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**Regional Integration
in the Hong Kong-Shenzhen Cross Border Region
in Southern China**

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Abstract: 18 years has been past since Hong Kong returned to China in 1997, lots of policies and investment has been made to improve the regional integration and cooperation between Hong Kong and mainland China. Regional cooperation increased profoundly, and the region grew in a fast pace during the past two decades. The Hong Kong Shenzhen cross-border region is a special cross-border region case that exist within one country system. The two-city region is full of competitions and compensations, economic and institution differences and linkages, contradictory identities and complicated historical embeddedness. A huge protest in October 2014 marks an ultimate confrontation between different political factions and interest groups in the region.

Key words: Regional integration, cross-border region, Hong Kong, Shenzhen, Institution

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1. Introduction

After almost two months of taking over the central streets in Hong Kong, the “occupy central movement” (also called “umbrella movement”), led by the pro-democracy faction, finally came to a halt when the high court of Hong Kong ruled an injunction in several major occupied areas and ordered the barricades to be removed. This movement has certainly been the biggest and longest protest and social movement in Hong Kong for decades, especially after Hong Kong “returned” to China in 1997. It was also the most dramatic one: within merely two months, the public opinion shifted from generally sympathy towards the protesters to majorly against them. The movement drew international attention in such a short period of time and became the headline in multiple international newspapers and media. It also drew attention to the unique characteristic of the city and region after its reunification with China.

In the past few decades, cross-border regions (CBRs) cooperation and integration were frequently mentioned on both political and economic level. As a result of the progress of globalization, Free Trade Agreements (FTAs) and other trade treaties between nations are signed or introduced, local protectionism and trade barriers between nations that hinders global free trading will be further reduced. In this case, every economies were encouraged to develop their own specialty to standout and cooperation with others to strengthen themselves, otherwise they are taking the risk of being marginalized. Cross-border regions became the bridge between countries, and they face a lot of challenges meanwhile have lots of opportunities. Researchers and governments began to emphasize the importance of regional cooperation. A further cooperation in CBRs will grant economies the opportunity to optimize their resource, share knowledge and market, boost economy growth and increase competitiveness. Thus they can develop their own specialization and technology trajectory, and avoid unnecessary competition.

Under the framework of Europe Commission’s regional integration policy, many successful regional integration cases can be observed within Europe Union. The most successful region is no doubt the Öresund cross-border region (CBR) between Sweden and Denmark. [The Öresund region] spans a territory of about 21,000 square kilometers and hosts 3.6 million people. The region centralized 14 higher education institutions with 150,000 students and 10,000 university researchers (Lundquist & Trippi, 2009). The region has several research centers and science parks, both in public and private sectors. After a few decades’ development, the Öresund region, also known as the “Medicon Valley”, began to show higher degree of integration compare to other regions. Eventually, it is becoming an example for cross-border cooperation and knowledge generation.

The success of the Öresund region is not a coincidence: the region was intended to be set as an example for the European Union regional integration policy. Numerous research in the past few decades provided a better understanding about the theoretical framework of a regional integration process. For example, Lundquist and Trippi’s work (2009) about Regional Innovation

System (RIS) in Öresund region suggests that several sections in this region are already in a knowledge generating process, which is the result of a high level of integration. Although such high level of integration is very rare or even unique, this means the attempt that other regions trying to copy the Öresund model will be quite challenging. But the Öresund region still provides several examples of how a regional integration should work and which indicators should be observed and identified in a CBR development.

Apart from Europe, regional cooperation and development can be also observed in other part of the world. For example, the U.S-Mexico border region in North America, the Singapore-Malaysia-Indonesia growth triangle in south-east Asia and the Hong Kong-Pearl River Delta (PRD) region in southern China. But the level of integration various from case to case. In this article, we are going to talk about a sub-region within the Hong Kong-PRD region, this is known as the Hong Kong-Shenzhen cross-border region.

Nowadays, the two cities, namely Hong Kong and Shenzhen, are in the same national system of the People's Republic of China. Before 1997 they were separated by a border and belonged to different national systems. Hong Kong, recognized as an international financial center, had been a British colony for almost a century. This was part of the result of an unequal treaties signed during the First and Second Opium War between the British Empire and Chinese Empire (1839-1842 and 1856-1860). During the last one hundred years, Hong Kong firmed its own institutional, financial and legal structure. According to 1984 Sino-British Joint Declaration, after the return of Hong Kong to the mainland China, it is agreed that the living style and social system in Hong Kong would be preserved. Thus the difference between Hong Kong and the mainland China remained unchanged. Also, since the relation between the Hong Kong Special Administrative Region (HKSAR) government and the P.R. China central government was based on the framework called "One Country, Two Systems", the border control between Hong Kong and mainland China was also preserved. It has been seventeen years since HK was returned to China, but there are still large differences between HK and mainland China in various aspects. Regional integration will still take a long time. In summary, the Shenzhen-Hong Kong region can be regarded as a cross-border region, even it is within one national system.

Regional integration in Asia is quite different from the cases in Europe. Asian countries generally have more complicated backgrounds including culture, history, institutional setup and economy framework. In the HK-SZ case, the complete difference in political and financial structures between the two cities acts as an obvious barrier towards future regional integration. Hong Kong was considered as a free market economy, while Shenzhen still remains a semi-free-market with strong government influence. Though the difference is huge, the two share a lot of common characteristics like language, history, culture and traditions.

The HK-SZ region has enormous potential, but due to great differences between each other, the process of regional integration will not be easy. Compare to cases in Europe and other parts of the world, the HK-SZ region shows lots of special characteristics. To have a better understanding of region and regional integration process, it is vital to answer these questions:

- 1) After 18 years of reunification, does the region have the pre-set to become a more integrated region in the future?
- 2) What progress has the region made towards a better regional integration?
- 3) And, what are the difficulties that still remains?

Due to the limitation of methodology and availability of data, it is really hard to understand the relationship and causality between regional integration and economy growth in the SZ-HK region. Instead, this article will study the region from a history aspect and analyze other important indicators about regional integration, to see how much progress has been made in the region, and identify what kind of barriers that still remains.

In the next section (2nd), we will have a general review of the two cities' profile. This section will introduce the general status of the two cities and the region. It will also discuss the regional relationship in a historical perspective. The third section will review the theoretical framework in regional integration. This part will focus on the five stages of traditional regional integration concluded by Matthiessen (2004). And we will discuss why we use this particular theory in the HK-SZ region. The fourth section will focus on analyzing the empirical data to identify which stage the HK-SZ region is in according to the five stage model. Furthermore we will make comparison between the two cities and identify the barriers for the future integration. The last section will contain the conclusion of this study.

2. The CBR area of Hong Kong and Shenzhen and its background

This section will have a brief introduction of the two cities and have a review of the history in the region. History is the carrier of the regional institution setup. Going through the history, we will find changes of relationship between the two cities. Meanwhile, we will also talk a little bit about the regional conflicts and barriers based on institution difference and mentality of people.

2.1. City profiles

Hong Kong is known for several prominent feature: it's a financial and international trade hub in the Asian-Pacific region; it is a well-known tourist destination and a world famous shopping paradise. Hong Kong was one of the four Asian tigers in the 1970s, and ranks 7th in Global competitiveness index 2013-2014 (2013 World Economic Forum). According to the 2011 population census, population in Hong Kong was 7.1 million. Among them, 93.14% are Chinese or with Chinese nationality. Within this group of people, 64.25% were born in HK, and 34.38% have the birth place out of Hong Kong (including mainland China, Macao and Taiwan (HK census and statistic department)).

Shenzhen is one of the most developed city in the Pearl River Delta (PRD) region in southern China. The PRD region is located in the south coast, Guangdong province, mainland China, which is one of the most developed region in mainland China. SZ was one of the first four special economy zones (SEZs) initiated as part of the opening up policy after 1978. Economic growth in

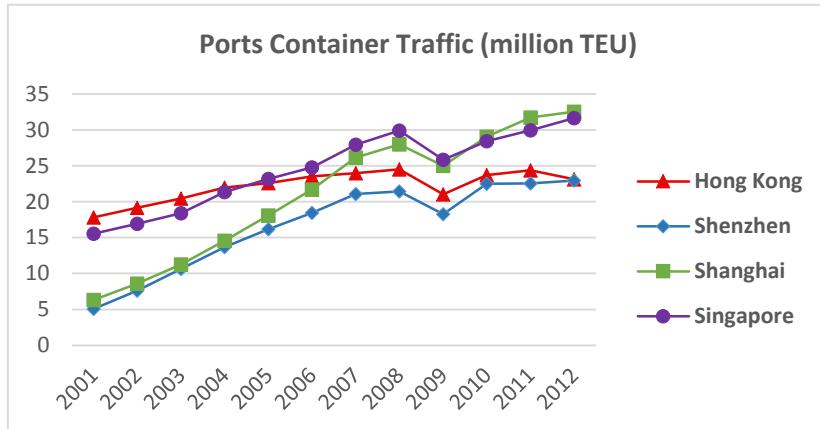
the PRD region benefited a lot by its close proximity to Hong Kong. At earlier stages, when the opening up policy was first implemented, Hong Kong was regarded as a gateway for mainland China to access international capital and market. The PRD region followed a policy called “front shop, back factory”, which indicated that Hong Kong would serve as an international trading and commercial hub while PRD cities would serve as major manufacturing hubs due to cheap labor. This is a very strong evidence of specialization in the region. As a result, the whole PRD region focused on manufacturing. Shenzhen, was the most successful SEZs and benefit most from neighboring Hong Kong. Before 1978, Shenzhen was a small fishing village with barely any industry, production and manufacturing. According to the statistic year book, Shenzhen’s population in 1979 was 30 thousand (Shen & Luo, 2012), but within just 30 years, it became a metropolis with around 10 million population. The majority of the population are immigrants from elsewhere all over China.

	Hong Kong	Shenzhen	Share In The HK-SZ Region	
			HK	SZ
Land Area (sq. km.)	1104.0	1991.6	36%	64%
Permanent / Registered Population (Million)	6.9	2.7	72%	28%
Total Population (Million)	7.1	10.5	40%	60%
GDP (Billion USD)*	248.7	178.0	58%	42%
GDP Growth	9%	20%	31%	69%

Table 1. Comparison between HK and SZ Year 2011

(Own calculation based on data from SZ year books and HK census and statistic department)

There is a great potential for cooperation between Hong Kong and Shenzhen. In 2011, Shenzhen had a GDP of 1150 billion CNY (equal to 178.0 billion USD using yearly average exchange rate in 2011), it is almost one fifth of the total GDP in Guangdong province. While Hong Kong’s GDP was 1936 billion HKD (equal to 248.7 billion USD) (Guangdong year book, Shenzhen year book and HK census and statistic department). The combined population of the two cities is around 18 million, which is close to the population size of Shanghai that has 20 million in population. The two cities has not only similar population scale, but also similar economical and industrial scale. According to 2012 figures, Shenzhen port ranks the fourth in world when it comes to container traffic in volume while Hong Kong port ranks the third. The combined volume of the Shenzhen and Hong Kong ports are likely to exceed the volume of either Shanghai port or Singapore port, that ranks respectively the first and second in world container traffic (HK census and statistic department), as shown in graph 1.



Graph 1. Top Four World Ports Container Traffic (data from HK census and statistic department)

The HK-SZ region also has several niche policies for future regional cooperation. One of them is in the financial sector. In October 2014, the Shanghai-Hong Kong Stock Connect was established to enhance Hong Kong's position as an international financial center and improve the Chinese Yuan's standing as an international currency. Shanghai-Hong Kong Stock Connect is a cross-boundary investment channel that creates connection between the Shanghai stock exchange and the Hang Seng Stock exchange in Hong Kong. The program enables investors from each side to be able to invest in each other's respective market, and foreign investors can invest in the domestic Chinese stock market via the program in Hong Kong. For a long time, the domestic stock market in China had limited access for foreign investors. There were only two choices for foreign investors to invest in Chinese companies: purchase shares listed on Hang Seng in Hong Kong; purchase shares in Chinese overseas-listed holding companies (Market Realist, 2014). The program will increase the speed of internationalization and regularization of the Chinese stock market, and enhance the connection between the two financial centers. There are only two stock exchanges in mainland China, one is Shanghai exchange, and the other one is Shenzhen exchange. It has been said that with the success of the Shanghai-Hong Kong Stock Connect, a Shenzhen-Hong Kong Stock Connect will be established later 2015. The establishment of a new Shenzhen-Hong Kong Stock Connect will certainly enhance connection between the financial market in Shenzhen and Hong Kong, and strengthen both Hong Kong's and Shenzhen's financial sector and create closer relation ties between the two cities.

Unfortunately, the protest in 2014 October exposed a sever conflict in the region. Just as Shen mentioned, "a tension-free regional integration has never existed" in the HK-SZ region (Shen, 2004). The Hong Kong-Shenzhen region is filled with complicated and contradiction settings, many of these settings have deep roots in the complicated history in the region.

2.2. History review

The development of the Hong Kong-Shenzhen region was strongly affected by the history events and political factions in Hong Kong and mainland China. Hong Kong, which was a British colony, had once completely halted official communication with mainland China during the cold war period, because of their difference in political regimes. Especially after 1949 when the

communist party came to power. And the situation didn't change much until Hong Kong returned to China in 1997. But when China initialized the "reform and opening up" policy in 1978 and established four Special Economy Zones along the north-east coastal line, the unofficial interchange between Hong Kong and mainland China increased significantly. After the Sino-British joint declaration was signed between the People's Republic of China and United Kingdom in 1984, the relation between Mainland China and Hong Kong was formally established. Based on the previous research talking about the history of the relationship between Hong Kong and mainland China. According to Jianfa Shen's studies (2003, 2004, 2008), empirical data show that business and nongovernmental communication between Hong Kong and mainland China was strongly impacted by the relation between the two sides, and eventually the development of the cross-border relationship influenced on political decisions on a governmental level.

The relation between Hong Kong and mainland China could be divided into five periods: 1841–1949, 1949–1978, 1978–1997, 1997–2000, and after 2001 according to Shen's 2004 research. But in this article, we are going to divide the history into four periods according to Luo and Shen's work: before 1978, 1979–1996, 19997–2003 and 2004 onwards (Shen & Luo, 2012). The choice of this structure has two reasons: first, the different periods were divided by significant historical events. For example, in 1978, mainland China initialized the opening up policy; and 1997 was the time that Hong Kong returned to China. The events mentioned above changed the relation between Hong Kong and Shenzhen drastically. Second, history before 1978, though still important, has less influence than recent events, particularly those happened after 1984. On the contrary, recent events have had a stronger impact on the cross-border relationship. For example, the mainland and Hong Kong Closer Economic Partnership Arrangement (CEPA) signed the 29th June 2003 marks a milestone that both sides officially began to improve the cross-border relationship. The CEPA significantly changed the policy making in the cross-border development process and strongly sculptured the region. Thus, these events with more impact on the region will be emphasized to separate different time periods in the region.

In Shen's work (2004), a lot of efforts had been done to explain the reason of cross-border urban governance in Hong Kong by introducing a theory called time-space envelopes (TSEs). A TSE is a concept of social and political relations that projects a coherent identity to a space. It is considered as a meaning system that is produced through an articulation of personal, public, and metanarratives (Shen, 2004). The TSE concept was used to understand the founding and transition of different political factions in Hong Kong after 1980s and to reflect the dynamic relation and political powers in the region. Recent opinion polls suggests that citizens in Hong Kong believe that though the political parties in Hong Kong have quite different origins (pro-Beijing or pro-democracy), they have become very similar to each other (NDI report, 2006). In this article, the TSE theory will not be discussed in detail. Instead of using the TSE theory, we only analyze the Hong Kong politics using two major factions, namely "pro-Beijing" and "pro-democracy". To understand the difference between the two political factions and their influences on the regional development. For example, the occupy central movement manifested in Hong Kong not long ago, providing strong evidence to the conflict between the two local political factions, and it also has a strong influence on the regional relationship between HK and mainland China.

2.2.1 Before 1978

Hong Kong was founded as a state-city colony due to the result of the unequal treaties between Chinese Empire (Qing Dynasty) and British Empire (Treaty of Nanking in 1842, Treaty of Beijing in 1860, and The Convention for the Extension of Hong Kong Territory in 1898) after the Chinese Empire was defeated in the First and Second Opium War. The treaties granted British Empire the control of Hong Kong Island, Kowloon and the New Territories. Hong Kong became one of British colonies. As a consequence, the Shenzhen River between new territories and the rest of China became a geographical and political boundary between China and Hong Kong.

Before 1949, the cross-border relationship in the region could be described as having no government control (Shen, 2004). During this period, the two sides were barely populated, and there were few good movements and travelers passing across the boundary. Mainland China was closed to the outside world and the area on both sides of the border were truly underdeveloped frontiers (Shen, 2003). Eventually, the colonial government need more labor as well as other daily supplies and essential commodities to sustain the colony. Some pre-trade relationships were established, but remained in a rather small scale, the cross-border relationship in this period can be characterized as “close and permeable” (Shen, 2004).

