THE GUANGDONG-HONG KONG-MACAU GREATER BAY AREA: AN UPDATE

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Executive Summary

1. The Guangdong-Hong Kong-Macau Greater Bay Area (GBA) has been slated as a new growth engine in China's latest plans. It covers the city cluster in the Pearl River Delta area in Southern China, including Guangzhou, Shenzhen, Foshan, Dongguan, Huizhou, Zhuhai, Zhongshan, Jiangmen, Zhaoqing in Guangdong province, and the special administrative regions of Hong Kong and Macau.

2. The establishment of the Central Leading Group on Promoting GBA Development under the Chinese Communist Party Central Committee, the top decision-making body for the GBA initiative, not only confirms the strong state endorsement of the GBA, but also reflects the state's role in coordinating the integrated development of participating cities and overseeing the implementation of the plan.

3. The GBA is characterised by its massive area and population size, far surpassing the Greater Tokyo Bay Area, San Francisco Bay Area and New York Bay Area. The industrial sectors include Hong Kong's financial and professional services, Shenzhen's high-technology and innovation, and Guangzhou, Foshan and Dongguan's electronics, automobile and manufacturing industries.

4. The GBA is one of China's major national economic centres and the most competitive and market-oriented mega-region that registers rapid manufacturing-driven economic growth with well-linked large-scale inter-city infrastructure; it has become one of the most developed mega-regions in China.

5. While the comprehensive infrastructure has laid the foundation for forging close economic ties and regional integration within the GBA, it must align with financial and digital connectivity for it to achieve an efficient cross-border flow of capital and information. Compared to its physical infrastructure, financial and digital connectivity within the GBA is underdeveloped.

6. In February 2019, two priority areas, namely, innovation in technology and the financial sector, were highlighted in the Outline Development Plan for the

Guangdong-Hong Kong-Macau Greater Bay Area (the Plan henceforth). The Plan provides specific policy measures to support activities for indigenous innovation and homegrown technologies by research institutions and firms in the GBA cities.

7. China is seeking to be self-sufficient in advanced technology and high-tech products, and take the lead in the world in a range of high-tech sectors, from the fifth-generation communication networking, artificial intelligence, autonomous vehicles to big data and internet of things. The Chinese government has set the ambitious goal of becoming a global leader in innovation by 2035.

8. Shenzhen will play a leading role in this pursuit. Once a small fishing village, it has emerged as a leading national centre for innovation and scientific research with growing global influence. In 2019, while national spending on research and development (R&D) was 2.19%, Shenzhen's R&D expenditure accounted for 4.3% of the regional GDP, outstripping that of all other cities in China.

9. Unlike other renowned Bay Areas in the world, the GBA has the most complex governance structure. Guangdong, Hong Kong and Macau have separate political systems and custom zones with hard borders, different institutional, legal and taxation collection systems, and distinct governance culture.

10. This complexity in governance structure, legal systems and currencies in the GBA itself speaks for the very challenging task faced by the Chinese central and local authorities in their push for cross-border economic integration across GBA cities.

THE GUANGDONG-HONG KONG-MACAU GREATER BAY AREA: AN UPDATE

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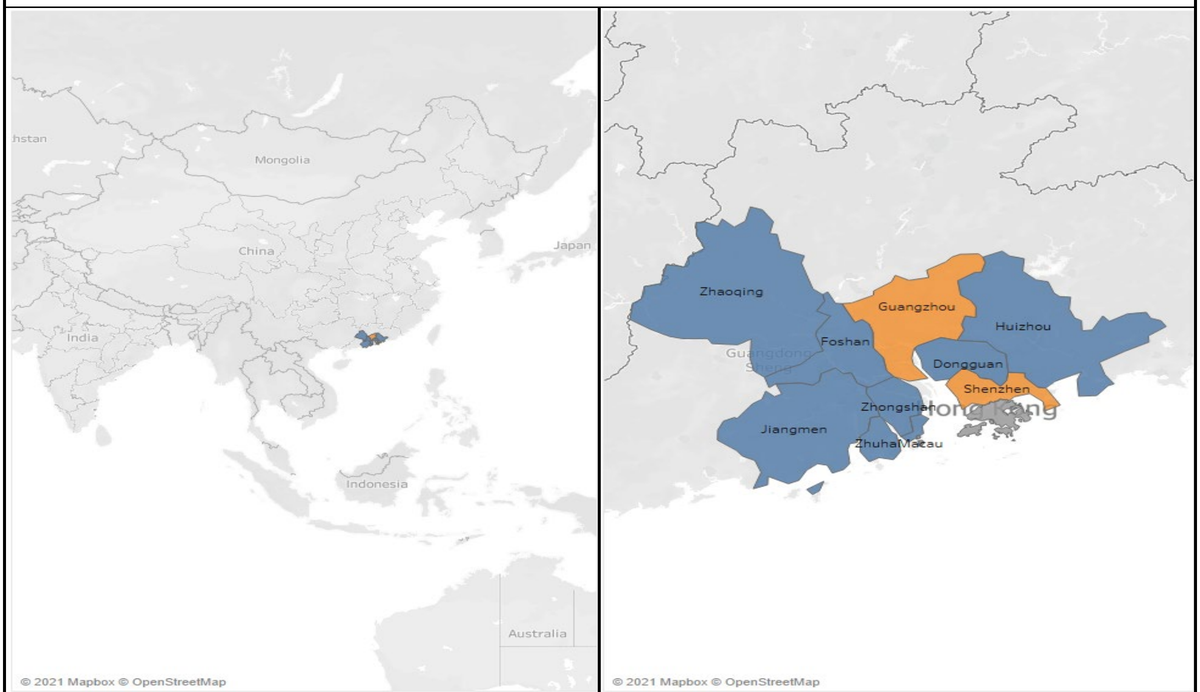
The Greater Bay Area in Comparative Perspective

1.1 China has earmarked the Guangdong-Hong Kong-Macau Greater Bay Area (GBA) as a new growth engine for its pursuit of sustainable national economic growth in the face of external hostility. The city cluster surrounding the Pearl River Delta area in Southern China, including Guangzhou, Shenzhen, Foshan, Dongguan, Huizhou, Zhuhai, Zhongshan, Jiangmen, Zhaoqing in Guangdong province, and the two special administrative regions of Hong Kong and Macau made up the GBA (see Map for their location).

