

Strategic Choice of Zhuhai's Economic Development in the Background of Hong Kong-Zhuhai-Macao Bridge

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Abstract—With the opening of Hong Kong-Zhuhai-Macao Bridge, Zhuhai has turned into a traffic hub city from a former edge city, and the city's regional advantage will be greatly improved, becoming the sole city which connects with two special administrative regions. This article deeply analyzes the brand-new opportunities and challenges that the Hong Kong-Zhuhai-Macao Bridge can bring to the foreign trade, retails, service and real estate, and it raises strategic selection to be made before the influence of the Hong Kong-Zhuhai-Macao Bridge; relying on the regional advantages that the Hong Kong-Zhuhai-Macao Bridge brings, it is to build Zhuhai into a regional core city and promote the overall economic development of Zhuhai through road-bridge economy and lift the comprehensive competitiveness of the city.

Keywords—Hong Kong-Zhuhai-Macao Bridge; Zhuhai; economic influence

I. INTRODUCTION

Since the 1980s, in order to promote the rapid economic development of Chinese mainland and intensify the economic communication between Chinese mainland and Hong Kong and Macao, Chinese Central Government has decided to set up special economic zones in Shenzhen close to Hong Kong and Zhuhai adjacent to Macao, at that time, the special economic zones, relying on extremely preferential regional tax policies and favorable investment environment, attracted a great number of investments and projects from Hong Kong, Macao, Taiwan and overseas, which created a reform miracle of a rapidly developing Shenzhen. However, Zhuhai Special Economic Zone, which was set at the same time, after over three-decade development, is developing slowly, falling behind Shenzhen, maybe there are many reasons causing such a situation, however one of the major causes shall be location factor, due to the natural separation by Pearl River Estuary, there have been no land routes between Hong Kong and Zhuhai since ancient times, and the economic communication between the two cities mainly depends on ships, after all, the overland transport has to detour Shenzhen, which will need a long time and high costs, therefore, Zhuhai has no advantages that Shenzhen owns to undertake the industrial transfer and investment from Hong Kong. On the other hand, advantageous industries in Macao are gaming industry and tourism, the industries are simple, besides, the economic aggregate in

Macao is smaller, weak to drive the economic development in Zhuhai, so as far as Zhuhai, it has been a dream to build a land route connecting with Hong Kong in order to strengthen the economic connections between Zhuhai and Hong Kong. The Hong Kong-Zhuhai-Macao Bridge project, with an epoch-making significance, makes the dream of connecting Zhuhai and Hong Kong come into being. The bridge project was built jointly by three governments of Guangdong, Hong Kong and Macao, since commencement in Dec 2009, it is predicted to complete and open at the end of 2017, the bridge starts with Sanshiwan, Lantau Island, Hong Kong, traveling over Tai O Island and Lingding Bay at Pearl River Estuary, divided into a Y-shape, reaching Zhuhai and Macao respectively. The whole bridge has two rising marks namely offshore artificial islands and main span cable-stayed bridge.

II. INFLUENCES OF HONG KONG-ZHUHAI-MACAO BRIDGE ON ZHUHAI'S ECONOMY IN THE FUTURE

The completion and opening of Hong Kong-Zhuhai-Macao Bridge will make it easy for the communication between Hong Kong, Zhuhai and Macao, though the bridge project is underway, yet the effect has been predicted for the completion and opening of the bridge, Hong Kong, Zhuhai and Macao all expect the bridge to exert greater functions and roles in order to promote the communication and cooperation between the three cities, driving the rapid local economic development and forming a favorable development situation where the economies in Hong Kong, Zhuhai and Macao are integrated. No doubt, the bridge will produce huge influences to the society, economy and people's life in Zhuhai, which bring brand-new development chances and diverse risks and challenges, the bridge is not only a traffic trunk but also a transportation artery which carries a great number of steams of people, materials, capitals, information, technique, experience and more, and the opening of the main artery will make a strong injection on the economic growth speed in Zhuhai, yet we for now cannot confirm how the injection work, last or which fields are mainly supported, directly or indirectly, all of these need to be carefully analyzed and treated deliberately.

