



LUND UNIVERSITY
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Master programme in International Economics with a
Focus on China

The Competitiveness of Export-Oriented Garment Industry in Guangdong (China) in the Post-Crisis Era

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Abstract: Garment industry is the most traditional and the most fashion industry in the world. The sales of the world textile and apparel goods are only lower than the tourism industry and information industry which means it is the world's third largest industry. As the leading province, Guangdong's output, value and export amount of production rank first in the nation for many years. Despite the rapid development, some problems still expose in Guangdong garment industry. There is a trend showing that the status of the largest garment export province is replaced by Zhejiang Province in these two years. Since the year 2008, Guangdong's garment industry has to face both domestic and external difficulties, such as the RMB appreciation, the financial crisis, the global economic downturn, lower export tax rebate rate and the rising labor costs, raw material prices, etc. In the post-crisis era, careful study on the international competitiveness of garment industry in Guangdong is very necessary and urgent. In this study, the RCA and Michael E. Porter's "Diamond Model" are used to evaluate and analyze the industrial competitiveness. The RCA indicates that during the crisis and post-crisis era, Guangdong garment industry still has industrial competitiveness but the competitiveness is on a downward trend. Discussing within the Porter's "Diamond Model", Guangdong still has advantages in comparatively low cost labor force, complete chain of textile and garment industry and lots of specialized industrial clusters. But with the increase of costs, shortage of land and labor, lack of own brands and domestic demand, low profit rate and strong rivals, Guangdong's garment industrial competitiveness seems to become weakened. As the amount of export could reflect the competitiveness in a way, four regressions are generated to detect the factors affecting the export. Some suggestions are raised for upgrading the industrial level.

Key words: industrial competitiveness, export-oriented, garment industry, post-crisis era, diamond model

EKHR31

Master thesis (15 credits ECTS)

August 2010

Supervisor: Martin Andersson

Examiner: Christer Gunnarsson

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I INTRODUCTION

I.1 General Motivation

Guangdong, as the main province of foreign trade, has retained to be the champion of export trade in China. The industrial competitiveness of export processing enterprises in Guangdong Province directly affects the level of China's export. However, in the financial crisis, the export manufacturing sector in Guangdong province suffered an unprecedented hit. But with the world economic improvement and the timely and appropriate adjustment according to its actual situation, Guangdong quickly entered the recovery phase.

In this thesis, I suppose to assess the industrial competitiveness of the export manufacturing industries especially focusing on the garment industry of Guangdong province, analyze the factors affecting industrial competitiveness in the post-financial crisis era. Moreover, some suggestions are made on reorganization and upgrading of the industrial structure of the garment industry in Guangdong Province for enhancing ability to withstand the financial crisis in the future.

The reason for selecting the export-oriented garment industry as the study object are: 1) The export-oriented garment industry is a traditional pillar industry and takes a great proportion of the export-oriented manufacturing enterprises through these years, we could take it on behalf of the traditional industries. 2) As the whole world suffered from the financial crisis then most of the countries are affected by it. In the post financial crisis era, China's performance is remarkable and thus draws huge attention and discussion. The evaluation of the industrial competitiveness of Guangdong, which is the top export province, has particularly practical significance and application value.

I.2 Method and Structure

In this study, two approaches are applied to analyze the industrial competitiveness of Guangdong garment industry. For the quantitative aspect, I use the displayed indicator which is called the Revealed Comparative Advantage Index(RCA) to show the industrial competitiveness of Guangdong garment industry. For the qualitative aspect, the discussion of the Guangdong garment industrial competitiveness within the Porter's

“Diamond Model” will be done. Four models are generated to analyze the factors affecting the industrial competitiveness.

The remainder of this paper is organized into six sections. Section 2 is about the background of this topic. Section 3 is the literature review of the competitiveness concept, the industrial competitiveness of China and Guangdong Province and the factors affecting the competitiveness of garment industry and so on. Section 4 introduces the theoretical basis including the comparative advantage theory and the Michael E. Porter’s “Diamond Model”. Section 5 discusses the competitiveness of Guangdong garment industry by the quantitative approach and the qualitative approach. Section 6 uses 4 models to detect the relevant factors affecting the export. Section 7 concludes the whole thesis and gives some suggestions on enhancing the competitiveness of Guangdong garment industry.

I.3 Potential Limitations

Lots of the literatures have talked about the export industry in China, but just a few of them are focusing on the both Guangdong Province and the garment industry. Furthermore, in these studies, very few of them use both the RCA and Diamond model to analyze it so that there is not too much material for reference and comparison.

Due to the significant fluctuations in exchange rates after the reform and opening up and the frequent changes in policy during these years, it is hard to distinguish what are the main factors affecting the industrial competitiveness of Guangdong garment industry.

As a developing country, the statistics of China still needs to be improved. Because of the limitation of statistics and the poor statistical standard and the continuity of statistics, I can just choose 21 years for the regressions.

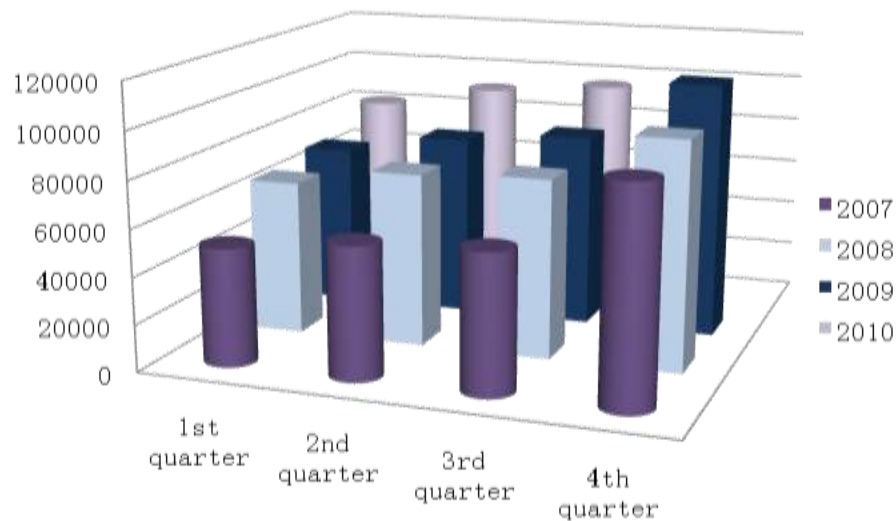
II BACKGROUND

In October 2008, the U.S. subprime mortgage crisis turned to be a global financial crisis, leading to the worldwide economic recession. The financial crisis and economic recession are the most serious events since the Great Depression in 1930s, which impact on the international financial system and the world economic development may be accurately assessed after a number of years. However, the experience of last depression, combining with the

extraordinary fiscal and monetary policy stimulus of countries, as well as the cooperation of the world make the crisis and the recession curbed soon.

Data and indications show that the first season of 2009 was the worst period of the crisis in China, while in the second season of 2009, economic and financial situation became stabilized, and after that, slow recovery occurred in the third quarter of 2009. In the fourth quarter, GDP increased rapidly and it sustains a good tendency until now (Figure 1).

Figure 1: GDP of China (100million Yuan).



Source: China statistical yearbook.

During the international financial crisis period, China's economy had undergone a severe challenge. The timely and decisive policies and measures made by the Chinese government rescued the Chinese economy from a recession, quickly reversed the downward trend growth rate, or even recovering rapidly now. But the international financial crisis and world economic recession have seriously affected China's foreign trade development. Guangdong is the most important province of China's foreign trade and its ratio of dependence on foreign trade is very high. The international financial crisis leads foreign trade in Guangdong province to serious decline, and highlights the vulnerability of Guangdong's economy. Therefore, we are faced with a new task which is to analyze the effect of the financial crisis as well as the opportunities and challenges of foreign trade and economic development in Guangdong during the Post-financial crisis era.

II.1 The Post-Financial Crisis Era

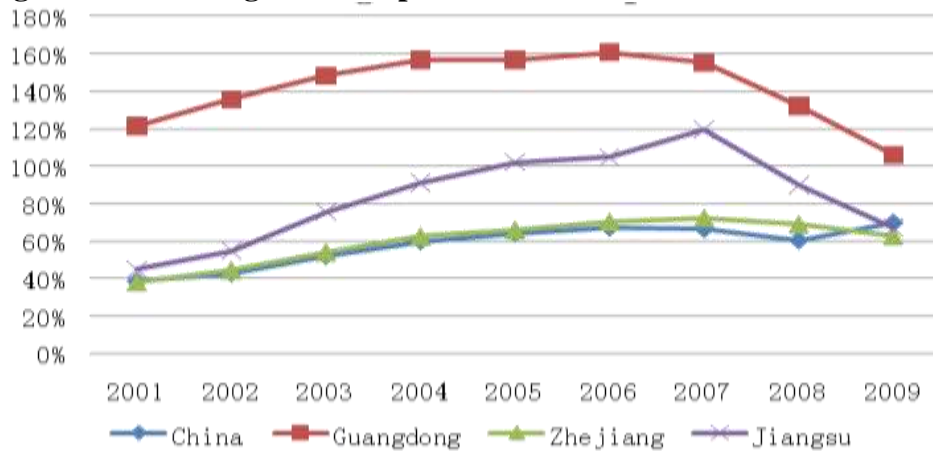
The theme of 40th World Economic Forum, held in Davos, Switzerland from January 27th to 31th, 2010 is "Rethink, Redesign and Rebuild.". Following this theme, the 2500 participants made a wide range of full discussion on the world economic recovery prospects, the international financial system reform and so forth. During the 5 days conference, the term "post-crisis era" appeared many times in the topic of discussion among the delegates, becoming one of the key words of this forum. But at present, "post-crisis era" still has different interpretations. Overall, the post-crisis era is referred to, as the relaxation of the international financial crisis, the world economy has entered a relatively stable period. However, the inherent contradiction could not be completely resolved, thus there are still many uncertainties of economic development in the post-crisis era. Yuhong An(2010) mentioned that the global economic structure is experiencing a gradual transition from a serious imbalance to balance in this era. The balance between developed countries and developing countries are emerging gradually. But during the changes, inevitably there are many contradictions and friction.

II.2 Foreign-Trade Dependence

Foreign-Trade Dependence is an indicator for reflecting the dependence of the local economic growth on foreign trade of a region. From the perspective of the final demand fueling economic growth, this indicator also reflects a region's export-oriented degree. When only observing the impact of the international market demand on the region's economic development, the impact of import on the local market could be ignored. The calculation of "Foreign-trade dependence" is: The amount of export divided by GDP, then multiplies one hundred percent. The greater the ratio is, the more dependent of the region's economic development will be. And the higher ratio could reflect the international market recognition of the product in the region. As we could see in the Figure 2, although the Guangdong's dependence ratio is decreasing, it is still much higher than the mean ratio of China or even the other two most important provinces of foreign trade in

China. So we can conclude that Guangdong's export-oriented enterprises would be affected most severely

Figure 2: The foreign trade dependence.



Source: Statistical Society for Foreign Economic Relations and Trade of China.

II.3 Industrial Value Added

Industrial added value refers to the final results of industrial enterprises performance in a period in the form of currency. By deducting the value of material of consume or transfer in the production process as well as the labor cost from the total value, we can get the added value. General speaking, industrial value added is the GDP of industrial sector. Since the 2001, the yearly rise of industrial value-added is positive except two months which are January of 2001 and February of 2002. The rise average through this period is about 16.32%. However, as we can see in the Figure 3, there is a declining trend of the rise during the financial crisis era. The rise dropped from 20% to less than 5% from 2007 during the crisis. But from the first quarter of 2009, the rise turns to increase rapidly again.

Figure 3: Industrial value-added of Guangdong Province.



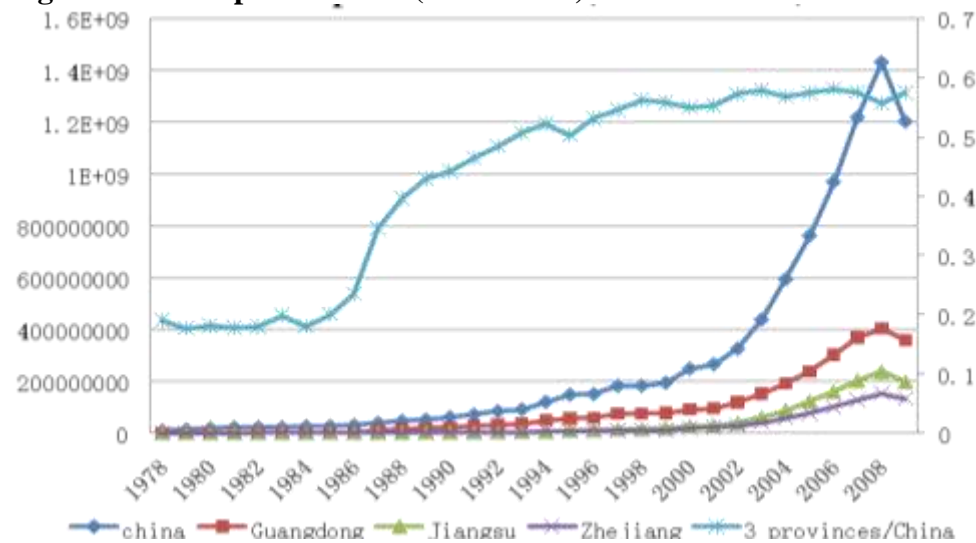
Source: China Data Online.