The relationship changed quite a bit when the Chinese communist party formed the People's Republic of China in 1949. After the founding of the People's Republic of China, the Chinese government took a consistent position over Hong Kong: Hong Kong is part of China's territory, and China does not recognize the three unequal treaties imposed on it by imperialism (PRC ministry of foreign affairs). But the Chinese government didn't seek for changing the de facto situation. However, the differences in different political sphere and economic structures as long as an embargo issued from UN officially stopped Hong Kong's trading with mainland China. Cold war mentality became the main concern of policy making on both sides, and cross-border exchanges and trading was suppressed. On the mainland China's side, a “second defense line” was established 2 kilometers away from the border, and garrisons were stationed. The purpose of such a “defense line” was to “prevent invasion from the capitalism world”. On the Hong Kong side, a closed-border area, 20 km long and 0.5–2 km wide, was created along the Shenzhen River due to security concerns (Shen, 2004). A patrol team was also deployed along the border line to prevent “infiltration and espionage”. The Hong Kong-Shenzhen border separated Hong Kong from the mainland on political, economic and social level. The cross-border relationship became “separation” (Shen, 2004).

2.2.2 from 1979 to 1996

During the colonial period before 1997, cross-boundary interaction between Hong Kong and Shenzhen was mainly driven by economic factors (Yang, 2005). In 1978, China initialized its "Reform and Opening-up" policies, the cross-border region began to develop at a rapid pace. The opening up policies was designed to liberate markets and utilize foreign investments to generate high growth rate in private sectors. One of the important parts was to found four Special

Economy Zones (SEZs) along the south-east coast line, Zhuhai, Shenzhen, Shantou and Xiamen respectively. Among the four SEZs, Shenzhen was the most successful one due to the geographical proximity to HK.

One of the reason for Shenzhen's spectacular success was that, in this period, the majority of non-local investments in the PRD region came from HK, and it was very convenient to concentrate these investments in areas near HK (Shen, 2002). Shenzhen's geographical proximity to Hong Kong were the main reason that most of the investments from Hong Kong went to Shenzhen. Other reasons were the profound effort undertaken by the Shenzhen government. Among all the cities in the PRD region, apart from that Guangdong provincial government's peculiar position, who had limited power in coordinating between all PRD cities and Hong Kong, the Shenzhen municipal government was the most active stakeholder in seeking joint cross-broader development with Hong Kong. The Shenzhen government implemented numerous incentive policies in the business sectors, encouraging Hong Kong residents with strong connection in mainland China to invest in their home town. It was very common among Hong Kong citizens since the major population in Hong Kong came from or had relevant connections in the Guangdong Province. At the beginning, the policies focused on creating convenience for Hong Kong residents to travel across the border. Later the policies focused on drawing investment from Hong Kong, by improving infrastructure and also offering tax concessions for Hong Kong investors. Due to the relatively cheap labor costs and niche policies, factories opened by Hong Kong investors expended rapidly in Shenzhen. Then, most of Hong Kong's manufacturing sector relocated in the PRD region for lower cost and higher revenue. The policy implemented by Shenzhen government was a typical example of a "low road" development path similar to the German-Polish border region in the EU, which relies on competitive advantage in terms of price competition, and low wages and employment standards (Krätke, 1999). The "low road" path takes advantage of the asymmetrical relation across the border, and uses the divide in income and wage levels to attract investment and industries from the developed side to the other. And due to Hong Kong's important position in international trade and the Asian-Pacific financial sector, lots of foreign investments were also flowing into mainland China through Hong Kong. The cross-border economy was thriving. The best example was the so called "Sino-British Street", located in Yantian district on the east side of Shenzhen, where cargos and products could be traded freely in the street. And police officers from both Hong Kong and Shenzhen walked side by side in the same street.

Contrary to Shenzhen's active gestures towards the cross-border development, The HK government rarely listened to calls for better and coordinated cross-border development (Shen, 2004). The Hong Kong government didn't show a very positive attitude towards the cross-border relationship with mainland China. Ideologically, socialism and the government driven economy in the mainland were considered not an ideal partnership for cooperation at the Hong Kong government level (Shen, 2004). Thus no serious effort was made by the government to consolidate the cross-border infrastructure on the Hong Kong side (Yeung, 2000). Though unwilling to cooperate with mainland China, the colonial government considered that no harm would be done by the mainland. Thus, under the umbrella of a "positive non-intervention policy," the Hong Kong colonial government neither supported nor restricted the increasing cross-border

economic links that were mainly initiated by local businessmen (Shen, 2004). With its strategic geographic position and the role as an international trade and financial hub, Hong Kong was more eager to improve its international competitiveness by using a lot of foreign advisors in higher positions of the colonial government. As a result, the development in cross-border infrastructure in the Hong Kong side lagged behind compared to the Shenzhen side. In the case of the Öresund region integration, Matthiessen (2004) mentioned the impact on regional integration process after the construction of the Öresund Bridge connecting Denmark and Sweden. Thus, the lag of infrastructure development in the Hong Kong side hindered the progress of the regional development.

Though the Sino-British joint declaration agreed that Hong Kong would be handed over to China on the 1st of July, 1997 was signed. It was uncertain about how China would handle such an economy with a completely different social, political and financial structure. Many Hong Kong residents, especially the top elite class, worried about the future. The Hong Kong colonial government took advantage of such concerns and further developed a “Fortress Hong Kong” mentality by implementing a strict policy using a quota system regarding migration and tourism from mainland China (Shen, 2004). Furthermore, Hong Kong, on the government level, practiced a “passive” attitude towards the cross-border relation, on the resident level, social ties, along with cross-border investment activities between Hong Kong and the PRD region continued to expand. This is best illustrated by the rapid growth of passengers going through the border crossing at Luohu. The annual number of exits increased from 12.79 million to 22.95 million in the period 1990–1996. It was clear that private businessmen and residents from Hong Kong played a leading role in the cross-border development, while the contribution of the Hong Kong government was negligible (Shen, 2004).

There are several reasons for explaining Hong Kong’s success in the 1970s. There is no doubt that the unique social-economic system that has evolved in Hong Kong with emphasis on the rule of law, competition based on the free-market principle, and an efficient and corruption-free government contributed a lot to Hong Kong’s economy development. However, the opening up of mainland China has also been one of the most crucial factors behind Hong Kong’s rapid economic growth (Shen, 2003). During the cold war period, before or after 1979, Hong Kong was the only import agent for China to access to foreign products and technologies. The “opening up” further created a strong pulling effect on both economy and industries boost in Hong Kong (Shen, 2004). Hong Kong’s economy has always benefited profoundly from the China factor. But Hong Kong was not only acting as the middleman between China and the international market but also as the economic coordinator and also major investor for developing China, especially the PRD region in the Guangdong province.

Though rapid cross-border development after 1978 has caused profound de-industrialization in Hong Kong, contrary to the conventional de-industrialization story of economic transformation, some scholars (Shen, 2003; Loo, 2002) believe that the manufacturing capacity controlled by Hong Kong had greatly expanded, rather than shrunk since then. Since Hong Kong controlled a massive manufacturing capacity in Shenzhen, and the entire PRD region. Thus the de-

industrialization process in Hong Kong differed from that in western developed economies where the manufacturing declined and was detached from the economy (Shen, 2003).

2.2.3 from 1997 to 2003

Based on the Sino-British Joint Declaration signed in 1984, and with China's resumption of the exercise of sovereignty over Hong Kong, the Hong Kong Special Administration Region was established on the 1st of July, 1997 (Basic Law). Some of the most important principle mentioned in the joint declaration became the foundation of the Basic Law, which is the de facto constitution of HKSAR, for example: article 2 mentions that "The National People's Congress authorizes the Hong Kong Special Administrative Region to exercise a high degree of autonomy and enjoy executive, legislative and independent judicial power, including that of final adjudication...", and article 5 states that "The socialist system and policies shall not be practiced in the Hong Kong Special Administrative Region, and the previous capitalist system and way of life shall remain unchanged for 50 years." It is believed that the handover would become a turning point or milestone for the regional cooperation. But during 1997 to 2003, Limited progress had also been achieved in the co-operation between HKSAR and Guangdong, in particular Shenzhen (Shen, 2003).

One of the reason was the conflict between the two political factions in Hong Kong. 1997 marked for a lot of changes in Hong Kong, economic and political. The changes in Hong Kong's political parties was profound (Michael, 2007). Before the handover, political parties were generally very small, and decisions were often made by a particular prominent figure in the parties. Large scale political parties or political movements were discouraged and suppressed by the colonial government. After the handover, political parties shifted into bigger organizations and changed their names and functions. In the local parlance, political parties in Hong Kong are majorly separated into two factions: the "pro-Beijing" and the "pro-democracy" respectively. This is based on their stance and attitude towards the central government and cooperation with mainland China. However, apart from the different attitude towards central government and relation with mainland China, people in Hong Kong generally found that the platforms of different parties had become very similar to each other (NDI, 2006).

The "pro-Beijing" faction support the central government and longed for a closer relationship with mainland China, especially after 1997. The return of Hong Kong to China benefited the "pro-Beijing" faction, who was "overshadowed" by the colonial government before 1997, great legitimacy. The relation between Hong Kong and mainland was considered as the most important policy above all. The Commission on Strategic Development of HKSAR recognized that capitalizing on the links with the mainland and the PRD region in particular was one of the key strategies for the long-term development of HKSAR in the future (Shen, 2003). Meanwhile, various policy announcements were delivered directly from the chief executive, Tung Chee-hwa. A high-level framework, the "Hong Kong-Guangdong Cooperation Joint Conference," was established in March 1998. The purpose of such a conference was to develop close economic relations with the mainland (Shen, 2004).

On the other hand, the “pro-democracy” faction against the central government and oppose the developing relationship between Hong Kong and mainland. As the sequel of the “Fortress Hong Kong” mentality during the colonial period, the “pro-democracy” faction were openly concerned that close economic integration could undermine the political autonomy of HKSAR. Later, the completely opposite opinions became an openly debate between the two factions. Also, it is believed that to minimize the possibility of the imminent rule of pro-China (pro-Beijing) leaders after 1997 to further their own political interest, the colonial government, led by Chris Patten, deliberately, but subtly, manipulated the anti-Communist sentiments of the people of Hong Kong to keep their distance politically from the Chinese government and the new HKSAR government (Shen, 2004).

As a result of such conflicts between the two factions, the HKSAR government generally showed a reluctant stance for integration across the HK-SZ border, especially in the period 1997-2000 (Shen, 2004). After the handover, Shenzhen became very enthusiastic and active for a prosperous regional cooperation. Many new ideas and visions, such as twin cities, north-south cities and sister cities, were proposed by academic elites and government officials in Shenzhen (Shen & Luo, 2012). Unfortunately, these suggestions proposed by the Shenzhen side received little or no attention from the HKSAR government.

Another reason for the limited cross-border development was due commitment to the implementation of “one country, two system” policy in Hong Kong from the central government. In the Basic Law, article 22, it states:

“No department of the Central People’s Government and no province, autonomous region, or municipality direct under the Central Government may interfere in the affairs which the Hong Kong Special Administrative Region administers on its own in accordance with this Law.

If there is a need for departments of the Central Government, or for provinces, autonomous region, or municipalities directly under the Central Government to set up offices in the Hong Kong Special Administrative Region, they must obtain the consent of the government of the region of the Central People’s Government.” (Basic Law, Article 22)

Guangdong provincial and Shenzhen municipal government had long realized the importance of the economic relationship with Hong Kong since 1978. However, none of them were able to take initiative after 1997 because it could be considered as intervening in Hong Kong’s domestic affairs (Yang, 2005). Since Hong Kong was reluctant to accept any regional integration suggestions, and the provincial and municipal governments had little power in regional cooperation while the central government preferred a low profile in affairs related to Hong Kong, the demand for further regional development was put aside. Disappointedly, the HKSAR government did not play a leading role in strengthening cooperation in the region.

Controversy to the “inaction” attitude from the government, the economical bond between Hong Kong and the mainland became more and more important. The increase of travelers across the border was significant. Due to high living standards and extremely high population intensity, lots

of Hong Kong citizens preferred to acquire properties in Shenzhen or travel to Shenzhen during the weekend for grocery shopping. In the survey, it shows that if convenient and economic cross-border transport services could be provided, cross-border suburbanization would take place so that many Hong Kong residents could improve their housing and living standards dramatically at an affordable cost (Shen, 2003). The increasing economical relation not only improved the bond between the two cities and its citizens, blurring the existence of the border, and the identification difference between mainland Chinese and Hong Kong citizens (Michael, 2007). The Hong Kong mentality began to change, albeit slowly.

Before the handover, most analysts anticipated that the greatest challenges for the new HKSAR would be political, not economical (Michael, 2007). After 1997, Hong Kong was stricken by a series of continuous external crisis: At the end of 1997, the Asian Financial Crisis (AFC) spread across most of Asian countries, though Hong Kong's currency was linked to U.S. dollar, thus it prevented a significant sink like other Asian economies, but it still struck Hong Kong hard and caused severe unemployment. When the 2000 Dot-com bubble shook the confidence of investors. The most deadly crisis was the breakout of Severe Acute Respiratory Syndrome (SARS) in 2003, severely damaging the tourism industry in Hong Kong. Around 300 people died in Hong Kong (59 in Guangdong) during the breakout, the plague spread fear among people, causing reduction in consumer, retail, and service industries. To save Hong Kong from further recession and bolster the recovery of the economy, the CEPA was signed between the HKSAR and central government in 2003.

After the handover, people were more interested and engaged in politics than before 1997. Politicization of the Hong Kong population made it possible for different voices and opinions to coexist at the same time. This is partly because Hong Kong always put high value on the right of free speech before 1997, partly due to increases in their opportunities to be involved in political activities after 1997, such as elections (Michael, 2007).

2.2.4 from 2003 onwards

The official cooperation between Hong Kong and Shenzhen started from mid-2003. On the 29th of June 2003, the Mainland and Hong Kong Closer Economic Partnership Arrangement (CEPA) was signed between HKSAR and the central government. The CEPA agreed that Hong Kong will have a closer economic relationship with the central government, provincial and municipal governments in mainland China. According to CEPA, one of the most focused regions is the PRD region in the Guangdong province, including 11 cities (Hong Kong, Macau and 9 cities in Guangdong Province, mainland China). Later in 2004, the HKSAR government and Shenzhen municipal government signed the Memorandum of Enhancing Hong Kong-Shenzhen Cooperation and 8 sectors cooperation agreements on tourism, technology, legal service and other key sectors, regarded as the "1 plus 8" (Shen & Luo, 2012). The "1 plus 8" was a sign of the starting point of the regional cooperation on a governmental level between the two cities. Under the framework of "1 plus 8", the two cities will implement cooperative initiatives in education and technology, for example, the establishment of branches/campuses in Shenzhen by several universities from Hong Kong and

cooperation between Shenzhen Hi-tech Industrial Park and Hong Kong Science Park (Shen & Luo, 2012).

Later, in the published report “Hong Kong 2030 Planning Vision and Strategy”, by the HKSAR Planning department in 2007, it emphasized that “Hong Kong cannot afford to be complacent about its strength in physical infrastructure. In particular, continuous efforts should be spent on broadening its physical links with the rest of southern China and create a closer co-ordination with mainland authorities in a number of key areas concerning future infrastructure planning and development” (Planning Department, 2007). In this report, it created a vision to set Hong Kong as an “Asian World city”. To achieve such a goal, Hong Kong needs to utilize its advantage and resources, and among all of them, the economic link with the mainland is still undoubtedly the greatest advantage in sustaining growth in the long run (Planning Department, 2007).

One target of the plan is to improve the cross-boundary facilities and infrastructure to meet the increasing demand for passenger, vehicle and cargo flows as well as the growing number of mainland visitors (Planning Department, 2007). To strengthen physical links with the mainland, several working in progress projects are scheduled: Hong Kong-Shenzhen Western Corridor (SWC), connecting the west part of Shenzhen and the new territory region in Hong Kong, easing commuting traffic between Shenzhen and Hong Kong, officially opened in 2007; Hong Kong-Zhuhai-Macao Bridge (HZMB), to create a linkage between the east side and west side of the PRD region, further enhancing the regional integration in the PRD region, is due to be completed in 2016; and Guangzhou-Shenzhen-Hong Kong Express Rail Link (ERL), linking the three major cities in the PRD region with high speed railway, providing a fast and convenient travelling method between these three cities, is planned to be completed in 2018.

Another aspect is to improve the efficiency of cross-border travel between Hong Kong and mainland China, expanding current customs infrastructure in the boundary areas to increase the capacity of handling travelers and implementing new methods or policies to make the checking procedure easier. New cross boundary facilities are also planned to be put into use in the future, for example the Eastern corridor and Liangtang/Heung Yuen Wai Control Point, are expected to be finished in 2018, this will reduce the travelling time between Hong Kong and the east part of Shenzhen. All of these infrastructures are aiming for the goal to achieve the PRD Inter-city Rapid Transit, creating a “one hour living circle” from Hong Kong, Marco to other PRD cities and vice versa.

