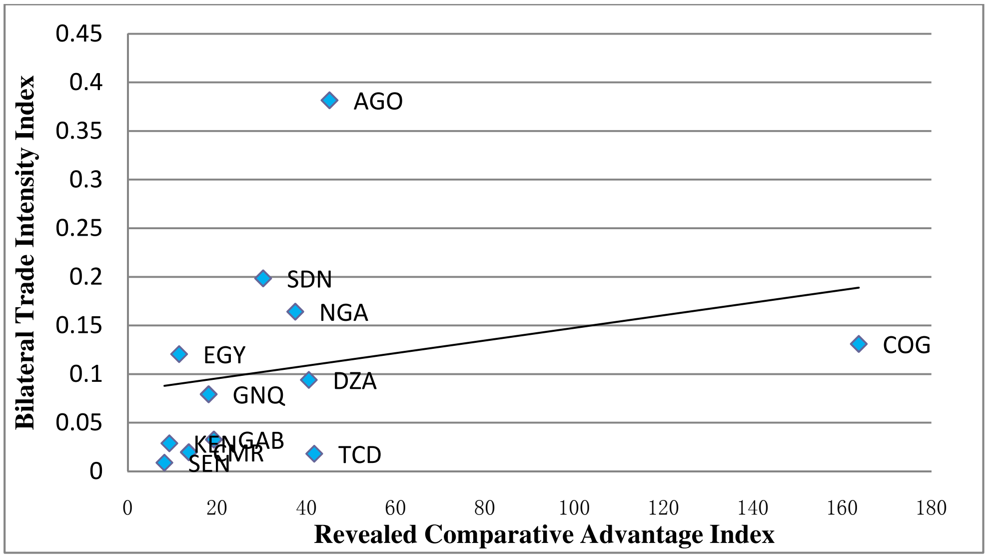
Figure 18: Comparative advantage and trade intensity: agricultural sector



MLI=Mali, BUR=Burkina-Faso, BEN=Benin, COG=Rep. of Congo, CAF=Central Africa, ZWE=Zimbabwe, UGA=Uganda, LBR=Liberia, TGO=Togo, KEN=Kenya, ETH=Ethiopia, SOM=Somalia, TZA=Tanzania, ZMB=Zambia, CMR=Cameroon, ZAR=D.R. Congo, TCD=Chad, GAB=Gabon, MWI=Malawi, EGY=Egypt.

With regard to oil, Congo has the highest comparative advantage, followed by Chad and Angola (figure 19). The correlation between countries' revealed comparative advantage and the intensity of trade with China is positive and fairly high (0.26); it is the most significant of the three sector groups. China's desire to obtain secure energy supplies is well known, and it is likely that Chinese demand for oil will continue to rise, while Africa has significant reserves. This amounts to a relationship of complementarity. Moreover, Africa offers better quality oil than that of the Middle Eastern countries and represents a source of diversification of supply for China. "The African oil and gas markets hold a number of attractions for the Chinese. First, China prefers sweet crude oil which is low in sulphur contents to blend with more sour variables that they import from the Middle East. There is therefore fierce competition over the existing supplies of sweet crude from Africa. Second, for energy security, China is trying to diversify supply sources from Middle East countries to more stable African countries. Third, among all SSA oil producing countries, Nigeria is the only member of OPEC. Hence, fears about production quota and other controls by the cartel will have little impact on the quest for oil and gas from the continent". (Adenikinju and Bamou, 2006). Rising oil prices and profit margins have made it possible to undertake more costly explorations in the Gulf of Guinea, Sudan and Nigeria.