A. Brand-new Development Opportunities that the Hong Kong-Zhuhai-Macao Bridge Can Bring to Zhuhai's Foreign Trade

Acting as the first special economic zones approved in China, the economic development speed in Zhuhai has far fallen behind Shenzhen, for which, one of the main reasons is location factor. Shenzhen closely connects with Hong Kong through land routes, and frequent trades happen between Shenzhen and Macao, over years, the trade volume in Shenzhen and Hong Kong occupy over half the total of the Pearl River delta, main forms are import and transit, and the export amount in Shenzhen has been ranking 1 for 24 years among inland cities. In 2016, the foreign import & export amounts in Shenzhen totaled 2630.701 billion yuan, accounting for 11.3% and 39.7% of total export amount in the country and Guangdong respectively, including export amount of 1568.04 billion yuan, the trade amount between Shenzhen and Hong Kong totaled 695.802 billion yuan, including import amount of 688.762 billion yuan and import amount of 7.04 billion yuan¹. Yet the annual import & export amount in Zhuhai totaled 275.305 billion yuan only, including export amount of 180.226 billion yuan and import amount of 95.08 billion yuan. The export amount of Zhuhai to Hong Kong totaled 32.897 billion yuan², accounting for 18% of total export. The export amount of Shenzhen is 5.7 times that of Zhuhai, and the export amount of Shenzhen to Hong Kong is 21 times that of Zhuhai to Hong Kong. Seen from horizontal comparison between 9 cities at Pearl River Delta (Guangzhou, Shenzhen, Dongguan, Huizhou, Foshan, Zhongshan, Jiangmen, Zhaoqing), Shenzhen has the highest import & export amount, followed by Dongguan, both Shenzhen and Dongguan lie at the east bank of Pearl River Estuary, adjacent to Hong Kong, and the advantages in location make its foreign trade develop rapidly, far higher than other cities at Pearl River Delta. Even Guangzhou, the capital of Guangdong Province, has foreign trade amount lower than Shenzhen and Dongguan (far away from Hong Kong) due to poor advantages in location, moreover, Zhuhai, Zhongshan and Jiangmen, standing at the west bank of Pearl River Estuary have worse data in foreign trade compared to those standing at the east bank of Pearl River Estuary. Though, Zhuhai has been devoted to developing foreign trade over the years, yet the foreign trade had not made great progress, and the import amount of Zhuhai has been higher than the export amount in recent decades, staying in a trade deficit, main reasons for the phenomena are the products exported to international markets by Zhuhai-based enterprises are poorly competitive, unknown and worse in attracting foreign investments.

TABLE I. IMPORT AND EXPORT AMOUNTS OF NINE CITIES AT PEARL RIVER DELTA IN 2016

City	Import & Export Amount (in USD 100 M)	Export Amount (in USD 100 M)	Import Amount (in USD 100 M)
Guangzhou	1293.09	781.77	511.32
Shenzhen	3984.36	2373.39	1610.97
Zhuhai	417.31	273.29	144.02
Foshan	621.84	469.80	152.04
Huizhou	461.45	298.78	162.67
Dongguan	1724.96	990.14	734.82
Zhongshan	338.49	266.61	71.88
Jiangmen	190.90	150.31	40.59
Zhaoqing	69.38	46.80	22.58

^a Data source: Guangdong Statistics Yearbook 2017

Seen from the "Table I", the closer the cities are to Hong Kong, the more frequent the trades, the bigger the foreign trade, and the rapider the foreign trade development. The conclusion has been shown by scholars through statistics, Jia Yanhui and Wang Junsong adopted gravity models to measure the importance of land route distance and other factors at the Pearl River Delta that connect with Hong Kong in economy, and the conclusions show when the land route distance from other cities to Hong Kong is reduced by 1%, and the import & export amount from or to Hong Kong will be increased by 0.995% and 0.850%³ respectively. Both the Pearl River Delta and Hong Kong have higher foreign trade dependence, and Hong Kong is the first city for the foreign trade of the Pearl River Delta, and an important platform for Chinese mainland to access to international markets. Among the goods exported to Hong Kong from the Pearl River Delta, more than 90% are exported a third country, and 70-80% of exported products from the Pearl River Delta are sold internationally through Hong Kong, besides, 80% of imported products are achieved through Hong Kong.