MAP LOCATION OF GBA IN CHINA



Source: Author's own compilation.

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1.2 These 11 cities are highly connected socially and economically, with links to the cross-city infrastructure network. Around 67 million people reside within the 56,000 square kilometres of land area. The cultural affiliation and geographical proximity have facilitated decades-long economic cooperation among Guangdong, Hong Kong and Macau. The GBA evidently is already well developed. According to a ranking of the world's 100 most economically competitive cities (Table 1), Shenzhen was the highest-ranking Chinese city in 2019. Three other GBA cities, Hong Kong, Guangzhou and Foshan, also made it to the top 100.

TABLE 1 CHINESE CITIES RANKED GLOBALLY AS AMONG THE 100 MOST ECONOMICALLY COMPETITIVE CITIES, 2019

Chinese City	Global Ranking
Shenzhen	4
Shanghai	10
Hong Kong	13
Beijing	17
Guangzhou	18
Suzhou	25
Nanjing	42
Wuhan	43
Chengdu	54
Hangzhou	64
Wuxi	65
Changsha	68
Qingdao	76
Chongqing	81
Tianjin	82
Foshan	84
Ningbo	90
Zhengzhou	94
Changzhou	99

Source: UN-Habitat and Chinese Academy of Social Sciences, "Global Urban Competitiveness Report (2019-2020)", pp. 1-31, available at https://unhabitat.org/sites/default/files/2020/10/global_urban_competitiveness_report_2019-2020_the_world_300_years_of_transformation_into_city.pdf, accessed 4 December 2020.

1.3 The GBA has three distinguishing features. First, it is the largest bay area by size and the one with the largest population. Both its size and population surpass those of the Greater Tokyo Bay Area, San Francisco Bay Area and New York Bay Area. Second, the GBA's strength lies in its wide spectrum of industrial sectors located in the different cities, such as financial and other professional services in Hong Kong, high-technology and innovation in Shenzhen, and electronics, automobile and other manufacturing industries in Guangzhou, Foshan and Dongguan. Each city has its own economic strengths and unique competitiveness.

1.4 Third, in 2017, the combined container handling capacity, recorded as 66.33 million tons of TEUs, of the three core ports within the GBA (Shenzhen, Hong Kong and Guangzhou) exceeded the combined corresponding figures of ports of other major bay areas in the world. The prosperity of the bay area's export-oriented industries and the region's economic clout are reflected in the competitive strength of this group of container ports.[1]

1.5 The GBA is one of China's major national economic centres that registers rapid manufacturing-driven economic growth and well-linked large-scale inter-city infrastructure; it has become one of the most developed mega-regions in China and locals in this region enjoy incomes that are now on par with those in developed nations.

1.6 Although the GBA accounts for less than one per cent of China's territorial size and five per cent of its population, it contributed over 12% of China's gross domestic product (GDP) in 2019. The GBA is one of the most internationalised regions in the country in terms of its ratio of foreign trade to GDP and inflow of foreign direct investment (FDI). The GBA had attracted substantial FDI inflow to China, some US$91.8 billion in 2019 (see Table 2 for details).

1.7 The fast expansion of cross-boundary infrastructure connectivity throughout GBA cities, concurrently linked by high-speed railway, the Hong Kong-Zhuhai-Macau sea bridge and other forms of infrastructure, is a factor for the more efficient movement of professionals, capital and information across the region. The comprehensive infrastructure has laid the foundation for forging close economic ties and regional integration within the GBA. A string of new infrastructure projects is also being constructed or in the pipeline in various GBA cities (Appendix 1). The completed and planned cross-border transportation projects will reduce travel time between GBA cities, and provide more travel mode options for residents, tourists and businesspersons.

1 Yu Hong, "The Guangdong-Hong Kong-Macau Greater Bay Area in the Making: development plans and challenge", *Cambridge Review of International Affairs*, https://www.tandfonline.com/doi/full/10.1080/ 09557571.2019.1679719, accessed 8 March 2021.

TABLE 2 KEY DEVELOPMENT INDICATORS OF GBA CITIES, 2019

City	Residential population (in million)	Land area (sq km)	GDP (RMB in billion)	GDP per capita (US$)	Percentage of high-tech manufacturing in total value-added industrial output	Percentage of tertiary industry in regional GDP	Ratio of foreign trade to GDP (%)	Foreign direct investment (US$100 million)	Percentage of research and development (R&D) expenditure in regional GDP	Average property price (RMB in thousands per square metre)
Zhuhai	2.02	1,732	343.5	25,400	29.6	53.8	84.6	24.2	2.5	21,000
Guangzhou	15.30	7,434	2362.8	22,600	49.0	71.6	42.3	71.4	2.4	22,000
Shenzhen	13.02	1,997	2422.1	28,600	61.5	58.8	123.7	82.0	4.3	58,000
Foshan	8.15	3,798	1075.1	19,100	6.2	42.3	44.9	7.0	2.3	17,000
Dongguan	8.46	2,460	948.2	16,300	19.8	43.2	145.5	12.0	2.6	19,000
Zhongshan	3.38	1,784	310.1	13,400	n.a	48.9	76.9	5.5	2.2	10,000
Zhaoqing	4.18	14,891	224.8	7,795	9.5	41.7	17.9	1.4	1.2	7,000
Jiangmen	4.63	9,509	314.6	9,855	11.0	48.9	45.2	8.2	2.0	7,000
Huizhou	4.88	11,346	417.7	12,400	41.7	43.2	64.8	9.3	2.1	9,000
Hong Kong	7.50	1,106	2415.4	48,114	n.a.	93.5	300.0	683.7	0.8	140,000
Macau	0.68	32.9	356.3	79,977	n.a.	97.5	2.9	3.3	n.a.	85,000

Notes: statistical figures on the average property price and R&D expenditure of various cities were based on 2017 data.
Sources: calculations based on various updated information, including *2019 National Economic and Social Development Statistical Bulletin* for various mainland cities located in the GBA; Ernst and Young, 2019; *Yearbook of Statistics*, Macau 2019; and *Hong Kong Annual Digest of Statistics 2020.*