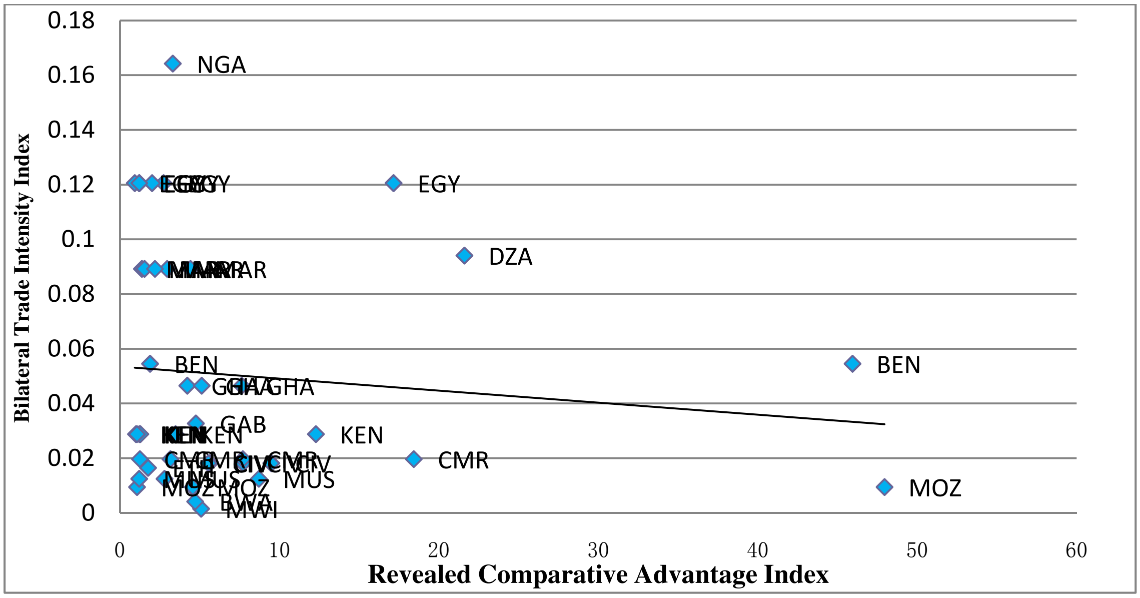
Figure 19: Comparative advantage and trade intensity: oil sector



COG=Rep. of Congo, AGO=Angola, TCD=Chad, DZA=Algeria, NGA=Nigeria, SDN=Sudan, LBY=Libya, GAB=Gabon, GNQ=Equatorial Guinea, CMR=Cameroon, EGY=Egypt, KEN=Kenya, SEN=Senegal.

African economies' highest comparative advantage in manufactures and processed goods is in metals (Mozambique), tobacco (Benin), refined oil (Algeria, Egypt and Kenya), timber and manufacture of wood and cork products (Cameroon) and food processing (Mauritius). Morocco enjoys a comparative advantage in several manufactured products, various food processing industries, chemicals, etc. Thus there is potential for Africa to compete with China in selected manufactures. China also provides an opportunity to build industrial linkages.

Figure 20: Comparative advantage and trade intensity: manufactured sector



MUS=Mauritius, CIV=Cote d'Ivoire, MWI=Malawi, GHA=Ghana, ETH=Ethiopia, CMR=Cameroon, EGY=Egypt, KEN=Kenya, GAB=Gabon, MAR, DZA=Algeria, MOZ=Mozambique, NGA=Nigeria, BEN=Benin, BWA=Botswana.

There is a negative correlation between the intensity of trade with China and the degree of an African economies' comparative advantage in manufactures and processed goods (figure 20). This suggests that trade with China does not, on balance, encourage the expansion of Africa's manufactures and processed goods industries. Thus trade with China could encourage African economies to remain specialised in raw materials, which implies high vulnerability to commodity prices and a higher probability of corruption. It also limits the opportunity for the development of agricultural and industrial production towards higher value added products.

FDI by China can also generate important benefits for Africa. There is some evidence that China's investments in Africa have encouraged similar steps by other emerging economies, although the official statistics do not yet show this. For example, India's engagement with Africa has increased with the Africa-India summit in April 2008.

Investment in agriculture is very important for African governments due to food security needs. China is committed to supporting research and innovation in Africa through building technology centres, sending scientists to transfer technology to African countries, and helping to upgrade African products, as emphasized at the 2009 Forum on China-Africa Cooperation (FOCAC). Chinese support has made it possible for several African countries to boost their production and exports (Besada et al., 2008). For example, China provided Zimbabwe technical assistance (including training in irrigation and developing smallholdings) to improve the value added of its exports by developing cigarette manufacturing instead of exporting tobacco.