II.4 Import and Export

Since the reform and opening-up from 1978, the import and export amount of China have increased rapidly especially in the first decade of 21st century. Guangdong keeps the first place of export amount through this period. Comparing to the other two important export provinces, Zhejiang and Jiangsu, the advantage of Guangdong is much higher. However, because of the financial crisis, the export amount, not only Guangdong but also the other two provinces, decreased in 2009 dramatically.

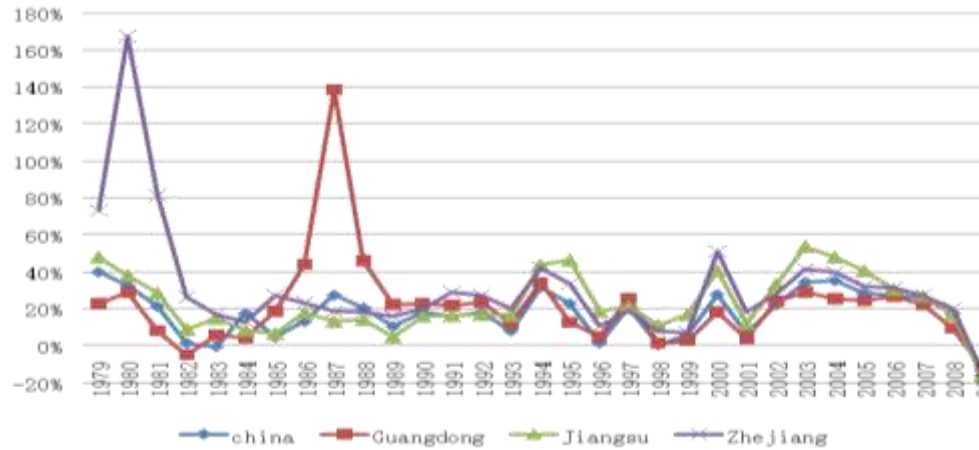
Figure 4 shows the export during the period from 1978 to 2009 as well as the export ratio of the three strongest export provinces accounting for the total export of China.

Figure 4: The export amount (10000 USD).



Source: China statistical yearbook, Guangdong statistical yearbook, Jiangsu Statistical yearbook, Zhejiang statistical yearbook.

Regarding to the increase ratio year by year, most of the increase ratios during these years are positive. While there were two export peaks of Zhejiang province in 1980 and of Guangdong Province in 1987. But during the financial crisis, from 2007 to 2008, the increase ratios declined. In the post-crisis era, all the ratios dropped a lot, or even became around -15%. It never appeared in the recent decades in China. From the Figure 5, we can imagine how heavily have China been hit by the financial crisis.

Figure 5: Export increase ratio year by year.

Source: China statistical yearbook, Guangdong statistical yearbook, Jiangsu Statistical yearbook, Zhejiang statistical yearbook.

Guangdong, as a traditional export-oriented province in China, has a long history of foreign trade. Facing of crisis, Guangdong with its rich experience shows better than the other provinces. As we can see, in the Asian crisis, the increase ratio of Guangdong was higher than the others. And in the recent financial crisis, though all the provinces are suffering a difficult condition, Guangdong's performance is better than the performance of other provinces also.

Table 1: The increase ratio of the two Crisis.

	China	Guangdong	Jiangsu	Zhejiang
1997	21.0158%	25.6429%	21.4468%	18.9082%
2009	-16.012%	-11.191%	-16.297%	-13.779%

Source: China statistical yearbook, Guangdong statistical yearbook, Jiangsu Statistical yearbook, Zhejiang statistical yearbook.

Guangdong, as the biggest export processing trade province in China, faces the shrinking global market demand during the financial crisis. Most of the export industries of Guangdong province have been severely affected, resulting in the contraction of industrial production, GDP growth declined. However, following by the post-crisis era, with the world economic recovery, Guangdong's industrial and export situation became stabilized

gradually. Figure 6 shows the import and export situation focusing the crisis era and post-crisis era in Guangdong.

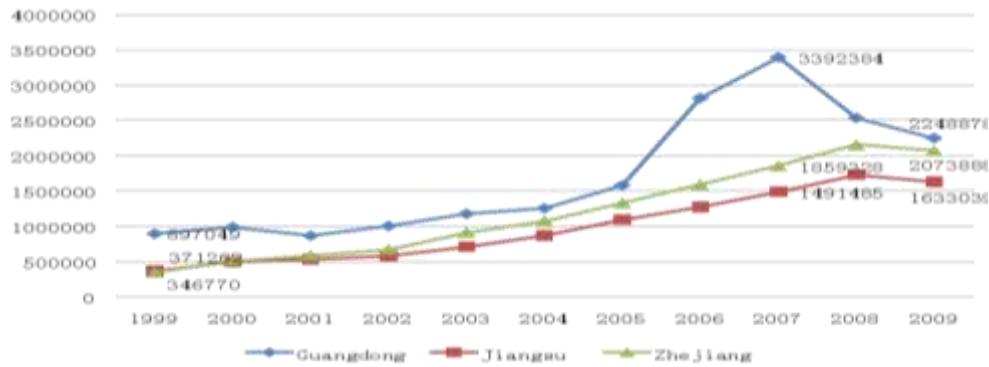
Figure 6: Total import and export of Guangdong Province (10000 USD).



Source: Department of Foreign Trade and Economic Cooperation of Guangdong Province.

The data above shows about the export status of the whole industrial sector, the following is focusing on the garment industrial. Garment industry as one of the three most traditional pillar industries in Guangdong, its importance is reflected in the export. In the prophase of reform and opening up, Guangdong relying on the geographical advantage, the preferential policies and the low labor cost attracted most of foreign investment on processing industries and export the products. Garment export accounted for a large proportion. As the Figure 7 shown, the total export value was about 2.5 times as the value of Jiangsu and Zhejiang. Because of the abolition of global textile trade quota system from January 2005, the export of garment and clothing accessories showed an explosive growth. But during the crisis, the export value declines dramatically of Guangdong Province. The total value of Guangdong was higher than the other two provinces, but the gaps became narrow significantly.

Figure 7: Total export value of garments and clothing accessories (1000 USD).



Source: *Guangdong statistical yearbook*, *Jiangsu Statistical yearbook*, *Zhejiang statistical yearbook*.

The figures above depict a general situation of the economic status in China and the export-oriented provinces especially focusing on Guangdong. From the graph of China's GDP, we can conclude that China is recovering from the crisis gradually. Guangdong's industrial value-added as well as the import and export value tell us that the worst stage of the crisis has gone. Coming to the post-crisis era, Guangdong shows its strength in industry and foreign trade once again.

But comparing to the other two strong exporting provinces, Guangdong's export competitiveness especially the competitiveness of garment industry still faces the pressure of overtaking by the competitors when we look at the data of export increase year by year and the total export value of garment industry.

III PREVIOUS RESEARCH

For different demands of daily life and production, each country would develop different industries. And depending on their development strategies, countries would emphasize on heavy or light industries. However, if one industry became a pillar industry, it should have strong industrial competitiveness. The following literatures are focusing on the concept of competitiveness, the industrial competitiveness of China especially on Guangdong garment industry as well as the factors affecting the competitiveness. Through the review of these literatures, it is better for selecting the appropriate theories to study the industrial competitiveness of Guangdong Province.

III.1 Competition and Competitiveness

In this study, I want to discuss about the industrial competitiveness. Thus, it is necessary to consider the meaning of competitiveness.

The premise of competitiveness should be competition. No competition, no competitiveness. The explanation of "competition" in *New Palgrave Dictionary of Economics* is: "Competition is the race between the individuals (or groups); there will be competition where two or more parties trying to get something what is not each of them can get." Competition is the soul of the market economy. Precisely because of the need of competition, the competitors took all means to seek their competitive advantages in ancient times, this also resulted in competitiveness.

And what is competitiveness? Organization of Economic Cooperation and Development provides the following definition on it in the "Technical and Economic Plan": "Competitiveness can be defined as, in the open market conditions, a nation produces goods and offers services to meet foreign competition tests, then competitiveness stands for the extent of maintenance and enhancement of domestic real income." European Productivity Center believes that: "Competitiveness is the attitude of continuously pursuing improvement in the real life." Countries with strong competitiveness having the same characteristic is that promoting long-term growth is the aim of the power sector and new policies implement. It is not only the pursuit of economic prosperity, but also to achieve sustainable development and to improve people's quality of life.

IMD (International Institute for Management Development) says that the competitiveness is the ability of a country to create added value. That is, relying on the original state assets and operating through positive integration to form a self-economy, social model for increasing wealth. Michael E. Porter(1990) defines competitiveness as the capability of a country to create "business environment" for the industrial development. Fan Gang, the Chinese scholar believes that "competitiveness refers to the position of commodities in the international market of a country."

The general definition of competitiveness should be the competitiveness equation put forward together by WEF (World Economic Forum) and IMD in the 1980s, which is "Competitiveness = competitive assets * competitive

process." The so-called assets are inherent (such as natural resources) or created (such as infrastructure), the so-called process refers to change assets into economic results (such as manufacturing). And then the competitiveness generates through internationalization.

According to the different main bodies of competition, Wenzhi Wang(2010) points out that, the competitiveness could be sorted into four levels, namely, product competitiveness, enterprises competitiveness, industrial competitiveness and national competitiveness.

The applications of competitiveness cover a wide range, no matter in the field of economy or politics, but also individual or organization. What is competitiveness, however, there has been no a unified understanding of the academia.

III.2 Industrial Competitiveness

Competitiveness is applied in many aspects. Garment industry belongs to the light industry so that the industrial competitiveness should be considered.

Boltho(1996) points out that the international competitiveness of industry is "the maximum possible productivity growth with the consistent of the external balance."

Bei Jin(1997, 2003) believes that under the conditions of free trade, the industrial competitiveness is the overall quality of a country's particular industry which is better than similar industries in other countries to provide products or services more effectively.

Fang Cai(2003) recognizes that industrial competitiveness is a dynamic concept. It is the capability of response and adjustment of a nation's industry according to the country's natural resources structure (expressed as a comparative advantage). It mainly reflects the industry's overall allocation of resources of a country or region. The grade of industrial competitiveness is directly related to the compliance with the principle of comparative advantage.

Michael E. Porter(1990), the American scholars focuses on the industrial level to discuss the international competitiveness and he takes country as the main body in his discourse. Sometimes, he even uses competitive advantage

of nations to replace the industrial competitive advantage. When he stresses the main body of industrial competitiveness, it does not indicate that his study areas change from industrial competitiveness to national competitiveness. Of course, whether it is the product competitiveness or industrial competitiveness, they can both show the real economic competitiveness of a country, to a certain extent, reflect the country's competitiveness.

Numerous studies on how countries enhance their industrial competitiveness in recent years mainly focus on the OECD countries and developing countries. So the studies should be sorted into two directions. One is looking at the innovation, the functioning of labor and capital markets, education systems, the linkage between basic and applied research or the efficacy of management systems, the other is looking at the orientation of trade and industrial policies, combining with the debate on export-oriented versus import-substituting strategies, to the neglect of the “structural” factors that the former studies focus on.

III.3 China's Industrial Competitiveness

The literatures above are discussing about the industrial competitiveness in terms of nation. The following studies are also talk about the industrial competitiveness at the national level, but they are focusing on China.

In the current financial crisis, Chinese industry shows a significantly enhanced competitiveness and risk-resisting ability, thus it can maintain economic growth above 8% while the world economy facing severe recession in 2009. In the post-crisis era, even there is still a great impact on export-oriented industries, China's industrial products in international market share remains the momentum of continuous improvement. Bei Jin(2009) comments that China's comparative advantage in labor-intensive industries will exist a long time, and the industry will continue to enhance the competitive advantage with the premise of their comparative advantage. At the same time, the new labor-intensive industries and the upgrading of human resources will become the new industry comparative advantage of China. The evolving industry structure and the new cost control mechanisms are two of the keys of maintaining and enhancing competitive advantage.

Through this financial crisis, China will form a number of enterprises with international competitiveness, including private enterprises and large state-owned enterprises and enterprise groups.

Shiguo Zhang(2009) considers that because of the increasing costs, the lack of international brands and key technical support and other factors, China`s manufacturing advantages in the crisis situation suffer unprecedented difficulties. Based on the 30 years of development and accumulation during the reform and opening up period, China's manufacturing capacity in the global industry is unique, systematic and complete. India, Vietnam and other countries which having the advantages of low labor costs, still cannot compare with China's manufacturing advantage for a long time in the future because of their lack of the comprehensive advantages of a complete industrial chain. Central Asia, Africa and Latin America have cheap labor force and abundant natural resources as well as the local government have worked out preferential policies to revitalize the manufacturing sector. But their manufacturing industry is also highly undeveloped as well as the local industrial supporting capacity. The investment efficiency of many manufacturing enterprises invested by China in these areas is not satisfactory either. In addition, affecting by the financial crisis, more and more Chinese manufacturers start attaching importance to the R&D, branding and marketing in order to work out of the low-end manufacturing. It is important to the future development of china manufacturing path. Moreover, China has great potential to implement import substitution with developing advanced manufacturing. These are the important directions of Chinese manufacturing industry upgrading for the future development.

