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# An Analysis of China—Cote d'Ivoire Bilateral Trade

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#### **Abstract**

The intensity of trade between China and Cote d'Ivoire has considerably risen in the recent years. However, very few scholars have accurately analyzed the relationship between these two trade partners. This present paper highlights the trade importance between China and Cote d'Ivoire, by exploring questions related to trade intensity, intra industry trade and also comparative advantage. The findings point out the trade deficit of Cote d'Ivoire in its trade relationship with China, which definitely needs political actions in order to improve the trade balance and ensure a better future to the China—Cote d'Ivoire bilateral trade.

## **Keywords**

Trade Relationship, China and Cote d'Ivoire, Comparative Advantage

#### 1. Introduction

The international economic integration is an important element that affects international trade these recent decades. Countries have become welcomed and closer to each other.

In its desire to a better economic integration established for many years, several trade partnerships of China with a lot of African countries led to an important increment of trade volume. These partnerships are strengthened by the one Belt one Road project; an initiative that the Chinese government proposed in 2013 [1], aims to connect Asia, Africa and Europe, based on and beyond the old and historical Silk Road routes. The one Belt one Road project appears as a channel through which the Chinese investments reach African countries.

Africa is experiencing a considerable growth in its trade relationship with China, which is mentioned by a McKinsey report, indicating that the bilateral trade between Africa and China went up to 20 percent and direct investment rises 40 percent annually during the past decade.

Furthermore, the volume of trade between African countries and China reached 16.8% during the first trimester of the year 2017, with a total of \$38.8 billion, according to McKinsey [2].

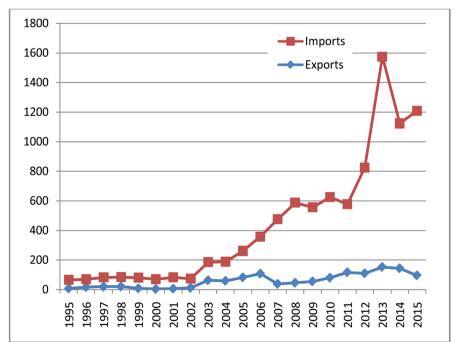
Also, statistics released by the Chinese Ministry of Commerce mentioned that a total of US\$85.3 billion was reached during the first semester of the year 2017 [3], illustrating the trade between African countries and China.

The consequent commitment of China to Africa can be also observed in the relationship between China and Cote d'Ivoire, which is illustrated by numbers of aids, supports and investments from China. Indeed, Cote d'Ivoire has noticed a considerable evolution of its exchanges with china since the year 2000; an evolution which has been illustrated by several Chinese projects and companies installed in Cote d'Ivoire, in different sectors of activities.

However, the main point of the relationship between Cote d'Ivoire and China is the importance of the trade volume, which led China to the position of first supplier and third trade partner of Cote d'Ivoire in 2017.

In this paper, we will analyze the trade between the two countries, by calculating the trade intensity, and the intra industry trade and also the revealed comparative advantage, in order to have a better understanding of the trade relationship which keeps increasing (see Figure 1).

The analysis of Figure 1 tells that from 1995 to 2002, imports from China were not so much; they were actually roughly less than US\$ 100 million, while



Unit: Millions of US Dollars.

Source: Computation made by author from data collected on the World Integrated Trade Solutions

Figure 1. Exports and Imports between China and Cote d'Ivoire from 1995 to 2015.

exports to China were also very little, nearly US\$10 million.

It can be observed that imports from China started to increase from the year 2003 at a rate of US\$200 million and kept growing from year to year until the year 2015.

They year 2003 appear as a significant year in the trade relationship between the two countries it is the beginning year of a continuous increment of imports from China.

The volume of Cote d'Ivoire's imports reached its peak in the year 2013 with an approximate value of US\$ 1.6 billion, while its exports to China didn't considerably change from the year 2003 to 2015.

#### 2. Literature Review

The diplomatic relations between China and Cote d'Ivoire started on March 2, 1983, after what trade agreements were signed by the governments of the two countries in 1984 and in 1996.

