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Implications of the Asian Miracle on Africa: A Comparative Analysis of the Textile/Garment Sector in Senegal and China

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List of acronyms

ACP	Africa, the Caribbean, and the Pacific
AGOA	Growth and Opportunity Act
APMA	All Pakistan Mills Association
CFA	Communauté financière d'Afrique
COSETEX	Compagnie Sénégalaise de Textile
ECOWAS	Economic Community of West African States
FNPH	Fédération Nationale des Professionnels de l'Habillement
MFA	Multi Fibre Agreement
NIP	New Industrial Policy
ODM	Original Design Manufacturer
OEM	Original Equipment Manufacturer
SAP	Structural Adjustment Program
SIV	Société Industrielle du Vêtement
SODEFITEX	Société de Développement des Fibres Textiles

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Abstract

In this paper, we use a case study approach to better understand the trade patterns between Asia and Africa, focusing on textiles in Senegal and China. The textile/clothing sector provides an interesting opportunity to jump start the African industrialization process, since it is very intensive in unskilled labor and requires a very simple technology. In this paper we present an analysis of compared trajectories of textile/clothing in Senegal and China which reveals huge divergences between both countries. While this sector is booming in China, it is experiencing tremendous difficulties in Senegal, due mainly to decreasing productivity, high unit labor costs and prices of non-tradable inputs. Hence bilateral trade of textile and clothing between both countries is almost one way, flowing from China to Senegal, and supported by a growing community of Chinese traders based in Dakar.

In order to further increase intensity of trade flows between both countries, we strongly support the emergence of Chinese/Senegalese joint ventures; which are likely to be beneficial for both countries in a variety of ways. This will allow China to have a better preferential access to West African regional markets, namely those of ECOWAS (Economic Community of West African States), and WAEMU (West African Economic and Monetary Union). Besides, it will give China increased access on a preferential basis to the US market, by taking profit of AGOA. Senegal has a well known buoyant activity in fashion and style with a huge demand potential in the black Diaspora in Europe and in the US. Jointly owned activities are likely to successfully take profit of this market segment and develop it. On the Senegalese side, this kind of cooperation can give an impetus to increased foreign market access for domestic products. Also Chinese investments would flow more and productivity and technology absorption could be expected.

Introduction

In recent years, improvements in Asian growth pattern and outcome have been quite impressive, with an income per head that has been multiplied by a factor of one hundred in a generation's life span and total foreign exchange reserves amounting to about $1.53 trillion only for China at the end of 2007. These trends seem to have had some implications for Africa, notably as regards trade: Chinese trade with Africa surged from $2.64 billion in 1994, to $55.46 billion in 2006. The rise of Asia, particularly of China and India, has some major implications both in developing countries and in developed ones. In the latter it exacerbates competition in traditional industries and dramatically feeds the capital markets; while for most developing countries it has entailed huge losses in market shares on international markets. In Africa, the process has fuelled the trade relationship with Asia, mostly China, and the potential for the continent to benefit from increased flows of FDI from these countries seems huge even though it is surprisingly not yet enough documented. On the political and diplomatic sides, China has recently expressed great interest in deepening further relationships with African countries and consequently to provide additional aid to foster the continent's development process.

In this paper, we use a case study approach to better understand the trade patterns between these two regions, focusing on textiles in Senegal and China. The purpose is to give a complete description of such patterns which should eventually indicate the way forward for a mutually beneficial cooperation. Most African countries have increased their imports of textile and garment from China while exporting very few such items to this country. Recent studies on textile in Senegal (Mbaye, 2006) show that despite Chinese global competitiveness in this kind of product, one could find some niches in which Senegal could develop some comparative advantages and increase its exports to other countries, including China. On the other hand, it might be envisaged that China increases its FDI to Senegal to increase its market shares in other African countries and to take advantage of AGOA to further penetrate the US market.

The rest of the document is organized as follows: section I describes the places of China and Senegal in the world market of textile/clothing, sections II and III deal with textile/clothing sectors in China and Senegal, respectively, and section IV investigates the determinants of trade on textile/clothing between both countries. Section V concludes with some policy implications.

I China and Senegal in the world market of textile/garment

The textile/garment sector is playing a critical role in the process of developing countries' economic growth and poverty reduction. It used to be so for Europe and the US, too, in the 18th and 19th centuries, and continues to play this role in the contemporary era. Developing countries tend to have a comparative advantage in this sector, given that technology required for its development is quite simple. At the beginning of the 1960s, developing countries' share in world exports of textile and garment was only 15 per cent and 25 per cent, respectively. Nowadays, this share is 50 per cent for textile and 70 per cent for garment. This sector is the leading one in Asian countries: For example, textile made up 51 per cent of manufacturing exports in Pakistan and garment 50 per cent of manufacturing exports in Sri Lanka in 2000. It is expected that such figures expand tremendously, since the Multi Fibre Agreement (MFA) ended in 2005. Firms located in developed countries are facing huge

competition from developing countries, which has lead to either relocations or close-downs. In the US market which is absorbing a third of world imports for these items (Shahnawaz, 2004), developing countries have the largest shares: 14.8 per cent for Mexico, 8.4 per cent for China, 4.5 per cent for Dominican Republic, 4.3 per cent for Korea, 3.9 per cent for Taiwan, and 3.4 per cent for Bangladesh. With the phasing out of the MFA, it is expected that some countries, mainly China and India, crowd out exports from smaller developing countries. Since its integration into the World Trade Organization (WTO), China has increased its exports to the US by 125 per cent. Besides, under the rule of the MFA, the country significantly used the quotas of those who could not exhaust their own, to increase its exports to the developed world.

Segments of the value chain in the textile/garment sector include: cotton fibers production, shelling, spinning, weaving, knitting, printing, and clothing. World trading of garment is structured by global buyer chains, in which some big actors match production in the developing world, through relocation and subcontracting to tastes and styles in the developed world. Wal Mart and Hallmark in the US are the biggest clients of China. In 2004, their total purchases from China amounted to $18 billion; which is more than Chinese exports to some big countries like Canada, Russia or Australia (Hughes, 2000).

Table 1. Top ten world textile exporters

Countries	Share in world exports in 1990 (%)	Share in world exports in 1995 (%)	Share in world exports in 2000 (%)
- China	6.92	9.30	10.25
- Korea	5.83	8.22	8.12
- Italy	9.10	8.55	7.59
- Taiwan	5.88	7.94	7.42
- Germany	13.46	9.61	7.00
- USA	4.83	4.92	6.96
- Japan	5.62	4.79	4.46
- France	5.81	4.99	4.29
- Belgium	6.11	5.26	4.07
- India	2.09	2.91	3.23
Total	65.66	66.49	63.38

Source: Yeung and Mok, 2004.

Table 2. Top ten world garment exporters

Countries	Share in world exports in 1990 (%)	Share in world exports in 1995 (%)	Share in world exports in 2000 (%)
- China	8.95	15.28	18.13
- Italy	10.96	9.01	6.64
- Hong-Kong	8.58	6.06	4.99
- Mexico	0.54	1.74	4.37
- USA	2.37	4.23	4.35
- Germany	7.30	4.77	3.44
- Turkey	3.08	3.89	3.28
- France	4.32	3.57	2.73
- India	2.34	2.61	2.59
- Korea	7.30	3.15	2.53
Total	55.76	54.30	53.05

Source: Yeung and Mok, 2004.

As shown in tables 1 and 2 world trade in textile and clothing is dominated by Asia and Europe: 5 out of the 10 top world exporters are Asian, while 4 are from Europe. But what is

worth singling out from this table is the shrinking share of developed countries in world trade of textile/clothing,[3] contrasting with the thrift of those of developing countries. Another remarkable fact is the observed reduction in the shares of 'first wave' Newly Industrialized Countries, like Korea and Taiwan, to the benefit of other developing countries, like China, whose labor is cheaper. Thus China could increase its share in world trade of these items from 4.6 per cent in 1980 to 14 per cent in 2000. It benefited from important relocations of exporting firms from Hong Kong; firms mainly headed to the southern part of the country. In effect, it is estimated that labor costs in the southern part of China are only 15 per cent to 20 per cent of its level in Hong Kong, when adjusted for productivity (Yeung and Mok, 2004). When we now turn to world imports, they are overwhelmingly dominated by Europe and the US, which make up 75 per cent of world demand (41 per cent for Europe and 34 per cent for the US).

Table 3. Overview of textile/clothing in China

	1980	1990	1995	2001
- Number of enterprises in the sector	37'900	83'800	102'500	24'500
- Share of State-owned enterprises	-	-	33%	32%
- Share of State-owned enterprises showing a loss	-	-	16%	-
- Share in value added	-	-	9.7%	9.5%
- Share in income taxes	14.2%	7.8%	4.3%	11.5%
- Share in total export	24.1%	27.0%	25.5%	18.7%

Source: Yeng and Mok, 2004.

Government is very present in the industry of textile/clothing in China. This sector in China is dominated by SMEs, with an average number of employees amounting to 121. Their number surged from 37'900 units in 1980 to 102'500 in 1995, out of which an important number are state-related firms. The latter have for a long time experienced serious competitiveness problems, low quality equipments and difficulties in meeting international technical standards, which were hidden by generous state subsidies and government support of all kinds. By the end of the 1990s, the central government encouraged the implementation of the Chinese association for textile and garment, and set up the national bureau for the textile and clothing industries. In 1998, a national program for restructuring the sector was implemented, and came up with withdrawing from operating outdated machines, and reducing the number of firms operating in the sector from 102'500 in 1995, to 24'500 in 2001.

China's increased presence in the world market of textile/clothing has several implications for other countries. Prices of Chinese products are lower than those of competitors. This partly owes to the fact that production is often realized by state-related firms, benefiting from advantages private firms in other countries normally do not have access to. Besides, China is the world's second largest oil importer, with a contribution of 31 per cent to world import growth. If the current trends are to be sustained, further strains should be expected leading to higher prices on the energy markets. This would negatively affect the textile sector in poorer countries, given the big share of energy in total costs of textile products and the inefficiency of such countries in the use of energy input, in particular, due to aged and high energy-consuming equipments that are used in these countries.

Pakistan is another big player on the textile market. Most of this country's economic growth in recent years relied primarily on this sector. During the 1990s, the government launched a

[3] This seems less true for the US than for other developed countries.

vast program of restructuring and modernizing the textile sector, which resulted in huge replacements of old machines. Consequently, material production in that country more than doubled, from 2.73 billion of meters in 1989/90 to 5.65 billion of meters in 2002/03, out of which 35 per cent are exported. The textile/clothing sector is now very diversified in Pakistan with high quality cotton products in line with world demand, put in parallel with a low quality mix of cotton and polyester items, and other products. Its labor costs are cheap, with a cost per hour of $0.34 against $0.57 for India, $0.40 for Sri Lanka $0.69 for China (Memon, 2005). Moreover, this country is the fourth largest cotton producer and its share in world cloth production has increased from 6.1 per cent in 1994 to 9.5 per cent in 2002.

Table 4. Production and exports of clothing in Pakistan (millions of square meters)

Years	Production	Exports	Exports/production (%)
1971-72	1'350.67	409.81	30.34
1972-73	1'238.11	517.98	41.84
1973-74	1'828.72	353.02	19.30
1974-75	1'827.08	440.81	24.13
1975-76	1'503.36	463.84	30.85
1976-77	1'445.30	416.84	28.84
1977-78	1'573.07	453.47	28.83
1978-79	1'487.10	531.53	35.74
1979-80	1'720.02	545.77	31.73
1980-81	1'834.00	500.90	27.31
1981-82	2'200.44	584.35	26.56
1982-83	2'048.77	605.33	29.55
1983-84	2'165.98	664.38	30.67
1984-85	2'000.00	687.62	34.38
1985-86	1'985.40	727.35	36.63
1986-87	2'009.85	693.42	34.50
1987-88	2'230.82	848.61	38.04
1988-89	2'250.00	845.33	37.57
1989-90	2'734.77	1'017.87	37.22
1990-91	2'854.00	1'056.53	37.02
1991-92	3'238.99	1'196.12	36.93
1992-93	3'360.00	1'127.58	33.56
1993-94	3'378.00	1'046.79	30.99
1994-95	3'100.75	1'160.66	37.43
1995-96	3'706.00	1'323.09	35.70
1996-97	3'781.20	1'257.43	33.25
1997-98	3'913.70	1'271.27	32.48
1998-99	4'386.79	1'355.17	30.89
1999-00	4'987.16	1'574.88	31.58
2000-01	5'591.40	1'736.00	31.05
2001-02	5'653.09	1'957.35	34.62
2002-03	5'650.52	2'005.38	35.49

Source: Memon, 2005.