¹ Data source: Shenzhen 2016 National Economy & Social Development Statistics Bulletin

² Data source: Zhuhai 2016 National Economy & Social Development Statistics Bulletin

³ Jia Yanhui, Wang Junsong, Impact of the Completed Hong Kong-Zhuhai-Macao Bridge on the Export-Oriented Economy in the Pearl River Delta [J]. Guangxi Social Sciences 2008 (9).

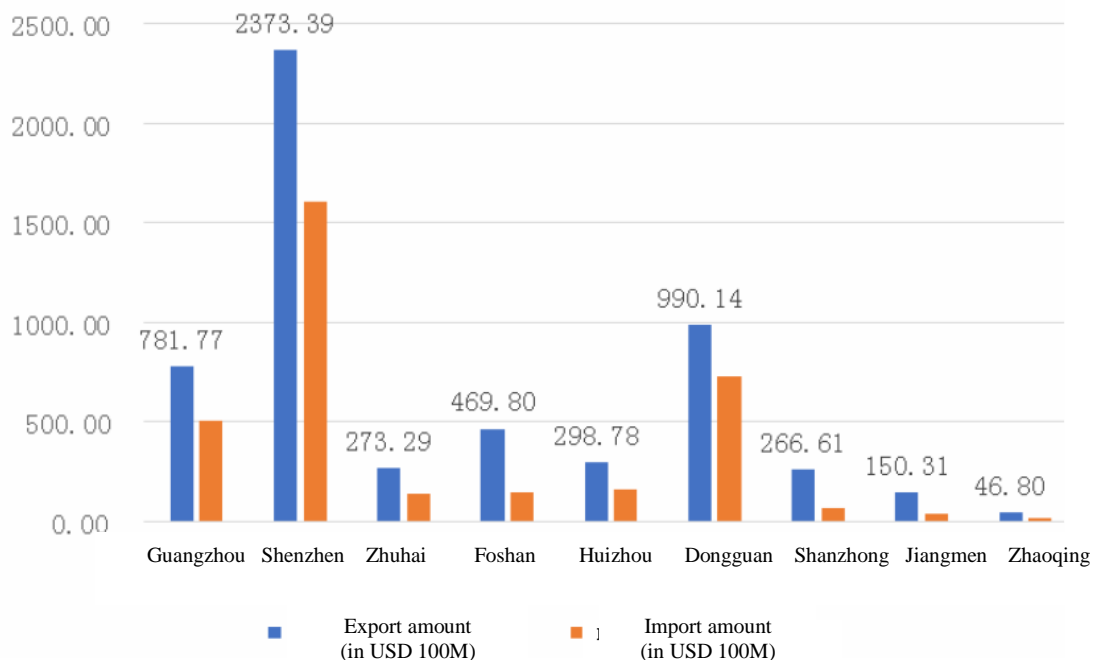


Fig. 1. Import & export amounts of nine cities at the Pearl River Delta in 2016.

The construction of Hong Kong-Zhuhai-Macao will make it easier to communicate between Zhuhai and Hong Kong, opening a land route from Zhuhai to Hong Kong, which will bring huge conveniences for the economy and trade between the two cities, it is believed that with the opening of the bridge, Zhuhai-based enterprises will have their competitiveness in export greatly improved, and get more profits, as a result, there will be more and more foreign trade enterprises rising, the bridge will bring a multiplier effect to the foreign trade industry in Zhuhai, driving the rapid GDP growth in the city as shown in "Fig. 1".