1.8 Nevertheless, physical infrastructure connectivity must align with financial and digital connectivity in order to achieve an efficient cross-border flow of capital and information. Compared to the physical infrastructure, financial and digital connectivity within the GBA is underdeveloped. Customs declaration of goods is still largely paper-based. There is no centralised database to allow banks and firms across the GBA cities to share their customers' credit reports and collaterals.[2]

Rationale behind State's Push for the GBA

2.1 The Chinese central government officially endorsed the GBA development initiative for the first time in 2016.[3] In September 2017, China's President Xi Jinping reiterated the Chinese government's determination to develop the GBA in his speech at the 19th National Congress of the Chinese Communist Party.[4]

2.2 The establishment of the Central Leading Group on Promoting GBA Development under the Chinese Communist Party Central Committee,[5] the top decision-making body for overseeing the GBA development initiative, reflects the state's not only strong endorsement of the GBA, but also forceful role in coordinating the integrated development of the participating cities and overseeing the implementation of the plan.

2.3 The Chinese government's determination to promote GBA development is driven by both external and internal factors. China has to respond fast to massive changes in the global geopolitical landscape, such as the intensifying China-US

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[2] Deloitte, "FinTech Strategy: For the Greater Bay Area in China", 2019, pp. 1-14, available at https://www2.deloitte.com/cn/en/pages/financial-services/articles/fintech-strategy-for-the-greater-bay-area-in-china.html, accessed 10 March 2021.

[3] "China's 13th Five-Year Plan 2016-2020" issued in 2016 stated China's intention to develop the GBA.

[4] Xi Jinping, "Zai zhongguo gongchandang dishijiuci quanguo dabiaodahui shangde baogao", *Xinhua News*, 18 October 2017, available at http://www.xinhuanet.com/politics/19cpcnc/2017-10/27/c_1121867529.htm, accessed 22 August 2018.

[5] Han Zheng, China's executive vice-premier, serves as the chair for this central leading group, while other members include Ma Xingrui, governor of Guangdong province, Carrie Lam, Hong Kong's chief executive and Ho Lat Seng, Macau's chief executive. The role of this leading group is to formulate policies and development plans related to the GBA and coordinate major affairs among Guangdong, Hong Kong and Macau, such as cross-boundary infrastructure construction and operation, economic and industrial development planning, social welfare and environmental protection.

competition and the impact of the COVID-19 pandemic on the global economy, which are likely to hasten the restructuring of global supply and value chains. The shift to a "dual (domestic and international) circulation" strategy necessitates the making of a city cluster in the GBA that could help strengthen the country's competitiveness in regional and global competition.

2.4 Beijing's push for the GBA development plan could also be partly driven by the need to align Hong Kong closer to the Mainland, economically as well as socially, to put local pro-independence movement at bay. To this end, several major cooperation platforms and demonstration centres have been established to advance the integration of Hong Kong and Macau with nine mainland Chinese cities involved, including Qianhai in Shenzhen, Nansha in Guangzhou, Hengqin in Zhuhai, Hong Kong-Shenzhen Innovation and Technology Park in Shenzhen, Daguang Bay Economic Zone in Jiangmen and Guangdong-Macau Comprehensive Cooperation Demonstration Zone in Zhongshan.

2.5 To encourage and support young Hong Kongers to work and pursue their career in the mainland cities of the GBA, Hong Kong Chief Executive Carrie Lam in her 2020 Policy Address announced the launch of the GBA Youth Employment Scheme to provide 2,000 new jobs. Although this scheme aims to encourage private firms with operations in both Hong Kong and mainland cities to recruit local Hong Kong university graduates to work in GBA cities, it has failed in its appeal to young Hong Kongers mainly due to the substantial salary gaps between Hong Kong and mainland cities, as well as concerns about differences in institutions and living and working environment.

2.6 The need for regional integration is well recognised amongst GBA cities given the fierce competition from other regions at home and abroad. Current challenges faced by the nine cities include rising land and labour costs, deteriorating environmental pollution, fierce inter-city competition, and land and skilled labour shortages. The Guangdong government would have to promote closer inter-city cooperation under the GBA development plan and leverage the international business expertise of Hong Kong and Macau to overcome these obstacles. Local industrial upgrading and economic restructuring will be accelerated through the implementation of the GBA plan.

2.7 The state-led plan for the GBA is a long-term strategy to sustain national economic development that could become a model in the modernisation drive of China.[6] The Chinese central government has great faith in the cities' various competitive advantages in its transformation of the GBA into a world-class city cluster by 2030.

2.8 Under the coordination of the Chinese central government, the National Development and Reform Commission (NDRC) and Guangdong provincial government, in cooperation with the Hong Kong and Macau SAR governments, have drawn up an ambitious GBA development plan. In February 2019, the Outline Development Plan for the Guangdong-Hong Kong-Macau Greater Bay Area (referred to as the GBA development plan or the plan) was announced.

2.9 Significantly, two priority areas have been highlighted in the state's agenda for the GBA, namely, innovation in technology and the financial sector. Nurturing indigenous innovation capacity and developing the financial sector are identified as the new drivers of economic growth for the GBA.

2.10 The plan stipulates the strategic positioning of every involved city and outlined broad mid- to long-term development objectives for the GBA (Table 3). A clearer division of labour will facilitate synergies among different GBA cities specialising in different industrial sectors and provide a conduit of spill-over effects to boost total factor productivity (TFP) growth. The 62-page plan serves as the guiding document outlining the key priority areas for collaboration and cooperation among Guangdong, Hong Kong and Macau.

[6] "Guo Shuqing, Chairman of the China Banking and Insurance Regulatory Commission, Delivered a Televised Speech to the 14th Asian Financial Forum", 18 January 2021, available at https://finance.sina.cn/bank/yhgd/2021-01-18/detail-ikftpnnx8837950.d.html?from=wap, accessed 24 January 2021.