World textile production is now having new uses, different from clothing, which is growing slower than the newer uses. Those are mainly: bed cover sheets, abrasive and filtering materials, materials for thermal protection and blood absorption, safety belts, etc. It is estimated that this product segment is growing at least twice as much as the traditional use of textile and makes up more than half of current world textile production. It is mainly dominated by developed countries, being highly technology-intensive. In effect, it requires a

very high level of expertise, and equipment which is expensive. Thus, developed countries are progressively moving to this area of production which is capital intensive and in which their comparative advantages seem higher. Hence, job losses in traditional textile sectors are huge in rich countries. In the US, employment in the textile sector plummeted from 1.4 millions in 1942 to only 400'000 in 2001. During this latter year, job losses in this sector in Europe amounted to 60'000. In Sweden, 131 firms went bankrupt in the textile sector and 321 in the clothing sector between 1980 and 1996. Very similar trends are observed in other developed countries. Due to new developments in the sector and the emergence of intelligent textiles, the capital labor ratio in the US increased by 60 per cent between 1949 and 2000. At the same time, productivity increased by 400 per cent. Labor productivity in the textile sector increased by 65 per cent between 1980 and 1996, while for the garment industry, the increase was 77 per cent in the same period (Christoffersen, 2004).

In contrast to China and other Asian countries, Senegal is playing an almost non-existent role in the world textile/clothing market. Textile production is almost entirely intended for local consumption. Tailors, operating on the borderline of the informal sector devote most of their activities to making traditional clothes that Senegalese enjoy wearing on special occasions: family ceremonies like weddings, on Fridays, on some Muslim holidays like Eid. The sector used to enjoy high levels of protection from independence to the mid-1980s, with the implementation of structural adjustment plans. Costs of labor and non-tradable inputs are higher than in competing countries, quality is lower, and equipment is aged and outdated. But still, the sector, mainly its clothing segment may have some potential for development in the country. The Société Industrielle du Vêtement (SIV), a private firm operating in the sector and now bankrupt, used to play a very important role on the world market for subcontracting. Unskilled labor is abundant and relatively cheap. Substantial experience on traditional weaving does exist as well as capabilities in African style. On the other hand, Senegal could better expand its niches on wax and fancy products which it developed before independence and which's market share is narrowing down from year to year. Furthermore, the US government's Growth and Opportunity Act (AGOA) is providing a unique opportunity for Senegal to access the US market. Last but not least, demand for textile in the sub-region is booming and consumers only show limited satisfaction with Chinese products, which are deemed to be of low quality. Moreover, Senegal belongs to UEMOA (West African Economic and Monetary Union) and ECOWAS (Economic Community of West African States), which give access to the markets of 15 West African countries, on a preferential basis. The same facility exists with respect to the European market, under the 'everything but arms arrangement' for LDCs among ACP (Africa, the Caribbean, and the Pacific) countries. But to develop this sector, the country first will need to have a better control on costs and business climate, which is getting worse. A vast program of sector restructuring, similar to what has happened in several Asian countries, should be put in place, in order to make existing firms more viable. Another reason why Senegal should not give up textile/clothing to other developing countries is the high growth and employment potential this sector is offering to low-income countries. In Morocco, the total employment in the sector is 100'000, and 200'000 in Tunisia. By contrast, in Senegal, the number of employees is less than 2'000 in the modern sector.

II The textile sector in China

China is one of the world's largest consumers, producers and exporters of textile goods. In addition, the textile and clothing sector is one of the most important sectors of the nation's economy.

II.1 National textile consumption

China is one of the biggest consumption markets of textile and clothing. In 2005, per capita consumption of fiber was about 14kg, rising from 7.5kg in 2000, compared to a world average of 10.9kg. According to an estimate, the consumption level in China in 2010 will be 18kg. Domestic consumption accounted for more than 70 per cent of China's total production (China Wool Textile Association, 2006). Per capita expenditure on clothing has increased from 3'375 yuan in 2000 to 6'826 yuan in 2005, with an annual growth rate of 15 per cent (China's State Bureau of Statistics, 2006).

Table 5. China's textile and clothing sector in 2005 and projections for 2010

Indicator	2005	2010 (projections)	Expected annual growth rate
Processed fiber (million tons)	26.9	36	6%
Per capita consumption (kg)	13	18	6.7%
Labor productivity	51099 yuan/year	85000 yuan/year	10.7%
Export ($ billion)	117.5	180	9%

Source: China Wool Textile Association, 2006.

II.2 General information on production

As the world's largest producer of textile products, textile is an important sector in China employing 19 million workers directly and involving nearly 100 million peasants' livelihood indirectly. The number of medium-large enterprises in China rose from 19'400 in 2000 to 36'000 in 2005, with employment from 7.38 to 9.78 million workers. The whole sector's employment amounted to 19.6 million persons. Since China's accession to the WTO, production capacity has increased steadily, with annual growth rate of gross fixed capital of 29 per cent, 66.7 per cent, and 30.2 per cent respectively for 2002, 2003 and 2004. In 2006, the value added of the textile and clothing sector has increased by 22.1 per cent compared to 2005. However, due to the rise in prices of raw materials and labor cost, as well as low prices of textile products, the profit rate of this sector was quite low, at merely 3.7 per cent (Wei Qin, 2007). China's production of yarn, nylon, silk products, clothing and chemical fiber ranked first in the world. The sector is composed by three sub-sectors: textile, clothing and chemical fiber with the following shares in terms of gross output value: 61 per cent, 28 per cent and 11 per cent.

II.3 Reforms in the textile and clothing sector

As in other sectors, the textile and clothing sector has experienced deep property reforms. At the beginning of the reform period at the end of 1970s, most textile and clothing enterprises were state-owned or collectively owned. To solve the inefficiency problem relating to

unclearly defined state or collective property, a system of manager's responsibility has been introduced in this sector at the beginning of the 1990s. This management system gave autonomy to contracted managers in daily management of enterprises, while the property remained state or collective. This led to an increase of productivity, but at a cost of over-use of productive assets. Since 1993, under the joint effects of unfavorable internal factors (restructuring of textile sector and austere monetary policy since 1994) and external factors (Asian financial crisis in 1997), the textile sector showed a deficit. In 1996, 53 per cent state textile enterprises ran a deficit, the total amount rose to 10.6 billon yuan. Since 1997, the sector experienced 3 years of restructuring. Therefore, during the second half of the 1990s, a large portion of these enterprises, especially the smaller ones, have been privatized by selling them to the managers or foreign investors. This property change has led to a recovery of financial return since 1999, and in 2000 the result turned to surplus (Li Jianglong, 2007). The position of private enterprises has been further strengthened by a vigorous development of new private textile enterprises, especially in the coastal region. Meanwhile, with the increasing opening of the country, more and more foreign investment entered into the textile and clothing sector. We observe a diversification of property forms in this sector. As a result, the share of the state and collective enterprises in this sector continued to shrink in favor of private and foreign-owned enterprises. In 2001, among all textile and clothing enterprises with medium-large scale, the share of state or collective enterprises has fallen to 33.35 per cent in terms of registered capital, compared to 36.53 per cent for private enterprises and 30.15 per cent for foreign owned-enterprises. The state and collective share continued to decrease since then. The private and foreign owned enterprises have become the most dynamic component of China's textile and clothing sector. In 2002, the average profit rate of state enterprise was only 1.29 per cent compared to 3.87 per cent for non-state enterprises (China's State Bureau of Statistics, 1997-2006). Private enterprises also play an important role in exports with a share of more than one third of total exports of textile and clothing in 2005 (Chen Honglan, 2006).

Table 6. Efficiency comparison among different property forms of medium-large enterprises in the textile and clothing sector

	Debt-asset ratio (%)			Labor productivity (yuan/worker)		
	State-owned	Private	Foreign capital	State-owned	Private	Foreign capital
1999	79.52	73.29	60.82	15'325	19'861	38'496
2000	75.07	69.67	59.56	19'387	24'300	43'450
2001	73.14	66.41	56.13	20'908	27'245	44'785
2002	73.82	66.02	54.95	22'176	31'207	45'283
2003	72.95	62.26	53.95	23'472	39'567	49'352
2004	72.97	63.02	54.91	-	-	-
2005	72.73	61.48	53.47	33'021	57'733	56'463

Source: China's State Bureau of Statistics, 2000-2006.
*Note: Debt-asset ratio is calculated by the following formula: total debt/total asset * 100 per cent. This indicator measures enterprises' financial risks, the higher is this indicator, the higher is risk level.*

As we can see from the above table, state-owned enterprises are less efficient than private and foreign-owned ones. The debt-asset ratio of state-owned enterprises is 10-20 percentage points higher than for enterprises of the two other categories, and their labor productivity is much lower. With the opening-up of the country, the Chinese textile and clothing sector

received massive foreign direct investment. Up to the end of 2006, there are 39'929 foreign-owned textile enterprises, with total equity capital of $43.1 billion. As we can see from the above table, this foreign capital enterprises have the highest labor productivity among the three property rights forms.

From regional perspectives, most textile and clothing operations are located in the coastal region in the east of the country, especially in Zhejiang (where most textile and clothing enterprises are private enterprises), Guangdong, Jiangsu, Shandong provinces and Shanghai municipality. These 5 provinces accounted for 75 per cent of China's total turnover of textile and clothing, 85 per cent of total profits and 80 per cent of total export. However, with the rise of labor cost in this region, these industries tend to move to the center and western regions.

II.4 Trade of textile and clothing of China

China is the world's biggest producer and exporter of textile products. In 2005, China's textile export experienced many unfavorable changes: removal of quota, export taxes appreciation of the Renminbi, abolition of export tax refunds, renegotiations of textile quotas with the European Union and the US. Despite these events, exports of textile and garment increased steadily in 2005. According to customs statistics, total export rose to $117 billion, a growth of 20.1 per cent compared to 2004 (Deng, 2007). In 2006, the country exported $144 billion of textile and clothing, which accounted for nearly 25 per cent of the world's total exports. From January to August 2007, total export of textile and clothing was valued at $109 billion (Zhang Yixuan, 2007). Foreign capital enterprises, being highly export-oriented, play an important role in Chinese export of textile products. In 2006, their total export value reached $47 billion, which accounted for 32.6 per cent of China's total export of textile and clothing, compared to 27.6 per cent in 2005 (Zhang Yixuan, 2007).

Table 7. Chinese trade of textile and clothing ($ billion)

Year	Export value	Share in total export value %	Growth rate %	Import value	Share in total import value %	Growth rate %
2000	52.17	20.9	29.4	14.02	6.2	16.6
2001	53.44	20.1	2.4	13.84	5.7	-1.3
2002	61.79	19	15.6	14.4	4.9	4
2003	78.87	18	27.7	15.63	3.8	8.5
2004	97.385	16.41	21.01	16.804	2.99	7.81
2005	117.535	15.42	20.69	17.099	2.59	1.76
2006	144	15	25.2	18.1	2.3	6

Source: China's State Bureau of Statistics, 2001-2007.

On the other side, the expansion of China's textile industry gave rise to imports of fabrics, cotton and textile machinery. In 2006, China's total textile and clothing import rose to $18.1 billion; the cotton import rose by 52.3 per cent compared to 2005; the import of textile machinery increased by 19 per cent to reach $4 billion. Moreover, China's rapid economic growth has created many opportunities for the textile and clothing industries of other countries. From January to August 2007 clothing import from the EU increased by 43 per cent,

and 28 per cent for the US (Zhang Yixuan, 2007). Chinese textile and garments constitute the second most important commodity exported to Africa, behind Mechanical and Electrical Products. From January to September 2006, exports of textile and garments to Africa amounted to $4.65 billion, an increase of 31.9 per cent compared to the preceding year. However, the share of Africa in China's total textile and garments exports is quite small with only 4.32 per cent (Deng, 2007).

However, recently, China's textile exports increasingly suffer from some economic and social hurdles. First, SA8000 certificate sets the working conditions for workers, such as at least one-day rest per week, the supplementary hours should not exceed 12 hours per week and require extra-payment. Some countries like Germany, France, Netherlands, and the US plan to use this certificate as selection criteria of Chinese exporters in textile and garment, toys, and shoes sectors. The implementation of this certificate will reduce China's advantages in terms of low labor cost. According to a recent report on labor cost per hour in the textile sector, in 2007, labor cost in the coastal region of China, where the textile industry is concentrated, was close to $1 per hour, much higher than in other developing countries such as Vietnam ($0.29), Cambodia ($0.36), Bangladesh ($0.22) and Indonesia ($0.36) (Zhang Yixuan, 2007).

II.5 Some persisting problems

Despite significant reforms in textile sector to improve the sector's efficiency and trade competitiveness, Chinese textile sector still suffers from persisting difficulties.

- Low technology, especially in spinning and yarn-dying industries. According to the State Development and Reforms Committee, the investment in R&D accounted for only 0.3 per cent of the sector's turnover in recent years. Most high-tech and advanced equipments rely heavily on import.

- Low standard of products. About 80 per cent of textile enterprises produce medium-low quality products, only 10 per cent of enterprises offer high-quality products.

- Lack of high-quality human resource in the international context.

- Low level of information systems, resulting in long reaction times for orders.

- Very few own brands and high proportion of subcontracting. At present, China has more than 100'000 national textile and clothing brands, but none of them is an internationally well-known brand. A significant share of export is in form of OEM (Original Equipment Manufacturer) or ODM (Original Design Manufacturer).