The oil and natural resource sectors attract the majority of Chinese investment, which have been accompanied by the establishment of service businesses that are highly competitive in terms of salaries, costs and expertise. This could have a negative effect on local employment and have implications on host government local content policies (Adenikinju and Bamou, 2006). There are also positive effects because Chinese investments in services could reduce the price of services facing African firms, and high-priced and inefficient services are an important constraint on development in Africa. However, the energy sector in many countries has lacked transparency, has encouraged extensive rent-seeking, and has been connected with government corruption, to the detriment of improving the income levels of the population.

The Chinese presence has also permitted the building of a local industry. “Chinese investments “have helped to build local capacity, transfer technology and raise exports levels to several African states. In Zimbabwe, for instance, where tobacco has been among its top exports, Chinese investors have helped Zimbabwe process tobacco into cigarettes and export these as finished value-added products. Chinese investors and local companies have also formed joint ventures to establish a large cement factory in Gweru to meet national demand. These Chinese investments can be found in a wide variety of sectors, including so-called fragile states and projects that western investors have seemingly deemed too risky” (cf. Besada et al., 2008, p.11). Such efforts need to be tied to a national development strategy (Ajakaiye et al., 2009) to encourage the development of backward and forward linkages to African firms. Moreover, certain works have shown that Chinese FDI and trade in Africa are complementary (Mo and Liu, 2008). Lastly, the services sector has benefited from Chinese investments in telecommunications and banks. Again, it is the strategy of each African country that must serve as the basis for investment negotiations.

6. Governance and Economic Policy

Despite various definitions, there is a consensus that governance encompasses institutions with the capacity to ensure the rule of law, respect for individual freedoms and a democratic political regime (Kaufman and Kraay, 2008). In recent years, international organisations and bilateral aid agencies from traditional donors have made their assistance conditional on good governance. China, on the contrary, makes a clear distinction between economics and politics in its interventions in Africa. This position has led China to support undemocratic regimes, raising concerns about its contribution to the development of governance in African countries. Africa cannot expect assistance from China to improve governance, which can only result from internal choices and consultations between the State and its citizens. However, a number of recommendations can be suggested to limit the negative effects on governance of China's presence in Africa:

1. Trade and FDI in the natural resource sector tend to impair governance and efficiency, have harmed the environment, and often failed to lead to a reduction of poverty. Moreover, the oil sector's demand for resources has often reduced manufacturing production (due to the Dutch disease effect) and has been associated with imprudent macroeconomic policies resulting in high levels of volatility. The weak impact of oil or mineral exports on poverty reduction has often been highlighted in the literature (Adenikinju and Bamou, 2006).[10] Countries with substantial oil reserves need to be particularly careful to ensure strong, democratic institutions, to pursue prudent fiscal policies (ensuring efficient public expenditures and avoiding excessive monetary expansion), and to allocate a portion of oil revenues towards investment in the non-tradable sectors (Iimi, 2006).
2. The sharp increase in revenues resulting from Chinese demand must be managed by increasing savings in times of economic boom and making provisions for social assistance, particularly for the unemployed, during downturns. The OECD (Goldstein et al., 2006) cites the example of Chile's countercyclical policies and recommends the application of Hartwick's rule (1977). This rule states that a constant level of consumption can be maintained in a rent-based economy if the amount of investment is equal to the value of rent accrued from the natural resource, at all times. Funds have been set up to save the rents from

[10] This situation is facilitated by the lax practices of some Chinese partners, but it also stems primarily from internal institutional weaknesses. For example, Congo-Kinshasa with its vast mineral reserves of copper, cobalt, etc. is very poor, because of the State's inability to collect tax revenue from thousands of companies that are beyond its control.

oil windfalls in Nigeria and Botswana, and could be recommended more broadly to stabilize expenditures over the commodity price cycle (absorbing resources when commodity prices rise and spending resources when they fall).

