Impact of Sino-Africa Economic Relations on the Ghanaian Economy: The Case of Textiles

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Abstract: Africa is a Continent endowed with enormous natural resources that has attracted the attention of the west in particular; and has been described as a base for development of western Countries. In the twenty first century, the world’s second largest economy; China has become a new development partner to Africa in Economic Corporation and trade. China-Africa trade also known as Sino-Africa trade and relationship has increased tremendously over the last two decades especially. The main components of Sino-African relations have been in areas including: Bilateral trade, Investments and Aid. Sino-African relations have been under scrutiny with some accusing China of pursuing an aid for oil/resource policy and even neo-colonial hidden motives. Further, there are some who question the impact of relations on local industries. The Study focuses on one of the most promising economies in Africa: Ghana. Sino-Ghana economic relations have a long-standing history. The study aims to take cursory look at Sino-Africa trade relations, and its impact on the Ghanaian Economy; especially in the Textile sector, an important sector of the economy. To this end the study employs case study approach; employing available qualitative and quantitative data from relevant sources for empirical analysis. The results reveal that Sino-African Economic and trade relations impact on the Ghanaian textile industry negatively in areas such as employment, although some positive benefits such as cheaper prices for consumers accrue.

Keywords: Ghanaian economy, Ghana textile industry, Sino-Africa economic relations, Sino-Ghana economic relations, trade of trade.

1. INTRODUCTION

China-Africa relations in the modern era begun in 1955 with the holding of the Bandung Conference in Bandung, Indonesia between twenty-nine African and Asians Nations. The essence was promotion which was the promotion of cooperation in terms of economics and culture as well as the opposition to colonialism.

According to the OECD, China has been the largest trading partner of Africa. China-Africa trade grew Sixteen times from 2000 to 2011. FDI from China to Africa grew from $100m in the year 2003 reaching $12b in the year 2011. Further, in terms of infrastructure projects, China has been the highest contributor in the form development assistance (official) since 2008. Most of the development assistance has been in the form of turnkey projects construction, provision of technical cooperation as well as expertise. Other areas include the giving of giving assistance in the area of health, granting debt relief, taking part in volunteer programs and providing materials and goods.

Some Scholars believe China provides a complete package which includes workforce abundance, financial reserves, and technical expertise. As a permanent member of the United
Nations Security Council, China with a veto power capable of representing Africa some say. However, China’s continuous increase in imports from many countries in Africa has attracted scepticism about the attendant impact on local industries.

The year 1960 marked the beginning of diplomatic Relations between China and Ghana begun and diplomatic relations were friendly during the period of Nkrumah, and The Peace Treaty of friendship and Cooperation was signed by the two countries in 1961. However, Nkrumah’s government was overthrown by Military coup d’eta in 1966, while he was on a state visit to China. Diplomatic relations between China and Ghana were suspended until six years later, under the General Kutu Achempong regime in 1972. Relations have been friendly since then. Generally, China-Ghana relationship has been friendly, and recently, the two countries celebrated the 50th Anniversary of diplomatic ties. Broadly, Ghana exports raw materials to China and imports manufactured products. Ghana exports to China include gold, oil products, cotton, aluminium, manganese, timber, cocoa beans, and frozen fish. China on the other hand exports Textiles goods, electronic and mechanical equipment to Ghana.

Regardless of this long history and close economic ties, proponents on the other side are of the view and have argued that it is important to evaluate the impact of Sino-Ghana economic relations. They argue that although cheap and affordable Chinese goods may promote consumer welfare, it may be detrimental to local manufacturers, eventually impacting negatively on Ghana's industries; such as Textiles. In Ghana, there have been claims on possible adverse effects of the Sino-Ghana engagement on the local industries, particularly textiles. Chinese Companies are reluctant to use local equity, loans and labour force for their investments and hence little Ghanaian involvement. To Sceptics, the Isolations of Chinese operations are one sided and does not help to develop the Ghanaian Industry. Against this background, the objective of this research paper will be to evaluate the implications of Sino-Ghana trade and economic relations for the economy of Ghana, focusing on the textile industries.

1.1 Problem statement
The intensifying Sino-African and Sino-Ghana economic and trade relations has been on the ascendency and shows no sign of slowing. The increasing areas of engagement such as official development assistance, investment in general and trade, in particular, has had positive implications for African economies such as Ghana.

Trade, for example, has increased the standard of living of consumers through the importation of affordable goods that is not produced in the Ghanaian economy. At the same time, importation of cheap textiles, for example, has impacted on the textile industry of Ghana. This impact has resulted in the need to ascertain the extent to which the ever-increasing relations affect the economy of Ghana negatively, in order to serve as a policy formulation, point for safeguards.

1.2 Aim of the study
Given the intensifying nature of Sino-African, and Sino-Ghana economic relations and the importance of such relationship; as well the implications of relations, it is impact to conduct research into how such relations impact on economies such as Ghana, not only positively but negatively. This research paper, therefore, has as its aim; determining the impact of Sino-Ghana trade and economic relations with the Ghanaian textile industry.
2. LITERATURE REVIEW

A wide range of literature can be found discussing China-Africa/Ghana trade and relations. In defining trade, we can refer to it as the exchange of goods, as well as services. Included in the definition are financial resources. In a study by Hibbert (1990), he describes absolute advantage as well as David Ricardo's (Ricardo (1817)), the theory of comparative advantage. Todaro (2000) on the other hand submits a broader perspective on trade as involving much more than the exchange of goods as well resources of financial nature in the sense it involves invitation of foreign inflow.

Literatures for the past decade generally seem to suggest that trade and liberalization cause growth. Studies by Edwards (1992), Krueger (1997), supports the positive relationship between openness to trade and growth hypothesis. Wacziarg and Welch (2003) agrees to this and submits GDP growth increase after liberalization of trade; with investments likewise seeing effects in the positive. Sukar and Ramakrishna (2001) studies show that trade has enhanced economic growth of Ethiopia.

Helpman and Krugman (1985) submits that, in terms of exports, improvements in growth can be through the adaptation of technologies from foreign as well as utilization of capital and benefits from scale economies. According to Esfahani (1991), exports, in general, helps to eliminate barriers to foreign exchange and is beneficial in the promotion of international market access. Weil (2008) reports that average growth rate of per capita GDP from 1965 to 2000 was about 1.5% for closed economies as opposed to 3% for open economies.