- High pollution and environmental problems. The yarn-dying sector is one of the main sources of water pollution. The sector's water consumption ranks second among all industry sectors in China, its waste-water discharge ranked sixth in 2006; only 7 per cent of used water is recycled. High energy consumption of equipment; on average, 77.5 per cent higher than advanced equipments in developed countries (Wang Chunyu, 2007).

- Appreciation of the Renminbi. According to an estimate, 1 per cent of appreciation will lead to a profit loss of 7.2 billion yuan for the whole sector. 2 per cent of

appreciation will reduce the profit by 24 per cent for the cotton textile sector and by 16 per cent for the wool textile sector, and by 26 per cent for the highly-export-oriented clothing sector (Wei Qin, 2007).

II.6 Development strategies for 2006-2010

Facing increasing internal and external challenges, China's textile sector has adopted the following development strategies for the 11th five-year plan from 2006 to 2010.

- Create own brands of textile and clothing;
- Improve the technologies;
- Limit and regulate competition among Chinese exporters by creating sector associations;
- Reduce energy and resource consumption and respect the environment. By 2010, reduce electricity consumption by 10 per cent compared to 2005 for 1 ton of produced fiber, water by 22 per cent, and used-water discharge by 20 per cent;
- Promote textile trade by 2 policies: self-restriction policy (taxes for export, quantity restriction) and support for national brands to increase value added of exported products **(**Deng, 2007; Yu, 2006).

III The textile sector in Senegal

Unlike China, Senegal's textile sector is facing very severe difficulties that are critical to its survival. The country almost literally gives up any attempt to increase market shares over its competitors. Rather, it is coping with holding its share in the domestic and sub-regional West African and Central African markets, without great success. The major impediments for textile/clothing growth in Senegal are low productivity, high labor costs, higher costs of non-tradable inputs, lack of relevant training, and a weak business climate. All these issues are documented in several firm level surveys undertaken in the sector from the end of the 1990s onwards (Golub and Mbaye, 2002; Mbaye, 2003; Mbaye, 2006). The section below, draws on these survey results and provides a deeper description of such constraints.

III.1 Productivity

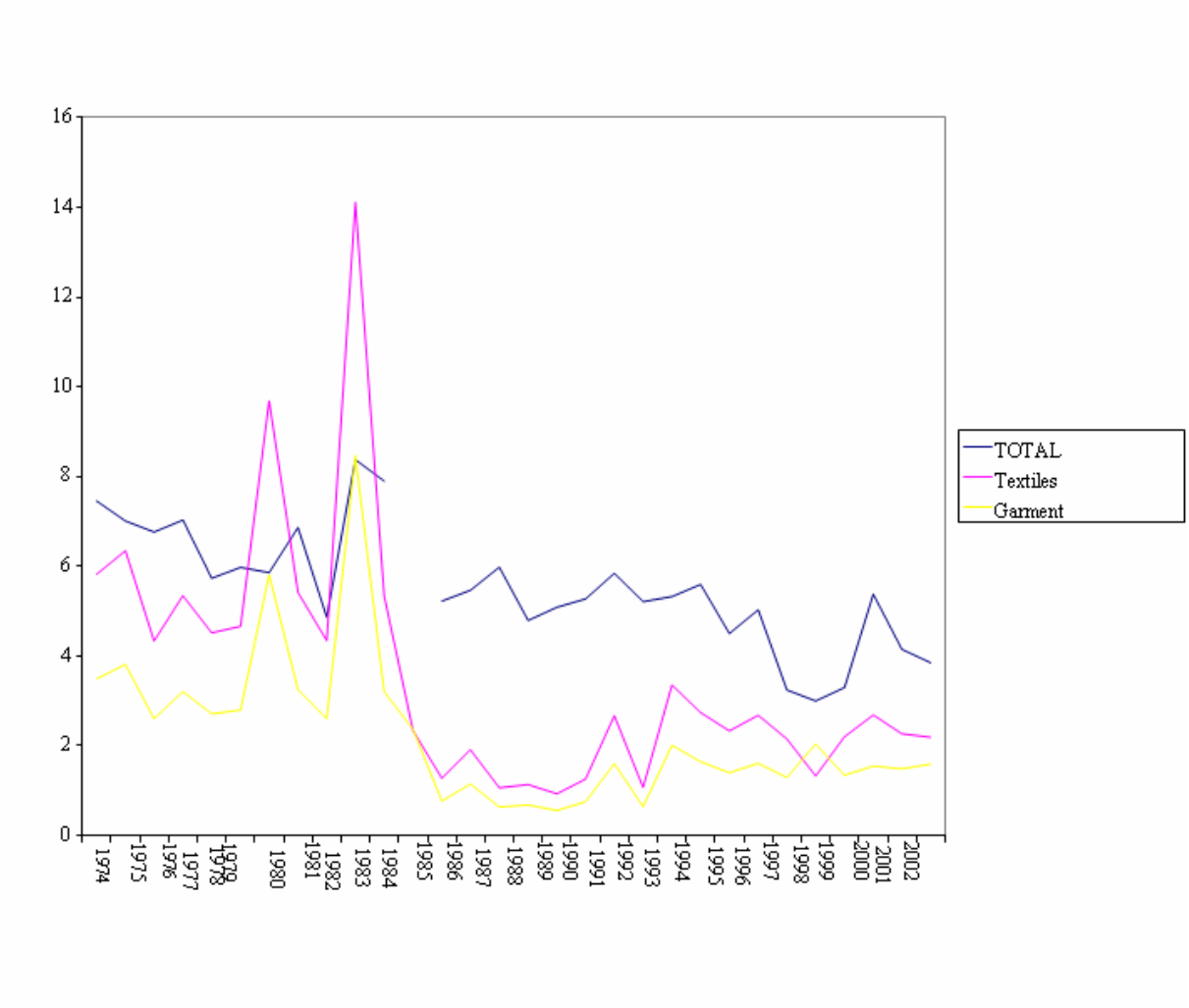
Productivity is a key element to competitiveness improvements, since the most relevant indicators of competitiveness in Senegal are mainly determined by productivity.[4] Whenever costs (mainly labor and other non tradable input costs) growth outweigh productivity growth, this is likely to result in serious losses in market shares and competitiveness problems. In a context of a declining productivity like the Senegalese, we would need a greater reduction in costs, in order to avoid losing market shares. Productivity is measured as the ratio of real value added to labor.

[4] See Mbaye and Golub (2002) for a review of such indicators.

$$PT_i = \frac{Q_i}{L_i}$$

PT is labor productivity, Q is real value added, *L* is labor, and *i* refers to the given sector.

Figure 1. Evolution of labor productivity in Senegal



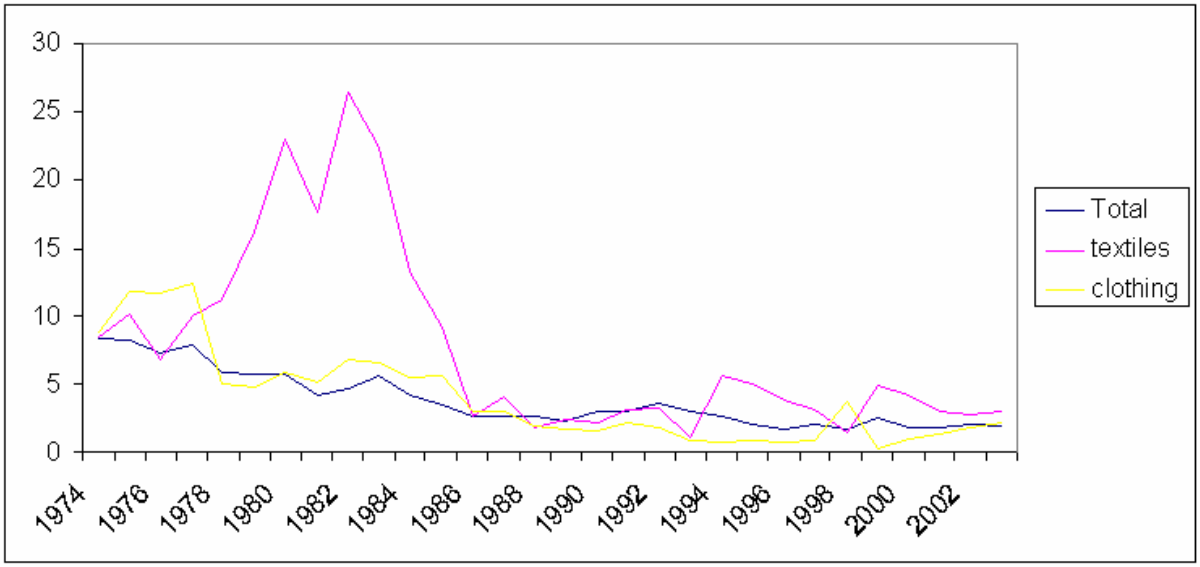
Source: Mbaye, 2003.

Figure 1 shows that manufacturing productivity has sharply declined over time in Senegal. This is true for overall manufacturing, but especially for textile/clothing, in the second half of the 1980s; and it stagnated during the 1990s and 2000s. The sector has been particularly hit by liberalization and de-protection measures the government implemented as part of structural adjustment programs (SAPs). Of course this sector was not the only one to take profit of the huge amount of protection the government had granted to manufacturing before SAPs were implemented, in order to support the country's import substitution strategy. But there is no doubt that it suffered more than any other sector from the removal of such protection. Textile/clothing value added has undergone a very important decrease from the 1980s onward, and even became negative for some years. This means that sometimes firms have to operate below their average costs to stay in activity. During our interviews,[5] this argument was raised

[5] At CREA, several interviews with businesses were performed to find out what are the major perceived impediments to industry growth and competitiveness. Some results of those are reported here.

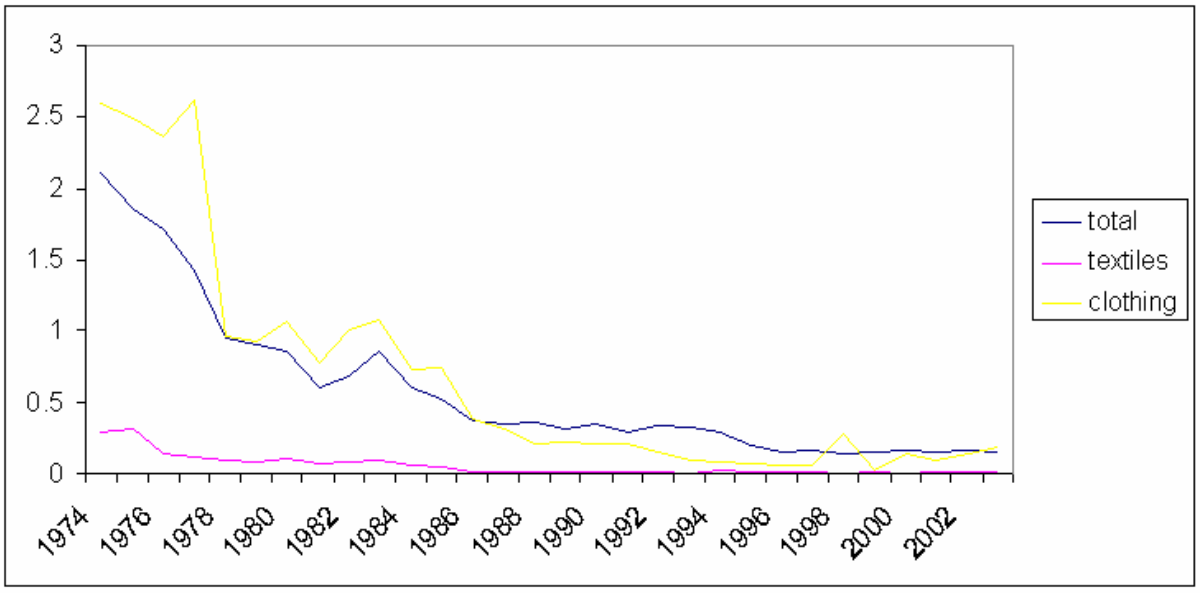
several times with supporting evidence by firm managers who are seeking government support to stop the decline of the sector.

Figure 2. Evolution of relative productivity: Senegal/India



Source: Mbaye, 2003.

Figure 3. Evolution of relative productivity: Senegal/Korea



Source: Mbaye, 2003.

By contrast, productivity evolution has a somewhat different pattern in competing countries. Figures 2 through 3 display relative productivity (Senegalese productivity divided by comparison country's productivity) for manufacturing and the case of textile/clothing. Productivity across countries is computed using the above formula and converting value added in local currencies into PPP US dollar. Comparison countries involve Kenya, Mauritius, Hong Kong, India, Korea, Kenya, Mauritius, and Hong-Kong.[6] These charts show that

[6] We only report here the result of comparisons with India and Korea. Mbaye (2003) presents a wider array of country comparison cases.

compared to all these countries, Senegalese productivity has decreased over time. Relative productivity was favorable to Senegal in the 1970s and the 1980s, but rapidly deteriorated in the following years. This declining trend in relative productivity is explained both by a productivity decline in Senegal and its increase in other countries, namely Asian countries included in the sample and Mauritius. The consequence of this productivity decline is loss of competitiveness on international markets as well as on domestic markets.