B. Hong Kong-Zhuhai-Macao Bridge will Become a Significant Channel for Zhuhai to Attract Foreign Investments

Zhuhai has been dedicated to export-oriented economy, to greatly attract foreign investments, introduce transnational enterprises and establish cooperation with foreign-funded enterprises are key tasks for the government. By the end of 2016, Zhuhai has approved 13534 foreign-funded enterprises, with foreign direct investment totaling USD 25.74 billion. With the real foreign investments, the manufacturing accounts for 28.8%, construction industry 19.7%, real estate 19.7%, lease and commercial service 10.3%, scientific research, technical service and geological survey 9.5%, finance industry 9.4%⁴. After opening of the bridge, Zhuhai will be closely connected with Hong Kong, relying on Hong Kong international financial center, an excellent platform; Zhuhai can attract more international investments.

Hong Kong is a major door for foreign capitals to access to Chinese mainland and the world fifth largest foreign exchange

transaction center and the largest RMB offshore transaction center. Hong Kong has the Asia second largest Securities Exchange, falling behind Tokyo Japan only. Besides, Hong Kong is a significant market for Chinese mainland enterprises to finance, and the market value of Chinese mainland enterprises listed in Hong Kong reach USD 3.1 trillion. For Chinese mainland enterprises, Hong Kong is an important window for international investors to invest in Chinese mainland. The gravity models created by Jia Yanhui and Wang Junsong show, when the land route distance between the cities at the Pearl River Delta is reduced by 1%, the foreign investments in such cities will be increased by 0.259%⁵ correspondingly. Direct or indirect foreign investments in a large size are one of the successful secrets for the rapid development in Shenzhen over the years, in 2016, the newly signed foreign direct investment contracts totaled 4132, having foreign contract amount of USD52.193 billion, and the actual foreign direct investment totaled USD 6.732 billion. Compared to Shenzhen, the foreign investment in Zhuhai was lower, in 2016, the newly approved foreign-funded enterprises totaled 803, having a foreign investment amount of USD 9.051 billion, and the actual foreign investment totaled USD 2.295 billion. However, the completion of Hong Kong-Zhuhai-Macao marks that Zhuhai has a brand-new advantage in location, namely the only inland city connecting two special economic zones at home, which will bring Zhuhai more chances and challenges, as well as higher attractions in foreign investments. With the shortened distance to Hong Kong via land route, Zhuhai may be the second Shenzhen possibly, being a new hot place for overseas investment. In addition, the sound environment and livable paradise in Zhuhai also attract the migration of

⁴ Zhuhai 2016 National Economy and Social Development Statistics Bulletin

⁵ Jia Yanhui, Wang Junsong, Impact of the Completed Hong Kong-Zhuhai-Macao Bridge on the Export-Oriented Economy in the Pearl River Delta [J]. Guangxi Social Sciences 2008 (9).

overseas people, raising the reputation of Zhuhai around the world. Relying on the popularity of Hong Kong and Macao around the world, as the neighbor, Zhuhai will also attract the eyeballs of more foreign-funded enterprises, compared to Hong Kong and Macao, Zhuhai owns low-cost laborers and wide land resources undeveloped, plus preferential policies, it is believed to attract a great number of foreign funded enterprises to settle in the city. In addition, according to the estimation of "investment attracted distance elasticity", when the distance between cities at the Pearl River Delta and Hong Kong is reduced by 1%, the investment in manufacturing and service will be increased by 0.12%~0.17%, with the opening of the bridge, it is predicted that the GDPs of cities in the west bank may increase 60 billion-100 billion yuan.