Furthermore, Hong Kong is also planning to capitalize and invest in strategic locations in the boundary area which will be considered as an opportunity for regional development. For example, the Lok Ma Chau Loop, located opposite to Shenzhen’s Futian commercial area, is considered to be of use for commercial and high-tech development that would benefit Hong Kong’s economic and regional development. On the other side of the border, “Shenzhen 2030 Study”, approved by the Shenzhen People’s Congress in July 2006, also stated that “Shenzhen’s future will hinge on joining forces with Hong Kong to develop into an international megalopolis” (Planning Department, 2007). Shenzhen will have further cooperation with Hong Kong in High-tech industries, logistics and high-value added services.

The change of the regional development strategy did not only focus on investments in infrastructures and constructions, but also focus on cross-border institutional building. A joint organization recognized as the Expert Group on Hong Kong/Guangdong Town Planning and Development, set up under the framework of the Hong Kong/Guangdong Co-operation Joint Conference, in charge of coordinating the planning and development in the PRD region, held their first meeting in 2004. The Expert Group coordinates several government departments in various cities and legislative regions, including: Department of Housing and Urban-rural Development of Guangdong Province; Development Bureau of HKSAR and Land, Public Works and Transport Bureau of the Macao SAR. Such institution set-up is quite similar to the Öresund region. Though the Öresund committee, which is the governance body of the Öresund region, does not have any governing legitimacy or authority power, it is still very important in managing the integration of regional labor market and coordinating tax systems in the region. Another more similar part is that Denmark and Sweden have very different institutional set-ups, social dynamics, political visions, governance structure, regulations and identities. But the Öresund committee managed to bridge the communication between each other.

In 2009, the Expert Group published a report with the name “Planning Study on the Co-ordinated Development of The Greater Pearl River Delta Townships” (short for Planning Study). The report was viewed as a high level guidance research report and a reference for regional cooperation and cross-border policy making for the three governments, namely Guangdong province, HKSAR and MSAR. The report including plans in four dimensions: 1) Master Spatial Coordination Plans, 2) Plans for Cooperative Development of Transportation, 3) Ecological/Environmental Protection Plans and 4) Cross-boundary Cooperative Development Plans (Planning Department, 2009).



Graph 2. Zoning of cross-boundary cooperative development plans (Planning Study, 2009)

In the report, new terms are mentioned and new regional joint development areas are zoned. Many of the joint cooperation zones are planned along the border between Hong Kong and

Shenzhen, separated by their purpose and functionality, they can be categorized as joint innovation zones, logistics zones, education co-operation zones and tourism and commercial co-operation zones. With these plans and governmental level coordination, the HK-SZ region seems to have a promising future.

It is hard to draw a conclusion of what are the reasons causing such a dramatically “U-turn” in the HKSAR government’s attitude towards the cross-border relationship with mainland China. But we can get a general idea from several factors:

Firstly, the influence of the “pro-democracy” faction declined dramatically after the resignation of the former chief secretary for administration in April 2002. The open disagreement among the top government officials on the relationship with the mainland subsided (Shen, 2004). Though it is still a huge debate among the HKSAR officials and residents regarding which position should the HKSAR take towards the regional integration, it is showing a fact that the argument that Hong Kong will suffer from close economic integration has been outweighed by the argument that close economic integration will benefit the city-state (Shen, 2004).

Secondly, economy in Hong Kong declined due to the 1997 AFC and 2001 Dot-com bubble. Hong Kong’s rank in the growth competitiveness index (later became global competitiveness index) fell from second place in 1997 to thirteenth in 2001. Rank in GDP per capita also fell from fourth in 1997 to seventeenth in 2000 (World Bank 2002). On the other side of the border, especially after China became a member of WTO on 11th, December, 2001, a lot of opportunities was brought to the PRD region. GDP and other economic indicators were growing rapidly in the PRD region. In 2001, the entire Shenzhen port handled a total of 5.07 million TEUs and had become the eighth busiest container port in the world. Moreover, Shenzhen had successfully developed its own high-tech industry without much cooperation with the HKSAR government.

During the 1979-1997 period, the relationship between Hong Kong and Shenzhen could be described as “complementary development”, cooperation is much stronger instead of competition between the two neighboring cities. However, after 1997, while Hong Kong suffered from economy recession caused by the 1997 AFC and other political or economic problems, cities in the mainland were protected by direct government control in financial sectors and a stable political environment, thus they were not severely influenced by the AFC. And, with the growing strength of mainland cities, the economic relationship between Hong Kong and Shenzhen is in flux (Shen, 2008). Shenzhen, alone with other PRD region cities now demanded more balanced horizontal development strategies other than the existing vertical model of “front shop, back factory”.

Thirdly, Hong Kong had been facing increasing challenges from other Asia-Pacific cities. One of the biggest threats is Shanghai in mainland China. Located in the Yangtze River Delta Region with substantial R&D facilities in the east coast of China, Shanghai started to boom in the early 90s and caught up with other Asian competitors at a fast speed, and soon surpassed them. Other Asia-Pacific cities, like Singapore, Seoul and Sydney, are competing to become the next financial center in the pacific rim. These cities are challenging the position of Hong Kong as an

international financial hub and brought immense pressure to the HKSAR government. Part of the Hong Kong's citizens began to rethink the "Fortress Hong Kong" mentality, starting to realize that integration with the mainland will increase the competitiveness and eventually benefit themselves. Some scholars started to urge government officials to change their old fashioned colonial attitude of distancing Hong Kong from the mainland and to increase their knowledge about mainland China (Mingpao, 2002). The government also began to realize that "maintaining a close relation with our most immediate neighbors, Shenzhen, Macao and Zhuhai, is of particular importance" (Planning Department, 2007).

It seems the regional development strategy shifted from the "low road" path into a "high road" path. The "high road" path involves regional development on innovation and regional cooperation in a higher level, with an increasing technological and industrial competence on both sides of the border (Krätke, 1999). Also, the asymmetric development in the region has a tendency to become more symmetric development, due to the catch up effect from the Shenzhen side in various sectors (see graph 6, 7, 13 and 14).

2.3 Regional conflicts and Barriers

As mentioned earlier, the SZ-HK region has never been a "tension-free" area. There have always been conflicts in this region, but different from territorial conflicts between countries, the conflicts in SZ-HK region are more based on difference in ideology and contradiction on identities. During the cold war period, the border between Hong Kong and Shenzhen was the frontier between two ideology regimes. When the "opening up" policy was implemented in mainland China and Shenzhen SEZ was established in 1979, economic benefits weakened the ideology conflict in the region but it wasn't able to eliminate it. Then after the reunification in 1997, the ideology conflict evolved into conflict between political factions, namely the "pro-Beijing" faction and the "pro-democracy" faction. There are quarrels between the two factions on various issues: the approval of the 2017 chief executive election procedure, approval of basic law article 23 (also regarded as "anti-subversion law") and other regional integration agendas between Hong Kong and mainland China. Both sides consider these issue as their core values and principles, which leave no space for compromise.

The occupy central demonstration (also known as "umbrella movement") that started in 2014 October was the ultimate confrontation between the two political factions. The movement was triggered by the Standing Committee of the National People's Congress' (NPCSC) due to the proposed reforms to the Hong Kong election system in August, 2014. According to the decision, the Chief Executive shall be a person who loves the country and Hong Kong. Two to three candidates will be nominated by a nomination committee consisting of 1200 representatives for the 2017 HKSAR Chief Executive election. A candidate must receive the support from more than half members of the nomination committee to be nominated. Then the election will implement universal suffrage for the first time in Hong Kong's history. After the election, the winner will be appointed as the HKSAR Chief Executive by the central government. As a summary, as requested by the central government, the Chief Executive of HKSAR should be someone who can represent both China and Hong Kong, supported by the majority people representing Hong Kong society

and different industries, popular among Hong Kong's people and maintain a good relationship with the Central Government. It is going to be the first time for Hong Kong to implement universal suffrage, which is a huge leap forward towards democracy. But, such expectations did not favor the "pro-democracy" faction (also called "anti-Beijing" faction), since they generally didn't have a good relationship with the central government in Beijing; and they cannot guarantee to get the support from more than half member of the nomination committee, since the pro-democracy faction were generally against regional cooperation and integration. But the conflict between the two factions was not the only reason lead to the umbrella movement.

On the citizen level, conflicts are less political, but more about identities and competitions. In the past, Hong Kong benefited a lot from being the middle-man between China and the global markets. But now China has opened up to the world, business that seeks market in China does not have to go through Hong Kong to access China. The power and influence of Hong Kong is not as strong as in the later 20th century. Furthermore, affected by the 2008 financial crisis, more people are worried about economic recession and unemployment. For the young generation in Hong Kong, they no longer have the superior feeling of being one of the "Asian Tigers", and opportunities are limited for them. Furthermore, they have to face a more competitive generation from mainland China. Some of them fear that they will be taken over by mainland Chinese in competitions. Similar to what happened after the establishment of the EU, though national borders within the EU lost their historical function as boundaries of trade, commuting and migration, the mental and emotional meaning of borders continues to be important to people, and they still conceive the borders as dividing lines in their daily activities and identities (Matthiessen, 2004). One of the main concerns from the anti-integration camp may relates regional integration with assimilation. Due to the colonial history, people in Hong Kong have a special identity. Even nowadays, they are still arguing that whether they should call themselves "Chinese Hong Konger", "Hong Kong Chinese" or just "Hong Konger". Either way, Hong Kong did create a very special identity different from anywhere else. After CEPA, an Individual Visit Scheme (IVS) was introduced that leads to frequent travelers and visitors from mainland that boosting Hong Kong's tourism. But the IVS also leads to a by-product calls "parallel trading". Parallel trading is a smuggling action unique in the SZ-HK cross-border region that frequent cross-border travelers who take advantage of the tax free policy for personal belongings and smuggle products through customs. Some Hong Kong residents complain that parallel trading overload infrastructures and disturbs the daily life. They also attribute parallel trading to cause rent inflation and shortage of daily goods.

All these conflicts, complains and fears added up and lead to angers towards the HKSAR and central government, and leads to a series of demonstrations which starts with the "umbrella movement". The pro-democracy faction encouraged students to go on strike in the name of "democracy" and request that the NPCSC withdraw the decision to gather political capital to counter it, the movement paralyzed the city and tore the society apart; protests participated by majorly young people and students against parallel trading in late February and early May, evolved into violent confrontations and attacks targeting mainland visitors, creating horror among tourists. Though the movement was ended, trouble makers and organizers were arrested,

and the attacks targeting tourists were censured by all parties and groups in Hong Kong. It still revealed that how these conflicts could develop into.

For the “parallel trading”, governments immediately coordinated alters in the regulation, limiting traveling times and frequency of frequent travelers from the Shenzhen side. It is a step back of the regional development, but it eased tension in the region. But for the 2017 chief executive election procedure, it is unlikely to have any solution in the foreseeable future. Though more and more people were willing to sit down and discuss the election method based on the 831 NPCSC decision. After all, to use universal suffrage for the first time is still a huge step forward towards Hong Kong’s democracy development. But the pro-democracy legislators claimed that they would veto the method of selecting the Chief Executive by universal suffrage in 2017 proposed by the HKSAR, which is based on the 831 NPCSC decision. It seems at current stage, there is no way to achieve mutual understanding. And it will certainly hinder the regional cooperation on a governmental level. And in the matter of regional cooperation and integration, it is quite predictable that there will be both supporters and opponents. As stated in research about the Öresund region, barriers like identities and institutions may only be able to change after considerable time (Lundquist & Winther, 2006). And it is quite certain that it will not be an easy process in Hong Kong.

It is obvious that Hong Kong is at a crossroad. Both sides of the conflict have supporters on the street. For example, during the “umbrella movement”, when the students were protesting against the HKSAR government and the central government, lots of people and groups formed anti-protest protests against the movement. But, after the turmoil of the movement, the confrontations between the two political factions still carries on. Eventually, a large portion of the disagreement was not merely about the future election system in Hong Kong, but more about Hong Kong citizen’s contradicting feelings towards Beijing central government and a closer regional cooperation with mainland China. In Matthiessen’s work (2004), he mentioned during the transition of regional integration, the region will experience a procedure that people might change their negative feelings for the regional integration towards a more positive tone. We will discuss more details about this theory in the next section.

3. Conceptual Framework

In the conceptual part, we will introduce the CBR theory, focusing on a more tradition regional-integration model introduced by Matthiessen (2004). We will also talk about how to implement the theory framework to the HK-SZ region, and compare the HK-SZ region with the EU region.

3.1 Cross-Border Region (CBR)

Borders have both material and symbolic usages, some of them have a physical presence and others do not. But all borders are typically the carriers of a wider symbolism as the material embodiment of history – as “time written in space” (Anderson & O’dowd, 1999). They have the historical heritage that used to define countries and societies, a line drew the definition between

“local” and “outside”. Borders are also a existence of contradictions and conflicts, for example, the overlapping claim of territories. On one hand, they are barriers to bar the outside world out, but on the other hand they are gateways that lead to the communication to the outside world. One way to solve the conflict and contradiction created by borders is by enhancing the barriers, thus separate the world outside from inside the border. But history shows us that in most cases, this solution seldom leads to success. While the other solution is contrary to the previous one: by opening up the gateway and lowering the barriers (Anderson & O’dowd, 1999). Opening up the gateway or create a cross-border relationship, does not only mean to breakdown the physical existence of border, but also to break down people’s mentality and identification which established base on existing borders.

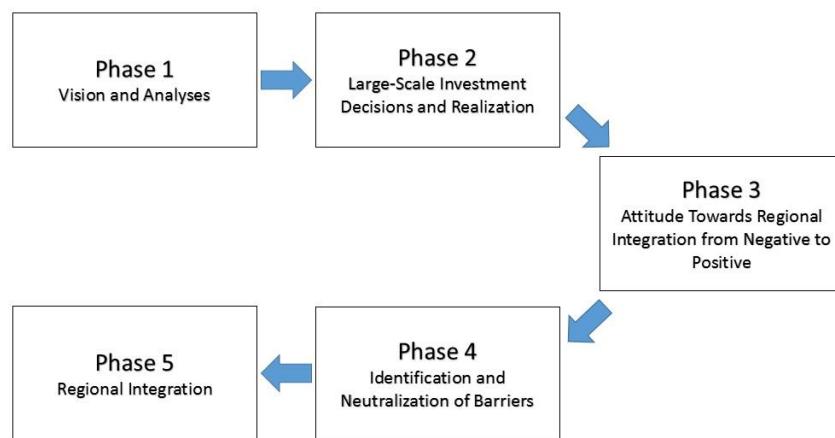
Cross-border region, in simple definition, is an area consisting of adjacent territories belonging to different nation states (Lundquist & Tripli, 2009). The origins of [CBR] in Europe may be traced to certain areas of Europe, such as the BENELUX countries, the western border of Germany, or the Swiss-French-German border areas, where various collaborative initiatives date back to the 1950s and 1960s (Perkmann, 1999). The original reason for regional cooperation was to seek improved conditions for stability and long-term sustainable peace after World War II (Lundquist & Winther, 2006). But since war is no longer a threat for European countries and also due to the increasing process of globalization, cross-border regions serve as unique opportunities in economic development, industrial cooperation and knowledge generation.

From the European Commission’s perspective, cross-border initiatives are not specifically designed to enhance local or regional institutionalization, but are amongst numerous programs designed to promote integration (Church & Reid, 1999). Based on the EU’s integration policy, several research papers focused on European cross-border regions were made in the past few decades. Some research focused on different approaches and angles: Church & Reid (1999), Scott (1999) talked about the importance to establish institutional thickness, and Hospers (2006) and Matthiesen (2004) talked about the importance of investment in regional transportation and infrastructures. Others focused on different geographical regions: the Öresund and Centrøpe by Lundquist & Tripli (2009), the Polish-German twin city Guben/Guben by Matthiesen & Bürkner (2001) and other regions studied by Otgaard, Meer, Berg & Speller (2001).

In the previous researches, it is more and more clear that there is no “one-size-fits-all” regional policy models for all the regions, because the region policy has to be embedded in the very region’s spatial settings. The more diversified the regional structure, the better it is, because diversity triggers new ideas, induces knowledge spillovers and provides valuable resources required for innovation (Asheim & Boschma & Cooke, 2010). But too much difference in language, culture, specialization, identification and technology trajectory may also hinder the knowledge spillover due to cognitive limitations. Because of the diversity, dynamic condition and uneven development stage in different region’s embedded spatial settings, a specific regional development policy must be selected for the very region.