The determinants of Senegal's dismal performance in productivity are varied and encompass factors related to overall business climate and factors more sector-specific to textile/garment. Factors related to business climate are: lack of appropriate training, high costs and poor quality of electricity supply, financing problems, etc. Among those, some play a more significant role for textile/garment.

Training. Training plays a central role in productivity evolution. For textile purely speaking (weaving, yearning, dying, and printing), no structure is taking care of training in the Senegalese context. Manpower is trained on the job; it takes a relatively long period of time for workers to familiarize themselves with equipments. Most firms we visited in our interviews we referred to, above, reported some losses due to lack of training of employees. This can be explained by the fact that apprenticeship is the first level of working level. Most employees start as apprentices and upgrade as their ability expands. The lack of experience leads to equipment deterioration due to inappropriate use. But most managers we talked to recognize that after a short period of trial, employees end up having a good command of operating the equipment. Clearly, this lack of training is critical to firm productivity and competitiveness in textile. But it is likely to be so as long as Senegalese firms keep specializing in low quality products only destined to local and sub-regional markets, which are characterized by very few requirements regarding quality. But if the country wants to target foreign markets, mainly of developed countries, the issue of training will need to be addressed. Technical standards are very stringent on these markets, with electronics playing a central role. No default on product specification is tolerated; while for Senegalese textile products, printing capabilities are very weak; which makes Senegalese producers unable to deliver a homogeneous color for materials. For a given length of material, the same color turns from light to dark and therefore color homogeneity is no longer guaranteed. Even local garment producers with very low demand about quality sometimes turn to imports instead of purchasing local textile products. In the cloth production segment of the sector, the issue of training is even more acute: measurement errors are very frequent, technical specifications/standards are not properly respected. And all these weaknesses are detrimental to reputation and have as consequences rejection of delivered products and sometimes order cancellations. According to the president of the federation of Senegalese garment producers[7] the areas in which Senegal needs to build capacities in clothing are as follows: quality control, production organization, machine maintenance and repairing, etc. The FNPH is seeking for years to implement a training program for garment production. But this is yet to be fully realized.

Electricity supply. The textile/garment sector is undoubtedly one of the most energy-intensive industries. Energy makes up almost 20 per cent of total output costs in this sector. In Senegal electricity is quite expensive (e.g. see table 8) and delivery service is of low quality with frequent power cuts and instable voltage. Thus it costs more than in competing countries while no preferential treatment exists for firms to ease this constraint and allow them to increase market shares.

[7] This is the Fédération Nationale des Professionnels de l'Habillement (FNPH).

Table 8. Compared costs of electricity (costs of 1kilowatt per hour)

Countries	Costs in CFA
Benin	68
Togo	61
Burkina Faso	112
Senegal	76
Côte d'Ivoire	56
Mali	76
Niger	67

Source: Mbaye, 2006.

An aged and outdated stock of equipments. Equipments in this sector are almost all outdated. Most of them date back to the 1950s and require frequent repairing and replacements; they are also more energy consuming than the average in other countries. This is particularly crucial to productivity evolution since productivity is supposed to be a proxy of technology. What is otherwise surprising in the Senegalese textile industry is that even when investments are done, it usually consists of purchasing old second hand machines with low performance. And this is further compounding firm effectiveness.

The issue of financing. This issue is diversely apprehended by the actors we talked to. One feature of the Senegalese financial system is the low proportion of investment financing (long term) loans as compared to short run loans. Nevertheless, some other firms we talked to seemed to overlook the scope of this constraint. Clearly this is linked to agedness of equipments, since it would be very hard for a firm to invest in modern machines, without benefiting from appropriate financing. This is compounded by banks' reluctance to finance enterprises operating in the textile sector.

Table 9. World rankings for business climate

	Bangladesh	Benin	Burkina	China	India	Mali	Morocco	Senegal
Business climate	107	151	161	83	120	158	129	162
Starting a business	92	137	105	135	111	149	51	159
Labor flexibility	129	115	152	86	85	88	165	160
Property registration	171	105	170	29	112	90	102	155
Loan availability	48	115	115	84	36	135	135	135
Protection of investors	15	147	138	83	33	147	158	158
Payment of taxes	81	161	133	168	165	151	132	164
Contract enforcement	175	166	109	20	177	157	114	148

Source: World Bank, 2008.

The regulatory framework. Here, we are dealing with business climate, which is also a critical variable for firm productivity growth. The textile/garment sector has started experiencing difficulties when the government removed the protection existing from independence up to the 1980s. Then the brisk de-protection of the sector heavily affected its efficiency, since installed investments were meant to address the wider regional market. Nowadays, Senegal is facing very serious weaknesses related to business climate; it is ranked very low in most international classifications on this topic (e.g. see tables 9 and 10). It is clear that these crosscutting bottlenecks are also impeding growth of the textile/garment sector.

Table 10. Indicators for starting a business

	Bangladesh	Benin	Burkina	China	India	Mali	Morocco	Senegal
Number of procedures	8	7	6	13	13	11	6	10
Time (number of days)	74	31	18	35	33	26	12	58
Costs (% of per capita income)	46.2	195.0	82.1	8.4	74.6	132.1	11.5	107.0

Source: World Bank, 2008.

III.2 Wages

An appropriate response to the decline in Senegalese relative productivity would be a paralleled decrease in costs of non-tradable inputs, mainly, in labor costs. Decreases in input costs would compensate the decline in relative productivity and mitigate unfavorable competitiveness evolution and subsequent losses of market shares. This is particularly true for the textile/garment sector which is highly labor intensive.

In Senegal, relative wages in dollar did not decrease with respect to comparison countries; instead, it has remained almost unchanged over time. Indeed, we even noticed a slight increase in this variable relative to some other countries. This is clearly not very good news for Senegalese manufacturing, especially, the textile/garment sector which experienced more than others a sharp decline in productivity. Even relative to neighboring African countries which are not well performing in terms of competitiveness, Senegal seems disadvantaged. Minimum wage per hour is CFA209, against 211 for Côte d'Ivoire, 125 for Togo, and 166 for Burkina Faso. If we now turn to average wage rate in dollar, Senegal's handicap is even greater. It amounts to $0.34 per hour for Pakistan, $0.57 for India, $0.69 for China, $0.25 for Bangladesh, $0.40 for Sri Lanka and $0.62 for Senegal. Thus Senegal is one of the countries with the highest labor costs, among those considered in our sample, except China. Meanwhile, average working time is 12 hours in Asia, but only 8 hours in Senegal.

Table 11. Indicators for labor flexibility

	Bangladesh	Benin	Burkina	China	India	Mali	Morocco	Senegal
Index of hiring difficulty	44	39	83	11	0	33	100	72
Index of firing difficulty	40	40	40	40	70	40	50	50
Index of employment rigidity	35	40	61	24	30	38	63	61
Costs of hiring (% of wages)	0	29	20	44	17	28	19	21
Costs of firing (week equivalent wages)	104	36	34	91	56	31	85	38

Source: World Bank, 2008.
Note: Each index can take values between 0 and 100; higher values representing more rigidities. The index of employment rigidity is an average of three other indices.

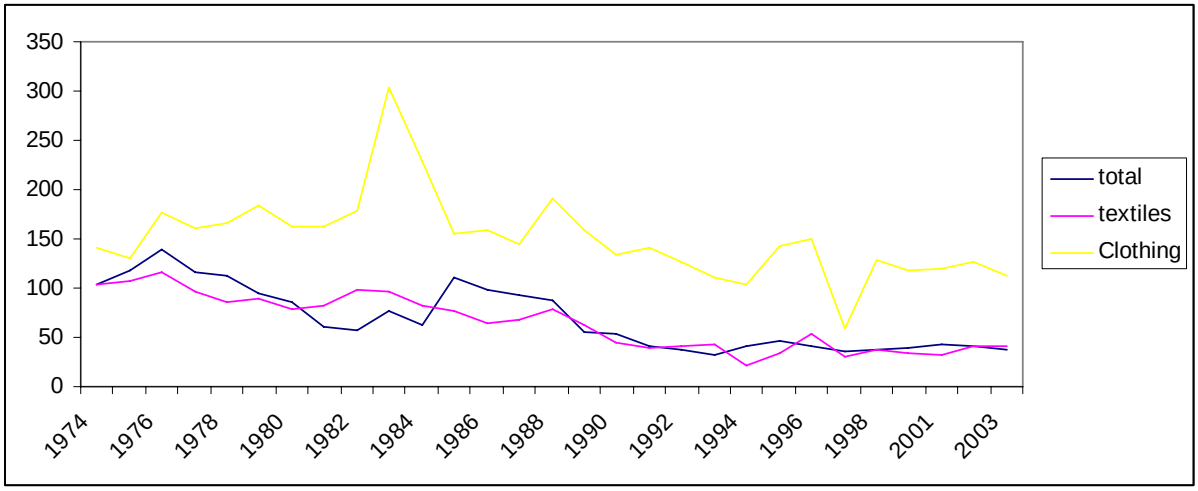
Table 12. Monthly wages comparison in West African countries

Country	Monthly wages		
	Min	Max	Mean
Benin	25'000	67'359	46'179.5
Togo	25'540	85'785	55'662.5
Burkina Faso			
Senegal	38'105	81'803	59'954
Côte d'Ivoire			126'000
Mali			24'118

Source: Mbaye, 2006.

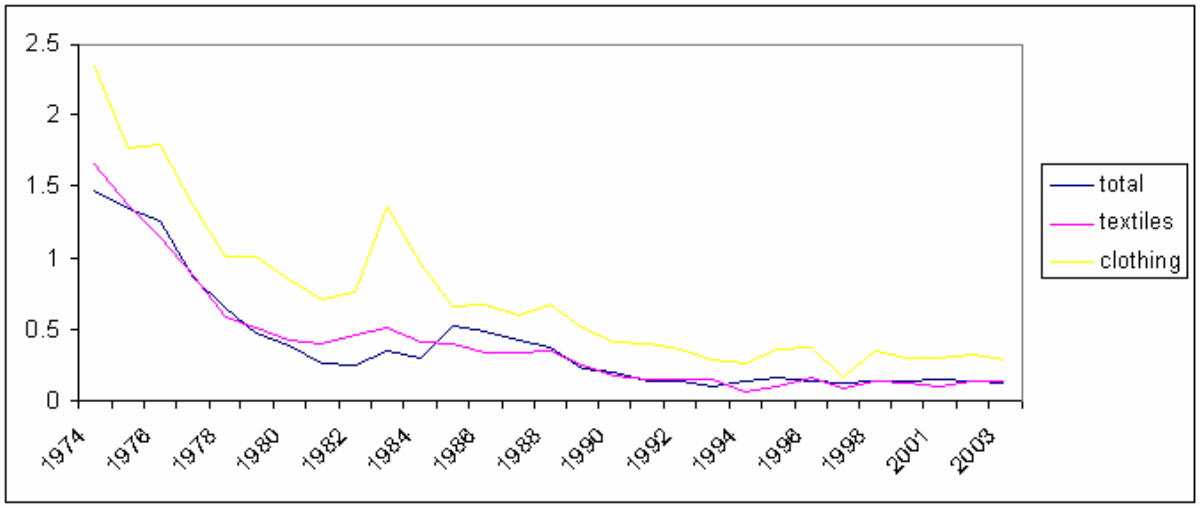
Tables 11 and 12 depict the evolution of nominal wages in Senegal and in competing countries. They show that compared to all comparison countries, nominal wages have increased less in Senegal despite the high minimum wage mentioned above. What this means is that Senegalese government has been quite prudent in social policies, by keeping wages low. But at the same time, the CFA has appreciated a lot relative to other currencies. The exchange rate between CFA and US dollar doubled from almost $1 for CFA800 in 2002 to $1 to about CFA400 in 2007. Obviously, Senegal's competitors have a better control on the dollar wage rate, through exchange rate policy. Like other UEMOA countries, Senegal has very little room to cope with unfavorable exchange rate evolution, being a member of an economic and monetary union. The only room left with is to increase productivity in order to compensate for the dollar wage rate disadvantage.

Figure 4. Evolution of relative wages in local currency: Senegal/India



Source: Mbaye, 2003.

Figure 5. Evolution of relative wages in local currency: Senegal/Korea



Source: Mbaye, 2003.

III.3 Other inputs

Besides labor, other inputs, mainly non-tradable, are playing a critical role in the evolution of competitiveness. They are cotton prices, energy (electricity, fuel, gas), water, telephone, transportation, and taxation.

Table 13. Compared costs of oil-related items: Senegal versus other West African countries (CFA)

Products	Senegal	Togo	Mali	Burkina Faso	Benin	Cameroon
Diesel oil (metric tons)	261'727		394'000			
Fuel 180 (metric tons)	164'206		275'000			
Fuel 380 (metric tons)	152'838					
Gasoline	446	365	548	531	362.5	454
Regular gasoline	485	360	532	468	332.5	
Gasoline for boats	328					
Domestic gas			709	260	264.6	

Source: Mbaye, 2006.