C. Guests and Commercial Chances that Hong Kong-Zhuhai-Macao Bridge Brings Zhuhai Retails and Service Industry

The Hong Kong-Zhuhai-Macao Bridge will bring Zhuhai more overseas investments and projects, and commercial service, wholesales and retails are mostly involved in by foreign investment, seen from the newly approved for foreign direct investment in 2016, most enterprises get involved in lease and commercial service, totaling 237, increased by 50% over last year, the non-contract amount totaled USD589.76 million, and the actual foreign investment totaled USD 236.51 million; followed by wholesales and retails, the newly approved enterprises totaled 232, the non-contract amount totaled USD381.26 million, and the actual foreign investment totaled USD 43 million. Data show, the commercial service, wholesales and retails in Zhuhai are popular by overseas investments, to which more commercial chances will be brought, promoting the development and prosperity of commercial service, wholesales and retails. After completion of the bridge, the guests from Hong Kong, Macao and foreign countries will increase greatly. It is predicted by Hong Kong government that in 2035, the vehicle traveling through the bridge will reach 50000-60000 times per day, and about

230000-250000 guests will travel through the city. The increased guests will bring wider market development for the retails in Zhuhai, more profits, and the development potentials are huge. A great number of guests that travel through the bridge will form more demands in service industry in Zhuhai, and the first industry shall be accommodation and catering, whose turnover will increase rapidly with the increased guests traveling through Hong Kong, Macao and foreign countries.

D. Hong Kong-Zhuhai-Macao Will Drive the Real Estate Development in Zhuhai

Though the economic aggregate in Zhuhai is not high and there are few people in the city, yet the real estate in the past decade have been rising rapidly, the average individual housing price in 2004, Zhuhai was about 1000 yuan/m², which however has been up to 16000/m² in 2016, increased by 15 times. The rapid up-going real estate price is closely related the market demands, but the market demand at Zhuhai real estate market is special, foreign investors are major buyers, which are divided into two categories: First, some want to change living environment like migratory birds attracted by the beautiful environment in Zhuhai, who generally live in North China or the central plains and will go to live in houses they bought in Zhuhai when the weather is not good in Winter and Spring, and they will return home in summer, such group will invest in real estate and think highly of the real estate trends in Zhuhai; Second, some are investors from Hong Kong, Macao, adjacent to Zhuhai and Macao, compared to Hong Kong and Macao, the real estate prices are still in a low level; compared to those in Shenzhen and Guangzhou, the real estate prices will have more spaces to rise, so it is popular in investors from Hong Kong and Macao. Seen from the fixed assets investment size in recent about 9 years, it can be found that the real estate industry in Zhuhai has been developing stably, especially the fixed assets investment in 2011 got the rapidest development, which fell due to the nationwide real estate policies in 2012, but stably rising in 2013 and the first half of 2014.