According to the Chinese Foreign Ministry (2006), in December 1997, China Investment and Development Center for Trade Promotion started operating in Abidjan. In the same year 1997, in order to develop the intra industry trade and share knowledge and technologies, China and Cote d'Ivoire created a joint venture in 1997 and set up the Hua-Ke Vehicles Co. Ltd., the Agro-machinery Assembling Co. Ltd and the pharmacy in Cote d' Ivoire, while, the Qingke Chocolate Food Co. Ltd. opened in China [4].

The effects of the presence of China into Cote d'Ivoire's trade could be really seen in 2002 when the trade volume between both countries reached US\$ 233.87 million, determined as follows: the US\$ 219.74 million, as export of China, and US\$ 14.13 million, as import from Cote d'Ivoire [4].

The trade relationship between the two countries started increasing from the year 2002 while several projects have been led by the Chinese government in different sectors, which was explained by Xavier Aurégan (2013), affirming that approximately 174 development projects were financed in Cote d'Ivoire by China between 1983 and 2013 [5].

The Chinese aid was mostly regarding infrastructure projects; actually, 112 of these projects worth 12 billion Euros and infrastructure projects worth 86% of the total aid, according to Aurégan (2013). The Chinese aid was mainly granted between 2002 and 2010, which is the period of major crisis experienced by Cote d'Ivoire [6], and the same period a considerable increment of trade between both partners.

More recently, trade between China and Cote d'Ivoire kept increasing, it has even almost increased sixfold over the past two years claimed the Government of Cote d'Ivoire. According to AFP (2017), the trade minister of Cote d'Ivoire Mr Souleymane Diarrassouba hailed the exponential growth of trade between the two countries, which had actually increased by 800 percent between 2014 and 2016, soaring to US\$ 8.85 billion in 2016, from US\$ 1.44 billion in 2014 [7].

This growth made China the number one supplier and third biggest trading partner of Cote d'Ivoire.

The important growth experience by Cote d'Ivoire in its trade relationship with China is supported by a range of projects involving Chinese investors, such as supplying drinking water to Abidjan, the expansion of the port of Abidjan, the construction of the stadium at Ebimpe, near Abidjan [8].

The most important project is the construction of the hydroelectric dam at Soubre, built by China which also financed over 85% of it [9].

Also, the significant presence of Chinese businesses in Cote d'Ivoire made them launch the Chamber of Commerce of Chinese Companies in Cote d'Ivoire (Chambre de commerce des entreprises chinoises de Côte d'Ivoire or CCEC) which is aimed to boost bilateral trade between the countries and promote sharing of knowledge and technologies that will benefit them both, as well as improve partnership with the Ivorian private sector, as reported by Aaron Akinocho (2017) [10].

Moreover, Mr Wang Yi, the Foreign Minister of China, said in May 2017 that Cote d'Ivoire could be considered as a hub for Chinese business men who increased their investment into the country.

He added that the trade between the two countries considerably increased until china became the third trade partner of Cote d'Ivoire and its biggest financing source and desire to accompany the industrialization of Cote d'Ivoire, but also help the country to grow and be less depend on commodities' export, reported Xinhua (2017) [1].

This assertion shows that trade between the two countries should keep increasing for a long time, which is a good news for Cote d'Ivoire.

## 3. Methodology

The aim of this paper is to analyse and highlight the importance of the bilateral trade between China and Cote d'Ivoire. The study will be mainly based on the following points:

- Determine the trade composition and pattern;
- Calculate the trade intensity index, calculate the intra industry trade and;
- Find out the revealed comparative advantage.

The data used to calculate the index of trade intensity and the one of intra industry trade are collected from the World Integrated Trade Solutions (WITS) database, while the data used to calculate the revealed comparative advantage are collected from the UN Comtrade database.

The data illustrating trade composition and pattern are collected from both World Integrated Trade Solutions (WITS) database and International Trade Centre (ITC) database.

## 4. Trade Composition and Pattern

Based on computation of data collected from WITS, we will determine the prod-

ucts categories and also the main exports and imports products exchanged by the two countries.

The product categories are segmented into 4 categories, which are: Capital goods, Consumer goods, Intermediate goods, and Raw materials.