Regarding cotton availability, Senegal is not in a disadvantaged position, with respect to other countries; but it is not in a more favorable position either, since the domestic cotton price is indexed to its world level. Firms operating in the textile sector consider the system as being unfair, and that SODEFITEX, the large cotton producer, should provide them with this input at a price lower than the international level. If we consider the support in diverse forms, that similar firms in Asia are enjoying from their governments, this request of textile firms is highly understandable. But what is worth observing is that prior to SAPs, a generous protection scheme was granted to firms from this sector, with very little results, if any. Thus any further support to the sector should be subjected to accomplishments as regards efficiency, job creation, and growth in activity. Another question is who should bear the costs of such 'subsidy'? Obviously it should not be the cotton producing company which is applying the same prices to domestic and foreign buyers, but instead the government.

Domestic as well as international transportation is another source of inefficiency for Senegalese products. From our interviews, it appears that the costs of transporting a container from Kahone (a city located in the countryside of Senegal) to Dakar (the capital) are about $1000; that is as much as the costs of transporting the same container from Dakar to New York City in the US. On the other hand, the port of Dakar is deemed less effective in terms of costs and delivery time as compared to those of neighboring as well as competing countries. Tables 8 and 11 to 13 depict inputs costs of Senegal compared to those of neighboring countries. They show a quite unfavorable position of Senegal with respect to the latter. This is quite worrisome since these countries are not even good performers in terms of cost control and productivity improvement.

IV Determinants of trade of textile/garment between China and Senegal

IV.1 The scope of trade between China and Africa

According to the statistics provided by the WTO, in 2006, China ranked third in world commodity trade, behind Germany and the US, with a trade value of $1'761 billion and a share of 8 per cent. China's trade is overwhelmingly dominated by manufactured products; these products constitute 95 per cent of its export.

Table 14. China's trade structure in 2006 ($ billion)

	Export		Import	
	Value	**Share**	**Value**	**Share**
Total	969	100%	792	100%
Primary products	52.9	5%	187.1	24%
Manufactured products	916.2	95%	604.5	76%
Mechanical and electrical products	549.4	57%		
High-tech products	281.5	29%		
Textile and garments	144	15%	18.1	2.3%

Source: WTO, 2007.

During the 1950s, the annual trade value between China and Africa was about $12 million, even in 1994; it was only $2.64 billion. In 2000, the trade value exceeded for the first time $10 billion. Since then, Sino-African trade increased sharply to reach $55.46 billion in 2006. Now, China is the third trade partner of Africa behind the US and France. In 2005, Sino-African trade rose to $39.7 billion. China's export to Africa amounted to $18.68 billion, of which mechanical and electrical products (mainly agricultural machinery and motorbikes) had the largest share (since 1995) of 43.7 per cent, followed by textile products (20.1 per cent). On the import side, the main imported commodities are raw materials and minerals, such as oil, iron ore, cotton, diamonds, logs, and copper ore, which accounted for 85 per cent of China's total import of $21.06 billion. Oil (38.3 million tons) alone accounted for nearly 70 per cent of the total import, and 30 per cent of China's total oil import. Another important commodity exported from Africa to China is cotton. Africa is one of the most important cotton producers, the sown area accounted for 17 per cent of the world total, about 70 per cent of cotton is exported, which makes Africa the second exporter of cotton in the world with a share of 20 per cent, behind the US. In Africa, 35 countries produce cotton and 32 export it. Furthermore, distribution of trade among African countries is very unequal, 82.1 per cent of total trade ($32.64 billion) is concentrated in 11 African countries whose trade value with

China exceeded each $1 billion. Due to massive imports of materials from Africa, the trade balance of China with Africa turned to deficit since 2004 ($1.83 billion), and the deficits tend to increase in recent years. In 2005 the deficit rose to $2.38 billion (International Business News, 2006). In 2006 China registered a deficit of $2.1 billion with Africa.

In recent years, China's investment in Africa has increased steadily. This is a natural response to the changes in some African countries' development strategies. To reduce trade deficits and unemployment, some African countries have set up trade barriers. In order to get round these barriers, Chinese firms invest directly in African countries. There are more than 800 Chinese enterprises which have invested in Africa, the total investment amounted to $11.7 billion at the end of 2006 (Xie, 2007).

IV.2 China's trade regime

Since the accession of China to the WTO on November 10, 2001, the average tariff level has been reduced sharply, from 15.3 per cent to 12 per cent in 2002, 11 per cent in 2003, 10.4 per cent in 2004, 9.9 per cent in 2005 and 2006, and 9.8 per cent in 2007-2008. Since 2007, the average tariff rate for agricultural products is at 15.2 per cent and 8.9 per cent for industrial products. China has fulfilled her commitments made for the accession to the WTO.

Policy of "Zero tariff" for the least developed African countries. This policy was established in 2003 under the framework of the Sino-Africa Forum created in 2000. According to this policy, China offers "Zero tariff" treatment for 190 types of goods imported from 30 least developed African countries. Before, the most favorite rates for these commodities averaged at 9.8 per cent, since January 1st 2005. The tariff rates for all products were reduced to zero. Till June 2007, 26 countries benefit from this policy, they are Ethiopia, Benin, Burundi, Equatorial Guinea, Togo, Eritrea, Cape Verde, Djibouti, Guinea, Guinea-Bissau, Lesotho, Liberia, Rwanda, Madagascar, Mali, Mauritania, Mozambique, Niger, Sierra Leone, Somalia, Sudan, Tanzania, Uganda, Zambia, Chad, Central African Republic. Congo (K), Comoros, Angola and Senegal will soon join this program. During the 2006 Sino-Africa Forum in Beijing, the types of goods were increased to 454 which include almost all important commodities exported to China from these countries. These commodities cover more than 10 categories in which these countries have comparative advantages: fresh aquatic products, processed and semi-processed agricultural products, medicinal plants, minerals, leather, textile and garments, light-industry products, mechanical and electrical products, wood furniture etc. Until the end of 2006, imports from these countries under this policy amounted to $350 million, the main imported commodities are sesame seeds, copper products, sheep leather, cocoa beans etc. Moreover, the import of sesame seeds doubled compared to the preceding year, with an import value of $180 million (International business news, August 2nd 2007). The "Zero tariff" policy has promoted the sound and balanced development of Sino-African trade. However, only a very small share of African exports to China benefited from this policy, according to Chinese custom statistics, during January and March 2006, only 1.6 per cent of imports from the beneficiary countries took advantage of "Zero tariff" treatment. This can be mainly explained by the complexity of Chinese custom procedures and difficulties of beneficiary countries in providing the certificate of origin for their exports to China.

IV.3 China's tariff regime for textile and garment

The *Agreement on Textiles and Clothing* planned to remove the quota of textile and clothing from January 1st 2005 to promote free trade. The developed countries had 10 years from 1995-2004 to adjust their textile and garment sector. With the abolition of the quota, China's exports of textile products have increased substantially. From January to March 2005, Chinese exports of textile and clothing to the US rose to $3.48 billion, an increase of 70.5 per cent, and $3.85 billion to EU market with a growth rate of 48.3 per cent. This led the US and the European Union to re-establish the quota to protect their fragile textile industry against Chinese imports. Facing the increasing trade conflicts with both developed and developing countries, China decided to limit her textile exports by implementing bilateral voluntary export restriction with the US and EU and by setting export taxes for textile products. Even before the removal of the quota, the Chinese government in 2004 undertook several measures to limit textile production and exports. China has reduced the export rebate for textile and clothing from 14 per cent and 17 per cent to 11 per cent and 13 per cent respectively. Meanwhile, the investment in this sector has slowed down, from an annual growth rate of 86.7 per cent in 2003 to 30.3 per cent in 2004. The import of textile machinery ($4.48 billion) grew only at a rate of 2.5 per cent between 2003 and 2004 (Jiang Zhe, 2005).

In 2005, the restriction measures were further reinforced. First, the import tariff rates for textile and clothing have been reduced to 11.4 per cent, below the US's level of 14.6 per cent. Moreover, the "Zero tariff policy" was applied to a part of textile import from 25 African countries (see above). From January 1st, exports of 148 textile products were subject to export taxes. Finally, from March 1st, China implemented a temporary voluntary export restriction to textile exports (Jiang Zhe, 2005).

To avoid this double restriction (quantity restriction + taxes), China adjusted her policy in the following months. On June 1st and August 1st, China removed export taxes for 98 textile products. And from January 1st 2006, China removed export taxes for all textile products (Li Lihui, 2005). From January 1st 2008, the voluntary export restriction of 10 types of textile products with the EU will be ended; then, Chinese textile export to the EU will be no longer subject to quantity restriction (Zhang Yixuan, 2007).

Finally, on the import side, China is the no.1 importer of cotton in the world. In 2006, import of cotton amounted to $4.87 billion, with a growth rate of 52.3 per cent compared to 2005. To regulate the cotton import and protect interests of national cotton producers, China implements the adjustable tariff rate for cotton import to stabilize the cotton price in the domestic market. It consists in adjusting the tariff rate according to the cotton price. When the cotton price is low, the tariff rate is high and vice-versa. In 2005, the adjustable tariff rate varied between 5 and 40 per cent.

IV.4 Other determinants of Sino-African trade and capital investment

Besides the above trade regime factors, the sharp rise of Sino-African trade and capital investment can also be partly explained by the stakes of China's presence in Africa: 1) Exploit energy and natural resources of Africa, especially oil and minerals (Africa has the largest reserves for 17 minerals out of the 50 most important minerals; its reserves of platinum, manganese, chromium and iridium account for more than 80 per cent of the world total; and of reserves of gold, diamonds, cobalt, germanium and phosphate it holds above 50

per cent). 2) Develop new markets for Chinese consumer goods and investment opportunities. 3) Political and diplomatic considerations also play a role (e.g. Chinese aid for Africa). However, the Sino-African trade still occupies a marginal place in the total trade of each side, for instance, since 2000, it accounted for only 4-7 per cent of Africa's total trade value, and only 2-3 per cent in China's total trade. Therefore, there is great potential for the future development of Sino-Africa trade.

- As far as textile and garment are concerned, Chinese firms seek a number of business opportunities in Africa to increase their exports and investment in the continent. The large population (about 800 million people) and under-developed textile industry in Africa provide a huge market potential for the Chinese textile sector. At present, the per capita consumption of fiber in Africa is only 3.2kg, much lower than the world average of 8.7kg. Therefore, the market potential for textile and garment is substantial (Deng, 2007).

- Low prices of Chinese textile and garments make Chinese exports very competitive in African markets in view of the relative low income levels in many African countries.

- A gateway to European and American market. The US's "*African Growth and Opportunity Act*" (2000) and the EU's "*Cotonou Agreement*" give sub-Saharan countries favorable trade conditions for their textile exports to American and European markets. This offers Chinese textile products made in Africa favorable access to American and European markets.

- Chinese Government's "outward" policy encourages Chinese enterprises to invest in Africa by providing fiscal advantages, low-cost loans and other services. For example, the Chinese government has spent more than 100 million yuan to create 11 investment and trade centers in Africa serving Chinese enterprises. The Chinese government has signed *Bilateral Trade Agreement* with more than 40 African countries, and *Bilateral Agreement of Encouraging and Guaranteeing Investment* with 28 African Countries and *Agreement to Avoid Repetitive Taxation* with 8 African countries. Furthermore, China has established Bilateral Economic and Commercial Committees in 35 African countries, in order to promote trade and investment between China and Africa (Yu Peiwei, 2006). In the textile sector, the Chinese government has reinforced the cooperation between Chinese enterprises and African partners in the field of management and training of textile technicians. Moreover, Chinese textile enterprises are also encouraged to invest directly in Africa to stimulate the development of local textile industry and create the employment.

- To attract Chinese investments, many African countries, such as Egypt and South Africa, have provided fiscal advantages and attractive investment policies.

All these favorable factors have bolster China's exports of textiles and clothes to African countries and Chinese investment in local textile/garment industries.

IV.5 Factors impeding trade flows from Senegal

The textile/clothing industry in Senegal is not performing, in the sense that rules of fair competition do not apply to it. The most documented impediments to a competitive market in

the literature include: industrial concentration, collusions in price setting, lack of information access and sharing system, etc.

In this section, two major features of market imperfection are singled out, fraudulent imports and a biased import regime. Before the implementation of the New Industrial Policy (NIP), in 1986, government intervention in the economy was overwhelming, and high-level tariff and non-tariff protection was granted to firms operating in the textile/clothing sector. This was meant to substitute domestic production for imports and to encourage domestic processing of locally produced raw materials, namely cotton in our case. In practice, it granted huge levels of rents to some actors, contrasting with a negative protection for exporting firms with high level of purchase of international inputs. Almost the whole textile/clothing sector experienced big trouble with the removal of protection they had been accustomed to, with NIP. And the instability of the sector can be tracked back to this period.

Hence, since NIP, the country's macroeconomic environment is much clearer. Quantitative restrictions to trade are almost all lifted and tariffs are reduced in level and streamlined, which positions Senegal among the best performing countries as regards trade liberalization (Hinkle and Herrou-Aragon, 2002). An adverse effect of these measures on manufacturing, and mainly on the textile/clothing sector is a negative bias against domestic production, in favor of imports that is brought about by smuggling and an ineffective customs clearing procedures.