According to the historical review of the HK-SZ region, we realize that the development of the region, especially the official development plan started in the late 1990s. Though it has been 18

years, the regional development is still in a rather early stage compared to other counterparts in Europe. We do not expect to use the regional knowledge generation model, which is suitable for a higher level of regional integration like the Öresund region. In the HK-SZ region, as mentioned in the previous sector, it is very obvious that most of the current regional development projects in HK-SZ region focused on investment in infrastructure and transportation. Thus we will use a more traditional regional integration method to analyze the HK-SZ region. In this article we will use a five phase model developed by Matthiessen (2004) based on the development in the Öresund region. The model has a very good summary about the different stages in the process of achieving regional integration.



Graph 3. Five phases of regional integration (concept from Matthiessen, 2004)

Phase 1 requires governments from both sides to cooperate with each other to define and picture an integrated region. In this phase, researchers need to identify the possible specialization for each side, and figure out the potential barriers in the region. It would be beneficial to establish an overseeing institution or committee to coordinate discussion and research in the region.

Phase 2 requires a huge amount of investment from both sides to improve infrastructure, especially transportation infrastructures like bridges, roads or rail ways. These investments would be great help to overcome physical barriers and reduce travel time between the two sides. Also, incentive policies are needed to increase regional travelers and make it possible for workers to commute. All these improvements are going to increase communication and enhance the links between the two sides dramatically.

Phase 3 is going to be a “lengthy procedure” for people to overcome negative feelings between each other and recognize a new and unified identification. If one of the two sides in the region has a stronger economy or culture, it is much more likely to become the leader of the integrated region and even assimilate the other. Similar language will have a positive effect during this stage. This will make the regional integration easier, it is not necessarily a better situation, since the leading side lose the opportunity to learn from the other. On the contrary, if both sides have similar strength in their respective economy, each side has their own culture, and both sides share no similar language, regional integration will be extremely hard.

Phase 4 is to further tackle down legal, technical, financial or organizational barriers, which serves as an enhancement to the current condition. And the last one, Phase 5 is the final stage for regional integration. The five phases model focuses on a more traditional or fundamental regional integration, which was used to describe the regional integration process in Öresund region by Matthiessen (2004). However, none of the current regions achieved the final stage of regional integration. In the next sector, we will use this model to analyze the HK-SZ region.

Apart from the identification of different phases, it is also important to notice and observe key indicators during the transition of different phases. One of the indicators is the degree of institutional integration. During the process of regional integration, institutions on different level will be formed to handle regional affairs, coordinate regional development and resolve regional conflicts. But it is a highly abstract concept, thus impossible to measure by quantitative methods. The institutional integration can be further derived into two levels, informal and formal respectively. In the informal level, non-government organizations (NGOs) and companies, as well as other civil organizations, will be a vital part in the regional integration. NGOs in the region can range from academic forums in different fields to committees representing different groups of people. NGOs will be the active organizers in various events in the region, helping improve communication and understanding on both sides. It will help to boost up the speed of culture integration and creation of regional identification.

Companies are also vital in the informal institutional integration. Firms can create niche networks and a knowledge thickness for certain industries that can help knowledge transfer, human resource flow and knowledge generation. Knowledge spillover is a procedure when technology flows from an advanced region to a less advanced region. The procedure will help the technology spread from central regions to peripheral regions and level up the technology level in the less advanced region. Meanwhile, the free flow of human resource in the region can create a niche surrounding that benefits all companies in the related industry by training qualified staffs. Companies can also hire commuter workers that will indirectly improve communication between each other. When everyone in the region end up with the same technology level and a joint labor market, knowledge generation will occur due to knowledge thickness and niche environment.

On the other hand, in formal level, government joint activities including infrastructure construction, resource utilization, urban planning, policy and regulation making will be very important to the region. The key feature for formal institutional integration, from the experience in EU (Krätke, 1999; Matthiessen, 2004; Lundquist & Winther, 2006), is that the governments are highly organized and well-funded. Joint Political decision making and collective planning from the super-national level plays a vital part in the process of integration in Europe. Formal institutions can be also organized as regional academic forums or local committees. These institutions will work out a better way to achieve an efficient and effective regional integration procedure.

However, political collaboration in regional integration requires continuous negotiation and compromise from each side, which is almost impossible to achieve from a top-down government structure from the super-nation authority like EU. At the beginning of 1990s, the concept of multilevel governance emerged in the EU region. Two models of governance have evolved during

the course of European integration, namely state-centric model of governance and multilevel governance (MLG). The first one poses national governments as ultimate decision makers with decision making determined by bargaining among national governments; the second one requires more independence, between governance and non-governance in multiple territorial level. Apparently, the state-centric governance model is not ideal for a CBR, due to the complicated negotiation procedure at national level. And for the MLGs, to be more detailed, we can derive MLGs into two types: type-I MLGs are the more conventional way that disperses the governance authority into several general purposed and fixed jurisdictions at different levels in a more hierarchical structure; while type-II are more task-specific with flexible jurisdictions (Yang, 2005). The type-II MLGs are more common in existing CBRs.

3.2 Theory implementation and previous researches in HK-SZ Region

In definition, CBR should exist in a region with “different nation states”. The HK-SZ region was a different-nation-state-border due to the fact that Hong Kong and Shenzhen belonged to two national systems before 1997. Currently, the two cities are in the same national system, but based on the Basic Law, Hong Kong is a city-state with high level of autonomy and also completely different social, institutional and financial structures compare with mainland China. There is still an existing physical border between Shenzhen and Hong Kong. The CBR theory could still be adapted to this region.

The border between the two cities is the equivalent of a “national border” within one nation. If comparing the case to EU, the central government can be regard as a “super-national authority”. In regional cooperation affairs, the two cities need to negotiate on their own behalf, meanwhile the two cities also need to be coordinated by Guangdong provincial government and supervised by the central government. The governance structure in the HK-SZ region can be regarded as a MLG. In Yang’s work (2004), the MLG model, especially the type-II MLG model was studied in the HK-PRD region. Yang talked about the transition in government decision making mechanism in the region before and after two important time points, 1978 and 1997, which both change the institution set up dramatically. Since the early 1980s, there was clear tendency of decentralization in China’s governance structure (Shen, 2007), creating an institution set up for future regional institution reform.

Not like the Öresund region and other cases within European region, which was studied by numerous researchers and from different angles, limited research has been conducted in the HK-SZ region and the HK-PRD region. Apart from a few experts like Shen and Yang conducted researches in the region from several angles: urban and regional development (Shen, 2002); cross-border connections (Shen, 2003); cross-border urban governance (Shen, 2004) and multilevel governance (Yang, 2005); inter-city relation and urban system (Shen, 2008 & 2012), most of the research were conducted by governmental departments.

Apparently, we still have very limited knowledge about the HK-SZ region and the implementation of regional integration theories in the region. With better understanding of which phase the HK-

SZ region currently is in, it will provide positive effect to the region and help the region grow in a faster speed and a healthier way.

4. Methods, data selection and limitation

According to De Lombaerde P. & Van Langenhove L. (2005), to create a system of indicators of regional integration (SIRI), several criteria need to be fulfilled:

First, the indicators should be easy to understand and measurable, no abstract dimensions or qualitative descriptions should be included in the data set. Second, the indicators should be important and significant, data with strong impact that can reflect major problems should be preferred. The indicators should also include certain sectors: economic integration including trade policies and other integration policies; functional regional cooperation including transport policy and regional transportation network; governance, financial and functioning of institutions including institutions (performance of specific institution and numbers of meetings), budgets and recruitment policies; implementation of regional fund including progress on appraisal, decisions and disbursements (De Lombaerde & Van Langenhove, 2005).

All these sectors mentioned above may not be the perfect combination of data sets, but it certainly provides a clear view of which sectors that should be looked into. To sum up, sectors related to economic development in the region, travel and communication across the border, regional governmental level decision making and institution structures, human resource policies and regulations in the region, regional investment and funding. Meanwhile, it is suggested that during the integration process, significant qualitative steps, breakpoints, accelerations or crisis that deserve to be addressed should also be mentioned (De Lombaerde & Van Langenhove, 2005). As a result, showing a change in a long term time series based data will help researchers to understand the region's current development stage and future trend better. Also, by observing the regional data in a long period of time may help researchers to reveal some important facts, obstacles and challenges.

In a practical case, not all the principle has to be followed, but it certainly gave a very good example for how to execute regional integration. In Lundquist and Trippl's work (2009), economic and industrial structure, knowledge infrastructure, nature of linkages, governance and institutional setting and physical proximity are observed and analyzed. The data used in the research was like taking a snap shot of the region. Comparative analysis and description for the region are conducted. Though it doesn't take any account for changes or transitions through different periods, it gave a very in-depth and comprehensive view to the region mentioned in the work, Öresund region and Centrøpe region to be more specific.

Due to Hong Kong's geographic characteristic, it has been recognized as one of the busiest international ports and financial hubs in the Asia-Pacific region in the late 1970s. After 1989, it also served as a gateway for the closed mainland Chinese economy for access to international investment and technology. Nowadays Hong Kong is a world famous international trade, financial

center and tourist destination. According to Hong Kong Census and Statistics Department, the traditional four Key industries in Hong Kong are financial services, trading and logistics, tourism, and professional and production service. They have been the driving force of Hong Kong's economy for years. However, international trade, tourism and other forms of services are mainly influenced by external factors, it is difficult to explain and reflect the status of the city, and thus we only take the import and export values and exclude the tourist sector.

Based on experience from those research (De Lombaerde & Van Langenhove, 2005; Lundquist & Tripli, 2009), we selected the following sectors in the data set to observe the regional development: population and GDP in the region; employment in the financial sector; employment in manufacturing sector; employment and expenditure in the education and research departments; volume of international trade; size of other infrastructures and volume of passenger traffic. These are important data or factors in the region and each city, and have higher possibility to reflect the situation in the region. Of course, some of the data may not be the perfect choice for the region. But due to data accessibility, we take some proxy to achieve similar result. For example, there are several ways to measure the size of financial sector, like the total deposit or size of the stock market, but these indicators are hard to compare between the two cities since they do not share the same standards, thus we take the labor market of the financial sector to estimate their size.

In this article, we will use data from 2000 to 2011. The reason for selecting this time period is that as mentioned before, 2003 is an important turning point in HKSAR's attitude towards regional integration. We want the data to reflect the difference before and after such an important time period. The period from 1997 to 2000 may also be important, but they will have a less effect on recent event, especially after 2003. Meanwhile, from 1997 to 2000 was the time that Hong Kong just reunified with China, it was still in a period of adjustment, it was a transition period from the old colonial government's method of handling the regional situation to the newly established HKSAR government. Data in this period will have less significance to the region. On the other hand, 2011 is the year that Hong Kong conducted its population consensus, it provides highly reliable figures for the population and other economic indicators. Data after 2011 is generally hard to access. To make it comparable and easier to analyze, we exclude data after 2011.

In the later part of this sector, more detailed reasons of data selection and data analysis will be presented. All the data are gathered from statistic year books from both Shenzhen and Hong Kong and other government reports, due to the difference in statistical standards in these two cities, some data are trimmed and recalculated. For example, the currency in the two cities are different. In mainland China, Chinese Yuan (CNY) were used, and in Hong Kong the Hong Kong Dollar (HKD) were the official currency. To make it possible to compare the data, all currencies were transferred into USD using annual average exchange rates. Meanwhile, difference in statistical standards even exist in the same city. For example, from 2001 to 2007, Hong Kong was using the Hong Kong Standard Industrial Classification Version 1.1 (HSIC 1.1), a local adaption of United Nation's International Standard Classification. The HSIC is strong affected in the classification in different industries, due to different classification, industrial or sectorial output

and employment can be quite different under different classification. After 2008, HSIC 2.0 was used. The purpose of using the new standard is to make it easier to reflect the major economic indicators and also mark the development in Hong Kong. Take manufacturing sector for example, throughout the years, the manufacturing sector became less and less important, thus in the new issued HSIC 2.0, some minor manufacturing industries were dropped from the statistical results. These changes make it a little bit hard to keep the consistency of data during the period we chose. To make the data consistent and possible to compare between the two cities, we trace back to the original detailed data in different industries and recalculate the employment in most of the sectors we choose in our data sets, to ensure the data related to different sectors can be compared before and after the adaption of the new HSIC 2.0 standards.

Moreover, the daily traffic is estimated by averaging the total amount of the travelers during the two-week-survey in the cross-boundary travel survey from Hong Kong. The survey was conducted by Hong Kong Planning Department in 1999, 2001, 2003, 2006, 2007, 2009, 2011, measuring all passengers traveling crossing the border through all 11 immigration control points. In the published Cross-boundary Travel Survey 2011, only data of four years were published 2003, 2007, 2009 and 2011. Thus, average daily travelers of year 2001 and 2006 were calculated via total travelers during the survey period in those two years. Meanwhile, in 2011, the category of leisure was re-defined, thus it might be a problem for the leisure number in 2011 to compare directly with other years.

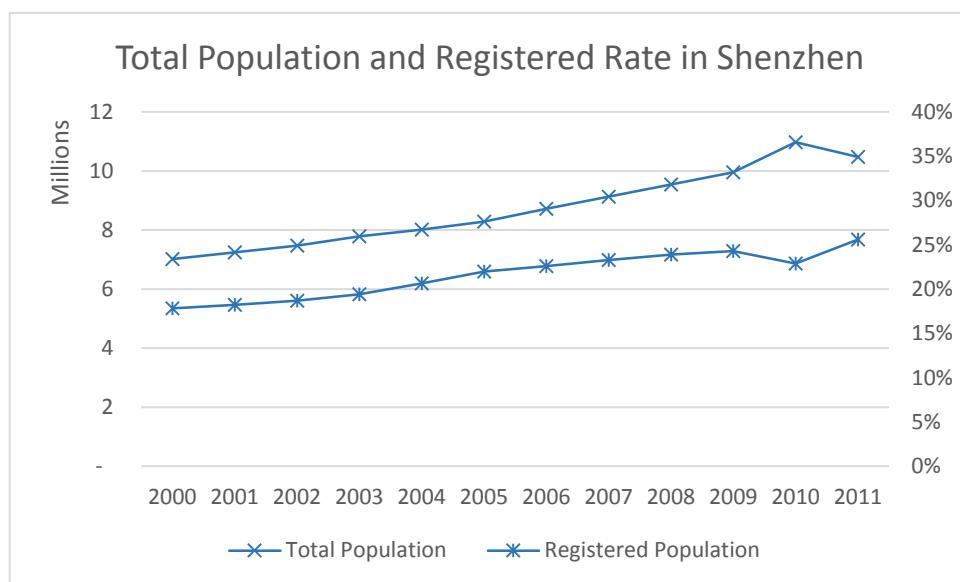
5. Empirical analysis

In the empirical part, we will use data gathered from Shenzhen year books (year 2000-2012), Hong Kong Census and Statistic Department (year 2000-2013) and Hong Kong Planning Department (year 2000-2013). All data was recalculated into USD using annual average exchange rates. We cannot look at the causalities or use regression model to see the relation between different indicators since we can only present 10 years data. But we can observe a brief trend in these ten years in different sectors.

5.1 Population scale and citizen mentality

The reason to take population into consideration is to analyze the similarity and difference of the two cities' demographic structures, which shows the advantage or disadvantage of the two cities and will have a huge impact on the specialization and trajectory of the city. At the beginning of the 21st century, the population between the two cities were very close to each other, with Shenzhen having roughly 7 million and Hong Kong 6.7 million in 2000. Later, population in Hong Kong remained stable for the last decade, while the population in Shenzhen kept increasing with a steady speed. One common fact is that both cities have a rather low crude birth rate, 15.4 for Shenzhen and 13.5 for Hong Kong in 2011. The major increase in population are due to immigration in Hong Kong and temporary or unregistered residents in Shenzhen.

The registered residents system is a unique system in mainland China. Since China is still officially a developing country, development statuses are quite uneven from region to region. And due to the lack of a unified national wide welfare system, the welfare systems are separated due to the authoritarian region. There are generally two kinds of IDs for citizens in Chinese cities, especially larger cities: registered and unregistered. Registered residents refer to permanent residents in the City, their profile are registered in the local government welfare system and can benefit from all kinds of city policies including the education and health care systems, pensions and other assistance, and preferential treatments in purchasing real estate properties. What and how much a registered residents can benefit from being registered is largely dependent on the economic development and credit condition of the local government. The richer the city is, the more benefits and welfare a registered residents will get. Local policies and regulations are made to ensure permanent tax payers, who are the permanent and registered residents, will have the prioritized benefit in the city.