Rodriguez, Rodrick (1999), however, argues that the evidence relating openness of trade and growth overstates the positive relationship between the two. According to their study Importation of goods, services has the potential to reduce domestic production of goods and services, which in turn reduces long-run productivity as well as output. Adopting a dynamic panel approach, Li (2003) uses an 82-country panel to assess the impact of service importation on the growth of the economy and finds service importation to worsen developing countries’ economic growth.

2.1 China and Africa

As submitted by Rotberg (2008): China and Africa are in desperate need of each other it is not for easy for China to experience growth without Africa. Furthermore, China’s African policy from 2006 emphasizes mutual benefits, trust, equality, solidarity and strengthening of economic cooperation, proving that China is serious about its long-term relationship with Africa (Brautigam 2009:77-78). Lum argues that China registers its economic presence and good will through continues financing infrastructure projects, remarkable economic investment and the signing of trade deals with Sub-Saharan African countries especially., (Lum Thomas, 2009).

Generally, African leaders have endorsed the Chinese engagement substantially, as a result of the following reasons; In the first place, they argue that Chinese presence enhances competition as well as increasing the prices of African products, thus enabling countries endowed with resources to be able to finance their debt, (Zafar A 2007, Anshan L 2008).In the turn of events Former president of South Africa, Thabo Mbeki remarked that “there are some in the world who fear this message of hope and the possibility it presents to define the process of globalization in a manner that benefits the poor of the world....They see the development exemplified by the China-African partnership as a threat to their Selfish interest” (Kwaa Prah, 2007; 6).

Some civil activists in African countries (Ghana, Lesotho and South Africa) have however, expressed worry about Chinese business activities, claiming that it threatens domestic production especially the textile industry. They also claim that China engages in Isolation and...
does not involve many Africans in their projects but rather Chinese labour force. (Large Daniel, 2008).

2.2 Viewpoints on Sino-Africa Economic Cooperation

According to Taylor (2005) that China-Africa relations are to a large extent economic and related to Trade. Mots scholastic literature is in support of this view. According to Mooney (2005), the forces driving China's presence in Africa is due to the increasing economic demands of the country. Naidu and Davies (2006) submits further that the low sulphur nature of the African continent's oil is ideal for the protection of the environment and the strategic West African location enables Chinese refineries to process easily. Shelton (2001) in the same direction argues; China-Africa interaction to a large extent is economic in nature. In Cornelissen and Taylor (2000), the policy of China is focused increased relationship which is economic in nature, in order to ensure global integration of the continent. Cornelissen and Taylor (2000), Shelton (2001), Vander Wath (2004) are all in the view that China maintains a politics free stance in interaction with Africa.

Nduro (2006) submits that bilateral trade between the Asian Nation of India and Africa was $914bn in 2005 from $967m in 1991. According to the OECD (2011) and studies by Smith (2012), the largest trading partner of Africa has been China. Moyo (2012) submits that in 2011, China's FDI to Africa reached $12bn compared to the 2003 figure of $100m. According to Hensengerth and Scheumann (2011), in terms of infrastructure projects, the highest contribution of development assistance has come from China.

According to Lumumba Kasongo (2011), China provides a complete package which includes workforce abundance, financial reserves, and technical expertise. Anshan submits that, strategically and geo-politically, there has been increasing prices, income and general development of the African Continent; especially for resource endowed economies, emanating from the rising demand of China for the continent's natural factor endowments.

Western perspectives suggest that Chinese investments, aid, and trade in Africa are triggered by raw materials scramble. The Critics claim that most part of the engagement involves China importing raw materials and oil from Africa in return for exporting cheap manufactures to the continent. They contend that this exchange clearly similar to what existed during the colonial era (Taylor, 2009).

To the ‘optimists’ engagement with China is in the right direction. Alden et al. (2008) submit that Africa is in need of such substantial FDI inflow aimed at physical infrastructural development as well as, and expanding human capital liberalizing the domestic markets.

To the Contrary, however, the ‘pessimists’ are sceptical about the positivist's opinion towards Sino-Africa relations. Ali Zafar, for instance, noted there is an aggregate boost in real Gross Domestic Product (GDP) of most countries in Africa due to oil importation, minerals as well as other resources from the continent. However, he submits two important treats posed to the continent. Firstly, China's increasing importation of oil, for instance, results in upward price swing, which will work against other poor African countries that also import oil from African oil producing Countries. This will likely lead to unbearable, the import bill of these poor countries, and consequently, negative balance of payment account. Kaplinsky et al. (2006) Supports this point and regards the benefits derived from Africa's exports price boom relating to China as ambiguous as it is usually accompanied with rising exchange rates, as well as corruption, and conflicts. Zafar moreover argues that the inflow of low-cost textile into Africa, although benefits the ordinary consumer will, in the end, weaken domestic industries, leading to the Dutch–Disease prevailing in most African states. Some observer’s African producers do not have the capacity to compete with Chinese companies even in local African markets because
they cannot compete with lower Chinese production costs and prices (Tull, 2006). This is a result of Economies of Scale of Chinese firms.

3. RESEARCH METHODOLOGY

This study adopts the case study approach to provide an understanding of the topic. It adopts both qualitative and quantitative data to provide theoretical and empirical analysis. In essence, it is descriptive and interpretive in nature.

The interpretive approach for example will be very useful as it seeks to explain how members of a social group interpret the world around them (Bryman, 2008; 17). In the light of this, the study will involve interpretation of data from documents from sources such as the Government of Ghana, allied Aid Agencies, articles by scholars, on Sino-Africa economic and trade relations in general and Sino Ghana economic and trade relations in particular, as well as data from the China Ministry of Foreign Affairs. Data from international organizations such as the World Bank, International Monitory Fund (IMF), and World Trade Organization (WTO) will be interpreted.

3.1 Econometric modelling

In explaining trade between China and any African country, such as Ghana, I employ the gravity model of trade. The model is based on Newton’s law of physics as can be used as a basis of explanation for flows in international trade.

\[ \text{Xij} = \text{GYiYjDij} \] ................................. (1)

Given two countries; China and Ghana trade, I represent Ghana as i and China as j. Therefore, the model can be interpreted as: total trade between the two countries \( (\text{Mij}) \) has a positive relationship with size as per their incomes \( (\text{Yi, Yj}) \) and has an inverse relationship with distance that exists between them.

In a log format, the gravity model of trade is represented as:

\[ \ln M_{ij} = \alpha + \beta \ln Y_i + \gamma \ln Y_j - \delta D_{ij} + \epsilon_{ijt} \] ................................. (2)

Here \( M_{ij} \) represents the total volume of trade China to Ghana. \( Y_s \) represents their income level, whereas the distance between the two countries is measured as \( D \).