TABLE 3 DESIGNATED ROLES OF GBA CITIES

City	GBA Development Plan
Hong Kong	Core city, international financial centre, international hub for shipping, aviation, trade, offshore RMB and asset management
Macau	Core city, international tourism and leisure centre, and a trading hub between China and Portuguese-speaking countries
Guangzhou	Core city, a leading state-level city, an economic hub, and an international hub for commerce, transportation, culture and education
Shenzhen	Core city, national economic centre, and an international hub for technology and innovation
Foshan	High-end manufacturing and high-tech manufacturing hub
Dongguan	High-end manufacturing centre for electronic equipment and information technology, and an incubator for new strategic industries
Huizhou	Important state-level base for manufacturing and clean energy production
Zhuhai	Advanced equipment manufacturing hub and bio-pharmaceutical hub
Jiangmen	An energy conservation and environmental protection industry centre
Zhongshan	Specialising in manufacturing, food and beverage, and high-end equipment
Zhaoqing	Manufacturing base for green agricultural products

Source: Outline Development Plan for the Guangdong-Hong Kong-Macau Greater Bay Area.

Innovation in Technology

3.1 For years, economic growth in the GBA has been heavily driven by extensive growth in input factors including cheap labour, capital accumulation and infrastructure investment. Given rising production costs and diminishing returns on capital formation, this growth model is no longer sustainable.[7] Productivity growth driven by technological innovation has yet to play an important role in the GBA's economic development. As part of the "dual circulation strategy", the Chinese state is pushing for technological self-sufficiency, especially in key high-tech commodities such as semiconductors and computer chips.

3.2 To forestall "foreign chokehold" on China's technological industries, China aims to promote indigenous innovation and homegrown technologies as China's previous drivers of economic growth, such as infrastructure investment, cheap land and labour costs, and demographic dividends, have largely run their course.[8] The plan has provided several specific policy measures and initiatives to support activities for indigenous innovation and homegrown technologies conducted by

[7] Can Huang and Naubahar Sharif, "Manufacturing Dynamics and Spillovers: The Case of Guangdong Province and Hong Kong, Macau, and Taiwan", *Research Policy*, vol. 38, Issue 5, 2009, pp. 813-828.

[8] World Bank and Development Research Centre of China, "Innovative China: New Drivers of Growth", 2019, pp. 1-150.

research institutions and firms located in GBA cities. A World Bank Report published in December 2020[9] points out that China will need to develop city clusters and new growth poles in the coastal provinces in order to develop an economy driven by innovation and a thriving service sector.

3.3 Leveraging each city's strengths and advantages, the intention is for the GBA to be transformed into a key hub for technological innovation for the country as well as the world. Instead of relying on suppliers of advanced technology and high-tech products, China aims to promote indigenous innovation and take the lead in the world in a range of high-tech sectors, from fifth-generation communication networking, artificial intelligence, autonomous vehicles to big data and internet of things. The Chinese government has set the ambitious goal of becoming the global leader in innovation by 2035.

3.4 Boosting productivity[10] in GBA cities through the development of advanced technology and innovation is crucial for the region's growth prospects. As shown in Figure 1, the innovation capacity of mainland GBA cities has improved during the past few years as reflected in the numbers of patent applications and patents for inventions granted in Guangdong.

3.5 At the core of this drive to develop technology and innovation in the GBA will be the city of Shenzhen. Once a small fishing village, it has emerged as a leading national centre for innovation and scientific research with growing global influence. Its diversified market economy and open commercial environment, innovative companies and strong manufacturing sector underscore Shenzhen's attractiveness and competitiveness. It is also home to many of China's top tech companies, including Huawei, Tencent, BYD, DJI and BGI Group. The city also has an edge in the developing sectors, such as electronic communications, digital

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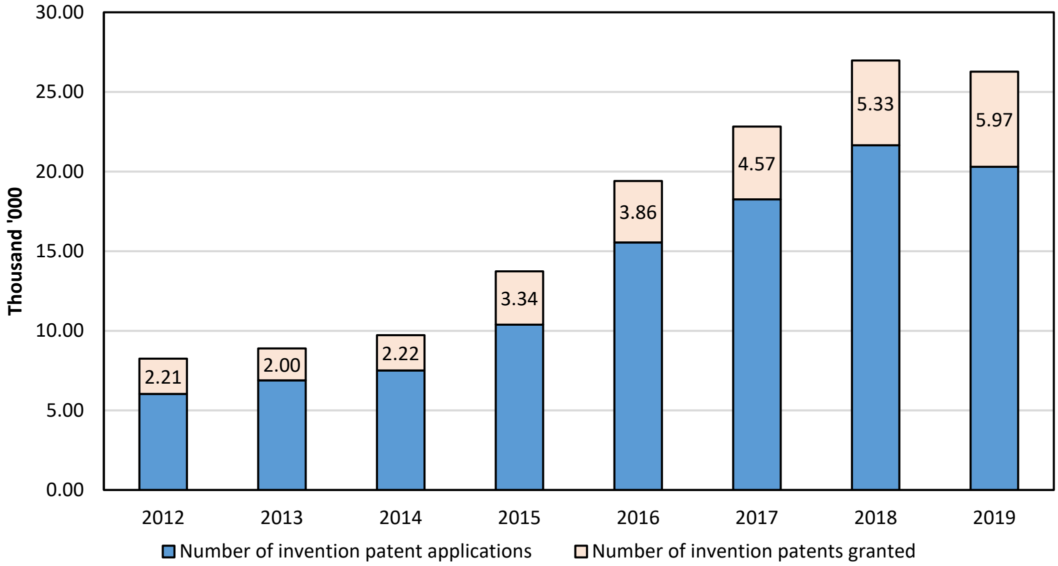
9 World Bank, "From Recovery to Rebalancing: China's Economy in 2021", China Economic Update, December 2020, pp. 1-56.

10 TFP is a measure of economic efficiency and innovation. TFP growth depends on four key components, namely, physical capital (infrastructure and production facilities readiness), human capital quality (quality of education and health care, and skill training for the workers), business environment (legal and dispute settlement framework, governance efficiency and transparency) and technology development (indigenous innovation, application and diffusion of technology across regions). These components in combination are key to boosting productivity growth.

economy, biotechnology and new materials; in 2019, high-tech industries accounted for 61.5% of China's industrial value-added output.