The definitions of the 4 categories are briefly given as follows:

## Capital goods

Capital goods are tangible and durable assets such as buildings, machinery, equipment, vehicles and tools that are used to produce goods or services by an organization [11].

#### Consumer goods

Consumer goods are items which are destined to be consumed by the average consumer. Consumer goods are also called final goods, and result from manufacturing [12]. They are generally what are found in stores. As example of consumer goods, can be cited clothing, food, and jewelry.

## • Intermediate goods

Intermediate goods, also called producer goods, are goods used as inputs to produce other goods, including final goods. Intermediate goods are commercialized within industries for resale or other goods' production [13]. As example of intermediate goods, can be cited sugar, steel, salt and wood.

#### Raw materials

Raw materials are crude or processed materials or substances which can be converted by manufacture, processing, or combination into a new product [14]. Some examples of raw materials are wood, crude oil, rubber.

The main exports and imports products exchanged by the two countries are illustrated following the International Standard Industrial Classification at two-digit level, and concern the years 2012 to 2016. This will highlight the major products traded by the two countries.

## 4.1. The Trade Intensity Index (TII)

The trade intensity index (TII) is utilized to know whether the trade value between two partners is more or less than would be expected based on their weight in world trade [15].

The trade intensity index developed by Kojima (1964) is illustrated as follows.

Kojima (1964) [16] defined two indices in the determination of the trade intensity index which are Export intensity index (EII) and Import intensity index (III).

Export intensity index (EII)

$$XII_{i} = \frac{X_{ij} / X_{iw}}{M_{jw} / (M_{w} - M_{iw})}$$

where  $X_{ii}$  represents export from Cote d'Ivoire to China;

 $X_{iw}$  represents export of Cote d'Ivoire to the world;

 $M_{iw}$  represents import of China from the world;

 $M_{w}$  represents world import;

 $M_{iw}$  represents import of Cote d'Ivoire from the world.

Import intensity index (III)

$$MII_{i} = \frac{M_{ij}/M_{iw}}{X_{jw}/(X_{w} - X_{iw})}$$

where  $M_{ii}$  reprsents import of Cote d'Ivoire from China;

 $M_{iw}$  reprsents import of Cote d'Ivoire from the world;

 $X_{iw}$  represents export of China to the world;

 $X_w$  represents world export;

 $X_{iw}$  represents export of Cote d'Ivoire to the world.

The interpretation of the trade intensity index depends on the value of its index.

This index varies from 0 to the infinity. When its value is 0, that means no bilateral trade, when the value is 1, it means no geographical differences between the trade partners.

When the value of the index is higher or lower than 1, that indicates a bigger or littler bilateral trade than awaited, this shows the weight of the given partner in world trade.

## 4.2. Intra Industry Trade Index (IIT)

The Intra industry trade index is defined as the trade in which a country exports and imports in the same industry [14]. In other words, IIT is the exchange of similar products that belong to the same industry.

The measure of intra industry trade is obtained from Grubel and Lloyd (1975) [17] presented as follows:

$$IIT_{ik} = 1 - \frac{\left| x_{ik} - m_{ik} \right|}{\left( x_{ik} + m_{ik} \right)}$$

where  $X_{ik}$  denotes total nominal exports of product k by country I.

 $M_{ik}$  the total nominal imports of product k by country i.

We construct the intra industry trade index at two-digit industry classifications that follow the ISIC.

In this work, we selected industries from the International Standard Industrial Classification of all economic activities, Rev, 4 (ISIC Rev, 4), as illustrated:

- 04 Dairy produce; birds' eggs; natural honey...
- 10 Cereals
- 18 Cocoa and cocoa preparations
- 25 Salt; sulphur; earths and stone...
- 27 Mineral fuels, mineral oils...
- 30 Pharmaceutical products
- 40 Rubber and articles thereof
- 42 Articles of leather; saddlery and harness...
- 44 Wood and articles of wood; wood charcoal
- 52 Cotton

64 Footwear, gaiters and the like; parts of such articles

70 Glass and glassware

72 Iron and steel

74 Copper and articles thereof

85 Electrical machinery and equipment and parts thereof

87 Vehicles other than railway or tramway rolling stock...

94 Furniture; bedding, mattresses

The value of the Intra industry trade index fluctuates between 0 and 1 or 0 and 100 in percentage form.