III.4 Guangdong Industrial Competitiveness

Due to the vast territory of China, the comparative advantages in different regions are different which leads to different industrial competitiveness.

Through 20 years of development, Guangdong has completed structural changes of export from primary products to industrial products. In the low-skill labor-intensive industries, Guangdong has maintained a strong international competitiveness. However, such competitiveness is constantly facing the heavy pressures from the domestic and international markets. It is

mainly because of the homogeneity of such export product from these regions, the relatively low price elasticity of demand of primary products and the adjustment of export tax rebate policy. In the long run, Guangdong's competitive advantage follows a weakening trend. Furthermore, the export competitiveness of machinery and transport equipment industries is yet need to be improved significantly. Basic raw materials and high-tech industries are too weak to constrain industrial upgrading. The export products of Guangdong contains low added value and Guangdong is at the lower order of international division of labor. Yong Lin, etc.(2006) sum up these characters and made a number of strategies to enhance the export competitiveness of Guangdong Industry.

Haibo Zhang, Jiahong Li etc.(2010) through using the factor analysis to evaluate the competitiveness of manufacturing industry in Guangdong. They got the result as the competitive advantage industry in Guangdong Province is the capital and technology-intensive industry while labor-intensive industries have gradually lost their competitive advantage. The competitive advantage is obvious in the sectors of electronic and communication equipment manufacturing, electrical equipment manufacturing and other pillar industries. Three new industries (electronic information, electric machinery, petroleum chemical industry) show strong competitive advantage while the automotive, electronics and other high-tech industry has become more and more competitive. In general, the competitiveness of manufacturing industry has mainly changed from the labor-intensive industries to capital and technology-intensive industries. After the explosion of financial crisis, under the constraint of frequent changes of RMB exchange rate, price volatility of raw materials and the cost increases of production factors such as land and labor, some of the traditional labor-intensive industries have lost their original edge. Thus, no matter the structural bottlenecks in the development of Guangdong manufacturing, or the cooperation of regional development shows that there will be an unstoppable trend of upgrading the industrial structure of Guangdong's manufacturing.

Through the factor analysis on the size, benefits, internationalization, growth potential and so on of the high-tech industries in Pearl River Delta, XiaoZhi Ding etc.(2009) conclude that the competitiveness of high-tech industry is gradually increasing represented by the expanding of the scale of industrial development.

By summing up their opinions, Guangdong's previous industrial competitiveness of labor-intensive industries would be replaced by the high-tech industries.

III.5 The Impact of Guangdong Export Processing Trade on the Industrial Competitiveness

Guangdong, as an export-oriented province, is benefit a lot from the export trade since the reform and opening up.

Yuncaï Liu etc.(2006), Xiangyin Li(2005) consider that the rapid growth of export processing trade promotes the Guangdong manufacturing industries and regional economic prosperity. Moreover, it plays an important role in attracting foreign investment, introducing advanced technology, equipment and scientific management methods, increasing foreign exchange, resolving the problem of employment and participating into the international division of labor. Through developing the processing industries, a lot of money, technology and management methods are accumulated. Hence it has played an irreplaceable role for enhancing the overall level of Guangdong industries.

III.6 Guangdong Garment Industrial Competitiveness

Garment industry plays an important role in the economic development of Guangdong. Depending on the abundance of low cost labor forces, geographical advantage and preferential policies, Guangdong's garment industry keeps high competitiveness in the recent decades.

Guangdong Provincial Government and the China Textile Industry Association jointly issued 'the report of textile and garment industrial competitiveness in Guangdong Province 2003' shows the output of the textile and garment industry ranks second among the manufacturing industries which is only lower than the tobacco industry in Guangdong. It is

an important local finance source and the pulling force of the local economy. Textile and garment industry is the main foreign trade industry in Guangdong Province, and its trade surplus accounted for 46.24% in 2002 of the total trade surplus of Guangdong. The scale of foreign investment ranked first in the entire industry. The report summed up the rapid development of the textile and garment industry was mainly due to competitive advantages of their products from the reform and opening up. These advantages include: 1) The cost advantage. Since the large-scale use of migrant workers, the enterprises save a lot of labor cost. 2) Scale advantages. The pillar foreign enterprises in Guangdong generally achieve economies of scale, and a large number of local large enterprises form many industrial clusters in Guangdong. 3) Quality advantage. Guangdong's export products have superior quality and fancy varieties which are better than other provinces and cities in the Mainland. 4) Technological advantage. Because of a lot of foreign capital invests in the textile and garment industry which brings advanced technology and equipment as well as the advanced management mode in this field. But at the same time, the report also pointed out that there is still an obvious gap of the quality level between Guangdong and the developed countries. The weak capacity of independent innovation, the low value-added of export products, mainly based on the processing trade and OEM production are the basic disadvantages of Guangdong textile and garment industry. Although the upstream and downstream production scale of the textile and garment industry in Guangdong Province is large, the industry is lack of industry chain effect. The products within the cluster are similar and the linkage of different clusters is weak. Thus, the research group of this report gives some suggestions on ten mainly fields, which are quality, technology, brand, labor force, enterprise, industry clusters, regional advantage, industrial upgrading, intermediary services, to improve the competitiveness in Guangdong Province.

Yonghua Yang and Hong Deng(2009) did a research on the international competitiveness of garment industry through the analysis of production supply and demand, cost and price, technical level and the calculation of some quantitative indicators such as the international market share(MS),

trade specialization index, revealed comparative advantage index(RCA). By using these methods, they concluded that the competitiveness index of Guangdong garment industry is declining significantly comparing to other provinces, such as Jiangsu Province, Zhejiang Province. They pointed out that the main reasons for the decline are: largely based on the processing trade, less self-brand, similar product, low added value, low level of industrial technology and equipment, weak innovation, old business models, weak sense of the modern capital, incomplete public service system and over-dependence on the government policy.

Tao Zeng(2009) using SWOT analysis to show the international competitiveness of Guangdong garment industrial enterprises under current global financial crisis. By analyzing the strengths, weaknesses, opportunities and threats, he provided a variety of development strategies to deal with crisis or even seize the opportunity for the textile and garment enterprises in Guangdong Province. With the analysis, he pointed out that Guangdong had the advantage of sufficient labor force, good industrial competitiveness and economic environment as well as it also had some disadvantages such as the low-level processing trade, lack of innovation, weak brand and low profitability and so on.

Ping Hu(2010) summed up that the garment industry as a traditional industry still had comparative advantage from the international comparison point of view by applying the comparative advantage theory and calculating the Normalized Trade Balance(NTB), Revealed Comparative Advantage(RCA) and Revealed Competitive Advantage Index(CA). With the development through these years, the garment industry has formed a large scale and relatively complete industrial system. It has advantages on not only the size but also the technology in China. For these advantages, Guangdong always ranks the first of foreign exchange-earning and the total export products. However, according to her calculations, the comparative advantages of Guangdong garment industry had declined comparing to the advantages of other strong garment exporting provinces such as Jiangsu and Zhejiang. She pointed out weaknesses of the textile and garment industry in Guangdong Province based on the indices, such as the low industry profit,

the lack of brand, lag of product upgrades, over-reliance on exports, increase of production costs, the lack of government attention and weak response capability to the market. Then she suggested that the traditional comparative advantage of Guangdong textile and garment industry had gradually lost while there was no new competitive advantage in these years. In the long run, it will inevitably lead to a worsening terms of trade. Therefore, the upgrade path of the textile and garment industry should be based on not only " comparative advantage " but also " competitive advantage ", that is, relying on the traditional basis of comparative advantage, develop new comparative advantage.

Jin Zhihao(2008) also believed that textile and garment industry was a traditional industry which has an obvious comparative advantage. It played an important role of exports, employment, capital accumulation, economic growth and so on. After the abolition of quotas, China's textile and garment in the face "special protection" and anti-dumping situation, Guangdong still showed its strong advantage. According to customs statistics, in 2007, the export value of Guangdong textile and garment was more than 41.9 billion U.S. dollars, which was 2 times of the value before the abolition of quota. However, because of RMB appreciation, rise of labor costs and raw material prices as well as the lower export tax rebate rate, etc., Guangdong's textile and garment industry entered a stage facing the domestic and external difficulties. He used the Porter's Diamond Model for the qualitative and systematic analysis of the textile and garment industrial competitiveness in Guangdong. By using the data of 2005 and 2007 to compare with the data of previous years before the abolition of quota, he did a quantitative analysis for the international competitiveness of textile and garment industry as well. Youhuan Li(2006) analyzed the new features of global textile and garment market and the opportunities faced by the Guangdong Province since the abolition of global textile trade quota system from January 2005. He pointed out that the abolition of quota led to the fairer and free export environment, the expansion of export markets and reduction of the exporting cost as well as the reduction of the phenomenon of rent-seeking. All of these would be beneficial to the rapid export growth and the

cooperation with foreign capital. At the same time, the rapid growth of exports would easily lead to trade friction. The disregardfulness of the traditional industry by the government is the main reason for the lack of motivation to enhance industrial competitiveness of textile and garment industry. The instability of export tax rebate and the change of tariff policy hindered the smooth progress of the export trade. Shortage of migrant workers and the general rise in labor wages trailed off the advantage Guangdong garment exporting advantages. The pressure of RMB appreciation turned to be a potential pressure of export. Therefore, he proposed that the textile and garment industry should follow the road of upgrading industrial clusters, attracting foreign capital and introducing advanced technology and equipment.

III.7 Comparison of Garment Industry in Vietnam, India And China

Since the reform and opening up, the Vietnam Government attaches great importance to the development of textile and garment industry and treats them as a major export industry. Vietnam export textile and garment since 1993, and the exports of textile and garment industry have been ranked second which is only less than the oil exports from the year 1998. After successive years of growth, the growth rate of export products of textile and garment can be described as champion in Vietnam. Now, more than 80% of total production is for export.

Ning Li and Tianyi Ma(2007) pointed out that as the main textile and garment exporting countries, China and Vietnam have strong structural complements. So competition and cooperation will co-exist in the field in a long term. Vietnam as an emerging exporter of textile and garment shows strong competitiveness after the accession of WTO. With quota-free, the relatively low labor costs and the improving trade environment, the textile and garment industry of Vietnam is bound to affect the industry in China significantly especially at the part of export. They applied the Porter's diamond model to analyze the competitiveness of Vietnamese garment industry and compare the advantages and disadvantages of China and Vietnam as well as put forward some strategies for dealing with the challenge.

The status of the textile and garment industry is also very prominent in India as it is one of the world's largest developing countries. Whether from the provision of employment, or from the value of export, the textile and garment industry has played an important role in the national economy in India. Thus, it is considered as one of the pillar industries supporting by the Indian Government. The output value of in this sector accounted for 14% of national industrial output value and the export value accounted for 26.9% of the total textile and garment exports in 2001.

Hong Zhao and Guma Huang(2004) analyzed the position of textile and garment industry in the national economy, raw material resources, human resources, equipment, technology, export capabilities, export markets, China and India bilateral trade, trade policy in India comparing with China and then drew some conclusions. He pointed out that China and India had similar resources for textile and garment industry, but the competitive advantages were not completely the same. For instance, China's textile industry had a broader domestic market than India. While China had obvious advantages in resources and it had a relatively complete industrial system. Because of the accession of WTO, the external market became broader. But there are some disadvantages of Chinese textile and garment industry in some aspects such as the lower textile equipment level and the increasing labor cost. They suggested that as the textile products in China and India had some complements, China should increase marketing efforts to expand the export of industrial products to India instead of constraining to the raw materials in the future.

With the similar advantages in low labor cost and resources, China is facing the challenge of these two rivals.

III.8 The Impact of FDI and Clusters on the Industrial Competitiveness of Guangdong Province

Foreign direct investment affects the pattern of garment industry in Guangdong greatly. FDI brings a lot of overseas investment and technology as well as the new pattern of “processing with provided material or sample, assembling with supplied parts and compensation trade”. With the help of

FDI, the enterprises develop gradually. As the garment industry grows up, more and more industrial clusters are built up.

In the paper "The analysis of the impact of FDI on regional industrial competitiveness - take Pearl River Delta (PRD) as an example", Jun Wen et al. (2010) construct a coefficient of foreign investment enterprise competitiveness and it reveals that the influx of FDI has greatly improved the industrial competitiveness of the regional industries, particularly the non-labor-intensive industries. In addition, foreign investment promotes the formation of industrial clusters in the Pearl River Delta and greatly improves the export competitiveness of the Pearl River Delta industries. However, although foreign investment upgrades the overall competitiveness of the Pearl River Delta industries, while foreign investment competitiveness and regional competitiveness is not entirely the same. Many key aspects of production are still in foreign hands, once the foreign investment is countermanded, PRD's industrial competitiveness will become weakened rapidly.