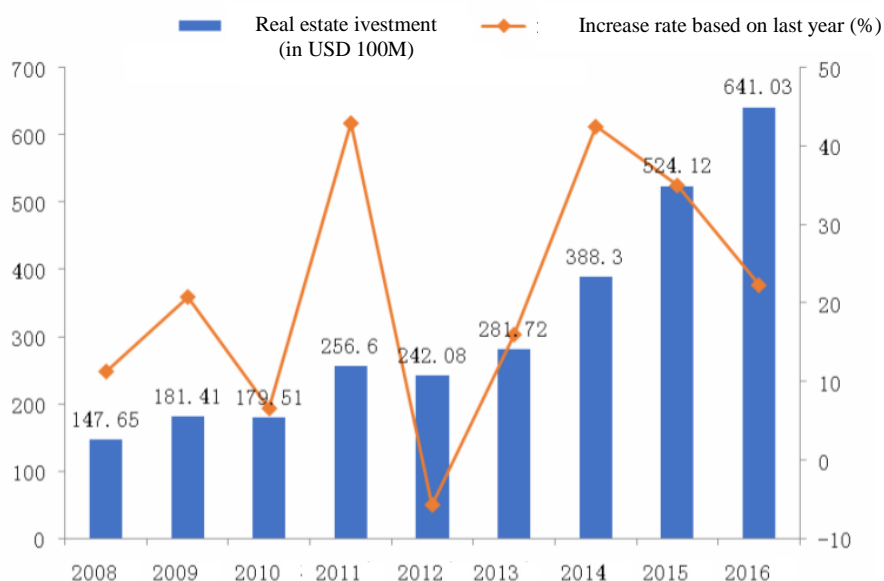


Fig. 2. Zhuhai real estate investment development trend during 2008-2016

Hong Kong-Zhuhai-Macao Bridge turns Zhuhai into a traffic hub city from a regional edge one, all tourists and goods transport from Hong Kong, Macao, West Guangdong, Guangxi, Hunan, Hainan, Yunnan and Guizhou will travel through Zhuhai, and the advantages in location of Zhuhai is greatly raised, and Zhuhai's economic vigor and influence will rise rapidly, all of these are good news for the real estate development in Zhuhai. Due to convenient traffic and beautiful environment, more Hong Kong people will buy houses in and even migrate to Zhuhai; for Zhuhai has lower real estate prices than that in Hong Kong and Macao, as well as lower living costs, in the future, more and more people from Hong Kong and Macao will work in Hong Kong or Macao, but living in Zhuhai, which will greatly increase the real estate market demands in Zhuhai as shown in "Fig. 2".

III. ZHUHAI'S STRATEGIC SELECTION IN ECONOMIC DEVELOPMENT FACING THE OPPORTUNITY OF HONG KONG-ZHUHAI-MACAO BRIDGE

The construction of Hong Kong-Zhuhai-Macao Bridge will bring important and far-reaching influences to all fields, people's lives and system reform; some are positive maybe some negative. Seen as a whole, the bridge will bring more positive influences to Zhuhai, so we must clearly understand all influences and make full use of policies and regulations to expand the positive influences, reducing the negative ones, the economic development in Zhuhai will enter a new stage. Planning strategically Zhuhai can conduct overall adjustment and adaptability aimed at the bridge construction through urban position, urban space distribution and industrial revivals.

A. *To Build Zhuhai into a Core City at the West Bank of Pearl River Estuary*

The construction of Hong Kong-Zhuhai-Macao Bridge brings Zhuhai brand new regional advantages and new development opportunities for diverse industries in Zhuhai, and Zhuhai is expected to grasp the advantages and opportunities to strengthen the strength of its own, building itself into a regional core city at the west bank of Pearl River Estuary. Zhuhai pulls Zhuhai-Zhongshan-Jiangmen Economic Circle by one hand and Hong Kong-Zhuhai-Macao Integration by the other hand, apparently Zhuhai has become a hug connecting Hong Kong and Macao at the west of Zhujiang River and even the whole west Guangdong. Accordingly Zhuhai should make full of the advantages, on the one hand, it should attract capitals and projects from Hong Kong and Macao, borrowing the successful management experience and commercial practice in Hong Kong, strengthen understanding and interaction with Hong Kong and Macao, further the cooperation scope and degree with Hong Kong and Macao, and carry out cooperation in industrial economy, talent exchanges, environmental protection, land development, technical culture and system innovation, so as to form mutual complementation between three cities and intensify the overall competitiveness of the three cities; On the other hand, Zhuhai shares the same systems with Zhongshan and Jiangmen, adjacent to each other, where there is a wide foundation for cooperation, the Zhuhai-Zhongshan-Jiangmen Economic Circle Integration has been carried out step by step with

obvious effect. The Hong Kong-Zhuhai-Macao Bridge will do good to Zhuhai but also form economic spreads to Zhongshan and Jiangmen, within the Zhuhai-Zhongshan-Jiangmen Integration framework, the three cities will share the opportunities and benefits that the Hong Kong-Zhuhai-Macao Bridge brings, also facing diverse challenges its brings as well. The Zhuhai-Zhongshan-Jiangmen Integration will not exclude or have conflicts with the Hong Kong-Zhuhai-Macao Integration, on the contrary, they can interact with each other, supporting and benefiting from each other. Acting as an important character, Zhuhai will become a core city at the west bank of Pearl River Estuary.