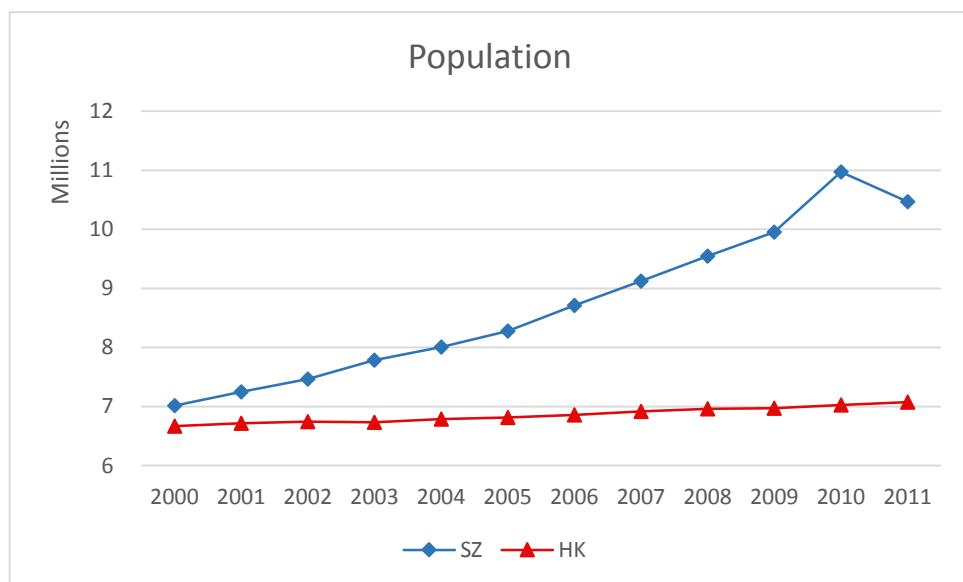


Graph 4. Total population and percentage of registered population in Shenzhen
(Own calculation based on data from SZ year books and HK census and statistic department)

Those so called “unregistered” resident are citizens registered in other cities or rural areas. They have free access to all kinds of resource in the city they live in, but they are excluded in the local welfare system. In most of the cases, they have to bear restrictions like limits in purchasing real estate properties, limited access to resources such as education and health care facilities. Most of these “unregistered” residents come from less developed cities or rural areas. For people coming from rural areas, they generally migrate to larger cities as temporary or seasonal works for higher payment, or when there is less work in the agriculture sector in certain seasons during the year. They may stay in the city for a period time ranging from half a year to several years, but eventually they will leave the city and go back to their registered region. Partly because of high expenses, partly due to the limitation in acquiring real estate properties and the lack of welfare preference policies, especially schools and hospitals. Of course, there are a few ways to apply to re-register in the city they work and live in. But these rules are issued by the very city for the purpose of attracting scarce professions. Most of them require certain skills or higher education

background, which people from rural regions are less likely to have. Due to the fact that people from rural regions will generally practice a come-and-go strategy, they are also referred to as the “mobile population”. The percentage of registered population in Shenzhen was briefly around 20%. But as we can observe from Graph 4, the percentage of registered population increased steadily in the last decade, as part of the growing size of total population. In the graph we can see that the total population and registered rate are following the same trend except in 2010, with a slight peak in the total population and drop in the percentage of registered population. In 2011, the percentage of registered population grew to 25.59%, which means three fourth of the entire city population are “mobile population”. The huge amount of mobile population serves as a fundamental supply of abundant labor force that keep supporting the city’s manufacturing and service sectors, the details will be discussed in the next part.

On the other side of the border, the population in Hong Kong had slightly increased in the past decade, but basically it remained stable. The reason is mainly due to the limited land in Hong Kong and a very strict visa policy towards all visitors outside of Hong Kong. Due to historical background, Hong Kong have different visa free policies for visitors ranging from 7 days to 120 days based on different nationalities, but to stay longer than the visa free period requires visa with a certain purpose. Unless they have the “right of abode in Hong Kong”, which is the legal status for permanent residents after 1997. Although the HKSAR Government has adopted a liberal and open immigration policy, the speed of population growth is still under tight control.



Graph 5. Population in Shenzhen and Hong Kong
(Own calculation based on data from SZ year books and HK census and statistic department)

The limitation and restrictive rule in accessibility created a unique local mentality among Hong Kong’s citizens, which combines both xenophobia and inclusiveness. On one hand, Hong Kong is a city of migration with a rather low fertility rate, and the major factor of the population growth is through immigration, that constitutes approximately 80% of the population growth in the city. On the other hand, Hong Kong has very high population density, and fierce competitions are expected in all aspects of life, especially in education, health care, labor market, living space and

other limited resources. Hong Kong's citizens are generally reluctant to share their resource with others. Furthermore, as mentioned in the history review, the colonial government implanted a "fortress Hong Kong" mentality in Hong Kong's citizens due to political purposes, and now such a mentality becomes a huge barrier between Hong Kong and mainland China.

Language constitutes another layer of barrier in identification and mentality. In Hong Kong, the majority population speaks Cantonese, which is a local language in Southern China, especially in the Guangdong (Canton) province. The language is quite different from the official language in other parts of mainland China, Mandarin, though both Cantonese and Mandarin have the same root. Mandarin speakers will have a hard time to communicate with Cantonese speakers. On the Shenzhen side, though the official language is Mandarin, most people can communicate in Cantonese. Shenzhen is also a city of migration with people from many places, languages in Shenzhen are diverse. But geographically, it is still within the Guangdong province. A lot of people still use Cantonese as a local language. Second, Hong Kong has been economically superior to Shenzhen since Shenzhen was founded. Eventually, the purpose of the Shenzhen SEZ was built to take advantage of the geographic proximity to Hong Kong as a gateway for foreign investment at the early period of economic development in mainland China. This fact made Shenzhen strongly dependent on Hong Kong both culturally and economically. Communication between the two cities was already very common since the early stages: Shenzhen was the first city that Hong Kong invested in, in mainland China, and it had received the most investments from Hong Kong before 1997. Shenzhen also served as a rally point for tourists from mainland China to Hong Kong after 2003. Most citizens in Shenzhen view Hong Kong as a "shopping mall" due to Hong Kong's position as a free port, as it does not levy any duty on imports and exports. Thus for citizens from Shenzhen, they can buy goods tax free in Hong Kong. While most Hong Kong's citizens consider Shenzhen as a destination for entertainment and leisure visit due to cheaper prices compared to Hong Kong (see graph 6).

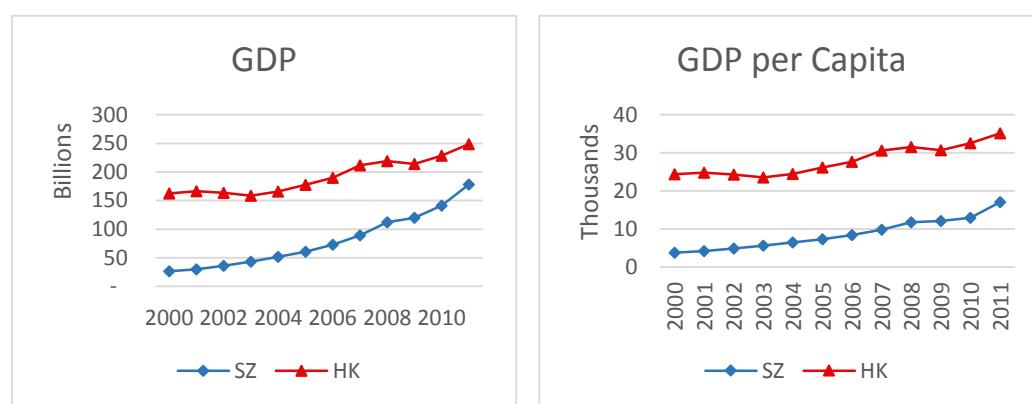
In general, Hong Kong's citizens have a contradicting feeling towards mainland China, but most still regard Shenzhen, unlike any other part of mainland China, as a "younger brother" and an important neighbor.

5.2 Economy and industry framework

There is no doubt that the GDP in Shenzhen has increased dramatically in the last decade. But Shenzhen is still a young growing city. There is huge difference between Hong Kong and Shenzhen in terms of economical scale and income level. As shown in Graph 6, Shenzhen's GDP in 2000 was 26 Billion USD, and Hong Kong's was 162 Billion USD. In 2011, Shenzhen's GDP almost caught up with Hong Kong's 2000 level. It is quite obvious that there was convergence in GDP, which shows a sign of catching up factor in functional proximity between the two cities. GDP per capita also shows a small tendency of trend of convergence. GDP per capita in Shenzhen was also growing steadily, from 3768 USD in 2000 to 17011 USD in 2011, almost a fivefold increase. But, Shenzhen's GDP per capita is still only half of Hong Kong's in 2011, which was 35173 USD.

The difference in income level is not necessarily a negative effect in regional development. On the contrary, we can consider the asymmetric development as an advantage to increase flows across the border in consumer markets. Due to the difference in economic structure and taxation regulation, Hong Kong have a lot of duty free products that will be attractive to citizens from Shenzhen, while Shenzhen have lower living costs that will attract Hong Kong citizens for leisure consumption.

As mentioned in the planning Study in 2009, many joint tourism and commercial co-operation zones would be scheduled along the border between the two cities to utilize the difference between the two and promote local economic and regional development.



Graph 6. GDP and GDP per capita in Shenzhen and Hong Kong
(Own calculation based on data from SZ year books and HK census and statistic department)

To have a better understanding about different industries in the region, we will take a look into the size of the labor force in the finance sector, manufacturing sector, and the export and import value.

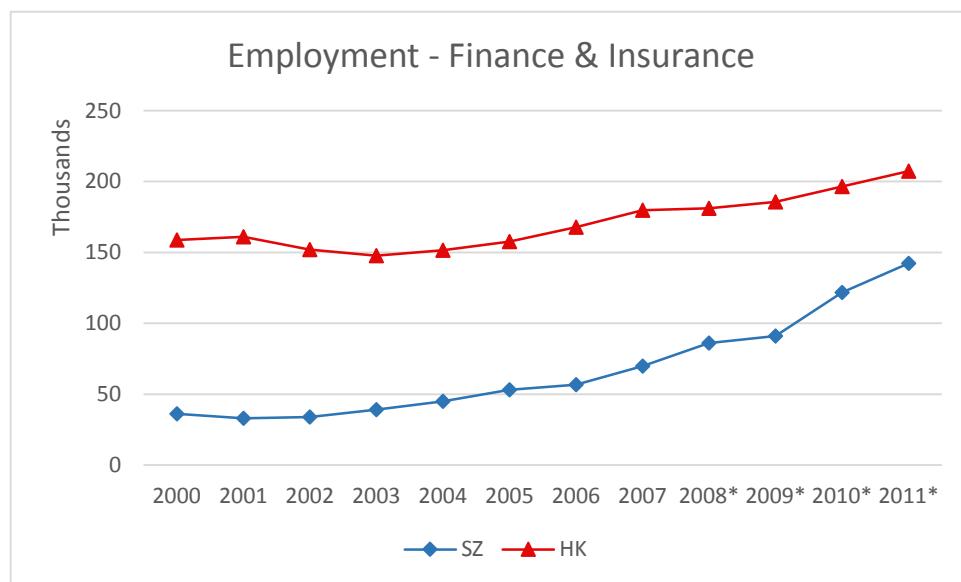
5.2.1 Financial service

Finance and financial services are the most important industries in Hong Kong, though the total labor force in this sector constitutes a rather small proportion of the entire labor force, only 2.71% in 2011. But it has always been a driving force of Hong Kong's economy.

Shenzhen is a newly emerged city that has benefited from the prosperous economy in Hong Kong. Since the beginning of the city's establishment in 1978, the government conducted a "front shop, back factory" policy, and it successfully drew a large amount of investments from Hong Kong. Due to cheap labor, preference policies and niche networking based on family relations, people from Hong Kong preferred to invest in Shenzhen building factories. Later, foreign investors from other countries came and settled in Shenzhen following Hong Kong's example. Basically, Shenzhen has been an industrial city from the beginning, but it was also constantly changing its function and upgrading its industries from manufacturing towards the service sectors. In the early 1990s, Shenzhen was one of the two cities licensed to establish stock exchange in mainland

China (the other one is Shanghai). Although Shenzhen started very late in the financial sector and lack international connections and recognition, its financial sector is still growing in a fast speed.

As shown in Graph 7, 10 years after the establishment of the Shenzhen stock exchange, Shenzhen's financial sector was still very small size at the beginning of 21st century. But we can observe a rapid increase in the labor size of the financial sector. Within merely one decade, the financial sector's labor size in 2011 was already three times the level in 2000. Though Shenzhen's financial sector is growing really fast, Hong Kong's position as an international financial center in the region is unshakable. In 2000, the total employment in the financial sector in Hong Kong was over 150 000, larger than the financial sector in Shenzhen in 2011, and it was growing steadily through the years. The convergence of the size of financial sector also shows an evidence of similarity in functional proximity in the two cities. Eventually, Shenzhen is no match for the international finance capacity of Hong Kong since Shenzhen stock market can only be accessed by domestic investors. To foreign and Hong Kong investors, the Chinese stock market is still not liberal and regularized enough to invest in.



Graph 7. Labor force in finance and insurance sector in Shenzhen and Hong Kong
(Own calculation based on data from SZ year books and HK census and statistic department)

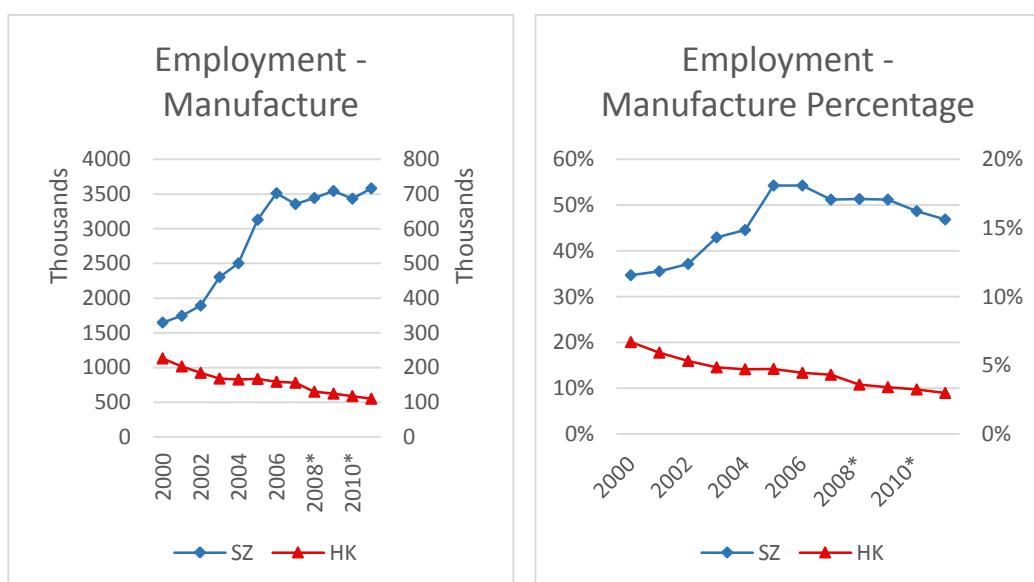
But this may be change after the Shenzhen-Hong Kong stock connect is established in later 2015. After the success of the establishment of the Shanghai-Hong Kong stock connect in October 2014, The central government and HASAR government agreed to double the capacity of the daily transaction quota by introducing Shenzhen-Hong Kong stock connect and link the Shenzhen financial market with Hong Kong's. The new stock connect between Shenzhen and Hong Kong may not have a dramatic impact on the Chinese stock market or Hong Kong market. But the connection between these two financial markets will definitely strengthen financial sectors in both cities and further expand the size of the financial sector: Shenzhen can target on more fundamental, lower level and mainland China domestic financial service, while Hong Kong can focus on professional, higher level and international financial service. The combined force of the

two will certainly stand out among other competitors in the Asia-Pacific region, and it will become a driving force for the region.

5.2.2 Manufacturing

Shenzhen is a fast growing city with lots of immigration. It took only 15 years for Shenzhen to increase the population from less than 1 million to 3 million, and merely another ten years from 3 million to 10 million. Most of the population are so called “mobile population”, they serve as an unlimited supply for the manufacturing sector, and other lower level service sectors (see graph 4). Manufacturing is the most import industry in Shenzhen, it constitutes a profound 46.87% of total employment in 2011. The percentage of manufacturing labor force increased from 34.72% in 2000, peaked at 54.28% in 2006, than dropped slowly but continuously to the current level. But take into consideration that during this period, the total population in Shenzhen kept growing at a fast pace. The total manufacturing labor force grew from 1.6 million in 2000 to 3.6 million in 2011.

As we can observe in graph 8, the manufacturing sector has reached its maximum capacity in Shenzhen since 2006. First, most of the land in Shenzhen has been developed, and land values has increased in major districts. Second, more educated people and less “mobile population” moves into the city, shown by the increase percentage of registered population meanwhile decrease in the total population (see graph 4). Third, the Shenzhen government decided to make Shenzhen a city suitable for living, thus the city taxed on high polluted and low-tech industries are increased significantly. Most industries and factories are forced to relocate to inner land cities like Dongguan and Huizhou. But it does not mean that manufacturing will be less important for Shenzhen. This is because of the fourth reason: through years, Shenzhen has invested heavily in research and development to upgrade its manufacturing industry to a more advanced level.