In their study, Hiscox and Kastner (2002) used a modified version of the model (gravity).

\[ \ln (M_{ij}/Y_{it}) = \alpha + \beta \ln Y_i + \gamma \ln Y_j - \delta D_{ij} + \epsilon_{ijt} \] ................................. (3)

The model uses for the dependent variable; trade as percentage of income \( \ln (\text{Yij}/\text{Yit}) \) representing the reason behind China’s trade with African countries such as Ghana, I adopt the augmented gravity model of Hiscox and Kastner (2002) in equation four (4) below. This model includes resource differences between countries.

\[ \ln (M_{ij}/Y_{it}) = \alpha + \beta \ln Y_i + \gamma \ln Y_j - \delta D_{ij} + \lambda_1 \ln L_{ijt} + K_1 \ln W_{ijt} + \epsilon_{ijt} \] ................................. (4)

In this model, the difference in resources between the two countries (China, Ghana) is represented by \( L_{ij}, k_{ij} \) and \( W_{ijt} \) measures the wealth of the country exporting. This augmented model better explains trade between China and African countries such as Ghana. China is the second largest economy, Ghana on the other hand; one of the smallest economies in the world and thus size might not be a factor. With distance, not likely to be a factor; differences in endowments might better explain why China trade with Africa. Most African countries are resource endowed, which China needs for its development agenda, and China possesses the capital that most African countries such as Ghana needs.
4. DATA ANALYSIS AND INTERPRETATION

4.1 Sino-African trade overview

In five years, China Africa trade quadrupled and in 2005 reached $40bn. In 2000 the volume of trade was $10bn, however in 2009 reached $91bn. According to the OECD (2011), China has since 2009 become the largest trading partner of Africa. Thirty least developed countries also benefited 60% zero tariffs on commodity exports; imports of China from Africa reached $93.2bn as at 2011 compared to year 2000 figure of $56.8bn according to the China Embassy (2012b). Trade between China and Africa grew rapidly in 2011. Figure 1 shows, total China-Africa trade from 2000-2009.

![Figure 1: Trade between China and Africa from 2000 to 2009 in US dollars (billion)](source: MOFCOM, 2011)

Trade between China and Africa in 2012 was forecasted to reach $200bn (growing by $33.7bn). Exports from Africa to China grew by 18%, and China's exports to Africa grew by 5% in 2012. According Hazelhurst (2013) to Currently, Africa is becoming the hottest Chinese export destination

4.2 Sino-Ghana trade

Economic growth of Ghana largely depends on trade. Ghana mainly exports commodities such as; gold, cocoa, agricultural products, timber, and crude oil (recently), with cocoa, gold, and timber constituting 75% of the total exports income of 90% of Ghana's GDP in 2008. (Quartey P et al. 2009; 5). Sino-Ghana trade follows the pattern of the North–South model such that Ghana exports raw commodities to China and imports finished products. Ghanaian imports from China are mainly manufactures such as textile and apparel, traveling bags, shoes, automobiles and electronics. On the hand, exports to China include metal ore, cocoa beans, timber, rubber, and scrap.

1) Exports

Table 1 shows that Ghana's total export to China. The share is quite low consistently below 2% from 2000-2006. Further, even though total export trade over the years has been increasing, the difference between the total share and that of China is growing bigger during a seven-year period with a resultant stagnant trade as shown in table one below.
Table 1. Ghana Export trade figures for 2000-2009 (billions of US dollars)

| Year | Ghana’s export to China in USD | Ghana’s total export trade in USD | China’s percentage of the total |
|------|--------------------------------|---------------------------------|-------------------------------|
| 2000 | 25.82                          | 1,648.06                        | 1.57                          |
| 2001 | 22.71                          | 1,791.10                        | 1.27                          |
| 2002 | 7.66                           | 1,793.39                        | 0.43                          |
| 2003 | 32.28                          | 2,324.30                        | 1.39                          |
| 2004 | 18.34                          | 2,621.68                        | 0.70                          |
| 2005 | 31.26                          | 2,583.37                        | 1.21                          |
| 2006 | 28.55                          | 4,144.67                        | 0.69                          |

*Source: Ghana Ministry of Trade and Industry*

In 2003, China’s total imports from Ghana saw five times rise compared to the previous years. In terms of crude materials exports, China's share reached 5.19% compared to the previous year (0.07) with that of manufactured goods exports increasing from 0.08 to 7.55% in 2002. In 2005, Ghana's export total to China increased double fold as compared to preceding year’s figures with food with food and live animals accounting for almost 68% of the total.

Figure 2: Ghana Export Trade figures (2000-2006) ($ millions)

*Source: Ghana Ministry of Trade and Industry*

In 2006, China’s total imports from Ghana saw a reduction of $5m as compared to the preceding year figure. The percentage of China in total did not go beyond 2%. However, in 2011, China’s imports from Ghana rose to $258m from the 2000 figure of $28m. 2011 recorded the highest exports as Ghana began oil exportation that year.
Percentage breakdown of Ghana's exports to China is shown by the pie chart below. In 2011, total Ghanaian exports was dominated by mineral fuels (45%)
Table 2: Import figures for Ghana from 2000-2006 in millions of US dollars

| Year | Ghana’s imports from China | Ghana’s total imports | % of China |
|------|-----------------------------|-----------------------|------------|
| 2000 | 96.12                       | 2,438.47              | 3.94       |
| 2001 | 122.2                       | 2,666.39              | 4.58       |
| 2002 | 116.95                      | 2,452.95              | 4.77       |
| 2003 | 179.63                      | 3,210.19              | 5.60       |
| 2004 | 364.81                      | 4,632.89              | 7.87       |
| 2005 | 364.81                      | 5,661.20              | 7.38       |
| 2006 | 502.82                      | 7,223.14              | 6.96       |

Source: Ghana Ministry of Trade and Industry

From the figure above, Ghana’s imports from China have been rising steadily.

Figure 5: Ghana’s import figures (2000-2006) (millions of USD)
Source: Ghana Ministry of Trade and Industry

Figure 6: China’s imports to Ghana from 2000 to 2011 in millions of US dollars
Source: World Trade Organization

From figure 6 above, Ghana imports from China, over a decade has increased, reaching $2.06 billion in 2011 from the initial amount of $219 million in 2000.
Figure 7 below shows Ghana’s top three importing partners. Imports from China as compared to imports from the European Union are less pronounced. During 2000 to 2011 however, EU exports to Ghana increased fourfold, China exports to Ghana, on the other hand, increased nine folds. Since 2004, China has become Ghana’s second highest importing country.