IV.5.1 A biased customs clearing system

Most surveyed firms in the textile/clothing sector point to the customs clearing system as the major obstacle to output and export growth. Senegal is member of WAEMU[8] which has implemented a common external tariff, which is streamlined to only four major items: level zero tariff, level 1, level 2, and level 3. The corresponding applicable rates are: 0 per cent, 5 per cent, 10 per cent and 20 per cent. The problem with this tariff scheme is that it does not distinguish between unbleached and printed materials. Both of them are applied the tariff rate of 10 per cent, while bleached materials are intermediate and printed ones are final products for textile producers. Hence, tariff protection is almost nil for this segment of product. Since average costs are otherwise higher in Senegal than in average competitor countries, prices are higher on domestic markets for local items than for imported ones. Thus, while the 12 yard long domestically processed materials by SOTIBA, and COSETEX[9] cost CFA7000 in Dakar (capital of Senegal) with a margin rate of 7 per cent, the corresponding price for imported materials is CFA4000. Obviously, several factors contribute to explaining this wide spread between domestic and imported product prices. Among those are local firms' inefficiency in reducing costs and improving productivity is critical. But the observed tariff bias is also worth emphasizing. Generally speaking, if we compare tariffs on textile/clothing between UEMOA countries and other developing countries, they are lower in the formers. It is invariably 10 per cent for textile and for clothing, in UEMOA, while these two items are differently treated in other countries: 35.9 per cent for textile and 49.8 per cent for garment in Morocco; 20.1 per cent and 23.5 per cent in China; 28.4 per cent and 36.9 per cent in Bangladesh. These figures show clearly that tariffs on clothes tend to be higher than tariffs on textile in other developing countries, while that is not the case in UEMOA. This tariff structure in developing countries outside UEMOA seems to make sense, since materials are input for clothing.

[8] WAEMU is the West African Economic and Monetary Union, which includes Benin, Burkina Faso, Mali, Niger, Togo, Senegal, Guinea Bissau, and Côte d'Ivoire.
[9] The most visible textile producers in Senegal, SOTIBA eventually went bankrupt.

Another bias linked to the system of customs clearance relates to the determination of indicative values. For imported bleached materials, the value to which tariff rates are applied is $0.45 per yard, which is the actual value, formal importers have to declare to customs. What informal business importers are doing is making false declarations to customs, in which case, customs officers apply the face value of similar items on the market. When this option is not feasible for whatever reason, they can breakdown the value of declared merchandises, realistically value each component and sum them up before applying the relevant rates. Customs officers can also reconstitute costs by gathering information from producers. When all these methods are impossible to apply, customs can use as a last resort, to take indicative value they have in their database. The fact is that when the latter method is applied, the corresponding value is only $0.2, instead of the $0.45 formal importers are paying. This acts like a premium to informal importing of goods and thus exposes formal importers to unfair competition.

These customs-related weaknesses are exacerbated by lack of a level playing field brought about by some practices happening sometimes in competing countries. For example, in China, many firms are state-owned or controlled. Thus, there are reasonable hints that they can benefit from state subsidies or other kind of support that can actually lower costs; that are likely to alter competition across countries. According to WTO safeguard clauses, importing countries can limit purchases from China, when such imports are likely to disrupt domestic industry stability; this is applicable until 2013, i.e. 12 years after China is accepted as a WTO member. Another safeguard clause allows importing countries to consider China as a non market country and to draw all relevant trade consequences out of this, for a period of up to 15 years after China's admission into the WTO (Yeung and Mok, 2004). Application of such clauses is mainly done by developed countries, for developing ones, mainly African countries lack the needed capabilities to appropriately document the cases when they apply. In 2002, China underwent 540 legal complaints before the WTO, involving as much as 33 countries and 4'000 products.

Another issue on competition against China is about standards. In the context of textile/clothing the most used standards are: ISO9000, ISO14000, SA8000, and WRAP. ISO9000 is mainly about quality management, i.e. making sure that all possible efforts are deployed so that customer requirements as regards quality are met. ISO 14000 is about caring about the environment, to make sure that every possible effort is deployed to ensure that the environment is not damaged by firm activities in the production process as well as in storage. SA8000 deals with social protection inside the firm, in particular with respect of ILO rules on rights of employees and international laws protecting children under the UNICEF system . WRAP is similar to SA 8000, but is peculiar to clothing. In order to export to the US, ISO9000 and ISO14000 are prerequisites, and more buyers are requiring now SA8000 and WRAP. Very often, Chinese firms are open to ISO9000, but reluctant to ISO14000, given its implications about choosing environmentally friendly equipments which are also more expensive. By contrast, they do seem to envisage meeting SA8000 or WRAP. Senegal, at least in the formal sector seems to be all right with labor protection and children's internationally protected rights. This also could be a ground for raising tariffs on imports from China without being in conflict with WTO obligations.

Table 15. Main textile/clothing suppliers to Senegal

Countries	Import values (CFA)
India	1'707'906'117
Benin	1'692'089'712
Cote d'Ivoire	949'308'054
China	548'742'824
Nigeria	283'778'106
Malaysia	69'320'145
Hong Kong	61'331'479
France	39'565'116
Italy	30'038'648
Japan	19161'412
Switzerland	19'009'441
St. Vincent and the Grenadines	10'681'439
United Arab Emirates	8'553'107
Saudi Arabia	3'100'034
R.F.A.	2'132'973
Belgium, Luxemburg	1'607'668
Canada	1'319'057
Turkey	858'201
Spain	701'237

Source: République du Sénegal, 2005a.

Table 16. Main textile/clothing clients for Senegal

Destination	Export values (CFA)
Gambia	892'083'354
Guinea Bissau	824'428'223
Cote d'Ivoire	431'358'683
Mauritania	274'522'941
Guinea	257'386'436
Burkina Faso	89'420'799
Gabon	73'603'394
Togo	73'257'258
Mali	37'329'120
Algeria	26'505'000
Benin	6'627'456
Congo (B)	4'229'263
France	3'699'579
Ghana	2'880'000
Cameroun	2'379'576
Cape Verde	112'241
United Arab Emirates	100'046

Source: République du Sénegal, 2005a.

Table 17. Senegal's trade balance for textile/clothing (CFA)

	Imports	Exports	Balance
India	1'707'906'117	0	-1'707'906'117
China	548'742'824	0	-548'742'824
France	39'565'116	3'699'579	-35'865'537
Italy	30'038'648	0	-30'038'648
Switzerland	19'009'441	0	-19'009'441
Germany	2'132'973	0	-2'132'973
Belgium, Luxemburg	1'607'668	0	-1'607'668
Spain	701'237	0	-701'237

Source: Author's calculations from Senegal's customs statistics, 2005.

Senegal's trade balance *vis-à-vis* China has a very important deficit. Tables 15 through 17 show that Senegalese exports to Asia are minuscule. The main destinations for Senegalese exports are: Europe and the African region. At the same time, among the top ten textile/clothing exporters to Senegal, 5 are from Asia.

In Senegal as well as in other UEMOA countries, competition policy is very weak. Only collusions between producers and antidumping practices are addressed by domestic laws and regulations (act 94-63 of August 8, 1994). On the other hand, instruments that are put in place to investigate cases of non-compliance to competition laws are rudimentary. Senegal does have a national commission for competition policy, but with a very small budget and almost no permanent personnel. In other UEMOA countries, the same institutional vacuum is observed. Article 5 of UEMOA regulation number 02/2002/CM/UEMOA forbids any kind of government support whatsoever to private firms. Yet, no policy instrument seems to be implemented to investigate Asian imports' compliance to such rules.

IV.5.2 Fraudulent imports and their effects on the domestic textile/clothing industry

Fraudulent imports are illicit activities that violate several articles of the Senegalese customs code. Very impressive repressive mechanisms to fight them exist, but they are not yet effective to tackle the phenomenon. Senegalese borders with the Gambia and Mauritania are very porous, and a huge amount of fraudulent items are exchanged without passing through customs. Most of such smuggling concerns textile and clothing.

We have attempted to estimate fraudulent imports to Senegal on textile and clothing. The methodology is based on computing total textile/clothing consumption and the share of domestic production and official imports. The balance is estimated as being fraudulent imports into Senegal by the following formula:

Total consumption – domestic production – net official imports[10] *= fraudulent imports.*

[10] Net official imports are defined as imports minus exports. Domestic informal production is not accounted for, which biases upward our fraud estimate. On the other hand, official statistics on clothing include leather; which has the opposite effect on it.

Table 18. Estimation of fraudulent imports to Senegal, 2000 (CFA million)

Production	48'721.60
Imports	20'916.87
Consumption	126'000.00
Exports	16'285.49
Net imports	4'631.38
Total supply	53'352.98
Estimated frauds	72'647.02
Ratios (%)	
Frauds / consumption	57.7
Frauds / total supply	136.2
Frauds / domestic production	149.1
Frauds / official imports	347.3

Source: Author's calculations based on statistics from République du Sénegal, 2005b and République du Sénegal, 2005c.

Total consumption of textile/clothing is estimated from the ESAM data base. ESAM is a living standard measurement survey, with several sections, including a section on households' consumption of textile/clothing. We extrapolated these results by using the relevant weights annexed in the dataset. Official imports are from customs data, and official production, from national accounts. The results of our estimates are presented in table 18. They indicate that total textile and clothing recorded production amounts to CFA48.7 billion in 2000. Official imports and exports are respectively CFA20.9 billion and 16.2 billion, and total domestic consumption of these articles is CFA126 billion. The resulting estimate of fraudulent imports is CFA72.6 billion, which makes up 57.7 per cent of total consumption, 136 per cent of total official supply, 347.3 per cent of official imports. The estimated total imports of textile/clothing in Senegal represented CFA93.5 billion, while official statistics only reported only CFA20.9 billion.

Fraudulent imports are pushing domestic prices of textile/clothing downward, at a level domestic producers can hardly sustain. This appears to be a major impediment to industry development in Senegal. Our estimates also show that government income losses owing to this fraud can be as much as CFA14.52 billion per year. This estimate is obtained by 10 per cent[11] tariff rate on materials to fraudulent imports.

IV.5.3 The role of Chinese traders in Dakar in Sino-Senegalese trade

In bilateral trade between China and Senegal, Chinese traders in Senegal play an important role by importing commodities from China and selling directly to Senegalese consumers. This form of trade has important impacts on the two countries' trade balances as well as on the welfare of Senegalese consumers and local employment. In order to obtain more details about this pattern of trade, we have conducted 25 interviews with Chinese traders in Dakar. These interviews allow understanding the motivations of Chinese traders in Dakar, characteristics of their business and difficulties encountered in an economically and culturally different country.

[11] The actual tariff rate on clothing is 20 per cent, so this figure underestimates the amount of income loss.

a) Why did they come to Dakar?

The reasons why they come to Dakar are multiple. First, the local demand for Chinese goods is huge as the prices of Chinese products are very competitive in Senegal where local manufacturing industries are underdeveloped and the purchasing power of local consumers, especially the poor, is very low. The second reason is that in China business is becoming more and more difficult due to rising competition, and sharp increases in labor cost and heavy tax burdens. Before coming to Dakar, they were workers in state or private enterprises in financial difficulties, or taxi drivers, or owners of small shops. Their annual income was less than 20'000 yuan (about $2740 at current exchange rate at $1 = 7.3 yuan). However, in Dakar, they can earn 100'000 yuan or more per year. The low income in China and the relatively higher investment return in Senegal push them to set up their business in Dakar. Furthermore, compared to China, the tax burden in Senegal is much lighter. In Senegal, since there is no accountancy in these Chinese stores, the local government collects a lump-sum tax composed by two components: annual fixed business rate of CFA150'000 and a variable rate, ranging from CFA200'000 to CFA400'000 according to the area of the store. However, in China, as said by the tax laws and regulations, a private storekeeper should pay 4 per cent of value added to the national fiscal bureau, and a tax for city's construction (7 per cent of value added tax) and fees for education (3 per cent of value added tax) to local fiscal bureau, plus 2 per cent of income tax. In practice, the fiscal bureaus fixed a lump-sum tax for each store considered much higher than taxes paid in Dakar by Chinese storekeepers. Last but not least, the network effect has played a crucial role in attracting more Chinese businessmen to Dakar. The first movers to Dakar provided information to their relatives or friends in China and encouraged them to follow by providing all kinds of services to facilitate the settlement of new arrivals. Besides the high rate of investment return, the network effect can explain sharp increases of Chinese stores in Dakar, especially since 2004. Most of them, nearly two-third of Chinese storekeepers, come from Henan province of China (a relatively poor province in Central China). Other traders come from Zhejiang and Fujian provinces in the coastal region and few from the inland region such as Sichuan province and the North-East of China.

b) Characteristics of their businesses

These Chinese traders open a store and sell to Senegalese consumers the commodities imported from China. They are concentrated in two business centers in the city of Dakar. We count 113 stores held by Chinese traders in the district of *Allées du Centenaire,* and 34 stores in the district of Petersen. The shops offer very similar goods which can be divided into three categories: textile products, shoes and items for daily use such as products for interior decoration, lamps, batteries, or toys. Very few stores have a specialization in terms of sold goods, for instance, two brothers from Zhejiang province have opened a store of wigs made by their parents' factory in the hometown.