B. *To Drive the Urban Economy in Zhuhai through Road-bridge Economy*

Road-Bridge Economy means that we will rely on the construction of large infrastructures or the key traffic roads, to promote the connection of roads and bridges with the factor resources in all cities in a free and efficient flow, collection and distribution so as to maximize the factor value and create more economic benefits and further to drive the rapid economic development around the project. Zhuhai should avoid being an onlooker in the Road-Bridge Economy, instead, it shall make full of use free environment and preferential policies to catch resource factors the bridge brings to promote the economic development. Make full use of the foreign funded projects after the completion of the Hong Kong-Zhuhai-Macao, rationally arrange lands and settle projects with high benefits and resource utilization as expected in the city. The government should fully support the joint venture and cooperative enterprises between Zhuhai and Hong Kong and Macao, expanding financing channels and simplifying administrative procedures for reviews.

C. *To Rationally Face Competitions and Challenges and Raise Zhuhai's Influences*

The Hong Kong-Zhuhai-Macao Bridge brings Zhuhai not only positive influences but also diverse threats and challenges, so Zhuhai should be clearly understanding all of the threats and challenges, finding ways out and catching chances in order to raise the urban influences of its own through competition.

- Hong Kong has stronger cohesive force in resource factors, able to take away rare resources from Zhuhai. Zhuhai has been in a structural shortage of human resources, where there are few top end management lack skilled technical workers, who are just what Hong Kong needed urgently, the Hong Kong-Zhuhai-Macao Bridge makes it easier for talents exchanges between the two cities, however the talents are more flowing to Hong Kong for higher income, which will cause of worst shortage of top talents in Zhuhai. So Zhuhai should make changes and promotion in policies in order to attract top end and urgent talents, building a good nest for golden phoenix to stay.
- When cooperating and competing with Hong Kong, an international city, Zhuhai is in an inferior position, which is easy to be controlled or stressed in economic cooperation, damaging the economic benefits of

Zhuhai. Take air transport cooperation as an example, Zhuhai Airport is falling behind Hong Kong Airport, and Zhuhai Airport is unable to compete with Hong Kong Airport whether in airline, passengers, goods, service or popularity, during the operation, it will need to discuss and settle for Zhuhai Airport on how to expand its influences, increase the market shares and passenger flows. Comparatively, with the opening of the Hong Kong-Zhuhai-Macao Bridge, the distances and time from Zhuhai to Hong Kong are both shortened obviously, which may cause that some clients in Zhuhai and around which generally select Zhuhai Airport will select Hong Kong Airport, at last, Zhuhai Airport loses such clients. Therefore, during the cooperation between Zhuhai Airport and Hong Kong Airport, the two sides may discuss airlines, ticket prices and service in order to achieve win-win.

- The Hong Kong-Zhuhai-Macao Bridge will also intensify the competition at the Pearl River Delta area. The existing competitions are hot, and the competitions between the east and west banks of Zhujiang River, three cities of Zhuhai, Zhongshan and Jiangmen, the cities in Hong Kong, Macao and inland cities can be seen every day. After completion of the Hong Kong-Zhuhai-Macao Bridge, with regard to foreign investment and project cooperation, Zhuhai will compete with Zhongshan and Jiangmen, for the three cities all expect to cooperate with Hong Kong for more regional benefits. Therefore, what Zhuhai can do is just to enhance the comprehensive strength of its own and compete by strength in order to attract investors from Hong Kong, Macao and even foreign countries.

IV. CONCLUSION

The construction of the Hong Kong-Zhuhai-Macao Bridge will bring new opportunities and challenges to Zhuhai's foreign trade, retail, service, logistics, tourism and real estate industries. Taking the Hong Kong-Zhuhai-Macao Bridge as a link, Zhuhai should actively absorb capital and projects of Hong Kong and Macao, learn from successful management experience and business practices of Hong Kong, deepen mutual understanding and interaction with Hong Kong and Macao, and expand cooperation scope and cooperation degree between Zhuhai and Hong Kong and Macao to build the core city status of Zhuhai. At the same time, Zhuhai should also rationally face the challenge posed by the completion of the Hong Kong-Zhuhai-Macao Bridge, namely Hong Kong's ability to agglomerate elements as a core city.

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