**Figure 7**: Ghana’s top three importing countries in millions of US dollars

**Source**: ITC

Finally, although Ghana’s share of total imports from China has gone up, it has been driven by manufactured goods from China, and in 2006 reached $1,300 compared to $850m in 2005. According to some economists, Ghanaian manufacturing is affected.

**Figure 8**: Manufactured goods import for Ghana from 2000 to 2006 in millions US dollars

**Source**: Ghana Ministry of Trade and Industry

### 4.3 Findings - impact of trade relations

According to Quartey et al. (2009) and Tsikata et al(2008), Sino-Ghana trade relations has made available affordable manufacture imports, for low-income earners, boosted investments, created jobs, as well as technology transfer and healthy competition for local business in Ghana. Tsikata (2008) submits many whole sales, as well as retailers, have been able to outsource imports goods from China helping make goods cheaper in the market of Ghana.
Isaac Ibrahim  
Impact of Sino-Africa Economic Relations on the Ghanaian Economy: The Case of Textiles  

(Tsikata D, et al. 2008). Further, domestic businesses alliance with Chinese counterpart helps in securing capital, knowledge, and expertise. Chinese presence in Ghana's market is also promoting healthy competition for domestic businesses., China's 60% demand for Ghana's metal exports, (Jenkins and Edward 2005, Kaplinsky,), 180 million dollars for cocoa and cocoa products (Quartey P et al., 2009) will help boost the economy.

4.4 Challenges  
Challenges to Sino-Ghana trade include; trade deficit, local industrial growth, and quality and the safety of Chinese goods in the Ghana markets. Further, China imports to Ghana are very low as compared to exports; imports from Ghana do not also include manufactured goods. Also, manufactured goods from China are deemed to Challenge local industries in both internal and external markets, with fear of job losses; obstruction of economic diversification.

In Ghana, the structure of ownership of investments by Chinese firms from 2001 to 2006 seemed to follow one direction. The features include low usage of domestic loans and equity. In essence, 95% of resources in terms of loans and equity were non-domestic (foreign), as shown in the table below. The results reflect lack of Ghanaian investment and the repatriation of profits to China.

Table 3: Chinese Companies ownership of investments in Ghana from 2001 to 2006

| Year of Investment | Domestic Loan | International Loan | Domestic capital (equity) | International capital(equity) |
|--------------------|---------------|--------------------|--------------------------|------------------------------|
| 2001               | 150.00        | 5,018.50           | 59.64                    | 1,809.86                     |
| 2002               | -             | 212.30             | 144.88                   | 2,770.17                     |
| 2003               | -             | 60.00              | 530.01                   | 1,584.08                     |
| 2004               | 10.00         | 165.04             | 54.77                    | 2,889.51                     |
| 2005               | 320.00        | 5,854.47           | 112.06                   | 11,581.35                    |
| 2006               | -             | 2,968.00           | 2,096.09                 | 10,137.70                    |

Source: Tsikata, Dela, et al (2008)

4.5 The Ghanaian textile industry  
In recent times, the debate has been whether there is monopoly exercised by China in terms of textiles trade. Here in this section, we determine the impact of Sino-Ghana trade on this sector. From 2000 to 2006, China's share of the textile trade in Ghana as a percent of total trade has been increasing from about 17% in 2000 to almost 30% in 2006. As already mentioned in this study, this increase has been seen by some to have the impact on the Ghanaian domestic textiles. Some claim that local textiles are being forced out of business by textiles from China, forcing the closure of some textile factories in some cases. Many consequences have been cited including Job losses, loss of revenue as well as research and development in the Ghanaian textile industry. According to reports, Chinese firms copy local designs and colours of locally designed products.

In the 1960's through to the 1970's, Ghana focused domestic industrialization (import substitution industrialization), in order to promote economic growth and development. The success of some countries such as Malaysia, Thailand, and others in following such policies served as a motivation. In Ghana, the policy resulted in the establishment of many domestic industries as a way of substituting for the hitherto imported items. The result was the establishment of many industries such as soap, wood, aluminium, and textiles. Particularly, the textile industry performed better, in the manufacturing sector, within a decade after the adoption of the ISI, contributing greatly in many ways to the Ghanaian economy.
The sector employed 25000 people, for instance, in 1977, accounting for about 27% of the manufacturing sector total employment as well as operating at over 60% of factory capacity. In the early 1980s, however, the textiles started to experience very low capacity production; regardless, generated income for the economy. Notably, the low capacity of production was largely attributed to market liberalization policy adopted in the 1980’s and 1990’s as part of the World Bank’s Structural Adjustment Programmes (SAPs), which resulted in increased textile importation.

In recent times, the sector is showing signs of increasing production to take advantage of the United States’ African growth and opportunity act. Some claim, however, it has been hampered by threats posed by imported low-cost textiles from Asia and China especially, to the continued survival of the few operating domestic firms, new entrants, and or those coming back.

1) Ghanaian production of textiles/import
Ghanaian textiles are basically concerned with producing fabrics for garments as well foreign markets. It is to a large extent cotton-based with little man-made fibres. Textile products that are cotton based are; fabrics for households such as; kitchen napkins, certainly, uniforms for schools, sheets for beds, wax. Man-made fibre products include knitted blouses, uniforms, socks; normally made with synthetics, acrylic, polyester and others. Tie and dye batik as the name suggests is also common in Ghana by small firms that engage in prints by hand on cotton that is bleached. For centuries, local industries involved in traditionally printed clothes with symbols are very famous in Ghana. Adinkra is an example and holds cultural values.

In 1977 industry output totalled 129 million yards, with 60% rate of utilization of existing capacity, with Ghana Textile Prints (GTP) as the industry leader with yards production of 30.7m, followed by the textile manufacturing company of Ghana (15 million yards), 13million yards by Akosombo Textiles (ATL), Printex (6million yards). Total industry output, however, fell to 46 million yards in 1995 from its 1970 levels, recovering to 65 million yards in 2000.