The interpretation of the Intra industry trade index depends on its value. Explicitly, if the value of this index is equivalent to 1, occurs only intra-industry trade.

If the value of IIT index is equal to 0, then, there is no intra-industry trade.

In other terms, the closer the intra industry trade index is to 0, the bigger the opportunities for intra-industry trade are; the closer IIT is to 1, the less the opportunities for intra-industry trade are.

## 4.3. Revealed Comparative Advantage Index

The revealed comparative advantage index is developed for a comparison of countries' competitiveness regarding a particular product.

Balassa (1965) [18] first proposed this index which is illustrated by the following formula:

$$RCA_{ik} = \frac{x_{ik}/X_{iw}}{x_{kw}/X_{w}}$$

where  $RCA_{ik}$  is the revealed comparative advantage index of commodity product k for country i,

 $X_{ik}$  represents exports of product k by country I;

 $X_{iw}$  represents total exports of country  $I_3$ 

 $X_{kw}$  represents world exports of product k;

and  $X_w$  represents total world exports.

When the value of  $RCA_{ik}$  is bigger than 1, country i has comparative advantage in the export of product k, which means that country I has a bigger share of export than the world in terms of product k.

However, when the value of  $RCA_{ik}$  is smaller than 1, country i has no comparative advantage.

### 5. Results

Exports from Cote d'Ivoire to China

The observation of the results in **Table 1** reveals that from 1995 to 2015, raw materials are so far the most exported goods by Cote d'Ivoire to China, with a yearly average of 90.68% [(92.27 + 95.38 + 83.31 + 91.76)/4].

The exports of intermediate goods which pointed at 0.67% during the period 1995-2000 have increased to 7.77% between 2011 and 2015, but reached the peak

Table 1. Groups of products traded by Cote d'Ivoire and China from 1995 to 2015.

	Categories of goods	Export (USD)	Import (USD)	Export Product Share (%)	Import Product Share (%)
	Capital goods	263.758	376,390	0.21	40.77
2011-2015	Consumer goods	318.382	233134.8	0.26	25.25
	Intermediate goods	9555.148	264,039	7.77	28.60
	Raw materials	112845.4	49693.45	91.76	5.38
	Total	122982.7	923257.3	100	100
	Capital goods	648.7	151802.8	1.00	34.97
	Consumer goods	562.126	153255.1	0.87	35.31
2006-2011	Intermediate goods	9608.874	113784.3	14.82	26.22
	Raw materials	54017.5	15198.26	83.31	3.50
	Total	64837.2	434040.4	100	100
	Capital goods	28.472	20756.11	0.06	19.53
	Consumer goods	187.534	62857.11	0.43	59.15
2001-2005	Intermediate goods	1808.032	18211.77	4.13	17.14
	Raw materials	41769.96	4445.662	95.38	4.18
	Total	43,794	106,270.6	100	100
	Capital goods	298.41	9333.09	2.45	15.68
	Consumer goods	562.635	34898.98	4.61	58.63
1995-2000	Intermediate goods	81.31	12658.1	0.67	21.27
	Raw materials	11249.91	2628.495	92.27	4.42
	Total	12192.27	59518.66	100	100

Source: Author's computation of data collected from WITS database.

of 14.82% during the period 2006-2011. This shows that intra industry trade is increasing over the years.

The exports of consumer goods have decreased from 4.61% in 1995-2000 to 0.26% in 2011-2015.

The exports of capital goods also decreased from 2.45% in 1995-2000 to 0.21% in 2011-2015.

Imports of Cote d'Ivoire from China

**Table 1** also shows that the imports of raw materials haven't considerably changed; the average is 4.37% per year [(4.42 + 4.18 + 3.50 + 5.38)/4] from 1995 to 2015.

The imports of intermediate goods were 21.27% in 1995-2000, and slightly rose to 28.60% in 2011-2015, with an average of 23.20% [(21.27 + 17.14 + 26.22 + 28.60)/4] of imports per year.

The results illustrate the increment of intra industry trade between the two partners.