FIGURE 1 NUMBER OF INVENTION PATENT APPLICATIONS AND INVENTION PATENTS GRANTED IN GUANGDONG



Source: Statistical Bureau of Guangdong province.

3.6 In 2019, Shenzhen had outpaced national spending on research and development (R&D) of 2.19% of the national GDP; its R&D expenditure accounted for 4.3% of the regional GDP (Table 2) and outstripped that of all other cities in China. This reflects Shenzhen's commitment to take a lead nationally in technology and innovation, and to become an international innovation hub in the years leading up to 2025, the stipulated deadline in the plan.

3.7 Shenzhen accounts for 2.7% of China's total economy and 9.4% of its external trade; in 2019, its per capita GDP was US$28,600, almost three times the national figure. Shenzhen is like a microcosm of China's reform and opening up process. It took just 40 years to develop from a small, isolated fishing village to become one of the most innovative and vibrant modern cities in China. It holds an important strategic position in China's regional development; how it performs will generate a ripple effect on China's economy, particularly in the GBA where it accounts for at least 20% of economic volume and is a key driver of growth in the area.[11]

3.8 The inflow of talents to GBA cities is essential for developing high-tech industries and enhancing TFP growth. However, Shenzhen needs to nurture a creative local culture by devoting more resources to education and research institutions supporting basic research if it is to be at the forefront of innovation. It lacks scientists in fundamental research and its universities are far behind foreign universities in terms of research capability. Local Shenzhen universities are therefore unable to cope with the important task of cultivating talents and building a research innovation platform. These deficiencies are a bane to Shenzhen's capacity to take a lead in the field of technological innovation.

3.9 To meet this challenge, the Shenzhen authority has rolled out various preferential policies (e.g. funding, taxation, scientific innovation and human talent attraction) in recent years to promote research collaboration among local universities in Shenzhen, leading mainland universities and universities in Hong Kong (e.g. Chinese University of Hong Kong). Leading domestic universities, including Peking University, Tsinghua University, Zhejiang University and Sun Yat-Sen University, are encouraged to build campuses or set up joint research facilities in Shenzhen.

3.10 As outlined in the State's Plan for Developing Shenzhen into the Pilot Demonstration Area for Socialism with Chinese Characteristics, the Chinese authorities will grant more autonomy to Shenzhen for it to attract foreign talents by streamlining work visa rules and granting permanent Chinese residence status to qualified foreign talents.

3.11 To further enhance the indigenous innovation capability of Shenzhen, China's version of a "Silicon Valley", the Chinese authority has rolled out a string of preferential policies to boost innovation and support local technological start-ups

[11] Yu Hong, "Xi's Five-Year Plan for Shenzhen: A Hard Road Ahead?" ThinkChina, 16 October 2020, available at https://www.thinkchina.sg/xis-five-year-plan-shenzhen-hard-road-ahead, accessed 5 December 2020.

and big tech firms.[12] In October 2020, the Chinese government announced a five-year plan to develop Shenzhen into a "pilot demonstration area for socialism with Chinese characteristics", once again bringing the city into the limelight. The Chinese government will give Shenzhen the authority to implement test reforms in multiple areas rather than individual areas.

3.12 Based on China's negative lists for foreign investment, the Chinese government will work out a similar list for Shenzhen, but with a lower threshold for entering the Shenzhen market so as to build a more equal market environment that allows fair competition between domestic and foreign companies. Despite the hostile external environment and barriers to technological cooperation and restrictions on imports of core technology imposed by the United States and other Western countries, forging close international innovation collaboration between GBA cities and other countries will be essential for boosting the TFP of local industries and developing high-tech industries and the innovation economy in the GBA.

3.13 The drive to reduce dependence on foreign technology, and strengthen domestic innovation and the intellectual property protection regime, as well as promote international collaboration on technological innovation reflects China's ambition to further develop indigenous innovation capacity within the GBA, with a focus on technology and innovation as key engines for economic growth in the GBA.

3.14 Shenzhen is slated to be the most open city with the best business environment in China. It is to serve as an important node in China's large domestic cycle and as the country's fulcrum in its "dual circulation" strategy as Shenzhen leverages its position in the international cycle.[13]

3.15 According to the timeline, Shenzhen has to complete its reforms within five years, an indication of the ambitions of China's leaders in developing Shenzhen into a

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[12] The Central Committee of the Chinese Communist Party and the State Council of China, "Shenzhen jianshe zhongguo tese shehuizhuyi xianxingshifanqu zonghegaige shidian fang'an (2020-2025)" (Plan for Implementing Pilot Reforms in Shenzhen to build the City into a Demonstration Area of Socialism with Chinese Characteristics), 11 October 2020, available at http://www.gov.cn/zhengce/2020-10/11/content_5550408.htm, accessed 4 December 2020.

[13] Yu Hong, "Xi's Five-Year Plan for Shenzhen: A Hard Road Ahead?"

model for China's development. However, the document was short on details, such as the mechanisms these sectors should adopt to lower their thresholds and further open to foreign investments.

3.16 Shenzhen's key strengths lie in its electronic communications and other high-tech industries. Yet these industries have been impacted by US restrictions on these technologies and products. Tech companies in Shenzhen, such as Huawei, Tencent, BGI Group and DJI, have also been sanctioned and placed on the US Department of Commerce's Entity List. The five-year plan did not mention how Shenzhen can cushion itself from such impacts and from the intense China-US competition, especially in terms of tech decoupling.

3.17 The absence of a strong intellectual property protection regime has also discouraged both domestic and foreign private investment in innovation and R&D; foreign companies are particularly reluctant to develop frontier technology or transfer advanced technology to Shenzhen or other GBA cities. Shenzhen therefore needs to do more to strengthen protection and enforcement of intellectual property rights.

Promoting Inter-City Financial Connectivity

4.1 Cross-border financial connectivity serves as a new platform for pursuing strong economic linkages between the Mainland, Hong Kong and Macau. The Chinese state expects the financial industry to play an important role during the transformation of the GBA from a manufacturing-based to a service sector-driven economy.