Table 4: Ghana importation of textiles

| Year | Import of wax | Import of Fancy/Java | Fabric (bleached) |
|------|---------------|----------------------|-------------------|
|      | Quantity (kilogram) | USD 000 | Quantity (kilogram) | USD 000 | Quantity (Kilogram) | USD 000 |
| 1997 | 30,775         | 106      | 152,300          | 406     | 9,418             | 41      |
| 1998 | 11,423         | 571      | 46,881           | 204     | 80,138            | 601     |
| 1999 | 86,700         | 2,318    | 136,634          | 477     | 182,091           | 1,044   |
| 2000 | 135,197        | 1,313    | 455,764          | 1,818   | 1,034,978         | 5,247   |

Source: Ghana Ministry and Industry 2002

The Ghanaian textiles sector embarks on the importation of a lot of inputs in the form of raw materials. Inputs normally come from the Netherlands, European Union, US, and China, comprising of chemicals and dyes, khaki fabric calico, finished textiles and prints as well as garments including new dress, curtains, etc. and accessories such as zippers, fasteners. The Sector also imports machinery, equipment as well spare parts.

2) Importance of the Ghanaian Textile Industry to the Economy of Ghana
Firstly, the textile industry in Ghana is a source of employment. In Ghana, employment in the Textile industry does not only involve factory workers but a chain of people including distributors, wholesalers, retailers, artisans, advertisers, etc. Indeed, various aspects of the economy are affected by the textile industry in terms of employment. The textile industry in
Ghana in 1977 employed about 25,000 people; accounting for percentage in manufacturing overall employment of 27%. Sectorial employment reduced to a low of just seven thousand (7,000) and further reduced in 2005 to 5,000. Sectorial employment, though important has been falling, and a combined two thousand, nine hundred and sixty-one (2961) workers were employed by the top four manufacturers. According to survey, most companies have cut down or laid off workers rendering them redundant.

Table 5: Textile industry employment

| Year | Total output (Yards in millions) | Year 1975 | Year 1995 | Year 2000 |
|------|---------------------------------|----------|----------|----------|
|      |                                 |          |          |          |
|      | Total Employment                 |          |          |          |
|      | 25,000                          | 129      | 46       | 65       |
|      |                                  | 7,000    | 5,000    |          |

Source: Ghana Ministry and Industry 2002

Secondly, textile exports serve as an important foreign exchange source for the economy as well as income for businesses in the textiles industry. In 1992, earnings from textiles amounted to $27.2m increasing to $179.7 million, however decreasing constantly and falling to US$ 3.173 million by 1998. In 2000, Ghana benefited from AGOA with apparel and textiles export to market of the US in 2002 totalling $550,000. In 2003, there was an increase to $4.5m, increasing further in 2004 to $7.4m. Earnings from the export of textiles no matter how low contributed to the country's GDP and economic growth.

Table 6: Exports and Imports of textiles (general) not including African GOA.

| Year | Total Exports USD millions | Total imports USD millions |
|------|---------------------------|---------------------------|
| 1992 | 27.18                     | 34.57                     |
| 1993 | 76.7                      | 38.28                     |
| 1994 | 179.7                     | 39.40                     |
| 1995 | 7.703                     | 42.30                     |
| 1996 | 3.429                     | 53.35                     |
| 1997 | 5.074                     | 52.65                     |
| 1998 | 3.173                     | 56.55                     |

Source: Ghana Ministry and Industry 2002

Lastly, textiles cloth means much more than just an economic venture. It represents the cultural identity of the people. It communicates something of high value that penetrates the soul of the people. For example, in Ghana, clothes have names, which communicate meanings and status and different cloths are worn for different occasions. Various Ghanaian National clothes also exist to mark important occasions such as Ghana's independence.

4.6 Overview of China's Textile Industry

China's economic reforms which started in 1979, sought to promote the Chinese textile industry. Reasons such as basic infrastructure as well experience in the industry, and the labour intensiveness of the industry placed China at an advantageous position as a result of the huge population.

Subsequently, the government of China launched its policy to promote the textile and clothing industry, which ensured that the industry enjoyed favoured treatments in areas; mainly: raw
materials supply, bank loans, innovation and its transformation, infrastructure, fuel and power, Importation of advanced foreign technology, and Transportation. This subsequently led to a fast growth in the industry output. For a long time, the textile industry continued to be one of the most important in the economy of China, serving as a major source of foreign exchange, and economic development, accounting for more than 20% of China's total export (Larry D. Qiu, 2005):

The China textiles and apparel industry is the world’s biggest and employs 3.9million workers in about 47000 companies, as at 1995, production then, totalling 9.685 billion units of garments and a total export value of US $24 billion. China has since then maintained its lead. It is worthy to note that China had been top exporter in textiles before the increase in exports to Ghana, and the Chinese Government has maintained a clear vision to promote the industry.

According to a joint report by the China Textile University and the Harvard Centre for Textile and Apparel Research, the structure of ownership in china’s textiles can be one of the following; Privately-ownership, collective ownership, State Owned Enterprise (SOEs), and foreign ownership which are mainly Joint Venture Enterprises (JVEs). Firstly, SOEs may be owned by the Central, provincial or county governments. Secondly, Collectives can be either rural township (RT) or other collectives, such as urban. Thirdly, Privately-ownership firms are owned by Chinese citizens. Lastly, ‘Foreign-owned’ firms are fully owned by foreign investors. A JVE may be undertaken with SOE's, Collectives or private owners.

The government continuous to maintain its presence in the industry, and have some degree of control (which has been deemed necessary for charting the course and development of local industries). One can argue that the textiles in China have seen a fast rate of development as well as diversification compared to other sectors (compared to gradual in Ghana).

4.7 Collapse of the Ghanaian Textile Industry

As was earlier indicated, in the recent past, the Ghanaian textile industry was a very buoyant industry, employing about 25000 workers. Mostly, the companies in this sector produced very high-quality designs, materials, as well as reputable branded. Textile products were competitive on domestic markets and international markets mainly in West Africa. On the Ghanaian market, Wax prints produced by textile companies were in high demand because of their use in making traditional dresses. The Ghanaian textile industry as stated earlier was a source of employment to many Ghanaians and also contributed greatly to the country’s Gross Domestic Product, (GDP).

The situation in recent times is, however, different, and recently the industry has encountered difficulties, resulting in the closing down of production facilities of most firms in the industry, leading to laying off of workers. An example is the shutting down of spinning and weaving departments and laying off of workers of Ghana Textile Print, (GTP) which in the past produced good textile brands. In the past, the industry leader competed with multinational textile companies but is now on the verge of collapse.