Most traders have the same supply source, which is the market of "usual items" in the city of Yiwu in Zhejiang province. It is a wholesale market for products of current uses and famous for products at very low prices and low quality. For a great number of stores, 90 per cent of products come from this market. Other products such as shoes and some textile products come from Fujian and Guangdong provinces. As far as textile products are concerned, we find all kinds of clothing, T-shirts, trousers, scarves and fabrics. Most of them come also from Yiwu market. The stores sell on average 2-3 containers of products (68 m^3 for each container). The storekeepers use Internet to order the products from wholesalers in Yiwu, the latter send

the products in containers by ship. The storekeepers should pay the customs duty by a lump-sum around CFA120'000 increased from CFA90'000 in 2004. For the reason that they do not speak French nor local languages and they do not know local law about Senegal's customs system, most of them rely on Senegalese importers to accomplish the customs procedures by paying a commission.

The main customers of these stores are local poor people. Each store has one or two local employees to sell the goods, as most Chinese storekeepers speak neither French nor local languages (notably, Wolof). Most local employees have little education; few of them can read and write. They are paid at a fixed salary ranging from CFA400'000 to CFA600'000 per month without any social protection. A significant portion of sales (more 60 per cent) are the sales to small local mobile salesmen who buy each time a small quantity of products (often 2 or 3 items) and sell them in the streets, and then come back to the Chinese store for more goods. In recent years, with substantial increase of Chinese stores in Dakar and massive imports of Chinese products, Dakar is becoming the wholesale center for Western Africa. More and more retailers of nearby countries, such as Mali, Guinea-Bissau, Guinea and Mauritania, come to Dakar to purchase goods from Chinese storekeepers. Their purchase, often in large quantities, is occupying an increasing share in the total sales of Chinese storekeepers.

In the local market, Chinese stores face competition from Lebanese and Senegalese shops. The latter offer similar goods, but with better quality and at higher prices. Some of the Senegalese and Lebanese traders import from China and then compete directly with Chinese stores. However, the most serious threats arise from Chinese themselves. Since all stores have the same supply source and sell very similar products. The competition among them is so fierce that stores are often engaged in price-wars against each other. Therefore, the profit rate has fallen sharply over years, especially since 2004 with massive arrivals of Chinese businessmen. According to the interviewed storekeepers, the profit rates in the early 2000s were higher than 40 per cent, for some of them they reached even 200 or 300 per cent. But now, this rate has fallen to merely 5-10 per cent. The price wars among Chinese stores have led to a general reduction of prices in local market, which has caused discontents from Senegalese and Lebanese storekeepers. In the summer of 2005, there were anti-Chinese protests in Dakar organized by Senegalese and Lebanese storekeepers.

c) Difficulties encountered

In recent years, Chinese traders in Dakar face increasing difficulties.

- ***Language barriers.*** Most Chinese storekeepers have received little education in China and most of them can only speak their regional dialect. While their customers can only speak French or a local language. This is why every store has to employ local personnel to sell goods. Furthermore, Chinese traders have also many communication problems with local officials, such as policemen, custom agents and fiscal agents.

- ***Price-wars among them.*** As mentioned above, the price-wars have reduced sharply the business profitability. Most of them call for regulation of business behaviors of Chinese traders by establishing a trade association. However, the coordination failure failed to stop price wars.

- ***Market volatilities.*** The demands of the Senegalese market change frequently. For example, many traders have imported textile products. However, the tastes of local costumers changed rapidly, and then, they had to sell off these products below their own costs. Most of them consider that market studies are necessary before importing products from China.

- ***Problems with local employees.*** Most local employees have no education, can not read and write. According to many storekeepers, their employees often steal goods. Therefore, they should keep constantly a watchful eye on their employees.

- ***High costs of living in Dakar compared to China.*** Most storekeeper complained about the high prices of water, electricity, internet connection and food. For instance, electricity in Dakar costs CFA160-180 per Kwh, 4-5 times higher than in China. They complained also about frequent power cuts.

- ***Problems with local administrations.*** Many storekeepers complained about difficulties and administrative complexity to get the entry visa and resident's permit for Chinese citizens. They also complained about corruption of some Senegalese officials.

- **Little support from the Chinese Embassy in Dakar.** The Chinese storekeepers said that if they had a problem in Dakar, they will get very little support or help from the Chinese Embassy who seems to be indifferent to their interests.

d) Perspectives

Facing the increasingly unfavorable business environment, some of Chinese traders plan to go back to China or to other African countries, such as Morocco and Côte d'Ivoire, if the business profitability continues to fall. Others will stay in Senegal and continue the business.

V General conclusion and policy implications

This report provides a comprehensive analysis about the Chinese and Senegalese textile/garment sectors, as well as Sino-African in particular Sino-Senegalese textile trade. After a comparative analysis on the competitiveness of the textile/garment sectors in both China and Senegal, we explore, on the one hand, the determinants of China's sharp increases in textile exports to Africa and in investment in the local textile industry, and on the other hand, the weak performance of African countries, particularly Senegal, in exporting textile/clothing to China. The analysis has highlighted the important roles of trade policy, tariff regime, and costs of key inputs in explaining the difference in competitiveness between China and Senegal. Finally, a case study of Chinese traders in Dakar illustrates their important role in imports of textile products from China to Senegal. Our analysis allows to draw some policy implications for Chinese and Senegalese textile/garment sector as well as for the bilateral trade of these products between the two countries.

V.1 Implications for China's textile/clothing sector

As discussed above, China's textile/clothing sector is facing numerous opportunities and challenges in recent years. On the one hand, the abolition of textile quotas provides good development opportunities for China's highly export-oriented textile sector; On the other hand, the rising costs of inputs such as labor and raw materials and the appreciation of Chinese currency have put increasing pressures on the sector's financial situation and export competitiveness. As shown in Table 5, the new five-year plan for 2006-2010 of Chinese government has set out ambitious objectives for textile production, exports and productivity improvement. To achieve all these goals, a series of measures should be carried out. .

- **Deepen property reforms.** To solve inherent inefficiency problems, large state-owned textile enterprises could be transformed into stock companies with private participation, or sold to private entrepreneurs. Meanwhile, the government should promote private textile/clothing enterprises, including foreign-owned enterprises, by simplifying set-up procedures and providing them with preferential loans and other tax advantages, for these private enterprises are the most dynamic actors of Chinese textile/clothing sector.

- **Promote technological progress and upgrade products.** Facing a stagnant demand due to the recent slowdown of the world economy, the appreciation of the Chinese yuan, and a recent rise of labor cost, the traditional labor-intensive textile products have experienced increasing difficulties both in domestic and international markets. The export growth rate of textile products has slowed down in the first trimester of 2008 compared to the same period of last year. This constitutes both a challenge and an opportunity for China's textile sector to adopt new production technologies and improve the products' quality. Therefore, an easy access to credits or other financial sources is needed for R&D investments. Moreover, foreign direct investments with advanced technology and upgraded products should be further encouraged in China.

- **Improve the enterprises management** by introducing information management system and international management standards, such as ISO 9000.

- **Create internationally well-known Chinese brands of textile/clothing products.** As mentioned before, a large share of production and export is in the form of subcontracting, OEM and ODM for foreign brands. To increase the value added of Chinese textile products, China's textile/clothing enterprises should not only improve products' quality, but also do more efforts of marketing on the international markets.

- **Increase control over distribution channels.** To increase the value-added and profits, Chinese textile/clothing enterprises have to increase their control on distribution networks to limit the profits losses in favor of transporters and foreign importers.

- **Regulate competition among Chinese exporters.** To earn the market share, many Chinese textile/clothing exporters are engaged in vivid price wars against each other. This leads to very low export prices and substantial profit losses, and anti-dumping charges from destination countries. As pointed out by the Chinese traders in Dakar, creation of a governmental or non-governmental industry associations of textile companies I is increasingly a consensus to regulate disordered competition.

- **Reduce pollution.** Textile/clothing is one of the most polluting sectors in China, especially regarding water pollution. Environmental standards such as ISO14000 should be adopted in the Chinese textile/clothing sector in order to promote the sustainable development of the sector.

- **Develop human resources.** The implementation and achievement of all above measures require significant improvement of human resources in the textile/clothing sector. Training programs should be available for unskilled labor of the sector. Moreover, the textile/clothing enterprises in China should recruit more well-educated and experienced managers to improve management. Finally, to promote R&D, textile/clothing enterprises need high-quality technicians and scientists. The cooperation between universities or research institutes and enterprises should also be encouraged.

V.2 Implications for Senegal's textile/clothing sector

As far as Senegal's textile/clothing sector is concerned, great efforts should be made to improve the low productivity and international competitiveness.

- **Develop training programs for unskilled young workers in the sector.** As we have illustrated above, the lack of skills of workers is one of the main factors of low productivity in the Senegalese textile/clothing sector. To solve this problem, the Senegalese textile sector should further develop training programs. Cooperation between China and Senegal in this field could be also a good solution: China can send its skilled technicians to Senegal to provide training to Senegalese textile workers, or, Senegal can also send workers or technicians to China and obtain the training in Chinese textile/clothing enterprises.

- **Improve quality and costs of electricity.** To increase the productivity of the Senegalese textile sector, greater efforts should be made in improving electricity supply. Senegal should increase its electricity production capacity and improve delivery quality to reduce the electricity price and power cut.

- **Reform distorted trade regime.** As discussed above, the import tariffs for processed products and raw materials are distorted in Senegal. The Senegalese government should redesign its tariffs system and tighten the control of smuggling of textile/clothing products in order to protect domestic textile/clothing enterprises.

- **Encourage foreign direct investment in textile/ clothing sector.** The Senegalese government must adopt policies to encourage FDI in these sectors, including Chinese textile enterprises. FDI can take various forms such as joint-ventures, purely feign-owned enterprises etc. The inflow of FDI will contribute to the exploitation of local rich raw materials such as cotton and to the improvement of production technology and product quality. As discussed above, Senegal's textile industry suffers from low productivity and management inefficiency, the inflow of FDI in this sector may have positive spillover effects on local industries.

V.3 Implications for trade and investment between China and Senegal in the textile/clothing sector

Both China and Senegal pay great attention to economic relations between the two countries. They have quite complementary resource endowments. China has abundant labor resource and rich experience in the textile/clothing sector, while Senegal is rich in raw materials such as cotton. Therefore, there is a great potential for trade and capital investment for the textile/clothing sector of both countries. To encourage the trade and capital investment in both directions, the two countries should make joint efforts in a number of fields.

- **Trade regime.** Both China and Senegal should offer further market access to each other by lowering the tariff rate and simplify the custom procedures. China should further simplify the procedures of "Zero-tariff policy" for Senegal, such as Origin Certificate requirement, to facilitate imports from Senegal. Senegal should make their tariff system more transparent for Chinese exporters, as claimed by Chinese traders in Dakar.

- **Encouragement of FDI.** One way for Senegal's textile sector to improve technology and product quality is to encourage Chinese textile/clothing companies to invest in Senegal. Chinese FDI in local textile industry also limits the negative impact of massive Chinese textile exports on local textile industry and on local unemployment. To do so, Senegal's government could adopt some preferential policies for Chinese investments.

- **More bilateral aid from China for Senegal**. China can provide more bilateral aid for Senegal in various forms. For instance, China can provide technology transfer in the field of textile/clothing, training programs for Senegalese workers and technicians, etc.

- **Improvement of business environment and corruption reduction.** A stable economic and political system and well-functioning legal system are prerequisite for international trade and FDI. Therefore, both governments should improve their governance, reduce corruption and develop infrastructures in order to promote bilateral trade and attract more FDI from each other.