The imports of consumer goods were quite important during the periods 1995-2000 and 2001-2005, with respectively 58.63% and 59.15%, before shrink-

ing to 35.31% in 2006-2011, and going even lower to 25.25% in 2011-2015.

The imports of capital goods significantly increased from 15.68% in 1995-2000 to 40.77% in 2011-2015, which in conformed to the recent projects involving Chinese firms in Cote d'Ivoire such as the construction of dam, stadium, and extension of the port of Abidjan (Xinhua, 2015).

The results of **Table 2** indicate that the most imported products from China by Cote d'Ivoire in the recent years are: Electrical machinery and equipment, Machinery, mechanical appliances, Iron and steel, Ships, boats and floating structures, Miscellaneous chemical products.

The observation of the products imported by Cote d'Ivoire reveals that they are all manufactured goods, so we can assuredly say that the nature of Cote d'Ivoire's imports from China is mainly dominated by manufactured products.

The results of **Table 3** tell that the most exported products by Cote d'Ivoire to China in the recent years are: Rubber and articles thereof, Cocoa and cocoa preparations, Cotton, Ores, Slag and Ash, Wood and articles of wood; Wood charcoal.

We can affirm, based on the results of Table 3 that Cote d'Ivoire mainly

Table 2. Imports of Cote d'Ivoire from China.

Codes	Commodities	2012	2013	2014	2015	2016
03	Fish and crustaceans	28,750	34,573	41,537	42,962	51,546
28	Inorganic chemicals	19,932	21,491	23,983	17,946	22,208
29	Organic chemicals	19,961	19,033	21,933	18,840	21,643
30	Pharmaceutical products	9926	9345	13,227	10,872	13,804
31	Fertilisers	1524	7492	13,135	12,031	7066
38	Miscellaneous chemical products	32,211	54,813	95,394	96,349	99,369
39	Plastics and articles thereof	20,500	24,175	28,000	39,725	32,099
40	Rubber and articles thereof	26,665	24,904	26,073	23,972	20,600
48	Paper and paperboard	10,771	9812	13,461	9491	9515
52	Cotton	20,031	22,990	16,388	14,433	14,189
69	Ceramic products	20,141	24,005	26,400	24,040	24,647
72	Iron and steel	20,275	48,072	72,236	116,256	140,732
73	Articles of iron or steel	29,211	40,403	40,369	78,902	65,373
76	Aluminium and articles thereof	7843	11,332	10,674	30,428	20,570
84	Machinery, mechanical appliances	78,535	115,745	127,571	148,928	166,786
85	Electrical machinery and equipment	141,481	145,369	142,933	138,091	266,621
87	Vehicles other than railway	52,603	63,983	77,397	98,762	79,521
89	Ships, boats and floating structures	15	569,255	353	21,274	217,602
90	Optical, photographic	7018	6426	8362	10,982	27,771
94	Furniture; bedding, mattresses	15,341	16,415	16,072	21,230	33,382

exports raw materials to China. Raw materials are actually the main export products of Cote d'Ivoire (World Bank 2018).

The observation of the exported and imported products between Cote d'Ivoire and China tells clearly that the trade relationship between the two countries looks like an exchange of raw materials for manufactured products.

The observation of **Table 4** shows that the export intensity of Cote d'Ivoire to China hasn't much changed, except in 2005, where it reached 0.1789. This shows that the exports of Cote d'Ivoire to China are very low, compared to its imports which are very high, reaching the peak with 0.9302 of import intensity.

The export intensity of China to Cote d'Ivoire has slightly increased from 1995 to 2015, but has maintained a high level with 0.7407 in 2015. This result demonstrates that China exports much more to Cote d'Ivoire than imports, which is shown by its low level of import intensity, lower than 0.1. Also the level of import intensity from China 0.9302 in 2015, which is the highest since 1995, indicates that Cote d'Ivoire increased its import from China.

The results of **Table 4** show that all indices of export and import intensity are smaller than 1. The meaning of this is Cote d'Ivoire and China trade much

Table 3. Exports of Cote d'Ivoire to China.