The story is similar for other pioneers and frontrunners such as Ghana Textile Manufacturing Company limited (GTMCL), which in December 2005 shut down its production line. Juapong Textile similarly shut its production lines completely, but re-opened its production line temporarily, under the name Volta Star Textiles but did not survive due to heavy competition. Some however, such as Printex though operating is producing below capacity. Akosombo Textile Limited, (ATL) seems to be the only surviving domestic textile firm in the industry but isn’t better off either. A number of reasons have been given; including the following:
1) Trade liberalization
The World Trade Organization (WTO) has as its aim promoting free trade among member countries, by removing the barriers and impediments to trade (tariffs, quotas and non-tariff barriers). Even though this has been seen as a blessing, helping Ghana to promote exports and foreign exchange earnings, industry watchers argue that the Ghanaian textile industry is at near collapse attributable to the policy of trade liberalization. Liberalization has been deemed to have led to the inflow of textile products from China especially.

Subsequently, domestic producers cannot cope with the competition because these textiles are relatively cheaper compared to locally produced. Further, some of the products are copied making them, look like Ghana made, which makes it difficult for customers to differentiate between the two. Lastly, Sellers prefer to sell the copied textiles as they are they are affordable to local consumers and sell quicker.

2) The China Factor in the Ghanaian Textile Industry
The First attributed China factor is Influx of Chinese textiles. The fall in production output and collapse has been linked to the fall in demand for domestic manufactured textiles and garments. A plausible reason is the influx of cheap imported textiles from, especially China. China has been perceived as a major competitor as some Chinese textiles bear the patented designs, trademarks, and logos of domestic textile, and are sold on the domestic market at lower price. According to stakeholders, although these cheap products are of benefit to ordinary consumers, it threatens the domestic industry to collapse.

One Weakness of domestic textiles is that, although it is of higher quality than those imported, the prices are relatively higher. The Second China factor is Counterfeiting. In November 2006, for example, Ghanaian newspapers bore widespread announcement of a boycott and demonstration of a latest increasing common sight in Ghanaian market: Chinese copied versions of African print. The boycott was a reaction by associations of trade in Ghana which took place at a public forum. They voiced their frustration about the impact of service liberalizations at the forum in the capital of Ghana, Accra. This was as a result of and in response to the recent increase in the Ghanaian market of Chinese-African prints. As per the traders, the textile prints were smuggled through the eastern neighbouring country of Togo into the country. (Adadevoh (27th November 2006). Further, prints bore clothing designs of Ghanaian nature mimicking Ghanaian made clothes; as submitted by Orhin (27th November newspaper, 2006). To the traders, these occurrences were threatening their businesses.

Police with personnel from ATL previously on July 2006 arrested twelve traders at the Kumasi Central Market. Their crime was selling counterfeited Chinese-African prints. Counterfeiting has been a threat to local manufacturers, as reported, and results in loss of revenue, as well as deprivation of gains from Research and Development made by these companies in developing the brands. Further, Customers who buy the copied ones unknowingly may lose confidence in the original brand. Further, counterfeiting affects values of Ghanaian prints to a high degree as said earlier, garments such as kente and adinkra have essential traditional values vested in brand names and designs. Counterfeiting benefits the Counterfeiter because it allows production without costs such as R&D, reducing cost (and price sold), risk and increases profits as a result of copying of already proven brands. The reverse is true for Ghanaian textile firms who are disadvantaged.

Upon investigation and experience, it is worthy to note that customers buying copied versions are sometimes aware, but are driven by price considerations and similarity of the two versions. Counterfeited versions may look similar to the original in terms of colour, symbols, design or even labels of the original. However, there are some customers who rank the quality of the fabrics in Ghana over any price considerations, as quality serves as indicator of wealth, prestige, and status. This is in line with earlier studies conducted Cordwell (1979: 495, Johnson
Isaac Ibrahim  
*Impact of Sino-Africa Economic Relations on the Ghanaian Economy: The Case of Textiles*

(1974:181-182). Steiner (1985:93-94). Historically, the quality level of Chinese-African prints entering the Ghanaian market was low, compared to the originals, printed on low-quality cotton-base, grey-cloth, with colours fading when washed. Counterfeiting affects domestic firms negatively, in terms of revenues, operations, goodwill, and employment of workers, as well as National GDP.

Trade-related aspects of intellectual property rights of the WTO can be enforced by Ghana, as counterfeiting is a criminal offense related to copyright and patenting. The country can also as well as use its internal laws and mechanisms for anti-counterfeiting. However, the system is weak and corrupt and hence unable to do so. There have been similar reports in the Ghanaian newspapers of counterfeiting.

The Third China attributed China factor is smuggling. Smuggling is one most predominant ways that textiles enter the Ghanaian Market. Ghana geopolitically is bordered by Ivory Coast to the West, Togo to the east, and Burkina Faso to the North. The Ghana-Togo boarder is perhaps the most active boarder of the country. The Togo boarder has been particularly used because the country offers a “free port” and relatively allows goods that are not allowed in Ghanaian ports to come in.

Alan Kyeremateng, the then Ghanaian Minister of Trade and Industry, in 2005 announced at a press conference that beginning 1st July that year, only the Sea port of Takoradi was to be used as the sole entry point for textiles. He added illegally imported prints through unauthorized routes will be seized and importers prosecuted. According to the Minister, this was to curb the menace of smuggling of textiles into the country of fake or if genuine; tax and duties evaded. The Minister noted that smuggling is carried out by groups who are well organized, involving officials of the Customs Exercise and Preventive Service, agents involved in forwarding and clearing, police, importers persons in charge of security at the ports, resulting in flooding of Chinese made goods in the Ghanaian market as reported by the Ghana News Agency (18th May newspaper, 2005).

Smuggling has two negative effects in the sense that tax and duty-free smuggled textiles are sold cheaper which puts domestic producers at a disadvantage. Tax evasion also means loss of revenue to the state and also a by-pass of import tariffs that are meant for protection of domestic industry. Ghana has used import tariffs as trade policy since 1989, meant to inflate the prices of imported goods and protect infant industries. Smuggling results in the deregulation of the market. Moreover, these prints are mostly counterfeited explaining their smuggling rationale, which results in the problems discussed above.