3. African countries need to increase the value added of their production and exports, irrespective of their partner countries. This implies developing specialisations that may justify limited protectionist measures (Geda, 2006). For example, local content requirements, not only for Chinese investors, but for all investors could be expanded to increase the demand for unskilled African labour and local construction material for investment projects.
4. Trade growth can be associated with increasing inequality. Zafar (2007) emphasizes that trade with China contributes to an improvement in the terms of trade for resource-rich countries and a deterioration for resource-poor countries. The same distributional effects can be seen within a country, where workers and firms in the oil and mineral sectors see increasing incomes while agriculture and manufactures sectors see reductions. Such changes in income distribution can increase the risk of social unrest, particularly where oil or minerals production is concentrated in particular regions.
5. As described above, China enjoys significant benefits from its integration in the Asian region. Similarly, African countries may be able to reap significant benefits from furthering regional integration in respect to the rules governing Chinese investment. For example, collaboration among African governments could be useful in stipulating minimum levels of local employment in Chinese-owned firms.

Economic policy suggestions can only be envisaged by taking into consideration the specific nature of individual countries. The influx of financial and human resources from China generate short-term mutual benefits and can enhance complementarities between China and Africa. However, reaping the full benefits of this collaboration will require that African governments strengthen their governance institutions. This would require stronger interaction between African civil society organizations and their respective governments. Stronger governance institutions would have a beneficial impact on implementation of social and environmental safeguards as well as encourage the use of African labour and local construction companies to support major investment projects. Such regulations would not only apply to Chinese investors, but to all investors from other countries as per the WTO agreement. Many of these issues have been highlighted at the November 2009 FOCAC meeting.

References

Ademola, O., Bankole A.S and Adewuyi A.O. (2009), 'China-Africa trade Relations: Insight from AERC Scoping Studies', European Journal of Development Research, A.O. Vol.21, No. 4, pp. 485-505.

Adenikinju, A. and Bamou, E. (2006) 'Evaluating Asian Drivers Impacts on Sub-Saharan Africa Oil and Gas Industries: A Methodological Framework', *African Economic Research Consortium*, Nairobi.

Ajakaiye, O., Kaplinsky, R., Morris, M. and N'Zue, F. (2009) 'Seizing Opportunities and Confronting the Challenges of China – Africa Investment relations: Insights from AERC Scoping Studies', Policy Issues Paper, No. 2, *African Economic Research Consortium*, Nairobi.

Alden, C. (2007) China in Africa, David Philip, South Africa and Zed Books Ltd, London and New-York, 157p.

Besada, H., Wang, Y. and Whalley, J. (2008) 'China's Growing Economic Activity in Africa', Working Paper 14024, *National Bureau of Economic Research*, Cambridge. http://www.nber.org/papers/w14024

Branstetter L. and Lardy, N. (2008) 'China's Embrace of Globalization', in Brandt and Rawsky.

Calderon, C., Chong, A. and E.Stein, E. (2007) 'Trade Intensity and Business Cycle Synchronization: Are Developing Countries any Different?', *Journal of International Economics*, Vol. 71, pp. 2-21.

Chaponnière, JR. (2008) 'Un demi-siècle de relations Chine-Afrique. Evolution des analyses' ('A Half-Century of Sino-African Relation: Trend and Analysis'), *Afrique Contemporaine*, Vol.4, No.228, pp. 35-48.

Chaponnière, J.R (2009) 'La dérive des continents: l'Asie et l'Afrique' ('The Drift of Continents: Asia and Africa'), *Futuribles*, No. 350, mars 2009, pp. 5-26.

Chen, Z. and Jian, J. (2009) 'Chinese Provinces as Foreign Policy Actors in Africa', Occasional paper No. 22, *South African Institute of International Affairs*, Johannesburg.

Eichengreen, B. and Hui, T. (2006) 'Fear of China', *Journal of Asian Economics*, Vol.17, pp. 226-240.

Fan, S., 'How can China's rapid growth benefit African poor through rural and agricultural development?', *International Food Policy Research Institute*, Washington DC.

Geda, A. (2006) 'The Impact of China and India on Africa: Trade, FDI and the African Manufacturing Sector*', African Economic Research Consortium, Nairobi, Kenya.*

Giovannetti, G. and Sanfilippo, M. (2009) 'Do Chinese Exports Crowd-out African Goods? An Econometric Analysis by Country and Sector', *The European Journal of Development Research*, Vol.21, No. 4, pp. 506-530.