HS Code	Commodity name	2012	2013	2014	2015	2016
03	Fish and crustaceans	104	29	4	4375	7466
08	Edible fruit and nuts	1246	599	1089	634	383
12	Oil seeds and oleaginous fruits	7	21	384	316	82
14	Vegetable plaiting materials	2	0	358	146	190
18	Cocoa and cocoa preparations	11,816	13,633	25,947	9766	17,579
26	Ores, slag and ash	1309	14,401	16,785	11,866	9583
40	Rubber and articles thereof	18,011	13,868	28,940	44,930	31,413
44	Wood and articles of wood; wood charcoa	10,021	23,205	28,160	1684	1076
52	Cotton	65,436	68,085	27,555	21,413	3340
74	Copper and articles thereof	534	799	748	25	87
85	Electrical machinery and equipment	313	268	1	7	44

Table 4. Export Import Intensity.

1995		2000	2005	2010	2015
Export Intensity					
Cote d'Ivoire to China	0.0684	0.0261	0.1789	0.0835	0.0771
China to Cote d'Ivoire 0.7311		0.6728	0.3934	0.6039	0.7407
Import Intensit	y				
Cote d'Ivoire from China	0.7428	0.7587	0.4607	0.7407	0.9302
China from Cote d'Ivoire	0.0655	0.0275	0.1835	0.0843	0.0760

under their capabilities, which expresses a huge opportunity for trade development between Cote d'Ivoire and China.

These results also demonstrate through the trade intensity indices the huge trade deficit benefiting to China.

The analysis of the results of **Table 5** tells that only few products experience intra industry trade. The main products concerned by intra industry trade are: 40 Rubber and articles thereof, 44 Wood and articles of wood; wood charcoal, 52 Cotton facing an important growth of intra industry trade reaching 0.9944 in 2010 for cotton.

This situation helps to develop the industrial sector of Cote d'Ivoire, gaining from the huge manufacture sector of China.

74 Copper and articles thereof is facing a decrease of its trade with China, which is obviously caused by the world copper business, which has been slowing down for several years.

27 Mineral fuels, mineral oils faced intra industry trade, but stopped for over 10 years.

Cote d'Ivoire should seek for more intra industry trade with China which is known for its powerful manufacturing sector. More intra industry trade means more transformed goods, which also means more jobs, more development for

Table 5. Intra industry trade index.

Code	Label	1995	2000	2005	2010	2015
04	Dairy produce; birds' eggs; natural honey		0	0	0	0
10	Cereals	0	0	0	0	0
18	Cocoa and cocoa preparations	0	0.000035	0	0.0310	0
25	Salt; sulphur; earths and stone	0	0	0	0	0
27	Mineral fuels, mineral oils	0.3590	0.6327	0.5677	0	0
30	Pharmaceutical products	0	0	0	0	0
40	Rubber and articles thereof	0	0	0.5240	0.6243	0.6958
42	Articles of leather; saddlery and harness	0	0	0	0	0
44	Wood and articles of wood; wood charcoal		0.7548	0.9702	0.4048	0.9284
52	Cotton	0	0	0.2121	0.9944	0.8053
64	Footwear, gaiters and the like; parts of such articles	0	0	0	0	0
70	Glass and glassware	0	0	0	0	0
72	Iron and steel	0	0.1311	0.2761	0	0
74	Copper and articles thereof	0.2516	0.6239	0.6206	0.2682	0.1244
85	Electrical machinery and equipment and parts thereof	0	0	0.0005	0.0020	0.0001
87	Vehicles other than railway or tramway rolling stock	0.0026	0	0.0271	0	0
94	Furniture; bedding, mattresses	0	0	0	0	0

the country. Implicitly, the intra industry trade helps in getting a plus value from raw materials in which Cote d'Ivoire is abundant.

We compared the revealed comparative advantage of the products which the intra industry trade indices were previously analyzed, and the results are presented in **Table 6** as follows.

In products 4 Dairy produce; birds' eggs; natural honey, 10 Cereals, 30 Pharmaceutical products 74 Copper and articles thereof and 87 Vehicles other than railway or tramway rolling stock, both countries don't have comparative advantage.

In product 25 Salt; sulphur; earths and stone. Cote d'Ivoire had comparative advantage during the years 2001 and 2008, the advantage decreased and in 2015, Cote d'Ivoire lost its comparative advantage. China experienced almost the same situation, with a comparative advantage in 2001, which was lost in 2008 and 2015.