Ghana’s four-tariff band structure of 0, 5, 10 and 20 percent were applied to 99.8 per cent of all imported goods as at year 2007. In 2000, tariffs on average reduced to 12.7%, initially 14.7% WTO (2008). After the single-entry port was revoked, the Ghanaian government a year later, introduced an additional tariff of 5% on textiles in 2010, to protect the local industries against cheaper imports. Generally, Smuggled goods enter the Ghanaian market through the Tema Port (Ghana’s primary port located 30 kilometres from the capital, Accra) or Aflao. At Aflao, Border-crossing procedures involve initial valuation at the arrivals hall and the customs yard, to determine whether goods needs to be cleared or not cleared items are charged the required duties and fees. However, importers just bribe their way through due to the porous nature of the boarder port. It was for this reason that initiatives such as the single import Corridor were introduced at the boarder to curb the situation. Even though it was cancelled, it has recently been reintroduced.

(a) Response from Stake Holders
The challenges discussed above have attracted attention and a lot of discussion in the Ghanaian media. Stakeholder responses are discussed below.
Firstly, the reaction from the general public has been mixed. Consumers are generally happy due to affordability and wider range. This is so because to many of the consumers, buying the expensive local prints means a fortune. The story, however, is different with traders who normally engage in boycotts. In one of such boycotts, a textile dealer from the Ghana Western City of Takoradi, appeared before the crowd, wearing an originally made domestic print to demonstrate the need to support the Ghana textile industry; as reported by Adadevoh 27th November, 2006). To them, the intervention would ensure the traders jobs, as well as local textile factories workers (Orhin 2006, 27th November: n.p.).

Secondly the trade union Congress is the mother of all employees union. However, employees in different industries have their unions, which are served to unify employees with one voice to fight for employees’ welfare. One of such unions is TGLEU, formed to champion the interest of workers and textile industry in general. In an attempt to help salvage the textile industry TGLEU has embarked on several measures and according to Peter Quartey includes the following:

- Appealing to parliament in 1994 to introduce legislation to abolish sales tax of 12½ per cent on domestically produced prints so as to lower their prices and end unfair Competition with imported goods.

- Embarking on civil society sensitization through electronic and print media, as to the need to use locally produced textiles.

- Thirdly, realizing the potential of the textile industry to promote growth and to provide employment, the government of Ghana, drafted some economic policies in order to promote the industry including (Peter Quartey):
  - Formation of textiles network by the Ghana government assisted by United Nations Industrial Development Organization (UNIDO) bringing together various firms in the textile industry. Issues such as training on mass production strategies, up-grading of technical and marketing skill sub-contracting, etc.
  - Textile and Garment Training Centre: established by the government in Partnership with UNIDO for the upgrade of skills of textile firms so they could take advantage of AGOA, as well as exports in other markets. National vocational training institutes were also supported.
  - The former Ghanaian president, John Kuffour established a Presidential Special Initiative-PSI-Export Action Programme on Textiles and Garment aimed at promoting private sector growth as part of the “Golden Age of Business” in Ghana agenda.
  - Action on Tariffs: here duties on all imported textile and apparel were proposed to be increased to create an equal ground for all textile products in Ghana, whereas, tariffs on all raw materials attract zero rates in order to reduce local production cost; a direct response to TGLEU’s request.
  - Credit: expansion for revamping and modernizing textiles industry was also proposed. UNIDO also recommended US $50million in 1995.
  - Takoradi port was also identified as the single corridor for textile imports to allow examination by CEPS, and Ghana Standards Board (GSB).
  - The government has also supported the Ghana Cotton Company Limited (GCCL GH¢2.6m
The Ghanaian government on Friday 12th November 2004 launched the National Friday Wear program in the capital of Accra. The initiative was to encourage office (white collar) workers to dress in domestically produced textiles, rather than western dress, on Fridays. The initiative had the objective of creating demand for Ghanaian goods, create jobs, boost development as well as encouraging producers and consumers national pride, under the Ghana Trade Policy (Ministry of Trade and Industry 2004:30). The initiative arose out of necessity for the protection of Ghanaian culture, which, according to the then Minister of Information was under siege from influx and smuggling as well as save Ghana ’s textile industry.

5. CONCLUSION AND RECOMMENDATIONS

With China increasingly gaining prominence, it is deemed to have implications for Africa and Ghana., China’s increasing ties with African Nations based on a Win-Win and non-interference has been deemed as an alternative source of development by many African Countries. Some, however, argue to the contrary that such engagements are not for the Continent. Some have even adopted middle off the road, but African leaders have unanimously endorsed China as a development partner, and an economic model worthy of emulation.

Regarding Sino-Ghana relations, there is a long-standing history between the two countries (On the three vectors of Sino-Africa and Sino-Ghana engagement, mainly Trade, AID and investment, we find that, that there has been an upward trend; Ghanaian imports from China have however grown faster. Regarding impact, we can see that the Sino-Ghana Economic relations have impacted on the economy in many ways. It has also impacted on the various sectors of the Ghanaian Economy of textiles is one.

From the study, it’s undeniable that the textile industry is essential to the economy of Ghana, and has contributed to economic growth and employment. However, the industry has seen a downturn, nearing collapse; attributable factors such as Influx of cheap textiles into the Ghanaian market, counterfeiting, and smuggling.

The recommendation is that the government of Ghana mitigate this problem. First, the government should take steps to address the problems facing the textile industry by granting it the support required, in terms of capital and technology to revamp and make the industry competitive to withstand foreign competition. On the vectors of counterfeiting, the government of Ghana might need to work with the government of China to solve this problem through enforcing anti-counterfeiting laws. Smuggling could be talked by restoring the integrity of the boarders and an enhanced fight against corruption.

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REFERENCES

- Accra, Ministry of Trade & Industry, PSD & PSI
- Adadevoh, D. (2006, 27th November). Service liberalization: Traders raise alarm. Ghanaian Times, p. 9
African Growth and Opportunity Act: The 6th AGOA Forum". (July 2007). Ghana,

Alden, Chris. 2007. China in Africa. London: Zed Books & David Philip.

Anshan Li: China’s New Policy towards Africa. In China into Africa, Trade, Aid and Influence. Edited by Rotberg I Robert. Brookings Institution Press, Washington D.C (2008)

Brautigam, D. 2009. The dragon’s gift: The real story of China in Africa, New York, Oxford University Press

Bryman, Alan: Social Research Methods (3rd Ed) New York: Oxford University Press. (2008)

Cornelissen, S and Taylor, I 2000 "The political economy of China and Japan's relationship with Africa: A comparative perspective" in The Pacific Review, 13 (4): 615-633, CrossRef

E. Helpman and P. Krugman. Market Structure and Foreign Trade: Increasing Returns, Imperfect Competition and the International Economy. MIT Press, Cambridge, 1985

Edwards, S., 1992. Trade orientation, distortions and growth in developing countries. Journal of Development Economics 39, 31 – 57, CrossRef

Embassy of the People's Republic of China in the Republic of Ghana. 2012b. "Stronger China, Better Opportunity for Ghana.", Crossref

Esfahani, H. 1991. Exports, imports and economic growth in semi-industrialized Countries. Journal of Development Economies 5: 93-116, CrossRef

Fact book 2011-2012: Economic, Environmental and Social Statistics." see

Hazelhurst, Ethel. 2013. "Chinese exports to Africa still rising." IOL News, January 4.