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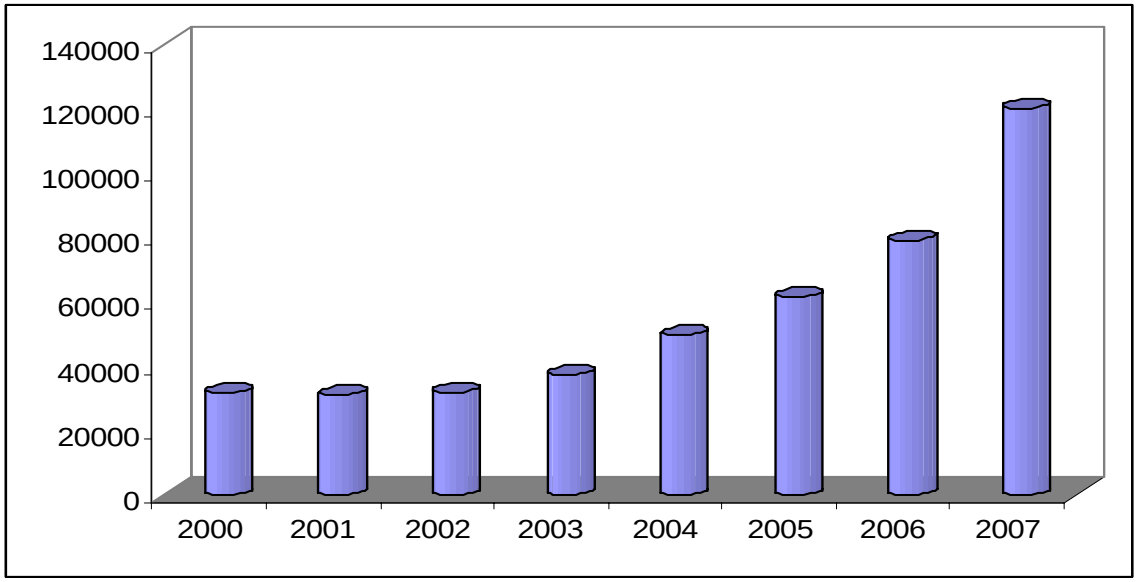
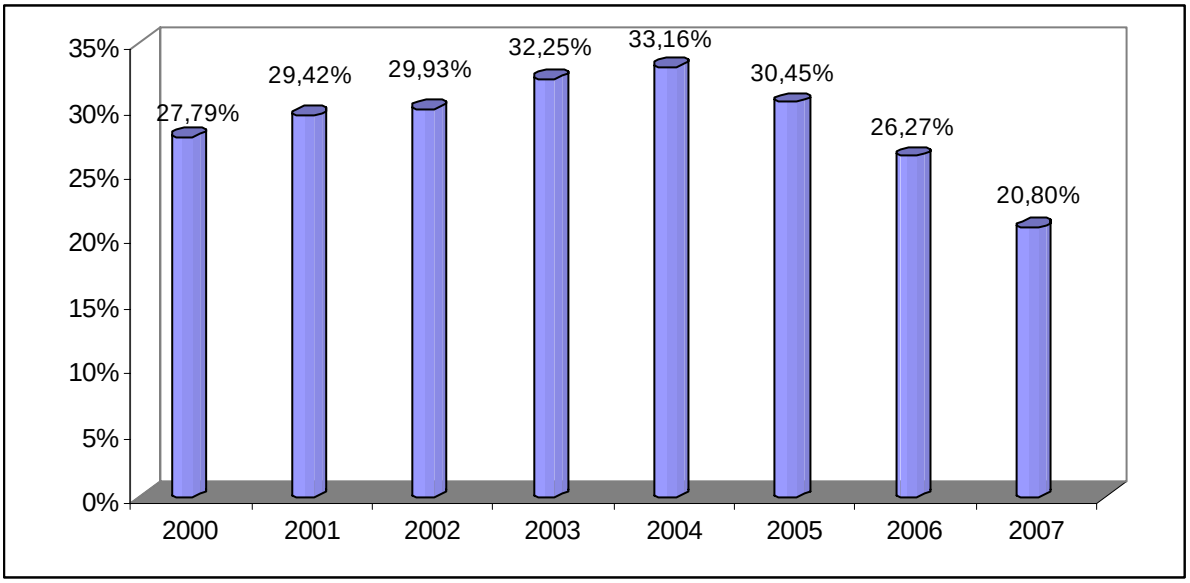
ANNEXES

Annex 1. Senegalese imports from China, 2000-2007 (CFA million)



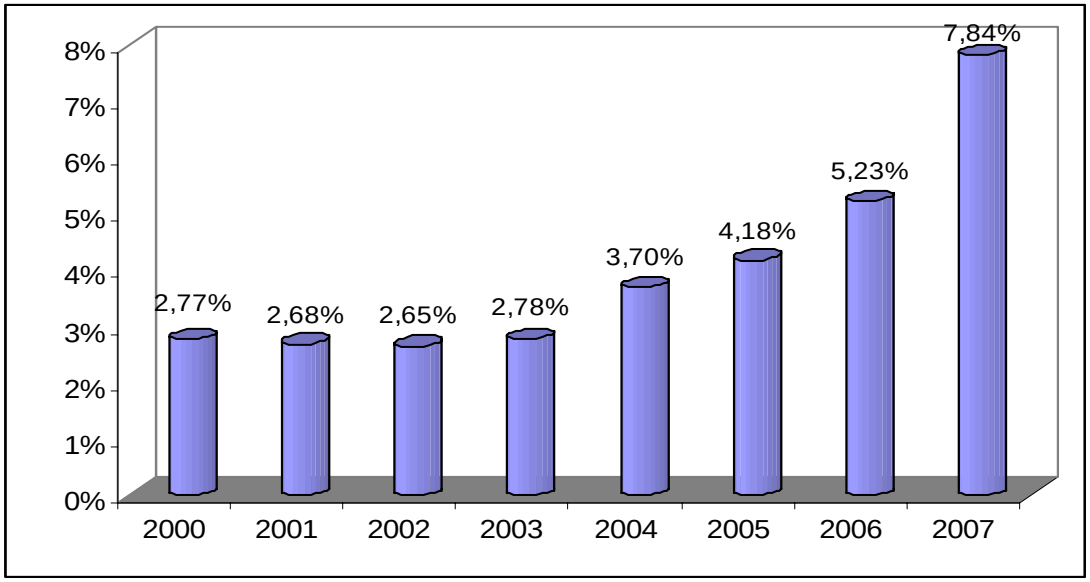
Source: République du Sénégal, 2007.

Annex 2. Share of garments and textile in Senegalese imports from China, 2000-2007



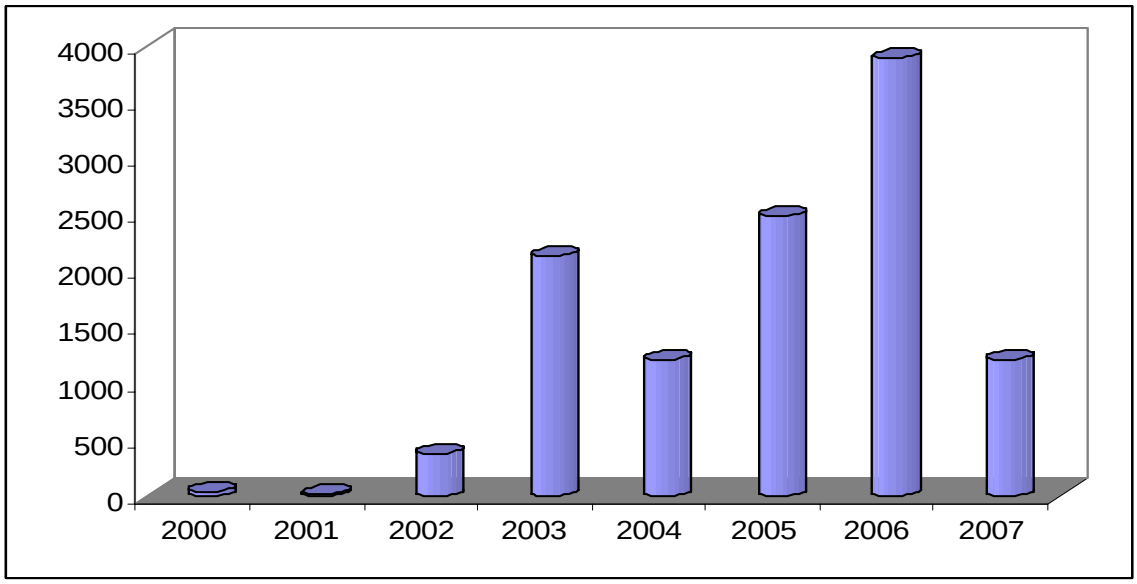
Source: République du Sénégal, 2007.

Annex 3. Share of China in total Senegalese imports, 2000-2007



Source: République du Sénégal, 2007.

Annex 4. Evolution of Senegalese exports to China, 2000-2007



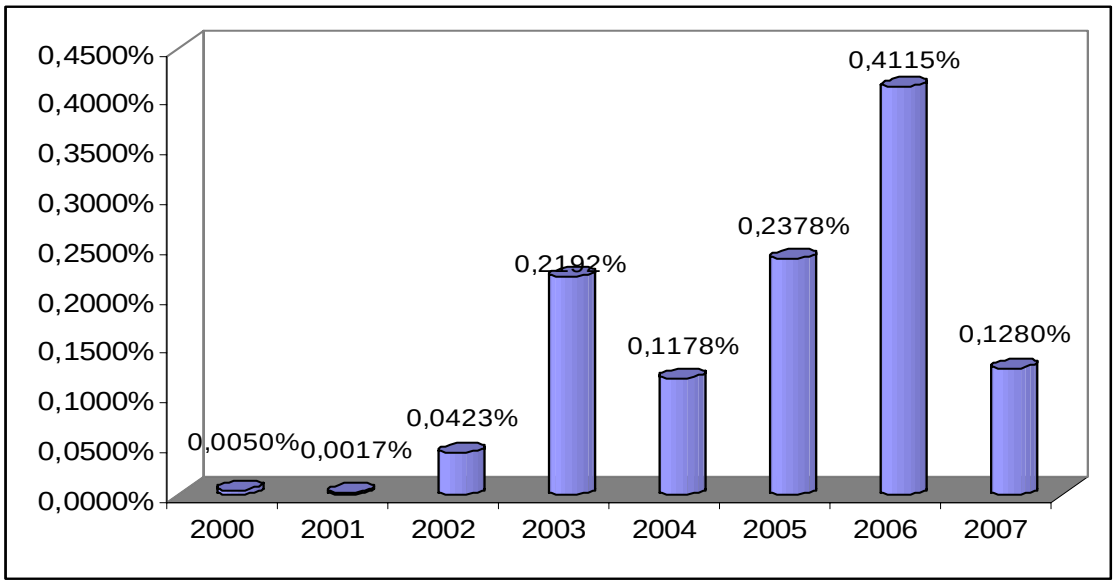
Source: République du Sénégal, 2007.

Annex 5. Senegalese exports to China, 2000-2007 (CFA million)

Year	Clothing and textile	Other manufacturing	Total manufacturing
2000	0.00	4'342	43.42
2001	0.00	14.85	14.85
2002	0.00	385.13	385.13
2003	0.00	2'124.61	2'124.61
2004	0.00	1'213.77	1'213.77
2005	0.00	2'484.66	2'484.66
2006	0.58	3'884.91	3'885.49
2007	1.73	1'210.53	1'212.26

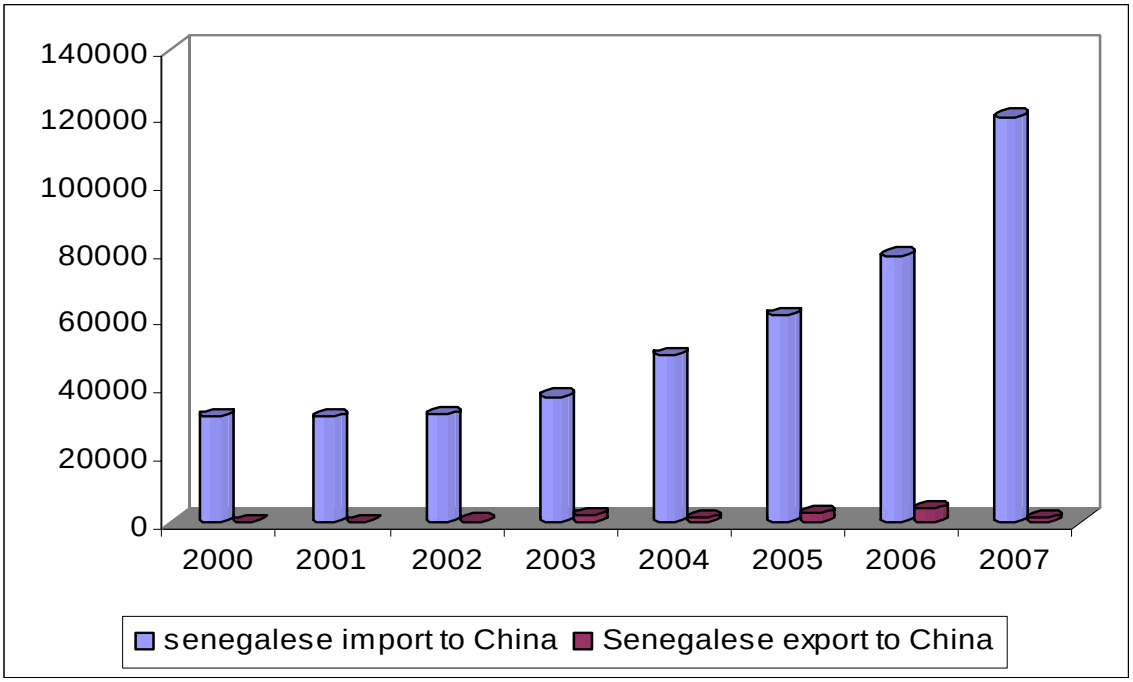
Source: République du Sénégal, 2007.

Annex 6. Share of exports to China in total Senegalese exports, 2000-2007



Source: République du Sénégal, 2007.

Annex 7: Senegalese imports and exports with China (CFA millions)



Source: République du Sénégal, 2007.