Graph 8. Labor force of the manufacturing sector and the percentage in the total labor force in Shenzhen and Hong Kong

(Own calculation based on data from SZ year books and HK census and statistic department)

The majority of Hong Kong's manufacturing sector moved to mainland China because of the "front shop, back factory" policy implemented in Shenzhen and Guangdong in the 1980s. For the Hong Kong investors, investing in mainland China granted them cheaper labor cost, better policy and lower tax. The result has a significant effect on Hong Kong's de-industrialization and forced Hong Kong to redirect itself into service and financial sectors. In 2000, employment in the manufacturing sector only consisted 6.70% of the total labor force in Hong Kong, and kept decreasing to 2.98% in 2011. With more friendly policies implemented in the region and improved infrastructures, including easier procedures passing through the checking points and new transportation methods and facilities between the cities, it will allow commuting workers to travel in the region within acceptable time. Investors are more likely to relocate their firm into the mainland because they can take advantage of all the incentive benefits without the risk of lowering the quality of staff. In that case, the percentage of the manufacturing sector is expected to further decrease.

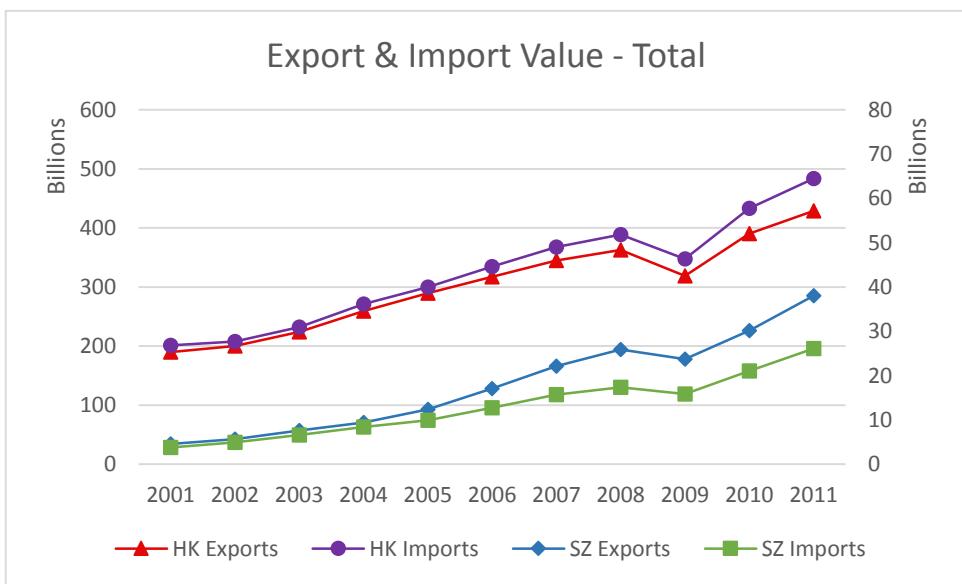
It needs to mention that, different from the de-industrialization process in the EU and the US, the relocation of Hong Kong's industries eventually expand themselves in mainland China (Shen, 2003; Loo, 2002). Hong Kong has large amount of investment in Shenzhen, and the investment is most likely to be put into the manufacturing sector in Shenzhen due to huge amount of labor force (see graph 4). It can reasonably assume that Hong Kong still controls those manufactures in Shenzhen. Thus it is cannot be regarded as entirely de-industrialization in Hong Kong. Either way, the patterns of the manufacturing sector shows strong specialization in the region. The two cities have very clear complementary functions, which will be a positive factor in the future regional integration. The region also shows a typical "low road" path similar to the German-Polish border region in the EU that manufacturers from Hong Kong took advantage of the asymmetric development in income level and living standard in Shenzhen to minimize or lower labor cost. Worldwide, many cross-border regions have developed this kind of asymmetry (Krätke, 1999). Thanks to the "front shop, back factory" policy implemented by the SZ government in the 1980s, the SZ-HK region does not have any exception in the "low road" path.

5.2.3 International trade

Trade GDP ratio is the most widely used measurement for product market integration (Ghosh, 2007), and exported goods and services to GDP ratio is a very good method to measure globalization level. The ratio is calculated by all the goods and service exported from one economy and then divides it with the total GDP in that economy. An alternative way is to calculate merchandise trade to GDP ratio, which calculates the ratio of all the imported and exported cargo of that economy to its total GDP. However, the merchandise trade to GDP ratio has very obviously flaws. For example, small economies tend to import a large amounts of diverse goods that they cannot manufacture themselves, and the result may exaggerate the globalization level of that economy. On the other hand, economies with a very strong domestic market will have a smaller ratio due to the scale of the economy in other sectors. In that case, it may underestimate the globalization level. So when we calculate the merchandise trade to GDP ratio of Shenzhen in the 2011, we have the result as 36%, which is reasonable. But when we

calculate the ratio of Hong Kong in the same year, it turns to be 367%. The ratio in Hong Kong does not make any sense because of the fact that Hong Kong is a free port and strongly relies on international trade. The ratio may not be able to compare to each other directly, but it does reflect the difference in globalization in these two cities.

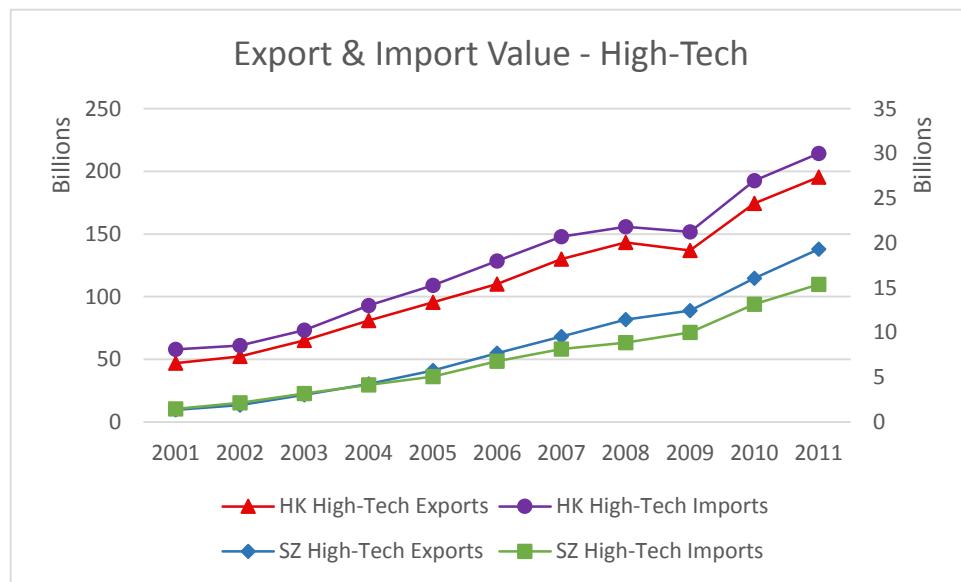
In 2012, Hong Kong ranked the third busiest container port, and Shenzhen ranked the fourth. But the total import and export in these two cities vary a lot. In 2001, both import and export in Hong Kong was around 200 billion USD. Within just one decade, Hong Kong, despite the negative effect from the 2008 global financial crisis, doubled both its export and import value. Just like indicators in other sectors, Shenzhen's export and import was growing fast but still remain at a rather low level compared to Hong Kong's. In 2011, the export value was 38 billion USD and the import value was 26 billion USD. One interesting thing we can observe from graph 9 is that in Hong Kong, the import value is higher than the export value, but in Shenzhen it is the other way around. This can be explained by the fact that Shenzhen benefits a lot from its booming manufacturing sector, and Shenzhen's economy can be categorized as an export driven economy. On the other hand, Hong Kong does not have a strong manufacturing sector but benefits a lot from its free port policy that has no custom fees for foreign goods. The difference shows that the two cities are already showing their own trajectory: Shenzhen became an export-oriented city due to its strong manufacturing sector, while Hong Kong became an import-oriented city due to its free port policy and strategic location. This indicates a very strong specialization and complementarity in the region.



Graph 9. Total export and import in Shenzhen and Hong Kong
(Own calculation based on data from SZ year books and HK census and statistic department)

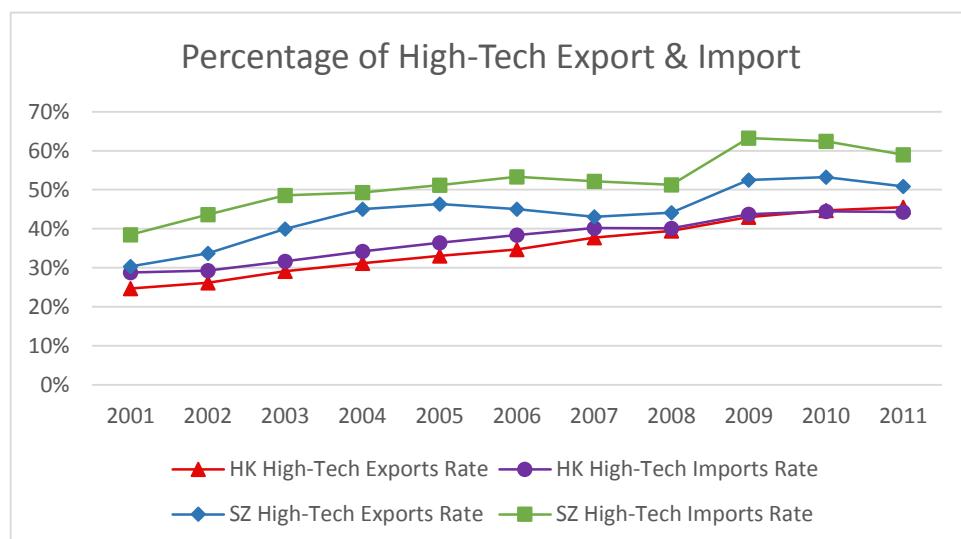
Another interesting observation, as shown in graph 10, are the high-tech products export and import value in these two cities. The high-tech products value follows a similar pattern as the total export and import value: Shenzhen's high-tech export is higher than its high-tech import due to its strong manufacturing sector (see graph 8), and Hong Kong's high-tech import is higher than its high-tech export, due to its free port policy. Meanwhile, the total export and import of

the high-tech products in Hong Kong are significantly larger than Shenzhen's. It will take a long time for Shenzhen to catch up, let alone exceed (Hong Kong's high-tech import value is almost 19 times than Shenzhen's, and its export value is 11 times higher than Shenzhen's).



Graph 10. High-tech export and import in Shenzhen and Hong Kong
(Own calculation based on data from SZ year books and HK census and statistic department)

Furthermore, we can look at the percentage of high-tech import and export in total international trade value. It is rather interesting that we find, in 2011, Shenzhen's high-tech export almost constitutes half of its total export (50.83%). High-tech import in Shenzhen constitutes an even higher percentage in the total import, which is 58.94%. While the percentage of Hong Kong's high-tech export and import are slightly lower than Shenzhen's, both high-tech export and import constitutes around at 45% of total export and import (export 45.56%, imports 44.30%).

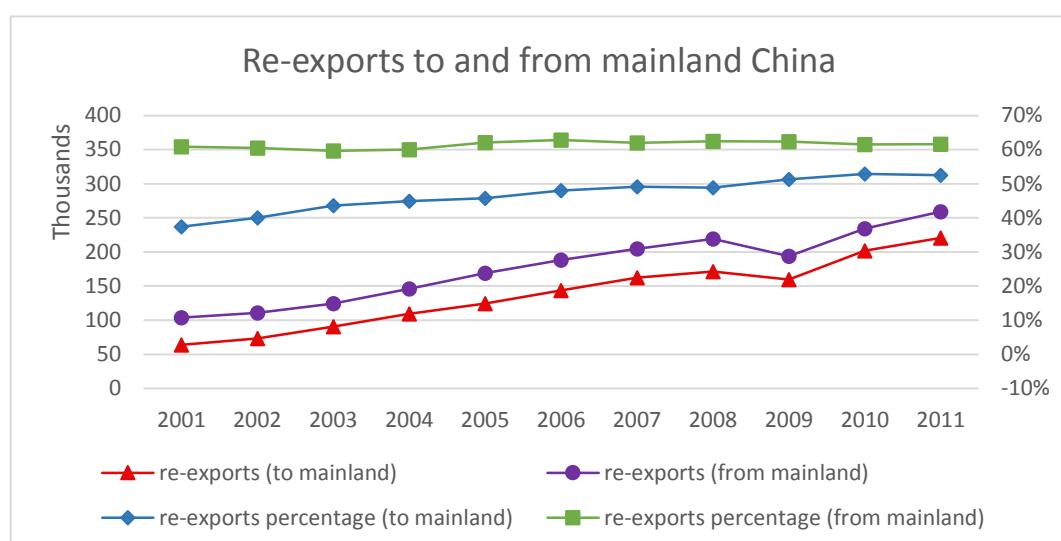


Graph 11. Percentages of high-tech export and import in Shenzhen and Hong Kong
(Own calculation based on data from SZ year books and HK census and statistic department)

5.2.3.1 Trade between Shenzhen and Hong Kong

It is not very common to talk about trade within a country, but trade between the two cities, especially before the re-unification, did and still does exist under the headline of re-export. Re-export is the activity when the sole purpose of import is not for domestic use but to export them to another destination. It was quite common in the PDR region in the later 20th century, because Hong Kong was the only gateway that China had to access the international markets. Many products that Hong Kong imported from the global market are meant for export to China, while many of the products that Hong Kong imported from China are meant for export to the global market.

Trade is one of the most important factors in the earlier stages of regional integration, but not so much in later stages. In graph 12 we can observe that though the total re-export value (both from and to China) increased dramatically during the past decade, but the percentage of re-export in total export maintains at almost the same level. Re-export from mainland China is around 60% in total export from mainland, and re-export to mainland raised from 37.41% (2001) to 52.47% (2011) in total export, which can be explained by the growing market in mainland China.



Graph 12. Total re-export and percentage of re-export in total export value in Shenzhen and Hong Kong

(Own calculation based on data from SZ year books and HK census and statistic department)

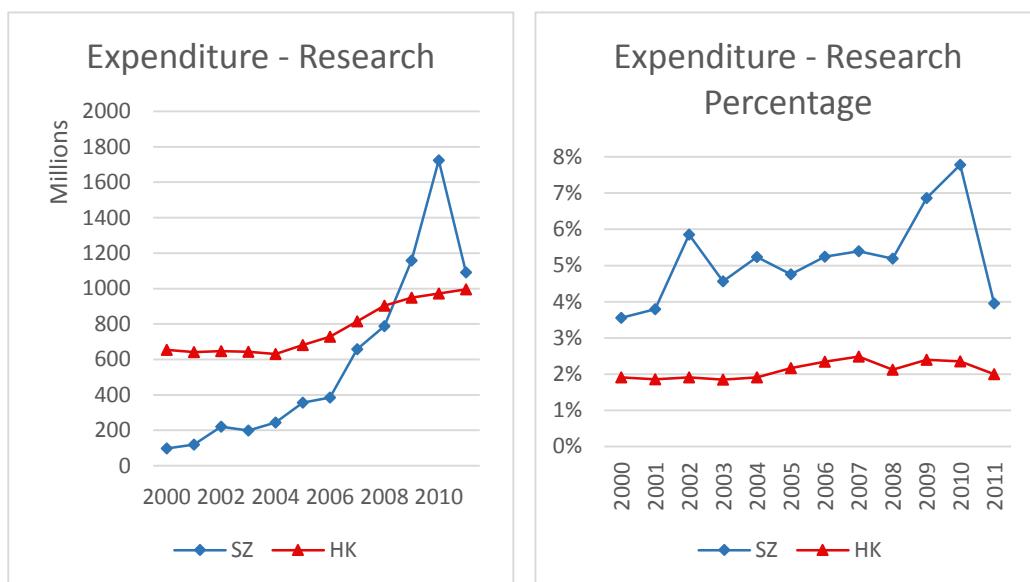
Before the reunification and even before the “opening up policy”, Hong Kong acted as a very important middle man between China, a closed economy at that time, and the international markets. All the products that went in and went out of China had to go through Hong Kong, which is one of the reasons for Hong Kong’s success as one of the four “Asian Tigers” in 1970s. But nowadays, China has a more direct link to the global market, and Hong Kong’s role as a middle man is becoming less and less important.

5.3 Education and research capacity

Research capacity is a very important indicator in regional integration. According to the experience from the Öresund region, a regional innovation system will occur in the higher level of regional integration. The region will benefit from knowledge generation and technology spillover, and for the manufacturing sector in the SZ-HK region, progress in research and development will definitely benefit the growth of the region. To reflect the research capacity, we are going to look into government research and science expenditure, employment in the research and science sector and also the amount of granted patents in the two cities. For the education level, ideally, we should look into the number of university students and professors, but due to the fact that the number of university in the region is very uneven (Hong Kong has eight universities, and Shenzhen only has two), we will look into government education expenditures instead.