4.2 The GBA houses some of China's most important financial hubs: Hong Kong is an established international financial centre and Shenzhen, as the home of the Shenzhen Stock Exchange and many leading high-tech and fin-tech firms, is an emerging national financial centre. The 2020 Global Financial Centre Index of competitiveness of the world's major financial centres ranked Hong Kong, Shenzhen and Guangzhou, the three GBA cities, among the top 20 financial centres in a pool of 108[14] (Table 4).

TABLE 4 GFCI 27 TOP 20 RANKINGS AND RATINGS

Financial Centre	GFCI 27		GFCI 26			
	Rank	Rating	Rank	Rating	Change in Rank	Change in Rating
New York	1	769	1	790	0	-21
London	2	742	2	773	0	-31
Tokyo	3	741	6	757	+3	-16
Shanghai	4	740	5	761	+1	-21
Singapore	5	738	4	762	-1	-24
Hong Kong	6	737	3	771	-3	-34
Beijing	7	734	7	748	0	-14
San Francisco	8	732	12	736	+4	-4
Geneva	9	729	26	706	+17	+23
Los Angeles	10	723	13	735	+3	-12
Shenzhen	11	722	9	739	-2	-17
Dubai	12	721	8	740	-4	-19
Frankfurt	13	720	15	733	+2	-13
Zurich	14	719	14	734	0	-15
Paris	15	718	17	728	+2	-10
Chicago	16	717	16	732	0	-15
Edinburgh	17	716	29	701	+12	+15
Luxembourg	18	715	25	708	+7	+7
Guangzhou	19	714	23	711	_+4	+3
Sydney	20	713	10	738	-10	-25

Source: Z/Yen and China Development Institute, "The Global Financial Centres Index 27", March 2020, pp. 1-55.

4.3 However, there is a lack of financial integration between Guangdong, Hong Kong and Macau in the banking and securities sectors in particular. Various barriers (e.g. legal and regulatory issues) impede free flow of services and capital across cities in the GBA.[15] As unveiled in the state plan, Beijing seeks to accelerate cross-border financial connectivity in order to foster stronger bonds between the financial markets of the Mainland, Hong Kong and Macau.[16] Great impetus to the region's financial sector would be provided through developing strong linkage

14 The 2020 Global Financial Centre Index based its ranking on five broad areas of competitiveness, comprising institutional and regulatory environment, depth and breadth of industry clusters, availability of capital, market liquidity and economic output.

15 Goldman Sachs, "Assessing the Economic Integration of China's Greater Bay Area", *Asia Economics Analyst*, 10 February 2021, pp. 1-22.

16 Yu Hong, "China's Plan for Promoting Financial Connectivity within the Guangdong-Hong Kong-Macau Greater Bay Area", *EAI Background Brief*, no. 1550, East Asian Institute, National University of Singapore.

with other business and financial centres (e.g. London and Singapore), and fostering financial business clusters that would promote greater efficiency.

4.4 The Chinese financial regulators unveiled a plan titled "Opinions Concerning Financial Support for the Establishment of the Guangdong-Hong Kong-Macau Greater Bay Area"[17] in May 2020. The Plan presented by four central financial regulators aims to promote holistic and coordinated financial development across the GBA. The state-driven plan could kick-start the GBA's journey towards greater financial connectivity of infrastructure, markets and products across Guangdong, Hong Kong and Macau. The Plan detailed 26 measures, focusing on five particular policy areas.[18]

4.5 These policy measures will liberalise China's tight control of foreign exchange and foreign currency remittance to boost cross-border capital flows across the GBA. Of the five policy areas highlighted in Appendix 2, opening up of the financial service sector across the GBA and promoting inter-city connectivity of financial infrastructure and products are the two priority areas in Beijing's agenda for implementing the plan. This will allow qualified Hong Kong and Macau financial institutions and non-financial firms, for instance, to issue financial bonds, corporate bonds and debt financing instruments on the Mainland via their branches in the GBA. Financial firms and professionals based in the GBA could also capitalise on the new business opportunities arising from the insurance sector, electronic payment systems, wealth management connect pilot scheme, carbon emission trading and other green financial products, securities and private domestic funds.

4.6 Financial institutions in Hong Kong stand to gain most from the state plan of financial connectivity within the GBA through the further opening up of the

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[17] "Opinions Concerning Financial Support for the Establishment of the Guangdong-Hong Kong-Macau Greater Bay Area", 14 May 2020, available at http://www.cnbayarea.org.cn/policy/policy%20release/policies/content/post_258474.html, accessed 16 June 2020.

[18] These five policy areas consist of expediting cross-border trade and investment and financial convenience in the GBA, expanding the openness of the financial sector, providing more investment opportunities for Guangdong, Hong Kong and Macau residents, expediting the connection of financial markets and financial infrastructure, raising the innovation level within financial services sector of the GBA, and pragmatically presenting cross-border financial risk.

financial sector in Guangdong. They could either set up new operational branches or expand their existing operations in the GBA. Hong Kong's insurance companies could also benefit from the new business opportunities brought about by cross-border motor vehicle, medical and RMB reinsurance businesses.

4.7 When fully implemented, it will facilitate access of Hong Kong-based and Guangdong-based investors to each other's financial markets and widen cross-border investments flow between the Mainland and Hong Kong, thereby strengthening the competitiveness of the GBA's wealth management and asset businesses in the international arena.

4.8 The implementation of these financial policy measures will likely be gradual and cautious to ensure national financial stability and curb capital flight. At the initial stage, a limited range of financial products and qualified institutions will be made available for sales to gain experience before the full opening up of the financial markets is permitted on the Mainland.

4.9 The Chinese government has earmarked the financial and fintech industries in the two core cities of Shenzhen and Guangzhou for support, a reason for the ambitious target of over 70% of GDP from the GBA (including Hong Kong and Macau) deriving from these industries by 2030.