Zejiang Wang (2005) points out that under the knowledge Economy condition, the traditional advantage based on the resource endowment is gradually losing in the regional competition. The principle of regional development is changing from basing on the comparative advantage of resource endowment to base on the competitive advantage of the innovation capability, such as resource allocation and integration. As the industry cluster can give full play to the regional integration of the various elements, it can form a variety of competitive advantages. Nowadays, fostering regional competitive advantages based on the industrial clusters has become an important way to promote regional economic development.

IV THEORETICAL BASIS

IV.1 Comparative Advantage Theory

The logical starting point of national competitive advantage theory should be absolute advantage theory which can be brought backwards by Adam Smith (1776). The theory points out that division of labor can increase productivity then leads to the increase of national wealth. The principle of division of labor is the absolute advantages of cost. Since the division of

labor can greatly increase productivity, people could benefit from producing and exchanging the most advantageous products of themselves. The international division of labor is the highest stage of division of labor. It is good for the international trade or the international exchange. The principle of division of labor which is applied to different individuals within a country or family could be applied to different countries.

In his view, all countries have some absolute advantages for some specific conditions of production. If all countries carry out specialized production and exchange products under their absolute favorable production conditions, they can effectively use their resources, labor and capital. Thereby they can effectively improve productivity and increase the country's material wealth and social welfare. He argued that if some foreign products are cheaper than the domestic products, it is better to exchange these kinds of products than produce them.

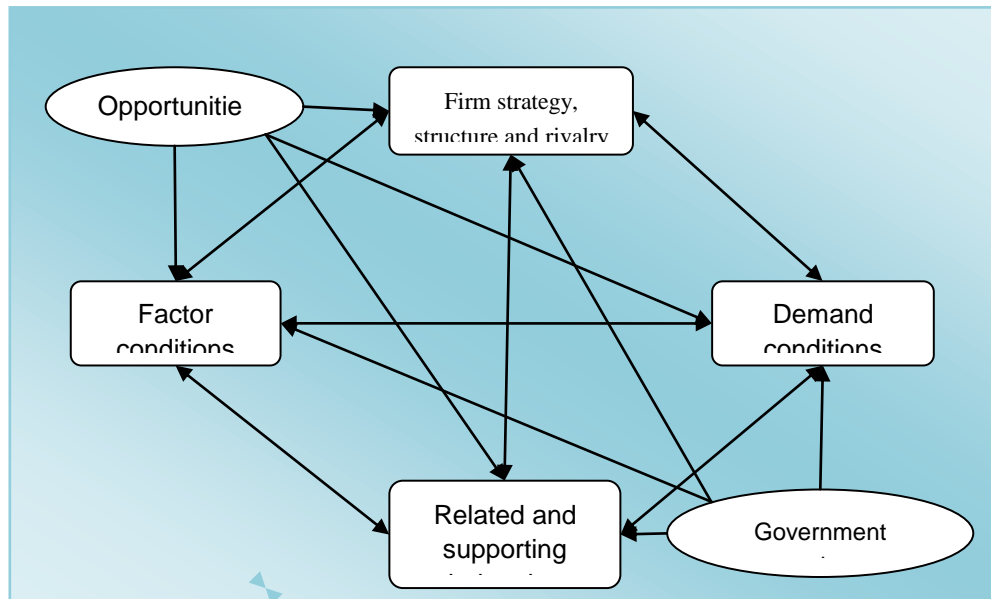
However, if there is no absolute advantage of any commodity in a country, would this country take part in the international division of labor? David Ricardo's comparative cost theory gives the answer. According to Smith, a national output of goods must have an absolute advantage and the production cost should be lower than the other countries'. David Ricardo(1817) develops this view further, he considers that the basis of international trade is not limited to the absolute difference of production technology. There will be a difference in production costs and price as long as there is comparative difference of production technology in different countries. Thus, different countries have their own comparative advantage. The international division of labor and international trade become possible and the countries can obtain more benefits through the international exchange. It can achieve the mutually beneficial trade by exporting products with relatively low costs while importing products with relatively high costs. It is quite useful to explain the reality of some trade patterns with these theories and during a long period of time, they constitute the mainstream of the international trade and division of labor theory. However, there is only a rough study on the supply factors affecting international trade while ignoring the demand factors of international trade. So there are still

considerable limitations. With the development of trade, a more coherent and convincing theory is needed. As the book "Competitive Advantage of Nations" which is written by the professor Michael E. Porter of Harvard Business School published in 1990, it shows a great development of the traditional comparative advantage theory. The "Competitive Advantage of Nations" theory (also known as "Porter Diamond Theory") achieves a leap from comparative advantage to competitive advantage.

IV.2 Michael E. Porter's "Diamond Model"

From the view of research area, the manufacturing industry competitiveness is included in the area of industrial competitiveness. Current analysis of industrial competitiveness mostly bases on the framework of Michael E. Porter's diamond theory(1990). Porter recognizes that the international competitiveness of specific industries in a country depends on six factors: "factor conditions", "demand conditions", "related and supporting industries", "firm strategy, structure and rivalry", "government action" and "opportunities". The first four factors are endogenous determinants while the rest are exogenous determinants. Factor conditions include human resources, natural resources, knowledge resources, capital resources and infrastructure. Demand conditions mainly point to the domestic market. Related and supporting industries focus on whether these industries and the related upstream industries are internationally competitive. Firm strategy, structure and performance refer to the competitors. Porter believes that the four factors affect each other in a two-way form in the diamond model. In addition to the four factors, there are two factors more: the government and opportunities. Opportunities are beyond control and the impact of government policies cannot be ignored.

Figure 8: Michael E. Porter's "Diamond Model".



Source: *Competitive advantage of nations*.

1) Factor Conditions

Factor conditions refer to inputs used, like factors of production - such as labor force, natural resources, land, capital and infrastructure which sounds similar to standard economic theory. However, Porter argues that the "key" factors of production (or known as specialized factors) are created, not inherited. They are skilled labor, capital and infrastructure.

"Non-key" or general use factors, for instance raw materials and unskilled labor can be obtained by any firm and of course these kinds of factors cannot generate sustained competitive advantage. However, specialized factors are more difficult to duplicate because they involve heavy, sustained investment. Thus these factors lead to a competitive advantage. They are valuable if other firms cannot easily duplicate them.

Porter argues that a lack of resources often actually promotes countries to become competitive (called as selected factor disadvantage). Such countries devote themselves innovating to overcome their shortage of scarce resources.

Switzerland was the first country to face the matter of labor shortages. To solve this problem, it abandoned labor-intensive watches and concentrated on innovative/high-end watches.

Japan has high priced land, thus the land space can be used for manufacturing is limited. This leads to just-in-time inventory techniques

focusing on high-quality electronics and cars, for example Sony, Panasonic, Toyota, Honda, etc.

Sweden has a short building season and high construction costs. These two restrictions created the need for pre-fabricated houses.

2) Demand Conditions

Porter points out that a sophisticated domestic market is an important element to upgrade competitiveness. In such a market, firms have to sell superior products because the market demands high quality and a close proximity to such consumers enable the firm to understand the needs and desires of the customers better.

If the nation's discriminating values spread to other countries, then the local firms will be competitive in the global market.

3) Related and Supporting Industries

Porter also argues that a set of strong related and supporting industries which include suppliers and related industries are very important to the competitiveness of firms. And the studies usually focus on a regional level in regard to the national level.

He reminds us that the phenomenon of competitors, and with upstream or downstream industries as well, locating in the same area is known as cluster. What are the advantages and disadvantages of locating within a cluster? One advantage locating closer to your rivals may be to profit from the potential technology knowledge spillovers. One disadvantage locating nearer to your rivals is the potential poaching of your employees by rival companies and the obvious increase in competition costs. However, clusters will increase local industrial competitiveness, as well as the national competitiveness as a result of the race among rivals.

4) Firm Strategy, Structure and Rivalry

(1) Strategy

Capital Markets

The strategy of firms would be affected by the domestic capital markets. Some countries' capital markets have a long-run outlook, while others have a short-run outlook. Industries vary in length of the outlook. Countries with

a short-run outlook will tend to be more competitive in industries where investment is short-term. Countries with a long run outlook will tend to be more competitive in industries where investment is long term.

Individuals' Career Choices

Individuals make their career decisions mainly based on opportunities and prestige. A country will be competitive in an industry if the firms could offer prestigious positions to the key personnel.

(2) Structure

Porter argues that no unique management model fits each country which means the best management styles vary among industries. Some countries may be oriented toward a particular style of management. Those countries will be more competitive in industries for which that style of management is suited.

(3) Rivalry

Porter points out that intense competition would always spurs innovation. International competition is not as intense and motivating. Through the international competition and comparing the corresponding products, firms can get new ideas to satisfy the market demand locally.

5) Implications for Governments

The government plays an important role in Porter's Diamond Model. Porter argues that there are some things that governments do which they shouldn't while other things they don't do, should be done. He points out in the article that "Government's proper role is as a catalyst and challenger; it is to encourage or even push companies to raise their aspirations and move to higher levels of competitive performance ..."

Governments can influence all four determinants in the model through different ways, such as subsidies to firms, either directly (money) or indirectly (through infrastructure), tax concessions for corporation, business or property ownership, educational policies that affect the skill level of workers, etc.

Through these actions, it becomes clear which industries they would prefer to help innovating and by which methods.

6) Opportunities

Opportunity could influence four factors. Porter points out that for the development of firms, the opportunity may be formed generally in these ways: invention of basic science; gap in traditional technology; external factors leading to a sudden increase in production costs (such as the oil crisis); major changes in financial markets or exchange rates ; leap in market demand; the Government's major decision-making; war and so on. In fact, opportunities often give the new competitors a certain advantage while the old competitors lose it. Obviously, only who can meet the new demands of the market will catch the opportunity.

7) The Diamond as a System

The six factors mentioned above in the diamond model constitute a system and are self-reinforcing. Every competitor in the market will face these six factors more or less.

8) Criticisms of Porter's Model

Porter's theoretical framework is renowned for its initiative and rich meaning, but it is not perfect. In fact, since the Porter brings forward the "Diamond Model", it causes extensive discussions in economic circles. Wenzhi Wang(2010) pointed out that Dunning, Greenaway, Grant, Stoptford, Ragman and others came up with some different points from the "Diamond Model" or even with opposite views since 1991. By summing up these views, the weakness of Porter's "Diamond Model" may be: not to highlight the decisive role of technical innovation on industrial competitiveness. In the "Diamond Model", Potter talks about the role of technology, but never fully explained the effect of technological innovation on industrial competitiveness. He doesn't include technology as a determining factor in the "Diamond Model." He stresses more on how to provide the innovative industrial environment for businesses faster than its rivals, rather than the technological innovation itself. Indeed, an industry obtains a strong competitiveness by differing its products from those of its rivals, the differences should be the product's features, quality, packaging and many other aspects. To achieve this goal, the radical way is technological innovation. Especially in knowledge-based economies,

technological innovation has become the industry's core competitive determinant. Since 1980s, new economic growth theory point out that technological innovation is the main factor of economic growth. Schumpeter, Solow, Romer to Lucas and other economists have made a lot of accurate research on it. To enhance the industrial competitiveness, technological innovation plays a key role because it helps improving productivity, management and lower costs. However, Porter does not pay much attention on this factor.

Moreover, the model neglects the industrial competitiveness of other nations. In 1993, Dunning joined the factor of "transnational commercial activities" in the theory, which had the same effect as government and opportunity to form a more perfect "Porter-Dunning" model. At this time, Dunning began to pay attention to the meaning of external resources for multinational corporations' competitiveness.

Although there are some inherent weaknesses of the comparative advantage theory and the Michael Porter's Diamond Model, we can still use them to analyze the competitiveness of Guangdong garment industry as a quantitative method and qualitative method for their strong application.

V FRAMEWORK

V.1 QUANTITATIVE ANALYSIS (RCA)

For the quantitative analysis of the competitiveness of the garment industry in Guangdong Province, we could calculate the measure index in terms of display indicator.

V.1.1 Measure Index

Industry can be defined as an aggregation of the products, service, business activities and enterprises with identical attribute, which serves for the specific economic analysis. Then, the paradigm of industrial competitiveness analysis is basically a comparison among the nations or different regions.

For the industry, international exchange activities are restricted by international divisions of labor, and therefore the industrial competitiveness must firstly reflect the competitive advantage of different countries or regions of different industries (or products). But in reality, even if the

international exchange activities fully follow the rules of comparative advantage, similar industries or products will still appear in the market. At this time, the competitiveness should depend on their competitive advantage. Therefore, the industrial competitiveness refers to the industry's comparative advantage combined with its absolute advantage.

There are two kinds of indicators discussing the international industrial competitiveness. One are the displayed indicators, they show the result of international competitiveness; the others are analytical indicators, which explain the reason of maintained international competitiveness. Both the displayed indicators and the analytical indicators should contain the description of competitive advantage and comparative advantage.