5.3.1 Research capacity

Shenzhen had practiced the “Front shop, back factory” model for years in order to attract almost all the manufacturing sector from Hong Kong. But Shenzhen was never satisfied with such a vertical cooperation model. Every year, the Shenzhen government spent a lot of resources in research and development to make sure its industries would be able to acquire intellectual properties. As shown in Graph 13, government research and technology expenditures in Shenzhen increased profoundly during the last decade. In 2000, research expenditure was about 100 million USD, while in 2011, it reached approximately 1100 million USD, which was eleven times the 2000 level. The share of the government’s research expenditure was not very consistent through the years, but always able to remain around 5% level.



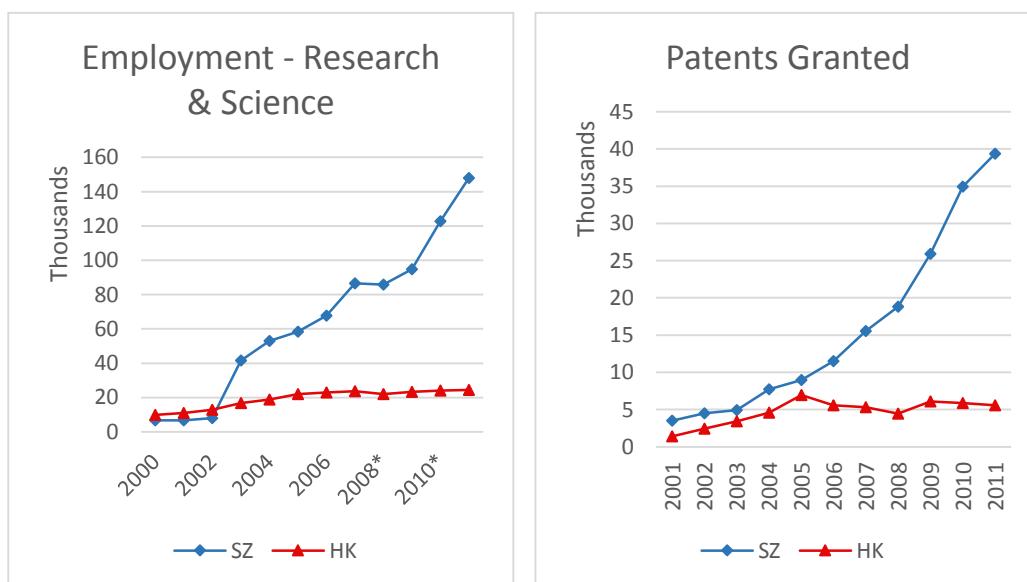
Graph 13. Research expenditure and share in total government expenditures in Shenzhen and Hong Kong

(Own calculation based on data from SZ year books and HK census and statistic department)

HKSAR government research and technology expenditures were higher than Shenzhen’s at the beginning of 21st century. That was because of the size of Hong Kong’s economy and total government expenditures was and still is higher than Shenzhen’s. In 2011, the total government

expenditures in Hong Kong was around 50 billion USD while Shenzhen's was 28 billion USD. But among the total government expenditures, the share of research expenditures in Hong Kong was only around 2% of Hong Kong's total government expenditures. Hong Kong's research expenditures in 2011 was 995.77 million USD, lower than Shenzhen's in 2011, which was 1.09 billion USD. Eventually, Shenzhen's research expenditures had already surpassed Hong Kong's since 2008. The pattern shows spectacular development in Shenzhen's research sector in the last decades. It is a solid evidence of the catch up factor in functional proximity in the region. And it is also a sign of the region's transformation from "low road" path towards "high road" path.

Differences in the input of research can be also reflected by the labor force in the research and science sector. As shown in Graph 14, Hong Kong's labor force in the research and science sector was larger than Shenzhen's in 2000, but the growth was slow and steadily. On the contrary, the labor force in research and science sector in Shenzhen rocketed sky high after 2002. Huge government investments in the research and science sector resulted in large amount of patents granted. One explanation for the large amount of granted patents in Shenzhen is that patents are always related to industries and the manufacturing sector. Since Shenzhen has a strong manufacturing sector (see graph 8), it is reasonable that Shenzhen has larger amount of granted patents than Hong Kong. Anyway, with the huge amount of intellectual properties, Shenzhen's manufacturing sector was able to upgrade from OEM (original equipment manufacturer) to more independent development and brands. The upgrade of manufacturing sector also enabled Shenzhen to export large amounts of high-tech products.



Graph 14. Labor force in research and science sector and amount of granted patents in Shenzhen and Hong Kong

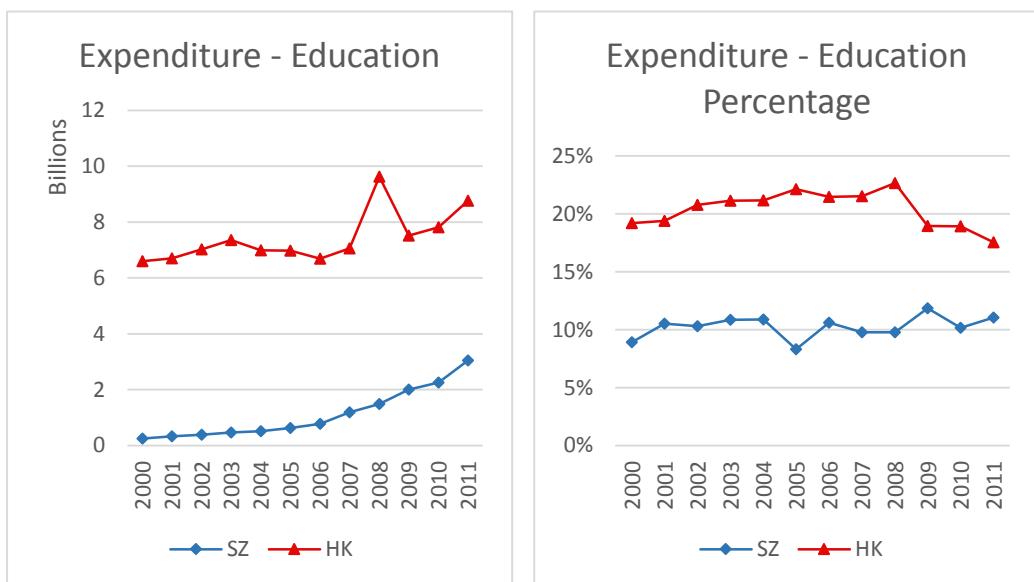
(Own calculation based on data from SZ year books and HK census and statistic department)

The increase in research expenditure and expansion in research labor force in Shenzhen can also explain why the percentage of Shenzhen's registered population increased while the total population decreased (see graph 4). Because increased government expenditure in research and science sector leads to increased job opportunities in this sector, thus attracting more educated

people to move into Shenzhen, Shows as registered population. And with industries upgrading, less job opportunities are offered in low-tech manufacturing, this lead to a decrease in the lower educated “mobile population” in the city.

5.3.2 Education

Education conditions in Shenzhen are rather poor in relation to the size of the population. In graph 15, we can see that government education expenditure was very low in 2000, which was only 0.2 billion USD. Hong Kong's education expenditure was 66 billion USD in the same year. During the last decade, though the percentage of education expenditures in total government expenditures remained at 10%, education expenditure in Shenzhen increased a lot. Thanks to the increase in total government expenditures, Shenzhen's education expenditures grew to 30 Billion in 2011. Although it was still just one third of Hong Kong's education expenditures. Hong Kong's education expenditures in 2011 were 88 billion USD.



Graph 15. Education expenditures and share in total government expenditures in Shenzhen and Hong Kong

(Own calculation based on data from SZ year books and HK census and statistic department)

The difference in education expenditures are especially in higher education. Hong Kong currently has ten universities, namely The University of Hong Kong (HKU) and The Hong Kong University of Science and Technology (HKUST), City University of Hong Kong (CityU), The Chinese University of Hong Kong (CUHK), and so on. Many of these universities are world leading education and research institutions. On the other hand, Shenzhen currently only has two universities, namely Shenzhen University (SZU) and South University of Science and Technology of China (SUSTC), and both of them are very young institutions (SZU was established in 1983, and SUSTC was established in 2011). An interesting phenomenon is that the population structure [of Shenzhen] polarizes into two opposing extremes: intellectuals with a high level of education, and migrant workers with poor education (sz.gov.cn). It had been reported that in 2007, 20% of all citizens with a PhD degree in China worked in Shenzhen. Meanwhile, Shenzhen also has almost 75%

population with low level of education. This can be explained by Shenzhen's higher living standards and income level compared to other mainland China cities. Although income level in Shenzhen is only one third of Hong Kong's, Shenzhen is still listed as a first tier city in mainland China. Thus it is very attractive for people from elsewhere in China, especially those who are talented and highly educated.

Higher living standards in Shenzhen does not only attract highly educated talents, but also high quality education institutions. At the end of 2013, three top universities in China established their graduate school in Shenzhen, namely Peking University (PKUSZ), Tsinghua University (THUSZ) and Harbin Institute of Technology (HITSZ). And two universities established their extensions in Shenzhen, respectively Shenzhen Tourism College of Jinan University (SZTC) and The Chinese University of Hong Kong (Shenzhen) [CUHK (SZ)]. In 2012, CUHK established a second campus in Shenzhen, marking a new level of cooperation between the two cities in education. Installations of the new campus not only overcame limited land and student resources in Hong Kong, it also fulfilled Shenzhen's longing for more highly qualified education institutions. CUHK was the first Hong Kong university to establish a branch in mainland China, but it will not be the only one. Currently, six universities in Hong Kong are applying for establishing new campuses in Shenzhen, including the well-known HKU.

The SZ-HK region still has a lot of potential in the joint research and technology development, both cities have their own merits: Hong Kong has several world recognized and top level education institutions, while Shenzhen can attract huge amounts of highly educated people all over China. If the two cities can combine their advantages, it is highly possible that the region will form a more advanced regional innovation system and become a future research hub.

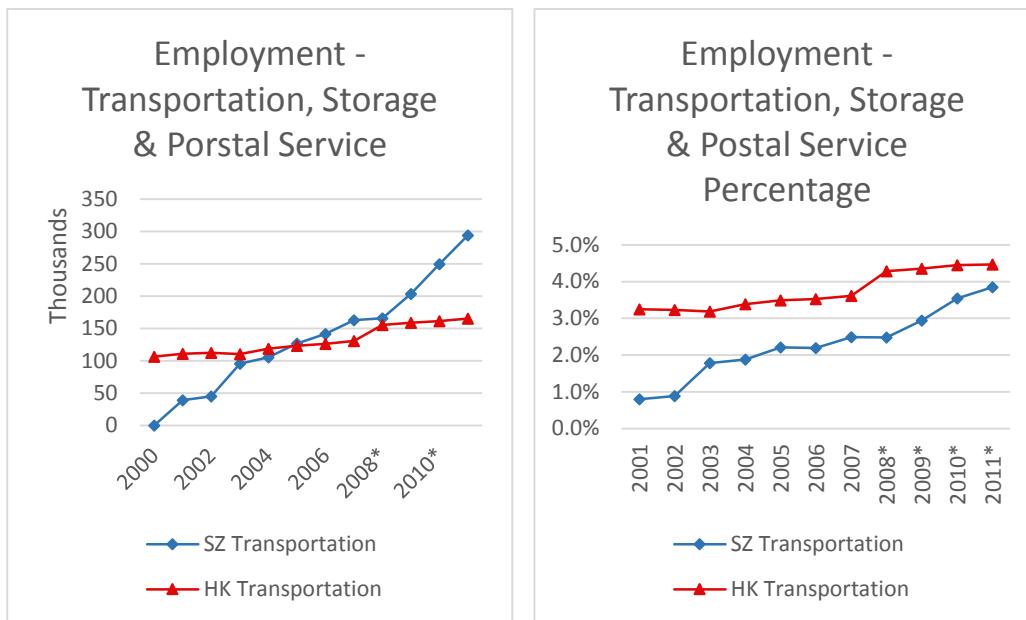
5.4 Infrastructure and commuters

Infrastructure is vital for regional integration, especially regions with physical barriers or borders. Without convenient transportation options or easy procedures to pass through the border, commuting across the border will be less likely to happen. There are few ways to measure infrastructure, government expenditure, construction projects and traffic in the region. Commuting will only happen when there are convenient transportation options available or easy procedures to go pass the border. Since most of the transportation projects are the results of joint investment, it may not reflect much information. Instead, we will look at employment in transportation and information. As for traffic in the region, we will take a look at the number of passengers crossing the border only.

5.4.1 Infrastructure

Transportation, postal service, information and communication services could be regarded as a proxy to the level of social standard and infrastructure development. Based on current technology level, most of the transportation and communication are still manned by human workers, thus the larger the labor force is in the sector, the more service it can provide, this relates to higher level of the development. Meanwhile, we can also look at the share of the

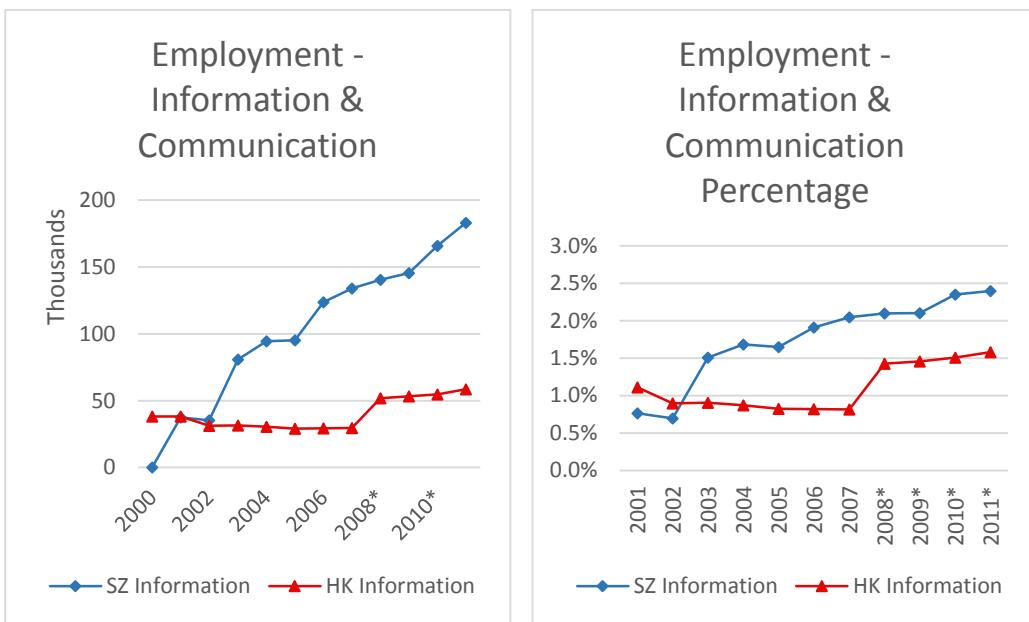
transportation sector in total labor force. It is not necessarily a large proportion of the entire labor force, but if it is highly developed, it should remain at a rather stable status. As we can observe from graph 16, the transportation sector in Shenzhen was expending at a fast pace, revealing a huge potential of growth in these sectors.



Graph 16. Labour force of transportation sector and share in total labour force in Shenzhen and Hong Kong

(Own calculation based on data from SZ year books and HK census and statistic department)

Furthermore, as we can observe from the graphs 17, Hong Kong had quite a good infrastructure both in transportation and information since Hong Kong have been well developed. The sudden change after 2008 was due to changes in statistical standards. So it might not be able to interpret the effect. On the contrary, the increase in the sector in Shenzhen has a similar pattern as in the transportation sector. It shows that Shenzhen is still a fast growing city, it can be related to the continuous expanding population that requires more infrastructure and service in the city.

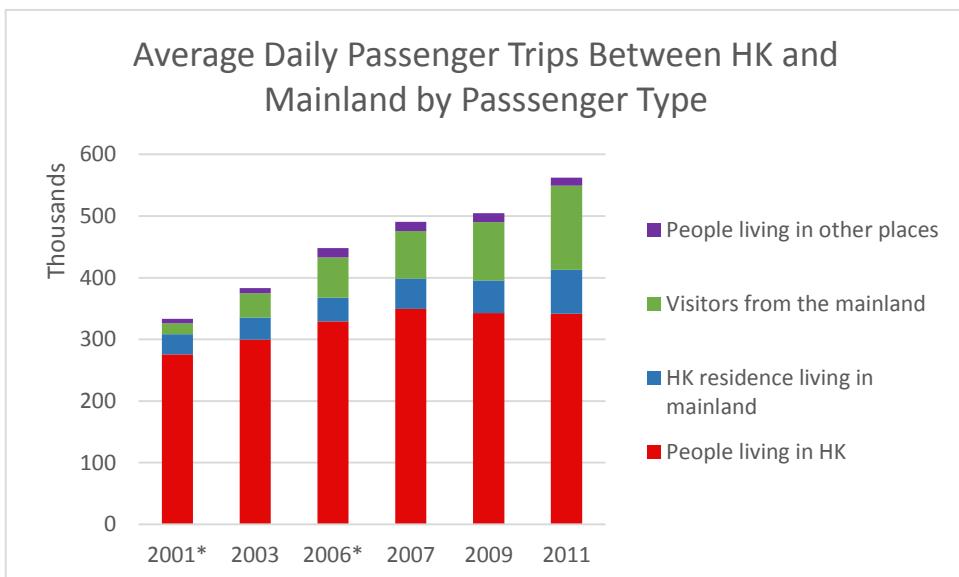


Graph 17. Labor force of information sector and share in total labor force in Shenzhen and Hong Kong

(Own calculation based on data from SZ year books and HK census and statistic department)

5.4.2 Daily passengers

The majority of daily passengers traveling across the border between the two cities are from Hong Kong, as shown in graph 18. From the survey that was conducted from 2001 to 2011, within the two-week-survey periods, Hong Kong residents constituted the major traffic volume across the border. In 2011, the average daily traffic generated by HK residents living in Hong Kong was 341800, and the average daily traffic generated by HK residents living in Shenzhen was 70800.