4.10 There is also a need to nurture a high-quality regulatory environment and legal system for the financial industry and international financial centre to thrive. Hong Kong will likely be a role model for financial development, offering lessons to Shenzhen and Guangzhou. The Chinese government seeks to shore up the financial sector of mainland GBA by capitalising on the strengths of Hong Kong as an established international financial centre with a sound regulatory regime and a superior legal framework.[19] Given Hong Kong's status as a major international financial centre, it could provide the much-needed capital to enhance R&D expenditure and accelerate industrial upgrading and research capability in the GBA.

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19 Yu Hong, "China's Plan for Promoting Financial Connectivity".

4.11 Since the handover of sovereignty to China in 1997, Hong Kong's economy has gradually become more integrated with that of the Mainland. The mainland factor has subsequently played an increasingly important role in Hong Kong's financial industry. Currently, more than 1,200 mainland enterprises are listed in Hong Kong (H-Share companies), with a combined market capitalisation of HK$27.9 trillion. In 2019, mainland enterprises accounted for over 50% of companies listed in the Hong Kong Stock Exchange. These listed mainland firms represented 73% of the total market capitalisation in Hong Kong (HK$38 trillion) in 2019.[20] With Beijing's blessing, offshore RMB business was launched in Hong Kong in 2004. Hong Kong has since become a global hub for offshore RMB business, accounting for the world's largest RMB liquidity pool outside mainland China and offering the widest range of offshore RMB wealth management and other investment products.

4.12 Compared to domestic financial centres in mainland China, Hong Kong still enjoys competitive advantages, albeit with a narrowing gap. It has internationally active financial markets and offers comprehensive and sophisticated financial and professional services. The financial industry is the mainstay of the Hong Kong economy, contributing 20% to its GDP in 2018. Mainland GBA still has a predominantly manufacturing-driven economy and an underdeveloped financial industry. The services sector accounts for barely 57% of GDP in mainland GBA. The share of Guangdong's financial sector was eight per cent of its GDP in 2017, an increase of four per cent from that in 2007.[21]

Issues and Challenges

5.1 This round of integrated regional development is only one in the series of regional development plans for the GBA. The Chinese government's call for coordinated regional development across the Pearl River Delta cities began in the

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20 Hong Kong Stock Exchange, "HKEX Market Statistics 2019", April 2020, pp. 1-15, available at https://www.hkex.com.hk/-/media/HKEX-Market/Market-Data/Statistics/Consolidated-Reports/Annual-Market-Statistics/2019-Market-Statistics.pdf, accessed 3 June 2020.

21 Data source: *Statistical Yearbook of Guangdong*, various years.

early 1990s.[22] Subsequently in 2008, the central government issued the "Reform and Development Plan for the Pearl River Delta Region 2008-2020" to forge another round of regional integration in the Bay Area,[23] with little concrete progress.

5.2 First, the GBA has the most complex governance structure unlike other renowned Bay Areas in the world. Guangdong, Hong Kong and Macau have separate political systems and custom zones with hard borders, different institutional, legal and taxation collection systems, and distinct governance culture.[24] It uses three different currencies, namely, the Hong Kong dollar, renminbi and Macau Pataca. Some scholars refer to the PRD as a "highly fragmented mega-city region in China".[25] This complexity in governance structure, legal systems and currencies in the GBA is stark testimony to the very challenging task faced by the Chinese central and local authorities in their push for cross-border economic integration across GBA cities.

5.3 Local and foreign financial enterprises operating in the GBA will both have to follow different regulatory regimes and comply with different financial rules in Guangdong, Hong Kong and Macau. The compliance costs are high and, more importantly, the effect on business efficiency could be serious.

5.4 Second, the GBA's uniqueness is derived from the influence of its three leading or core cities, namely, Hong Kong, Shenzhen and Guangzhou, which have been allocated exceptional economic, industrial and political resources over and above those of other cities within the GBA. However, economically, having three core cities to spearhead regional cooperation is almost an unknown in other major bay areas in the world.

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[22] Peter Cheung TY, "The Guangdong Advantage: Provincial Leadership and Strategy toward Resource Allocation since 1979" in Peter TY Cheung, Jae Ho Chung and Lin Zhimin (eds), *Provincial Strategies of Economic Reform in Post-Mao China*, New York, M E Sharpe, 1998, pp. 89–144.

[23] Li Zhigang, Jiang Xu and Anthony Yeh G O "State Rescaling and the Making of City-Regions in the Pearl River Delta, China", *Environment and Planning C: Government and Policy*, vol. 32, Issue 1, 2014, pp. 129–43.

[24] Yu Hong, "The Guangdong-Hong Kong-Macau Greater Bay Area in the Making".

[25] Jiang Xu and Anthony G O Yeh, "Re-Building Regulation and Re-Inventing Governance in the Pearl River Delta, China", *Urban Policy and Research*, vol. 30, no. 4, 2012, pp. 385–401.

5.5 The three core cities are expected to play a leading and not participatory role in the further development of the GBA. As every city government in the GBA has its own development interests, agenda and development strategy for boosting financial development and economic growth, it will complicate the pursuit of inter-regional policy coordination that is essential for achieving regional economic integration within the GBA. Since the city governments have formed their own calculations and views on the development plan for GBA, it will take Beijing time to consider and accommodate the demands and views of the various cities involved.

5.6 Hong Kong's coastal location, premium infrastructure facilities, efficient governance, free market economy and global business network have contributed to its economic success as one of the most competitive cities in the world. While its reputation as an established international financial centre and attractive destination to do business took time to build, it could be destroyed easily; the persistent social unrest and violence have already taken their toll on the viability of its financial system. Nevertheless, the social unrest and street violence have subsided considerably due to the implementation of the national security law in Hong Kong as well as the strict safety measures to contain the COVID-19 pandemic since 2020.