Cote d'Ivoire has a huge comparative advantage 18 Cocoa and cocoa preparations due to the fact that it is the world larger producer of cocoa.

Cote d'Ivoire also has a comparative advantage in 40 Rubber and articles thereof and 44 Wood and articles of wood; wood charcoal.

In product 52 Cotton, Cote d'Ivoire and china have both a comparative advantage during all the years under analysis.

China in turn has a comparative advantage in the following products: 42

Table 6. Revealed comparative advantage.

Revealed Comparative Advantage							
	Cote d'Ivoire				China		
2001	2008	2015	Codes	2001	2008	2015	
0.8996	0.3972	0.2721	4	0.1495	0.0962	0.0581	
0.1192	0.1599	0.1261	10	0.6957	0.0718	0.0223	
184.1634	140.91	149.7153	18	0.0529	0.0687	0.0672	
4.5337	2.9506	0.2680	25	1.8609	0.8901	0.6142	
1.4833	2.0963	1.5190	27	0.3157	0.1255	0.1109	
0.0197	0.0187	0.0140	30	0.1447	0.0813	0.1010	
2.1926	5.2393	4.2047	40	0.6832	0.8254	0.8779	
0.0055	0.0008	0.0059	42	6.4584	3.8128	3.0062	
7.2211	5.2562	1.9618	44	0.8245	0.8832	0.8225	
7.2112	3.0320	6.5432	52	2.2874	2.2512	2.0222	
1.0226	0.5145	0.5990	64	4.9177	3.5996	2.8853	
0.0083	0.0037	0.0073	70	0.9927	1.5500	1.6777	
0.2321	0.1314	0.1086	72	0.4583	1.1492	1.0904	
0.0963	0.0636	0.0297	74	0.3987	0.4245	0.3142	
0.0134	0.0345	0.0206	85	1.3586	1.9918	1.8594	
0.0531	0.1115	0.1747	87	0.1982	0.3537	0.3419	
0.0859	0.0224	0.0747	94	2.2549	2.6990	2.9851	

Articles of leather; saddlery and harness, 64 Footwear, gaiters and the like; parts of such articles 70 Glass and glassware 72 Iron and steel 85 Electrical machinery and equipment and parts thereof and 94 Furniture; bedding, mattresses. It is important to notice that all these products are manufactured goods.

Compared to the other indices that we calculated, the revealed comparative advantage gives a good understanding of the advantage that each country has in a specific industry or sector.

Indeed, we could observe that Cote d'Ivoire has a manifest advantage in exporting raw materials, while the advantage of China is rather into manufactured products.

This situation creates a perfect framework for more trade between the two countries.

## 6. Policy Implications and Recommendations

The analysis of the trade intensity index showed that bilateral trade between the two trade partners is not exploited as it could, whereas the export intensity of China is much more than Cote d'Ivoire's.

Although the intra industry trade indices of a few products (40 Rubber and articles thereof, 44 Wood and articles of wood; wood charcoal, 52 Cotton) increased over the years, most of the products have their intra industry trade indices close or equal to zero.

Such situation means greater potentiality for the two countries to increase trade.

The indices of comparative advantage point out the advantage which is held by every country in specific products. Our case is illustrated as follows: China has comparative advantage in manufacturing products, while Cote d'Ivoire is into raw materials.

The fact that China is seeking for raw materials to transform constitutes a great opportunity for trade between these two partners. Meanwhile, but Cote d'Ivoire should not only export raw materials, it should encourage more local transformation.

Also, as China is now a very import trade partner of Cote d'Ivoire, and likewise a country with a powerful manufacturing sector, Cote d'Ivoire should be oriented towards more intra industry trade with China, which will improve the level of its industry, by bringing technology progress, but also create jobs.

Furthermore, due to the fact that China's manufacture sector is very developed, it will be difficult for Cote d'Ivoire to export manufactured products to China, so, Cote d'Ivoire should rather find some new products to export.