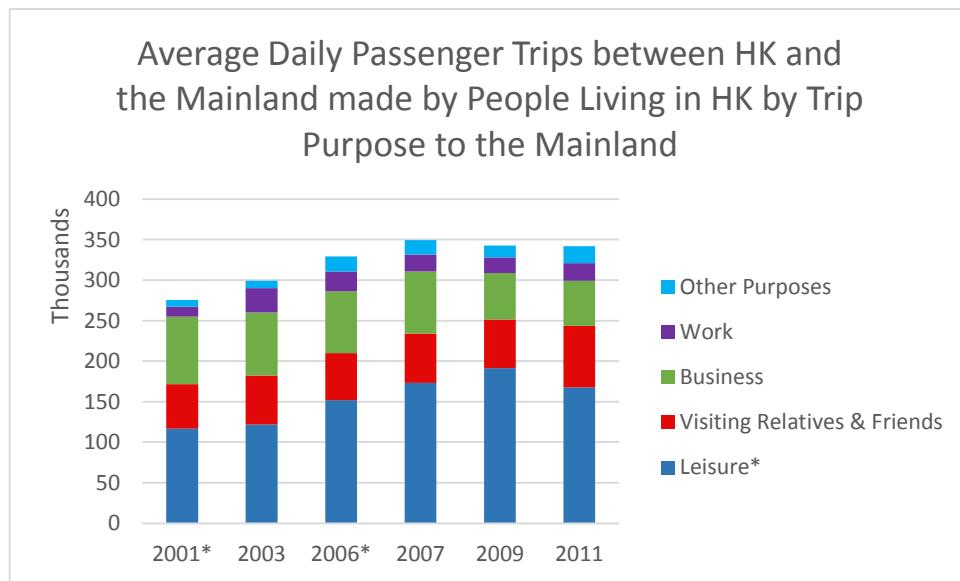
Graph 18. Average daily passenger trips between Shenzhen and Hong Kong by passenger type

(Own calculation based on data from HK planning department)

Visitors from the mainland increased a lot due to the introduction of Individual Visit Scheme (IVS) after 2003, and occupies an increasing proportion of the total travelers. But according to basic law, visitors from the mainland still have a lot of limitations to travel freely to Hong Kong. On the contrary, Hong Kong citizens have more freedom to travel across the border. The asymmetry of flow from the two side was restricted by the basic law and Hong Kong's limited receiving capacity. It is less likely that the situation will be changed in the foreseeable future.

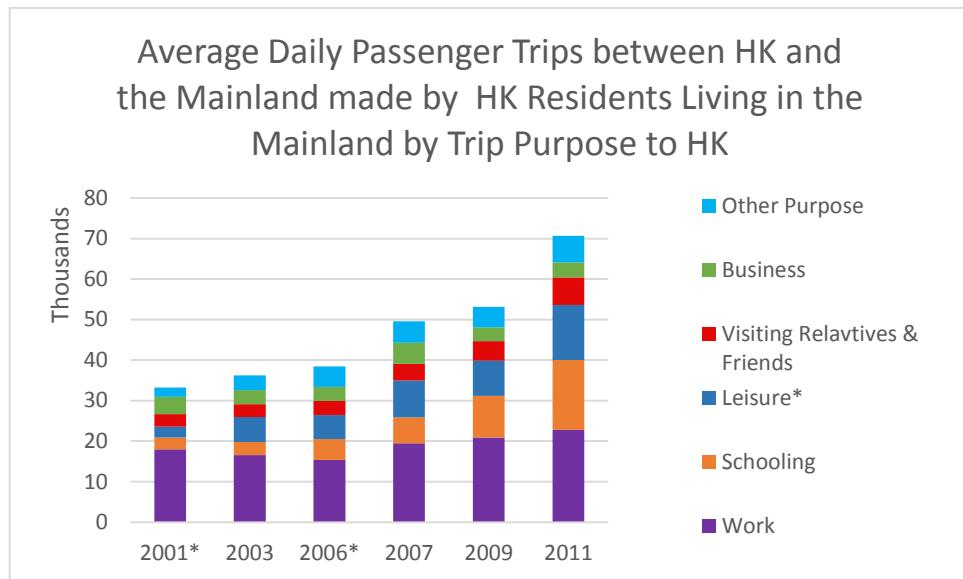
5.4.2.1 Hong Kong residents

Hong Kong residents travel to the mainland for various reasons. Leisure is the most common purpose. During the last decade, the total amount of leisure consumers increased steadily, which can be related to improvements in infrastructure along the border and new transportation options. The possible reason for a slight fluctuation in the years could be the limitation of the survey. It only recorded information from travelers within the two-week-survey period. Also, as mentioned earlier, in 2011, the leisure category was redefined, thus comparing the figure directly may not reflect lots of information, but it still shows a trend of increasing traffic. Business, one of the main reasons apart from visiting relatives in the later 20 century, decreased in the last decade (daily passengers dropped from 83400 in 2001 to 55600 in 2011).



Graph 19. Average daily passenger trips between Shenzhen and Hong Kong made by people living in Hong by trip purpose
(Own calculation based on data from HK planning department)

Daily travelers from Hong Kong to Shenzhen for working purposes was 21600 in 2011 and no trend can be observed during the last decade. The majority of them are managers, administrators and other professionals, 38.6% and 29.8% in total working travelers respectively. It shows that commuter from Hong Kong side are still not very common. Due to the difference in income level and living standards, there is no reason for Hong Kong job seekers to look for a job in Shenzhen. But high officials and professionals who have positions in Hong Kong or Shenzhen are more likely to run an errand between the two cities.

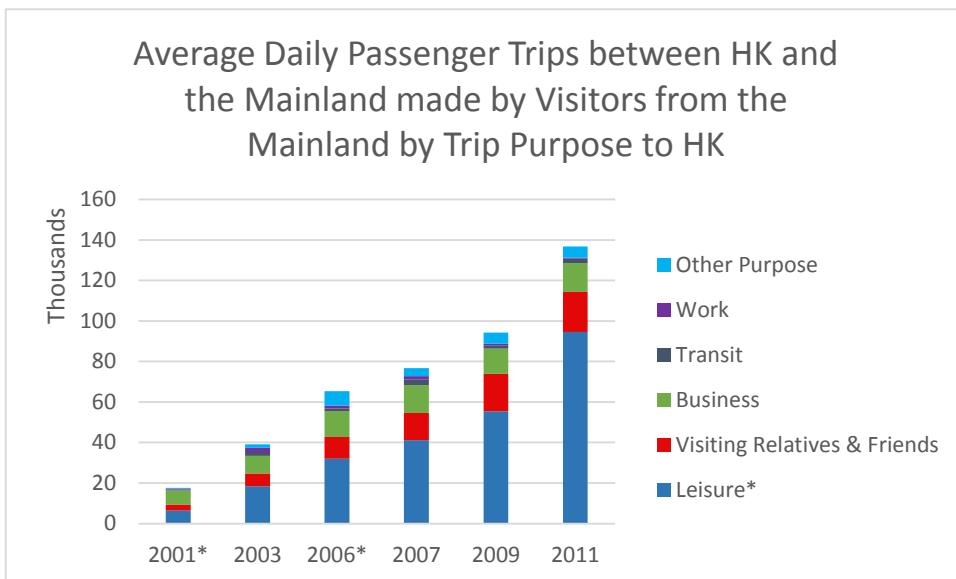


Graph 20. Average daily passenger trips between Shenzhen and Hong Kong by Hong Kong residents living in Shenzhen
(Own calculation based on data from HK planning department)

There is a small amount of Hong Kong residents that live in the mainland and travel across the border, the top three reasons are work (32.2%), education (24.3%) and leisure (19.2%). The reason that HK residents live in the mainland and travel back and forth is for the lower living standard and housing cost in Shenzhen. It can be also reflected in the difference in GDP per capita between the two cities. Hong Kong citizens living in Shenzhen and travel to Hong Kong for work purpose increased from 18000 (2001 level) to 22800 (2011 level). The increase can also be related to the improvement in infrastructure and customs procedures in crossing the border. These improvements made commuting between the two cities possible. But it is still not widely accepted. The increasing daily travelers for education and leisure could also be explained by improvements in infrastructure and transportation. It also reflects a more common and frequent communication in the region, which can be considered as a progress of CEPA.

5.4.2.2 Traveler from the Mainland

The increase in travelers from mainland strongly relies on the introduction of IVS. The IVS is part of the CEPA, which was signed in 2003, and began to be implemented in July in the same year. The scheme allows travelers from mainland China to visit Hong Kong and Macau on an individual basis. Before the implementation of the scheme, residents from mainland China could only visit Hong Kong on business trip or group tours, limiting the total amount of travelers and also the accessibility. The scheme was designed to boost Hong Kong's economy after the 2003 SARS outbreak and restore the robust tourist industry in Hong Kong. As a result, it attracted profound amount of tourists from mainland China to Hong Kong. By the end of 2011, the Scheme was implemented in 49 cities in mainland China (planning department, 2011).



Graph 21. Average daily passenger trips between Shenzhen and Hong Kong

made by visitors from mainland China by trip purpose

(Own calculation based on data from HK planning department)

The IVS was very successful in increasing the tourist volumes to Hong Kong. During the survey period, daily passenger volume for leisure purposes was 94600 in 2011. This was 5 times more than the traffic in 2003 (daily passengers were 18400). Apart from boosting Hong Kong's tourism sector, the scheme also had some side effects. Increasing visitors from mainland China challenged the receiving capacity in Hong Kong. Some Hong Kong residents blamed the increasing tourists for driving up the housing cost and price level in the city, making it harder for ordinary people to live. And the increasing visitors also made the already scarce living space in Hong Kong even worse. Many commercial areas are also crowded with tourists which makes daily life quite inconvenient.

6. Conclusion

In this article, we went through the history of the region and the different relationships in various time periods. We found all the issues in nowadays within the region comes from its historical embeddedness. Many conflicts and issues of today are based on what happened in the past. Though learning about history of the region won't provide a direct solution to some of the problems, it certainly helps to have better understanding of the region. Through history, we found out that the key element of Hong Kong's success in the 1970s was the geographic advantage and the role of being a middle-man between China and global market. Due to the openness of China, Hong Kong's role as the middle-men is no longer important, Hong Kong has to redirect itself and seek more cooperation with mainland China, because China was the root of a prosperous Hong Kong economy.

Then, we reviewed the progress of the development of regional cooperation and integration. Both governments did lots of work after CEPA was signed in 2003. It is still too early to make a

conclusion of the current condition, but it reveals that the cooperation model in the region is quite different from what it was in the late 20 century. In the past, informal and unofficial economic operations, a bottom-up model and the “low road” path was the driving force in the region. After 2003, more formal and official relationships were established, forming a top down model, and it started a sign of transformation from “low road” to “high road”. And the decision making procedure shows evidence of a multilevel governance model. The current agenda of regional integration are focusing on joint planning and investment in regional transportation and other infrastructures.

Later, we made a comparison between the two cities in various dimensions and sectors to identify the proximities and barriers in the region. Population size of the two cities are quite similar, both cities have a huge amount of migrant populations. Shenzhen’s economy is smaller than Hong Kong’s but it has been catching up at a fast pace, and we also find convergence in GDP and GDP per capita in the two cities, which shows a sign of similarity in functionalities. We compare three industries and sectors that are important for the two cities. Some of them shows strong specialization and division of labor: manufacturing is the most important sector in Shenzhen, but not so much in Hong Kong; other shows a catch up factor in functional proximity: finance is the driving force of Hong Kong’s economy, and Shenzhen’s finance sector is growing. It will further strengthen the link between the two financial markets after the establishment of Shenzhen-Hong Kong Exchange Connect. International trade is strong in both cities since both of them are among the top four international container ports. Interestingly, though Hong Kong is losing its role as a middle-man, there is no evidence of decrease in re-export between the two cities. Shenzhen invests profoundly in research and development and shows great progress. Government research expenditure, total employment in the research sector and amount of granted patents already surpass Hong Kong. But Hong Kong have more world-recognized research and education institutions.

All these facts shows great potential for the region. There is no point for Hong Kong to compete with Shenzhen in the manufacturing sector since manufacturing in Hong Kong won’t be very profitable. Instead, Hong Kong can take advantage of the asymmetric set-up and expand its manufacturing by relocating them to Shenzhen. Investments in research and development results in an upgrade of Shenzhen’s manufacturing sector, which provide facilities and skill works for high-tech manufacturing, shifting the “low road” path into a “high road” path. Financial services will be very important in the region because of joint development and cooperation in this sector will create a win-win situation for both cities. Shenzhen can specialized in fundamental services and the domestic market, while Hong Kong can specialized in more advanced service and the international market. With the Shenzhen-Hong Kong Exchange Connect linking the two financial markets together, they will both be complementing each other, and the combined financial sector will have a chance to compete with other financial centers in the Asia-Pacific region. International trade will benefit a lot from the joint development, the combined capacity and traffic will surpass the other two international trade centers in the Asia-Pacific (Shanghai and Singapore). Research will be another potential sector for cooperation. Universities in Hong Kong are already planning to expand to Shenzhen, which will make use of the international recognition

from Hong Kong and abundant talents from Shenzhen. The SZ-HK region will become a research hub in southern China.

Furthermore, we compared inner-city infrastructure in both cities. Apparently, Hong Kong, as a developed economy, has better inner-city infrastructure. But Shenzhen, as a growing economy, is catching up fast. Hong Kong residents contribute as a major daily traffic driver across the border. This is due to the fact that Hong Kong citizens have more freedom traveling to the mainland, but mainland citizens don't have the equivalent freedom, and such asymmetric relation is not likely to change in the near future. It is obvious that daily commuters are still not very common in the region since Hong Kong residents will only find underpaid jobs in Shenzhen, and Shenzhen citizens have limited accessibility to travel to Hong Kong. We did observe a spike in visitors from mainland China after 2003 thanks to the Individual Visit Scheme. Visitors from mainland China are mainly tourists. But the increasing tourist volume not only stimulates Hong Kong's economy and boosts Hong Kong's tourism industry, but also escalate conflicts in the region. It is impossible to estimate how many parallel traders are travelling across the border, but the HKSAR government predicts that among parallel traders, Hong Kong residents and mainland residents are about half to half.

We also analyzed the conflicts and barriers in the region. Besides physical distance and limited accessibility for mainland residents. Conflicts between political faction and citizens' mentality are also barriers for the regional integration.

We found no evidence showing there is a difference before and after 2003 other than the increase in mainland tourists due to IVS. Based on what we found, both governments did make a lot of progress in regional cooperation and integration after 18 years of re-unification. And the region is full of potential and possibilities. Both can benefit from each other. The two cities have the cognitive proximity to understand each other, while still having enough differences for them to learn from each other.

According to the five phases model from Matthiessen (2004), the region already implemented large amounts of investments in infrastructure construction. Commuting to work became possible due to improved transportation facilities but still need time to adapt. At the same time, people's mentality shows lots of contradiction towards a further integrated region. And there are still lots of conflicts and barriers in the region. With these facts, we can assume that the Hong Kong Shenzhen region is somewhere between Phase 2 (requiring large-scale investment in the region) to Phase 3 (attitude and opinion towards regional integration shift from negative to positive) according to Matthiessen's theory. And we can expect that the Phase 3 will be a very lengthy and difficult process.

The Shenzhen-Hong Kong region is a unique case in cross-border region. Though the two cities belong to one national system, there are still physical borders existing and several barriers between the two. It is certain that we still have a very limited knowledge about this region. But the region also shows great potential. It will be very interesting for future research to find out the causality between the integration process and different indicators we used in this article,

manufacturing output, research capacity and daily traffics if more reliable data are provided. It is also very interesting to learn about the transformation from the “low road” regional development model to a “high road” model. The institution set-up and the relation with integration process will be a very important topic. Furthermore, the regional mentality and its impact on regional development will help us understand more about the region. With these questions being answered, it will certainly help us to have better understanding about cross-border region development and this particular region.

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