Goldstein A., N.Pinaud, H.Reisen, X.Chen: *The Rise of China and India*, OECD Development, 2006.

Iimi, A. (2006) 'Did Botswana Escape from the Resource Curse?', International Monetary Fund Working Paper WP/06/138, *International Monetary Fund* ,Washington D.C.

IMF, 2004, *World Economic Outlook,* September, Washington DC.

Kaplinsky, R. and Morris, M. (2009) 'Chinese FDI in Sub-Saharan Africa: Engaging with Large Dragons', *The European Journal of Development Research*, Vol.21, No. 4, pp.551-569.

Kaufmann, D. and Kraay, A. (2008) 'Governance Indicators: Where Are We, Where Should We Be Going?', *The World Bank Research Observer*, Vol. 23, No. 1, pp. 1-30.

Kiggundu, M.N. (2008) 'A Profile of China's Outward Foreign Direct Investment to Africa', Proceedings of the *American Society of Business and Behavioral Sciences* , Vol.15, No. 1, pp. 130-144.

Lardy, N. (2002) 'Integrating China into the Global Economy', *Brooking Institution,* Washington D.C.

Larkin, B.D. (1971) 'China and Africa, 1949-1970: The Foreign Policy of the People's Republic of China', *California University Press*, 268p.

Liu, F. and Mo, S. (2008) 'Study of the Relationship between Chinese Direct Investment and Trade to Africa Based on Panel Data Model', *Finance et Investissements*, Vol.24, No. 8.

Naughton, B. (2008) 'A Political Economy of China's Economic Transition', in Brandt, L. and Rawsky, T (eds) *China's Great Economic Transformation*, Harvard University, Cambridge, Massachusetts.

Nicita, A. and Ollareaga, M. (2006) 'Trade, Production, and Protection Database, 1976-2004', pp.165-171.

Richer, Ph. (2008) 'L'offensive chinoise en Afrique (The Chinese Offensive in Africa)', *Karthala*, Paris.

Rodrik, D. (2006) 'What's So Special about China's Exports?' *China & World Economy*, Vol. 14. No. 5, pp. 1-19.

Schott, P.K. (2008) 'The Relative Sophistication of Chinese Exports', *Economic Policy*, Vol. 23, No. 53, pp. 5-49.

Villoria, N. (2009) 'China's Growth and the Agricultural Exports of Sub-Saharan Southern Africa', *European Journal of Development Research*, Vol. 21, No. 4, pp. 531-550.

Wang Jian-Ye (2007), "What's Drives China's Growing Role in Africa?", *IMF Working Paper. International Monetary Fund*, Washington, D.C.

Zafar, A. (2007) 'The Growing Relationship between China and Sub-Saharan Africa: Macroeconomic, Trade, Investment, and Aid Links', The World Bank Research Observer, Vol. 22, No. 1, pp. 103-130.

Annexes

Annex 1: Revealed Comparative Advantage (RCA)

"The concept of RCA pertains to the relative trade performances of individual countries in particular commodities. On the assumption that the commodity pattern of trade reflects inter-country differences in relative costs as well as in non-price factors, this is assume to reveal the comparative advantage of trading countries", B.Balassa, 1977.

$RCA_{ij} = (x_{ij}/X_{it}) / (x_{wj}/X_{wt})$

Where:

x_{ij} represents exports of country i in product j

X_{it} represents total exports of country i in year t

x_{wj} represents exports of country w (China) in product j

X_{wt} represents total exports of country w in year t

Annex 2: Nomenclature of Manufactured and Processed Goods

Description of manufactured products/industrially processed products

Manufactured products used in this paper were disaggregated according to International Standard Industrial Classification (ISIC)-3-digit, Rev 2. The list of industrial products, according to this classification and as found in the Nicita and Olareaga database (2006) is:

- Food - Beverages - Tobacco - Textile - Apparel - Leather - Shoes - Articles of wood	- Paper - Printing Work - Chemicals - Refined Petroleum and Petroleum Derivatives - Rubber - Plastics - Stoneware and Porcelain - Glass	- Processed and Cast Iron - Metallic Structures -Machines and Machinery - Electrical - Transport Equipment - Medical and Surgical Equipment – Other precision Equipment

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