Cote d'Ivoire can also implement policy that will ban the imports of some important products which are mostly coming from China, this will help to develop industry and also attract more foreign companies to settle into the country. This is what Nigeria did to develop its local manufacture sector, by banning imports of products such as furniture, cement, Spaghetti/noodles [19].

#### 7. Conclusions

China—Cote d'Ivoire bilateral trade over the period 1995 to 2015 is deeply examined in this paper, and the findings shows that both countries have profited from this trade relationship in several ways.

Although the trade deficit of Cote d'Ivoire is considerable, due to the fact that China exports to Cote d'Ivoire much more than Cote d'Ivoire imports to China, the results shown by the calculated indices indicate that there is a huge trade potential for both parts.

The two countries having comparative advantages in different products, is a good opportunity to exploit in order to grow trade. Also, the current dynamic economy of Cote d'Ivoire is a key element for further and greater trade relations between China and Cote d'Ivoire, as it was claimed by officials of both countries these recent years.

However, as trade is a multivariate function, it is imperative to analyze and improve some other factors that can affect exports, which are infrastructure, labour laws, clearing process and access to electricity.

A perfect synergy of all these factors will definitely lead to more exports from Cote d'Ivoire and also to better results in the trade relationship with China.

#### **Conflicts of Interest**

The author declares no conflicts of interest regarding the publication of this paper.

### References

- [1] Xinhua (2017) China, Cote d'Ivoire to Deepen Cooperation on Belt and Road. http://www.xinhuanet.com/english/2017-05/23/c\_136308238.htm
- [2] McKinsey & Company (2017) Dance of Lions and Dragons.
- [3] Xinhua (2017) African Countries Hope to Attract More Chinese Investment.
- [4] Chinese Foreign Ministry (2006) Cote d'Ivoire. http://www.china.org.cn/english/features/focac/183548.htm
- [5] Aurégan, X. (2013) La Chine, d'un État honni à incontournable en Côte d'Ivoire Croisements, N° 3, Séoul, 2013.
- [6] Aurégan, X. (2011) La Chine en Côte d'Ivoire: Le double jeu. Diploweb. http://www.diploweb.com/La-Chine-en-Cote-d-Ivoire-le.html
- [7] AFP (2017) China Opens First Chamber of Commerce in Ivory Coast. https://www.enca.com/africa/china-opens-first-chamber-of-commerce-in-ivory-coast
- [8] Xinhua (2015) La Côte d'Ivoire veut attirer davantage d'investisseurs chinois. http://news.abidjan.net/h/564573.html
- [9] Xinhua (2017) Cote d'Ivoire Inaugurates Chinese-Built Biggest Hydropower Dam. http://www.xinhuanet.com/english/2017-11/03/c\_136723784.htm
- [10] Akinocho, A. (2017) China Is Ivory Coast's First Supplier and Third Trade Partner. Ecofin Agency.
- [11] Degryse, C. (2005) L'économie en 100 et quelques mots d'actualité. De Boeck.
- [12] Wikipedia (2018) Final Good. https://en.wikipedia.org/wiki/Final\_good

- [13] Hicks, C. and McGovern, T. (2009) Product Life Cycle Management in Engineer-to-Order Industries. *International Journal of Technology Management*, 48. https://doi.org/10.1504/IJTM.2009.024913
- [14] O'Sullivan, A. and Sheffrin, S.M. (2003) Economics: Principles in Action. Pearson Prentice Hall, Upper Saddle River, NJ.
- [15] The World Bank (2010) WITS Online, Trade Indicators.
- [16] Kiyoshi, K. (1964) The Pattern of International Trade among Advanced Countries. *Hitotsubashi Journal of Economics*, **5**, 16-36.
- [17] Grubel, H.G. and Lloyd, P.J. (1975) Intra-Industry Trade: The Theory and Measurement of International Trade in Differentiated Products. Wiley, New York.
- [18] Balassa, B. (1965) Trade Liberalisation and "Revealed" Comparative Advantage. *The Manchester School*, **33**, 99-123. https://doi.org/10.1111/j.1467-9957.1965.tb00050.x
- [19] Nigeria Customs Service (2017) Nigeria-Prohibited and Restricted Imports. http://www.customs.gov.ng/ProhibitionList/import.php