1) Analytical indicators

The analytical indicators reflect the demonstrated explanatory variables of the potential competitiveness. The variables could affect the result of international competition or may explain why the country's products in the international market may have different competitive advantages. The analytical indicators could be sort into two types: direct cause indicators which reflect the absolute advantage and the indirect cause indicators which reflect the comparative advantage.

2) Displayed indicators

The general displayed Indicators contain the following types: Trade Specialization Coefficient, referred to as TSC indicators, Index of Relative Export Performance, The Constant Market Share Model, referred to as CMS indicators and Revealed Comparative Advantage Index, generally referred to as RCA indicators. The four indicators are based on the calculation method of international trade theory, regarded as a measure of a nation's products international competitiveness and its comparative advantages. In the displayed indicators, the target market share is often regarded as an indicator of absolute advantage. And data of a national product's world market share is generally easier to obtain.

The revealed comparative advantage index does not directly analyze the determinants of comparative advantage or the trade structure. But it

measures the comparative advantage from the results of import and export of goods. In the empirical analysis it can get rid of the harsh constraints of various theoretical assumptions, and thus be more suited to the reality of the international trade. As the RCA indicators often appears in research papers, I calculate the RCA in this paper as well for showing the competitiveness of garment industry in Guangdong Province.

V.1.2 Formula

According to Porter's research ideas, the study uses the RCA index which was firstly proposed by Balassa to reveal the comparative advantage, reflecting the competitiveness of Guangdong's export manufacturing industries.

The formula is as follows:

$$RCA_{ij} = (X_{ij}/X_i) / (W_j/W)$$

In the formula, i represents the region while j represents the product,

Thus,

RCA_{ij} represents the comparative advantage index of the product j in region i.

X_{ij} represents the export amount of product j in country (region) i,

X_i represents the total export amount of products in country (region) I,

W_j represents the export amount of product j of the world,

W represents the total export amount of the world.

The RCA index takes the international market share of different countries and different products into account, especially be focusing on the country's export performance. X_{ij}/X_i accounts for the share of one product in the total export amount of one country. The more products j it exports, the larger its proportion will be and the more comparative advantage it shows. In accordance with the standard of Japan External Trade Organization (JERTO), with a RCA greater than 2.50, the industry has a strong comparative advantage, when RCA is between 0.80 to 1.25, the industry has a medium comparative advantage and a RCA lower than 0.8 shows a

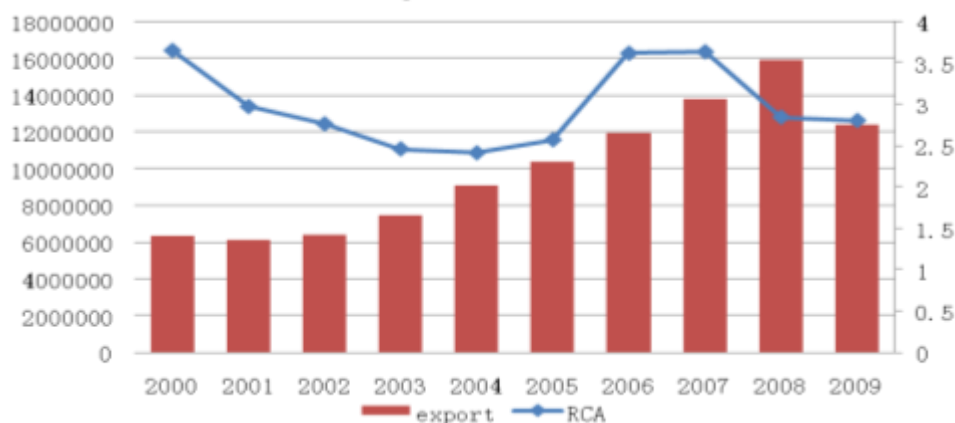
comparative disadvantage. This paper examines the situation in Guangdong Province, so I will represent its results.

V.1.3 Data

Scholars studying on this topic mostly use Standard International Trade Classification(SITC) to sort commodities. But the Guangdong Province Exports data in the "Statistical Yearbook of Guangdong Province" prefer the existing Customs Harmonized System(HS) classification rather than SITC classification. Since the HS classification is more detailed than SITC, we will apply this classification corresponding to the standard international data to calculate the RCA index of the export-oriented garment industries form year 2000 to 2009 of Guangdong Province. The international data is from the United Nations Statistics website.

V.1.4 Result

Figure 9: Export and RCA of Guangdong Garment industry (100000 USD).



Source: Guangdong statistical yearbook and United Nations Statistics website.

From the year 2000 to 2009, the revealed comparative advantage index(RCA) of Guangdong garment industry were all greater than 2.5 except the years of 2003 and 2004. However, the RCA of year 2003 and 2004 were still higher than 2. According to the standard of Japan External Trade Organization(JERTO), the industrial competitiveness of Guangdong garment industry sustains a high level during these 10 years.

But since the reform of exchange rate, Guangdong's garment export was badly affected. With the RMB appreciation, the export amounts of garment products were at a standstill especially from year 2000 to 2002. Then because of the abolition of global textile trade quota system from January

2005, the export of garment and clothing accessories showed an explosive growth. Coming into the crisis and post-crisis era, the amount of export declined a lot in the year 2009.

As we could see in the Figure 9, although there was a slight increase of the garment export, the RCA decreases dramatically from higher than 3.5 to lower than 2.5 from the year 2000 to 2005. That means the performances of competitors from China and foreign countries were better than Guangdong. The competitiveness was on a downward trend during this period. But after the self-adjustment of the export-oriented enterprises and the incentive policies of the Government, RCA of 2006 and 2007 jumped to more than 3, which shows that the Guangdong garment products have strong international competitiveness and maintain a good development momentum again. And it also proved that Guangdong was still the leader in the garment industry and the garment industry was one of the pillar industries in Guangdong Province. However, during 2008 and 2009, the export enterprises faced another challenge which was the financial crisis. In this period, the export of garment in Guangdong decreased a lot because of the worldwide economic recession. The RCA declined correspondingly without doubt.

By analyzing the data above, one thing must be known that because Guangdong mainly engages in processing trade which means it could only obtain low added value and sustain in low product grade, it would be affected easily and greatly by the changes of any factors such as the policy and cost. According to the high dependence foreign trade ratio, Guangdong's export would be affected by the change of international environment a lot such as the quota system and the financial crisis.

Since the RCA is an indicator of competitiveness, I intend to use the RCA to analyze what factors affect the competitiveness in the regression. However, because of the limitation of data especially the different statistical standard between WTO and Guangdong Yearbook, I take the export of garment products based on the statistic on the data of Guangdong Yearbook instead of RCA to generate the regressions. The reason for choosing export is basing on the formula of RCA. The amount of export comparing to other regions or countries can reflect the competitiveness level. Furthermore, for

the regression part, I most focus on detecting the relevant factors, so I think taking export as a dependent variable would not affect the result a lot.

V.2 QUALITATIVE ANALYSIS (PORTER'S "DIAMOND MODEL")

In the book "The competitive advantage of nations", Porter uses two approaches to evaluate competitiveness: one is based on the subjective indicators to explain competitiveness. It is a multi-factor approach to analyze the competitive environment. This approach is mainly embodied in the application of the diamond model. By parsing the four endogenous factors of each country: factor conditions, demand conditions, related and supporting industries, firms strategy, structure and rivalry as well as the two exogenous factors: opportunities and government, the analysis reveals the elements of a particular industry in a country which influence the productivity and its growth rate. It is also the theoretical basis of micro-economic competitiveness evaluation when Porter works for WEF. The other approach is based on the objective indicators. By applying the import and export data, the market share can be calculated. Porter uses the import and export data to count the RCA of the various industries in 10 countries. Following Porter's approach, this paper uses the RCA index as well as Porter's "Diamond Model" to conduct a comprehensive qualitative and quantitative study on the international competitiveness of garment industry in Guangdong Province. The RCA index is shown above, the next part is talking about the Guangdong garment industrial competitiveness within the Porter's "Diamond Model".

V.2. 1 Factors Condition

Guangdong province is located in the South East coast of China and very close to Hong Kong and Macao. It is very convenient to transport by sea, by land or by air. As a pilot of reform and opening up, Guangdong province is the most traditional provinces to attract foreign investment, while the early foreign investment concentrated in the garment industry. Garment industry as a typical labor-intensive industry, labor cost is the major component of costs. In fact, Chinese garment industry has been able to get tremendous development, and makes a significant contribution to national economic growth, one of the main reasons should be the China's abundant labor

resources and cheap labor costs. However, labor wages increase gradually according to the China's economic growth so that China's labor cost advantage in garment industry weakens in these years. As the world's leading management consulting institute of textile and garment industry, "Werner International" shows that in the new century, Chinese textile and garment industry labor costs began to exceed Pakistan, India and Indonesia and other countries or regions. Costs in Guangdong and other coastal areas increase faster. With the rapid economic development of inland areas, migrant workers are more willing to choose to remain in their hometown, making the labor shortage in Guangdong Province more obvious. Moreover, with China's real estate fever in recent years, land resources becoming more and scarcer and resulting in land rent rising, the prices of water, electricity, coal, oil and other production resources are rising as well. This means that relying solely on advantage of the labor cost, Guangdong's garment industry would lose its champion status. The era of transformation and upgrade for increasing competitiveness is coming.

V.2.2 Demand Factors

Guangdong's garment industry has high dependence on foreign trade. The business model of Guangdong garment export enterprises can be sorted into two types: one type is that the enterprises have their own brand and can make plans or decisions by themselves. It is known as the general trade pattern. The proportion of this type is growing. One type is the OEMs of Hong Kong and foreign countries which is still the main body of garment exports in Guangdong Province. Domestic business model can be sorted into four types: wholesale, agent, chain, consignment sale. Among them, the wholesale and agent are most prominent.

Guangdong's garment export markets mainly concentrate in Asia, the United States and European, the amount accounts for more than 80% of exports. Because of the concentration of export market and the markets are the hard-hit areas in the financial crisis, Guangdong's garment export has been badly hit.

In the domestic demand part, because there is not much change of the wage levels and the spending habits, the garment industry get less benefit from the series of programs for stimulating consumption conducted by the government.

V.2.3 Firms Strategy, Structure and Rivalry

Guangdong garment enterprises are constructed by three types: state-owned collective enterprises, private enterprises and joint ventures. With the deepening of the reform of economic system, a large number of collective enterprises, township enterprises transformed into private enterprises. According to the survey, the number of private economic enterprises accounts for over 70% of the garment enterprises in the province while the number of state-owned enterprises and collective enterprises is reducing year by year. The province's advanced production concentrates in the leading enterprises and foreign-funded enterprises which is located in the garment industry cluster. However, at present, Guangdong garment industry is still dominated by the extensive mode of economic growth and mainly stays in the garment processing and manufacturing sector, mostly engage in OEM business. Depending on low-cost labor and other elements to form comparative advantage, this kind of enterprises is lack of technical innovation, capital and professionals. They rely mainly on purchasing production equipments and raw materials to maintain the simple processing operations. As the product differentiation is small, so the fierce competition exists among peers. Furthermore, because the export of garment product is still concentrated in low value-added and low-grade cheap goods, which leads to a low level of average profits of industries and enterprises (It is estimated that only 3% -5 % or so). Now only a small part of the garment processing enterprises in Guangdong develop towards a new model as including clothing design, processing, marketing, promotion. In the post-crisis era, with a further exchange rate rise and more restrictions on trade protection policy, Guangdong garment enterprises are facing the survival problem, say nothing of the competitiveness. Compared to the competitors around the world, China's technological level advantage is not obvious. Look at the textile industry in Southeast Asia, India and Pakistan are the

third-largest and fourth-largest cotton producer of the world. Textile and garment industry are their pillar industries, accounting for 20% and 46% of the proportion of manufacturing respectively. Look at Turkey, Central and Eastern Europe and the Mediterranean countries, the technological machinery equipment and the intelligence levels of garment production are significantly higher than China which could well make up the disadvantages of higher labor cost and other elements. They are increasingly becoming a strong competitor in China clothing exports.

V.2.4 Related and Supporting Industries

Over the past five years, the investment of spinning and weaving equipment in China's is more than any other country. China has a complete chain of textile and garment industry which means a variety of procurement of raw materials, including fibers, yarns, fabrics and accessories could be finish locally. This is one powerful guarantee of the garment industrial competitiveness in Guangdong. Moreover, the Chinese garment enterprises have almost the world's best sewing technology, which is recognized as it can produce the textile and clothing products of any price, type and quality, from basic simple garments to fashion. There are many clusters widely spread in Guangdong region. The location of cluster would base on the kind of products, such as raw materials, auxiliary materials and finished products and so on.

V.2.5 Opportunities

The financial crisis in 2008 can considered as a combination of challenge and opportunity. On the province's garment processing enterprises with low technology and management in the crisis would certainly be greatly affected. But it should have a positive impact on the industrial transformation or upgrade.