Henseth, O. & Scheuman W. (2011, May). Interaction of Chinese Institutions with host governments in dam construction. The Bui dam in Ghana. CCS China Monitor, 4-6

Hibbert E. (1990), The Principles and practice of Export Marketing, London, British Library Cataloguing in Publication Data.

Hibbert E. (1990a), The Management of International trade Promotion, London Routledge

Institute of Statistical, Social and Economic Research (ISSER). 2005. State of the Ghanaian Economy

International Trade Center. (ITC). 2013. "Trade Map – Trade Competitiveness Map.".

Kaplinsky Raphael et al: The Impact of China on Sub-Saharan Africa-Institute of Development Studies, University of Sussex (2006)

Krueger, A. O. (1997), "Trade Policy and Economic Development: How We Learn", American Economic Review, 87 (1): 1 – 21, CrossRef

Kwaa Prah Kwesi) Afro-Chinese Relations; Past, Presents and Future. Centre for Advanced Studies of African Society (CASA) (2007.

Larry D. Qiu, China’s Textile and Clothing Industry (Hong Kong University of Science and Technology (HKUST), 2005

Li, X., Greenway D., Hine, R. (2003). Imports of Services and Economic Growth: A Dynamic Panel Approach

Lum Thomas, Fischer H., Gomez-Granger J., Leland A. 'China`s Foreign aid activities in Africa, Latin America, and Southeast Asia'. Congressional Research Service February 25 (2009).
• Lumumba Kasongo, Tukumni. 2011. "China-Africa Relations: A Neo-Imperialism or a Neo-Colonialism? A Reflection." African and Asian Studies.
• M. J. Hiscox and S. L. Kastner. A general measure of trade policy orientations: Gravity-model-based estimates for 82 nations, 1960-1992. Working Paper, September 2002
• Michael P. Todaro. Economic Development (7th Edition): Addison-Wesley series in economics (2000)
• Ministry of Commerce of the People's Republic of China. 2011. "China-Africa
• Ministry of Trade and Industry-Ghana (2002), Study of the Textile Sub-sector, a report prepared by Brucks & Associates for MOTI, November
• Mooney, P. 2005. "China's African safari" in Yale Global. 3 January.
• Moyo, Dambisa. 2012. "Beijing, a Boon for Africa." The New York Times, June 27.
• Naidu Sanusha & Davies Martyn(2006), China Fuels Its Future With Africa's Riches, see, Crossref
• Nduru, M. 2006. "Economy: The Curate's Egg that is Africa-Asia Trade" see:
• Organization for Economic Co-operation and Development. (OECD). 2011. "OECD
• Orhin, I. G. (2006, 27th November). Textile dealers call for boycott of cheap textiles from Asia.Public Agenda. see:
• Peter Quartey, "The Textile and Clothing Industry in Ghana", in the Future of the Textile and Clothing Industry in Sub-Saharan Africa, eds. Herbert Jauch and Rudolf Traub-Merz, (Germany: Bub Bonner Universitats-Buckdruckerei, (2006)
• Quartey Peter et al. Looking East; China-Africa Engagements, Ghana Country Case Study, African Centre for Economic Transformation (ACET) (2009)
• Ricardo, David (1817) On the Principles of Political Economy and Taxation. Piero Sraffa (Ed.) Works and Correspondence of David Ricardo, Volume I, Cambridge University Press, 1951, p. 11
• Rodrique, F. And Rodrik, D. (1999), "Trade Policy and Economic Growth: A Skeptic's Guide to Cross National Evidence", Working Paper 7081, National Bureau of Economic Research, April
• Rotberg I Robert "China's Quest for Resources, Opportunities, and Influence in Africa" in China into Africa. Trade, Aid, and Influence, Rotberg I Robert (Ed). Brookings Institution Press, Washington, D.C (2008)
• Shelton, G 2001. "China and Africa: Building an economic partnership' in South African Journal of International Affairs, 8(2): 111-119.
• Smith, David. 2012. "China's booming trade with Africa helps tone its diplomatic muscle." The Guardian,
• Steiner, C. B. (1985). Another image of Africa: Toward an ethno history of European cloth marketed in West Africa, 1873-1960. Ethno history 32 (2):91-110, CrossRef
• Sukar, Abdulhamid, and G.Ramakrishna, 2002. "The Effect of Trade Liberalization on Taylor, I 2005. "Beijing's Arms and Oil Interest in Africa" in China Brief, V (21). The Jamestown Foundation
• Taylor, I. 2009. China's new role in Africa, Boulder/ London, Lynne Rienner Publishers
• Textile, Garment and Leather Employees Union. (2009). Petition to the Government for enforcement of measures to deal with the increase in smuggling in the textile trade, Letter to the Honourable Minister of Trade and Industry signed by the General Secretary and the National Chairman of the Textile, Garment and Leather Employees Union, December 15th 2009.
• Tsikata Dela, et al. China-Africa Relations; A case Study of Ghana. Draft Scoping study for Africa Economic Research Consortium. Accra; Institute of Statistical, Social and Economic Research, University of Ghana (2008)
• TULL, D. M. 2006. China's engagement in Africa: scope, significance and consequences The Journal of Modern African Studies, 44, 459-479, CrossRef
• United Nations Commodity Trade Statistics Database. (UN Comtrade). 2013. "Import and Export Data"
Van der Wath, K. 2004. "Enter the dragon: China’s strategic importance and potential for African business" in convergence, 5 (4): 72-75

Wacziarg, Romain and Karen Horn Welch, 2003. "Trade Liberalization and Growth: New Evidence." NEBR Working Paper No. 9305, p. 1-70

Weil, D. N. (2008). Economic Growth, 2/e. ISBN: 0-321-41662-7. Addison Wesley.

Zafar Ali: The growing relationship between China and Sub-Saharan Africa: Macroeconomics, Trade, Investment, and Aid links in The World Bank