V.2.6 Government

With the "Construction of Cultural Province, Guangdong Province Plan (2011-2020)", "Implementary views on raise the cultural soft power" and other heavyweight policies were introduced, the development of cultural

industries in Guangdong Province would step into a booming state. In the next 5 years, Guangdong will invest 25 billion Yuan to promote the Culture Construction. Garment industry is one of the biggest beneficiaries. Though these policies, we can see that the government wanted to promote the garment manufacturing industry from the simple production enterprises into new innovation, branding and fashion creation enterprises. These policies will have a very positive impact on enhancing the garment industrial competitiveness.

VI THE FACTORS AFFECTING GUANGDONG GARMENT INDUSTRIAL COMPETITIVENESS

The RCA index shows about Guangdong's garment industrial competitiveness. The higher the RCA index, the stronger competitiveness it has. And according to the principle of RCA calculation, the more export of Guangdong garment accounting for the whole export of the world, the higher RCA it has. Thus, the change of export value could affect the RCA directly. But what factors are affecting the export value significantly? The following models are trying to figure out the relevant factors.

There are many factors influence the export, some of them are most relevant, others are lesser. According to Porter's "Diamond Model", I assume that the following 12 factors affect the import significantly. They are the total output of garment industry, the industrial value-added of garment industry, the total profit of garment industry, ratio of profits to total industrial costs of the garment industry, the overall labor productivity of industrial enterprises, the R&D of manufacturing industry, the energy consumption per 10000 RMB of GDP, FDI in the garment industry, the fixed assets investment, wage of manufacturing industry, the total labor force of garment industry and the exchange rate.

By dividing the 12 factors into 3 groups, it could help to explain the effect more logically. One group including the first 5 factors could represent the output of garment industry. As we know, if there is no significant change of domestic demand, the more products could be exported while the output increases. And if the profit of garment industry increases, more garment enterprises will build up. Thus, the export will increase accordingly. One

group including the later 6 factors could represent the input of garment industry. The input factors here could influence the cost or the productivity of garment industry in Guangdong. And the third group includes the last factor of exchange rate which could not be regarded as input or output. Because of the low profit ratio of garment industry, the export is particularly sensitive to the changes of exchange rate. And it will ultimately affect the competitiveness of Guangdong garment industry.

These input factors refer to the Factor condition in the “Diamond Model” while the exchange rate refers to the government. The FDI and investment on the fixed assets refer to the capital. And the R&D refers to the human capital while energy refers to the natural resource. Then total labor force and wage refer to the labor. Then to the exchange rate, it could be affected by the decision of the government. All of them are important to the garment industry. However, in the Diamond model, output factors are not discussed. But based on the influence of them, for instance, the profit will affect the enthusiasm of the garment enterprises and the increase of output will make the increase of export be possible. So these factors should be considered also.

Because of the different statistical standards in the Guangdong Statistical yearbook through these years and the lack of some variables of some years, I can only organize the data in recent 21 years. Based on the limitation of the observations, I have to estimate some models including few variables instead of one model including all to reduce the impact of degrees of freedom on the regressions.

VI.1 Input factors

For the input factors, the following two models are generated for estimating the impact of investment and resources in the form of capital. Both models are linear models. Model A is focusing on how much do the change of FDI and fixed asset investment affect the export. And Model B is focusing on how much do the R&D and energy consumption affect the change of export.

1) The impact of investment

a) Model A

$$\text{Export} = \alpha + \beta_1 \ln \text{FDI} + \beta_2 \text{Investment} + \varepsilon$$

b) Result

Table 2: The result of Model A.

```
. reg Export lnFDI Investment
```

Source	SS	df	MS			
Model	1.5135e+13	2	7.5676e+12	Number of obs =	21	
Residual	1.6318e+12	18	9.0653e+10	F(2, 18) =	83.48	
Total	1.6767e+13	20	8.3835e+11	Prob > F =	0.0000	
				R-squared =	0.9027	
				Adj R-squared =	0.8919	
				Root MSE =	3.0e+05	

Export	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnFDI	375947.4	107943.7	3.48	0.003	149166.1	602728.7
Investment	31955.87	3616.726	8.84	0.000	24357.41	39554.33
_cons	-4373088	1410012	-3.10	0.006	-7335413	-1410762

c) Discussion

The two variables which are FDI and fixed assets investment reflect the investment of foreign capital and Chinese Government. And I generate the lnFDI to see how much does it impact on the export if it changes per unit. As we can see in the result above, both of the two variables are significant under the 95% significant level. And the coefficients of them are positive as our expectation.

(a) FDI

With the influx of foreign capital, the mean growth rate of FDI in garment industry reaches to 15.77% in the recent 21 years. Although the growth rates increase slower from 2007, but the total amount of FDI in the garment industry is still huge.

China as a developing country could be benefit a lot from the FDI since it bring in not only the advanced technology, equipment and products, but also the advanced management experience and international mode of operation. Moreover, FDI plays a facilitating role on China's textile exports. The contribution of FDI is not limited to the export growth in the garment industry of foreign-funded enterprises themselves, but also for the indirectly

effect for the export growth of domestic enterprises. Songran Guo(2009) points out the main indirect effects as follows: promote the export of domestic enterprises directly through joint ventures or cooperation; by learning from the foreign-funded enterprises to improve product specifications and technical standards, use the market access channels provided by the foreign-funded enterprises and so on.

(b) Fixed assets investment

As we known, the investment of fixed assets should have positive effect on the industry. According to the data, the mean growth rate of fixed assets investment was 50.22% from 1989 to 2006. However, the investment on the fixed assets has kept the level of 2006 or even less from 2007 to 2009. The financial crisis should be one of the reasons. But focusing on the domestic situation, with the stringent monetary policy, the rapidly rising land price and the low profit rate of garment industry, the growth rate of investment may be at a low level. In the long run, it would have a negative impact on the export.

2) Impact of Resources

a) Model B

$$\text{Export} = \alpha + \beta_1 \text{R\&D} + \beta_2 \text{Energy} + \varepsilon$$

b) Result

Table 3: The result of Model B.

Source	SS	df	MS			
Model	1.3720e+13	2	6.8599e+12	Number of obs =	21	
Residual	3.0472e+12	18	1.6929e+11	F(2, 18) =	40.52	
Total	1.6767e+13	20	8.3835e+11	Prob > F	= 0.0000	
				R-squared	= 0.8183	
				Adj R-squared	= 0.7981	
				Root MSE	= 4.1e+05	

Export	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
RandD	.254365	.0545597	4.66	0.000	.1397392	.3689907
Energy	-680936.1	248664.2	-2.74	0.014	-1203360	-158512
_cons	1136889	252765.5	4.50	0.000	605848.7	1667930

c) Discussion

The two variables which are R&D and the energy consumption per 10000 RMB of GDP reflect the input of natural resource and human resource. As we can see in the result above, both of the two variables are significant

under the 95% significant level. And the coefficient of R&D is positive while the coefficient of Energy is negative.

(a) Energy

Garment industry is considered as a labor-intensive industry as well as high energy consumption industry. Take a look at the whole industrial chain, the energy consumption of the upstream industry and downstream industry such as the dye and knit is very huge. Focusing on garment industry itself, the needs of power and water are hugely demanded also. But with improvements in processing technology and equipment updates, the energy consumption is continually reducing. From 1989 to 2009, the energy consumption per 10000 RMB of GDP decreases by 9.5% every year. As the cost of energy decreased, the total cost would decrease accordingly. The price advantage of products will be more obvious which could improve the export directly.

(b) R&D

Although the comparative advantage concentrates in the low cost labor force in the garment industry, but the R&D investment of the manufacturing industry is increasing year by year. From the data above, as the increase of R&D, the export increase accordingly. However, its proportion counting for the total export is really low. As we known, R&D is one of the key factors influencing the garment industrial competitiveness and upgrading now and the future. For example, when the R&D turn into application, it could reduce the energy consumption and the labor force which can save lots of producing cost. So increase investment in R&D is the only way to obtain or even increase the competitiveness.

VI.2 Output Factors

The amount of output could measure the production capacity of Guangdong garment industry and the total profit could affect the survival and development of garment industry. Model C is generated for estimating the impact of output and total profit on the change of export.

1) The impact of output and total profit

a) Model C

$$\ln \text{export} = \alpha + \beta_1 \text{Output} + \beta_2 \text{TotalProfit} + \varepsilon$$

b) Result

Table 4: The result of Model C.

Source	SS	df	MS			
Model	21.2665296	2	10.6332648	Number of obs =	21	
Residual	6.47251408	18	.359584115	F(2, 18) =	29.57	
Total	27.7390437	20	1.38695219	Prob > F =	0.0000	
				R-squared =	0.7667	
				Adj R-squared =	0.7407	
				Root MSE =	.59965	

lnexport	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Output	.0040974	.0007213	5.68	0.000	.0025821	.0056127
TotalProfit	-.064211	.0182889	-3.51	0.002	-.1026345	-.0257875
_cons	11.84022	.2623585	45.13	0.000	11.28902	12.39141

c) Discussion

In this model, both of the p-values of output and total profit are significant under the 95% significant level. The coefficient of output is positive while the coefficient of total profit is negative.

(a) Output

It is easy to understand the relationship of output and export. As the scale of garment industry expanded, the output will increase accordingly. In the recent years, the consumption structure and amount have not changed too much in China. And many garment enterprises are OEMs, as a result, most of the products are exported.

(b) Total profit

The negative coefficient shows that if the profit increases, the export will decrease. Or we can say if the profit decreases, the export will increase. There are many reasons of total profit decrease. Such as the decrease of productivity, the increase of labor and material cost, the quality of the products and the lowering export rebate rates. Garment industry is one of the most competitive industries so that most of the enterprises would apply the

“price war” strategy in an attempt to increase their share of the export market. Thus, the total profit will decrease although the export increases.

VI.3 Exchange Rate

Because of the low profit of garment industry, it is much more sensitive to the fluctuation of exchange rate. So I generate a linear Model D to see the how much does exchange rate affects the change of export.

1) Model D

$$\ln_{\text{export}} = \alpha + \beta_1 \text{ExchangeRate} + \varepsilon$$

2) Result

Table 5: The result of Model D.

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. reg lnexport lnexchangerate
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Source	SS	df	MS			
Model	18.7630487	1	18.7630487	Number of obs =	21	
Residual	8.97599499	19	.472420789	F(1, 19) =	39.72	
Total	27.7390437	20	1.38695219	Prob > F =	0.0000	
				R-squared =	0.6764	
				Adj R-squared =	0.6594	
				Root MSE =	.68733	

lnexport	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnexchange~e	4.198385	.6661853	6.30	0.000	2.804043	5.592727
_cons	-14.10316	4.383581	-3.22	0.005	-23.2781	-4.928215

3) Discussion

In recent years, with the RMB appreciation, the export-oriented processing industries are affected a lot especially the low-value added industries, such as the garment industry. However, as we can see in the table, the coefficient is positive which means the more appreciation of RMB it becomes, the more products Guangdong export. Maybe it could be explained in the way that as the exchange rate changing gradually, the enterprises could eliminate the bad effect of it by lowering the production cost or upgrade the production level. Besides, Chinese Government is committed to keep the stability of the RMB exchange rate and makes lots of export incentive policies to help the garment industry go through the difficulties.

VI.4 Other Factors

As I mentioned before, there 12 factors I assume that they would impact the export of Guangdong Garment industry. However, by adding them in the regression model, some of them are not significant. Maybe it is because of

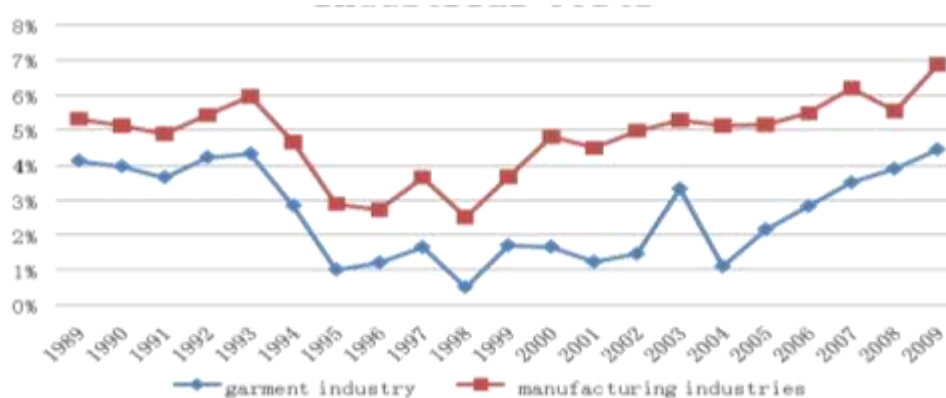
the few numbers of observations or the model specified. I still think that they are relevant factors.

1) Wage

In the recent years, the wage of manufacturing sector of Guangdong Province increases rapidly. It is because of the increase of consumer price and the development of inland cities of China. Garment is considered as a labor-intensive industry and China had a great advantage in supplying abundant and low cost labor resource in the past years. However, with the shortage of migration workers, the enterprises have to raise the wage for normal production. But if the wage increases a lot, foreign companies will change their partners, for example the other Asian countries or regions with lower cost labor. This would affect the export without doubt.

a) Ratio of Profits to Total Industrial Costs

Figure 10: Ratio of profits to total industrial costs of Guangdong Province.



Source: *Guangdong statistical yearbook*.

As we can see in the Figure 10, the ratio of garment industry is lower than the ratio of the whole manufacturing industries through these years especially in the first decade of 21th century. But from 2004, the ratio increase gradually. However, it is still at a very low level. Without famous brands, Guangdong garment enterprises are still stay at the stage of processing. Most of the profit flows into the brand holder or the sales enterprises. In the long run, the low level of profit ratio will impact the investment of innovation and upgrading. With the increasing cost of labor and material, the profit ratio will have a further decline. The enterprises will

face the crisis of shutting down or they will invest in other industry. These factors would impact the garment export and its competitiveness.

VII CONCLUSION

By analyzing the industry competitiveness of Guangdong garment industry through the RCA and Porter's "Diamond model", I get some conclusions.

By calculating the RCA through the period of the year 2000 to 2009, we can see the competitiveness of Guangdong's garment industry keeps at a high level according to the standard of Japan External Trade Organization(JERTO). However, with the RMB appreciation, the increase of garment export became slow down from the year 2000, which cause the decline of industrial competitiveness. Then since the abolition of the global textile trade quota system from 2005, the export increased again. And the RCA indicated that the garment industry in Guangdong Province still had strong competitiveness. Faced with the domestic and international impact during the financial crisis era, the export decreased dramatically which caused the decline of RCA again. With the improvement of other rivals, such as Vietnam, India or even Jiangsu Province and Zhejiang Province in China, Guangdong's competitiveness has been affected a lot. In a word, Guangdong province as the champion of garment export still has strong industrial competitiveness but the competitiveness is on a downward trend especially during the crisis and post-crisis era.

By studying its development problems within the Porter's "Diamond Model", we can see that: Guangdong still has its advantages in many aspects. First of all, Guangdong Province is still the most attractive province in China of FDI. Due to the geographical advantage, Guangdong attracts most of the FDI of Hong Kong, Macao and other foreign countries from the reform and opening up. The convenience transportation makes the export trade more easily.

Secondly, with the skilled and comparatively low cost labor force, most of the garment enterprises in Guangdong survived in the crisis. The product "Made in China" is known for "good and cheap". And the quality of garment product of Guangdong Province is higher than most of the regions in China.

Thirdly, Guangdong has the complete chain of textile and garment industry and lots of specialized industrial clusters. That means a variety of procurement of raw materials, including fibers, yarns, fabrics and accessories could be finish locally and the enterprises in the clusters would enhance the competitiveness through the optimum competition.

Fourthly, the numerous universities and research institutes which are located in Guangdong Province show strong capacity in technological research. With the help of the institutes, the quality and productivity will improve without doubt. The investment of R&D is increasing year by year. And many favorable policies are made especially during the crisis and post crisis era.

But due to the real estate fever these years, land for industry became scarce. The rent of land increases a lot which causes the increase of producing cost. Lots of the small and medium factories move to the inland regions to save the cost. And as more and more factories moved out from Guangdong, more and more migrant worker would like to stay in their hometown for searching the same job. It causes the shortage of low cost labor.

The lack of own brands makes Guangdong garment enterprises stay in a low level of processing. Most of them are engaging in the OEM business. Competing with the rivals in the same region, enterprises could just gain low added value and profit. The relatively low income level limits the consumption of garment. So there is not much change in the domestic demand.

Generally speaking, Guangdong's garment industrial competitiveness seems to become weakened. However, with the quite attention of Guangdong government, the garment industry recovers in the post crisis era and enters a new stage.

According to the regressions, the input factors of FDI, fixed asset investment, R&D and energy consumption, the output factors of output and total profit as well as the exchange rate are proved to be some factors affecting the export.

Under this situation, there are some aspects may be considered for retaining the competitiveness of Guangdong industry:

1) According to the factor conditions

In the face of the increased producing costs, such as material, energy, land and labor forces, garment enterprises have to adjust the product structure and improve product added-value. By using a series of measures to promote the garment industry from low value-added, such as improving the technical equipment and increasing the R&D investment in order to keep profit earning.

For solving the low profit margins problems, promoting brand building and business pattern innovation may be a way for enterprises. Under the difficult situation, the brands have a stronger bargaining power which can digest the rising costs and unfavorable factors. The brand building plays an important role for enterprise long-term development.

2) According to the demand factor

For a long time, the quality of exporting garment products is high than the products sold in domestic market in China. With the improving people's living standard, high quality products are required. Facing of the slump in the international market, enterprises should pay more attention to the demand of the huge domestic market. Enterprises could enhance the competitiveness through the competition of occupying the domestic market.

3) According to the supporting industries

There are lots of specialized clusters located in Guangdong. But some supporting industries which cause serious pollution should be reorganized or upgrading. To strengthen the cooperation among universities and research institutes especially in Guangzhou and Shenzhen would bring more benefit to the enterprises. Based on the principle of complementary advantages and benefit-sharing, launch the new multilateral technical cooperation mechanism under the guidance of government much more scientific achievements could be turn into production. Increasing the investment of R&D may improve the innovation in the industry cluster.

4) According to the rivalry

Facing by the strong rivals, especially the competition of Asian countries and the other main export-oriented provinces in China, enterprises should develop and improve the environmental protection standards and regulations to promote clean production as well as establish green barriers early warning mechanism. The textile and garment industry organizations should guide industrial enterprises self-regulation while the enterprises should establish the concept of green products. Furthermore, the enterprises should enhance their competitiveness and ability to resolve trade disputes.

5) According to the opportunity

Financial instability and economic fluctuations will play a boost of the garment market in the way of “survival of the fittest, resource optimization”. Suffered from the Asian Crisis and Financial Crisis, Guangdong garment industry become more and more tried and tested. However, the crisis remind us that besides focusing on the production, cultivating awareness of the modern capital, strengthening the capacity of capital operation and risk prevention are also important. Edge enterprises need to seize the opportunity to adjust capital operation strategies for integrating the capital effectively along with pay attention to lower the debt for reducing the risk.

6) According to the Government

In the beginning of reform and opening up, Government attach great importance to the garment industry. But with the new industries appearance, more resources were invested in the high-tech industry and biological industry and so on. For the importance of solve the employment problem, Government takes the garment industry into account again. Based on this situation, Government should make the overall long-term development planning on the garment industry development goals and the measures should have clear guidance; actively provide the system environment for fair competition to help garment industry develop; reduce the tax burden, reform the tax unreasonable way, improve the duty drawback system like shorten the time as appropriate. Construct the public platform to guide and support

the development of intermediary institutions to serve the garment enterprises with technical.

Reference

- 1) An, Yuhong (2010), Post-crisis era, Macroeconomic Management vol. 3.
- 2) Boltho, A. (1996), The assessment: international competitiveness, Oxford Review of Economic Policy, vol.12, no.3, pp.1-16.
- 3) Cai, Fang (2003), Industrial competitiveness and comparative advantage, Management World, vol.2.
- 4) China Statistical Yearbook (1978-2009), National Bureau of Statistics of China, China Statistics Press.
- 5) China data online, <http://chinadataonline.org>.
- 6) Department of Foreign Trade And Economic Cooperation of Guangdong Province,
<http://www.gddoftec.gov.cn>.
- 7) Ding, Xiaozhi, Zhang, Hua, Ji, Liuxiang and Zhang, Chaohui (2009), The empirical research of "PRD" high-tech industrial competitiveness, Journal of Guangdong Peizheng College, vol.9. No.3.
- 8) Guangdong Statistical Yearbook (1990-2009), Statistics Bureau of Guangdong Province, China Statistics Press.
- 9) Guo, Songran (2009), On the affects of FDI to textiles exporting of Jiangsu Province, Value Engineering, No.7.
- 10) Hu, Ping (2010), Comparative advantage and the Guangdong textile industry development, Securities and Futures of China, 2010.7.
- 11) Jiangsu Statistical Yearbook(1990-2009), Statistics Bureau of Jiangsu Province, China Statistics Press.

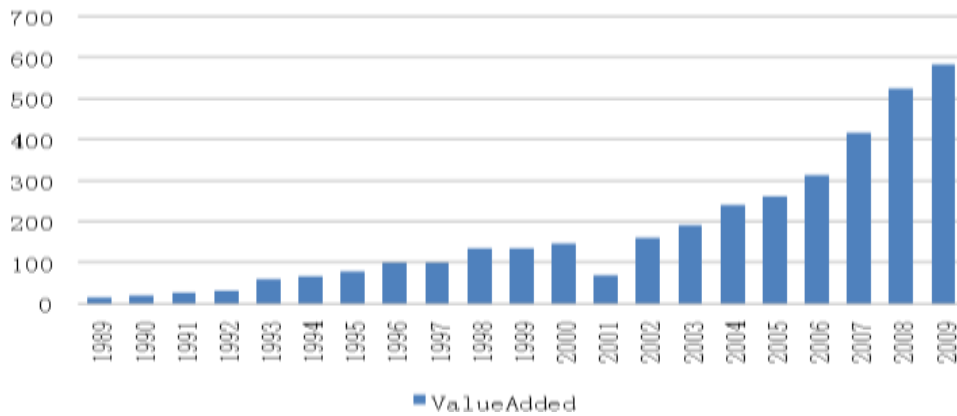
- 12) Jin, Bei (2009), China's the development of industrial competitiveness after the international financial crisis, Science Development, vol.12.
- 13) Jin, Bei (2003), Competitiveness economics, Guangdong Economy Publishing House.
- 14) Jin, Bei (1997), International competitiveness of Chinese industry: Theory, Method and Empirical Study, Economy & Management Publishing House.
- 15) Jin, Zhihao (2008), Analysis of international competitiveness of Guangdong textile and clothing industry, China Textile Leader, 2008 No.7.
- 16) Lall, Sanjaya (1990), Building industrial competitiveness in developing Countries, OECD Publishing.
- 17) Li, Ning and Ma, Tianyi (2007), Vietnam and China competitiveness of textile and garment industry, Practice in Foreign Economic Relations and Trade.2007.3.
- 18) Liu, Yuncai and Yang, Jie (2006), Empirical analysis of the impact of upgrading the processing trade on Guangdong industrial competitiveness, Northern Economy, vol.4.
- 19) Li, Xiangyin and Sun, Huitai (2005), Processing trade and industrial competitiveness of Guangdong Province, Jiangsu Commercial Forum, vol.5.
- 20) Li, Youhuan (2006), Guangdong textile industry in the post-quota era, Social Sciences, vol. 1.
- 21) New Palgrave Dictionary of Economics, Economics and Science Press, 1992.
- 22) Porter, Michael E. (1990), Competitive advantage of nations, New York: Free Press.
- 23) Ricardo, David (1817), On the principles of political economy and taxation, Commercial Press Ltd.1976.
- 24) Smith, Adam (1776), Wealth of nations, The electric book company Ltd, www.electricbook.com.
- 25) Statistical Society for Foreign Economic Relations and Trade of China, <http://tjxh.mofcom.gov.cn/aarticle/tongjiziliao/huiyuan/200808/200808057522>

[46.html](#).

- 26) Tao, Zeng (2009), the SWOT analysis of international competitiveness of textile and garment enterprises in Guangdong Province under the financial crisis, *The Northern economy* vol. 6.
- 27) The research group of guangdong province textile garment industrial competitiveness report (2003), Guangdong textile and garment industrial competitiveness report, China Textile Industry Association, 2003.
- 28) The research of Guangdong exporting competitiveness, *Journal of South China Normal University*, (Social Science Edition) No.5.
- 29) Wang, Wenzhi (2010), The impact of foreign direct investment on Chinese manufacturing, China Economic Publishing House. P3-P44.
- 30) Wang, Zeqiang (2005), The nurture of industrial clusters and regional competitive advantage, *Journal of Anhui Vocational Technical College*, vol.4. No.4.
- 31) Wen, Jun and Dai, Nianzhao (2010), The analysis of the impact of FDI on regional industrial competitiveness - take Pearl River Delta (PRD) as an example, *Economic Vision*, Vol.2.
- 32) Yang, Yonghua and Deng, Hong (2009), A research on Guangdong garment industry international competitiveness, Guangdong, Hong Kong and Macao markets and prices, vol. 8.
- 33) Zhang, Haibo and Li, Jiahong etc. (2010), Measurement and analysis of manufacturing competitiveness in Guangdong Province, *Prices Monthly*, Vol.394.
- 34) Zhang, Shiguo (2009), The arrival of “Owned by China” era, *Foreign Investment in China*, Jun 2009.
- 35) Zhao, Hong and Huang, Guma (2004), The comparison analysis of Vietnam and China textile and garment industry, *Journal of Donghua University (Social sciences)*, vol.4. No.2.
- 36) Zhejiang Statistical Yearbook (1990-2009), Statistics Bureau of Zhejiang Province, China Statistics Press.

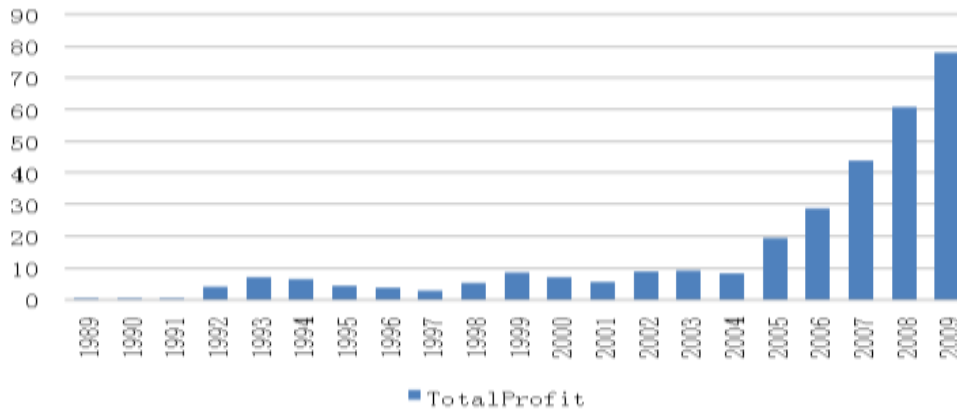
Appendix

Appendix A: Industrial added value of Guangdong garment industry from 1989 to 2009 (100 million Yuan).



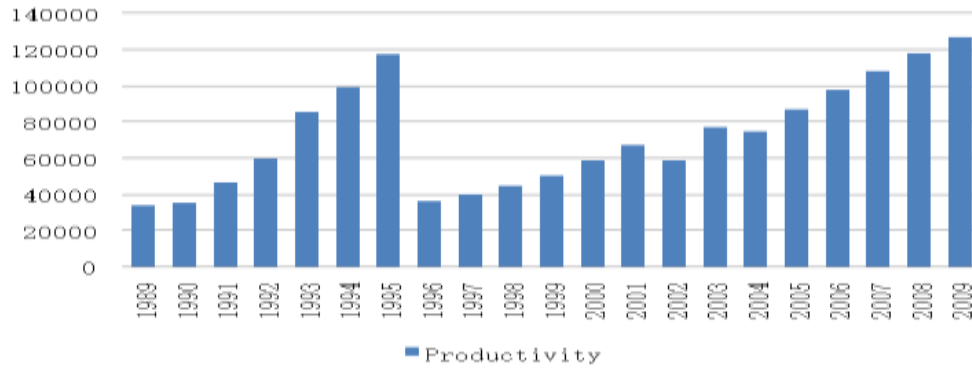
Source: Guangdong Statistical yearbook.

Appendix B: Total profit of Guangdong garment industry from 1989 to 2009 (100 million Yuan).



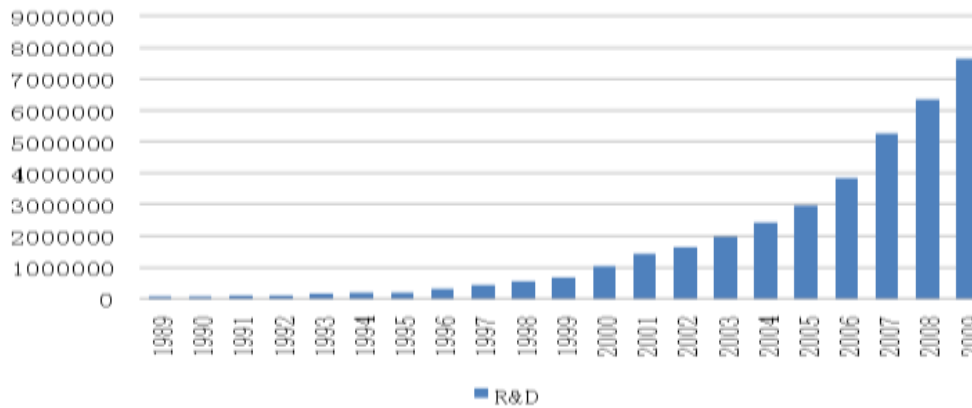
Source: Guangdong Statistical yearbook.

Appendix C: Overall labor productivity of Guangdong garment industry from 1989 to 2009 (Yuan/Person).



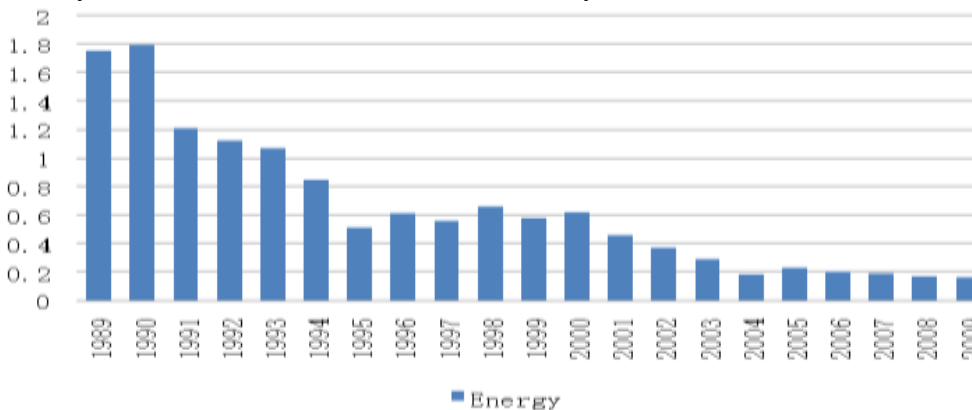
Source: Guangdong Statistical yearbook.

Appendix D: R&D investment of Guangdong manufacturing industry from 1989 to 2009 (10000 Yuan).



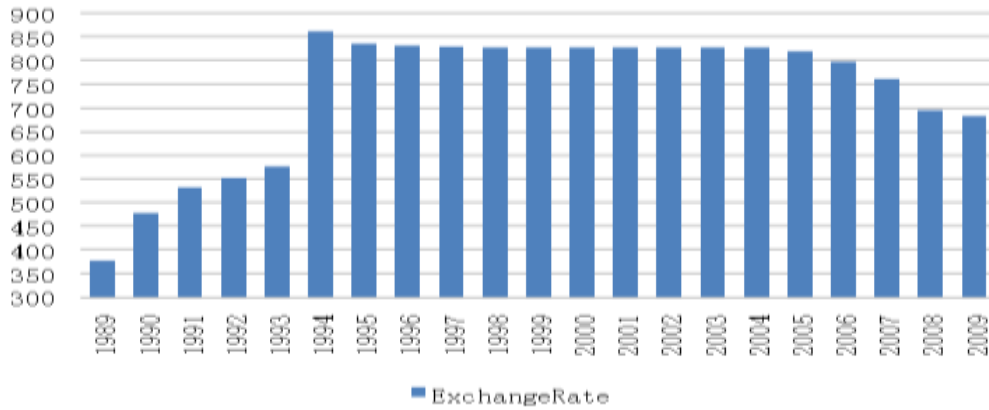
Source: Guangdong Statistical yearbook.

Appendix E: Energy consumption for output value of Guangdong garment industry from 1989 to 2009 (tons of sec/10000yuan).



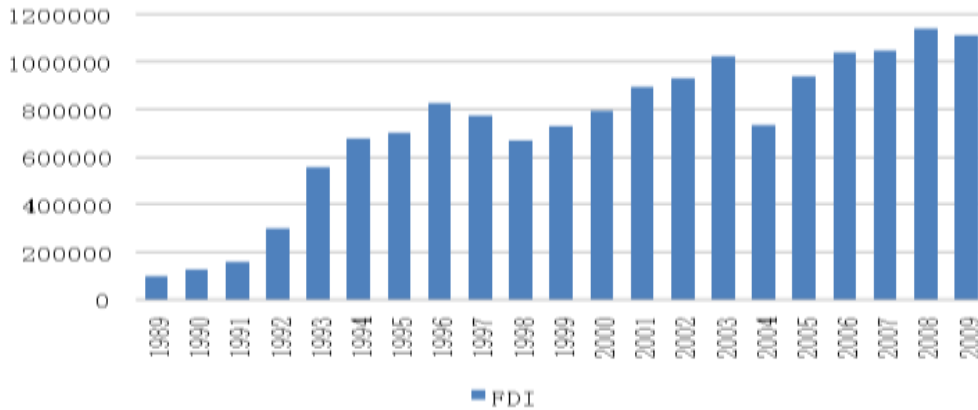
Source: Guangdong Statistical yearbook.

Appendix F: Exchange rate between RMB and USD.



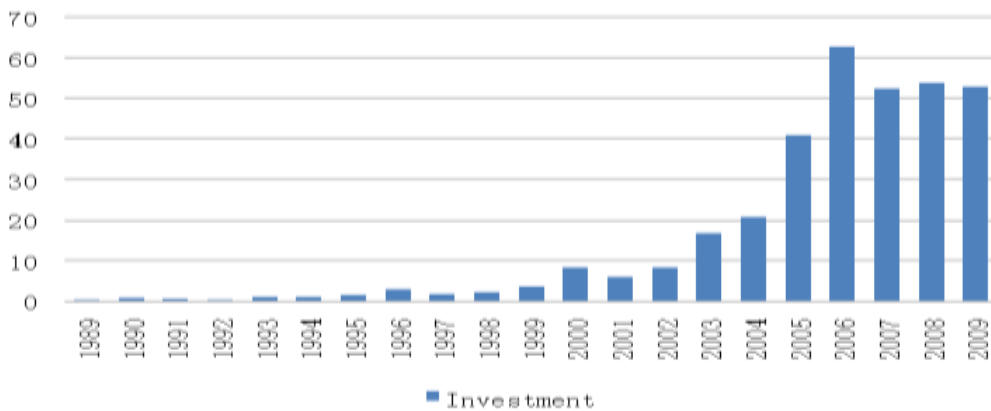
Source: Guangdong Statistical yearbook.

Appendix G: FID of Guangdong garment industry from 1989 to 2009 (10000 USD).



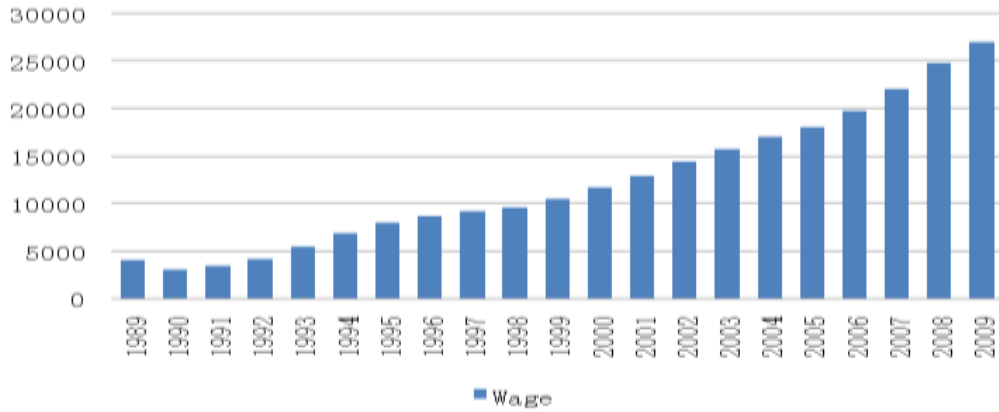
Source: Guangdong Statistical yearbook.

Appendix H: The fixed assets investment of Guangdong garment industry from 1989 to 2009 (100 million Yuan).



Source: Guangdong Statistical yearbook.

Appendix I: Wage of Guangdong manufacturing industry from 1989 to 2009 (Yuan/Year).



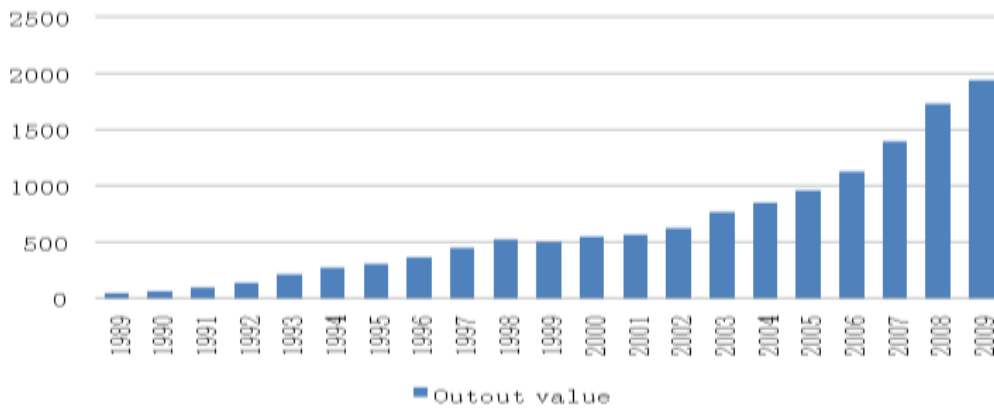
Source: Guangdong Statistical yearbook.

Appendix J: Total labor force of Guangdong garment industry from 1989 to 2009 (10000 person).



Source: Guangdong Statistical yearbook.

Appendix K: Gross industrial output value of Guangdong garment industry from 1989 to 2009 (100 million Yuan).



Source: Guangdong Statistical yearbook.