5.7 China's integration with the global economy and increasingly globalised outlook (an example is the Belt and Road Initiative) has put Hong Kong's long-held middleman role in question. Hong Kong will now have to forge further collaboration with mainland China and neighbouring cities within the GBA in particular to strengthen its competitive advantages and status as an international trading and financial centre. Hong Kong-based companies would have to take advantage of regional integration to penetrate the mainland Chinese market to ensure the prosperity and sustainability of Hong Kong's economic development.[26]

5.8 However, Hong Kong's free flow of capital, convertible currency, ease of doing business, prudent regulatory framework and sound legal system means that it still leads as a financial hub. Given Hong Kong's sophistication in financial

[26] Yu Hong, "The Guangdong-Hong Kong-Macau Greater Bay Area in the Making".

development, variety of financial products and pool of available financial professionals, Shenzhen is unlikely to replace Hong Kong as an internationally recognised financial hub in the foreseeable future.[27]

5.9 Third, Hongkongers' resistance to economic integration between Hong Kong and the Mainland in the recent years due to an erosion of trust in the Mainland's commitment to the "One Country, Two Systems" principles has intensified tensions between the Mainland and Hong Kong and polarised Hong Kong society. The sharply divided views on the GBA within Hong Kong reflect the ambivalence of Hongkongers towards integration with mainland China since the handover of Hong Kong to China back in 1997.[28]

5.10 Guangdong's provincial and municipal authorities have been offering various incentives, such as granting work permits and tax breaks and allowing Hong Kong residents to purchase properties in the Mainland, to attract Hongkongers, particularly the younger generation, to relocate to the nine mainland cities. Although Beijing plans to bind Hong Kong more closely to mainland China, many Hongkongers have no desire to live or work in the neighbouring city of Shenzhen, let alone other mainland cities; they view mainland cities, including Shenzhen, as corrupt and lacking in liberties such as the rule of law and freedom of speech.[29]

5.11 Many Hongkongers, the young generation in particular, have yet to buy into the state-led GBA development plan. Implementation of the GBA plan has been sluggish since its inception in 2018 and particularly since the massive and persistent anti-government protests erupted in Hong Kong in June 2019. Moreover, the coronavirus outbreak that originated in the Chinese city of Wuhan has

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27 Yu Hong, "Financial Connectivity within the Guangdong-Hong Kong-Macau Greater Bay Area and Hong Kong as a Financial Hub", *EAI Background Brief*, No. 1551, East Asian Institute, National University of Singapore.

28 Yew Chiew Ping and Kwong Kin-Ming, "Hong Kong Identity on the Rise", *Asian Survey*, vol. 54, no. 6, 2014, pp. 1088–112; and Yu Hong, Kwong Kin-Ming and Yew Chiew Ping, "Hong Kong in China: 15 Years after Handover", *EAI Background Brief*, no. 744, East Asian Institute, National University of Singapore, 2012.

29 Bloomberg, "Hong Kong versus Shenzhen: Two Competing Visions of China's Future", available at https://www.bloomberg.com/features/2019-hk-v-shenzhen/, accessed 1 July 2020. *Financial Times*, "Hong Kong vs Shenzhen: The Battle for Supremacy", 21 January 2020, available at https://www.ft.com/content/8cf60164-2209-11ea-92da-f0c92e957a96, accessed 1 July 2020.

reinforced fear and anxiety among people in Hong Kong. To many Hong Kongers, the initial failure to control the virus transmission in Wuhan and the subsequent cover-up of the pandemic outbreak reflect the lack of freedom of speech in mainland China and the inherent weakness of Chinese institutions. The cross-border transport restrictions due to the pandemic have also limited the flow of people between Hong Kong, Macau and the mainland cities, thereby creating a new barrier to the state-driven plan to integrate Hong Kong with the wider GBA. According to a survey,[30] the virus has enhanced the reluctance of many Hongkongers to take up jobs in the Mainland.

5.12 Fourth, the GBA is the most diversified city cluster in the world in terms of economic development as reflected by the huge disparity in GDP per capita (Table 2). While this economic disparity could provide internal dynamics for boosting further local economic growth and industrialisation of the GBA, if left unchecked, it could hinder the development of closer integration of the region.

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[30] Karen Yeung, "Coronavirus Adds New Hurdle for Hong Kong's Integration into China's Greater Bay Area Plan", *South China Morning Post*, 1 March 2020, available at https://www.scmp.com/economy/china-economy/article/3052894/coronavirus-adds-new-hurdle-hong-kongs-integration-chinas, accessed 1 June 2020.

APPENDIX 1 LIST OF MAJOR INFRASTRUCTURE DEVELOPMENT PROJECTS IN THE GBA

City	Infrastructure Project	Project Description
Hong Kong	Airport expansion	Construction of the third runway for the Hong Kong International Airport
Guangzhou	Baiyun International Airport	Construction of a new terminal and two more runways to serve as a business aviation service base
	Nansha Port	Nansha Port in the third and fourth phases of development and Nansha cruise terminal in its first phase
	Intercity Railway	Expansion to loop in Foshan, Jiangmen, Qingyuan and Zhuhai
	High-speed Railway	Construction of Guangzhou-Shantou high-speed railway
	Expressway	Expansion of Beijing-Hong Kong-Macau Expressway
Shenzhen	Expressway	Expansion of Shenzhen-Huizhou expressway
	Bridge	Shenzhen-Zhongshan bridge to open in 2024
	Railway	Construction of railway to Maoming, Ganzhou and Jiangxi
Jiangmen	Expressway	Construction of Zhongshan-Kaiping expressway and the Jiangmen section of Guangzhou-Zhongshan-Jiangmen expressway
	Intercity railway	Construction of the Jiangmen section of Shenzhen-Jiangmen-Maoming railway
Huizhou	Expressway	Construction of the Huizhou section of the Hunan-Huizhou expressway
Zhongshan	Expressway	Construction of Zhongshan-Kaiping expressway and Zhongshan-Jiangmen expressway
Zhuhai	Intercity railway	Construction of Guangzhou-Foshan-Jiangmen-Zhuhai intercity railway
	Airport expansion	Construction of a new expressway and terminal
Zhaoqing	High-speed railway	Construction of Shenzhen-Zhaoqing high-speed railway
Dongguan	Bridge	The second Humen Bridge was put into operation
	Intercity railway	Construction of Guangzhou-Dongguan-Shenzhen intercity railway, Dongguan-Huizhou intercity railway, Foshan-Dongguan intercity railway, Zhongshan-Humen-Longgang intercity railway and Dongguan-Shenzhen rapid transit
Macau	Border crossing	Construction of a new crossing adjacent to the existing checkpoint at Gongbei to expand passenger capacity
	Bridge	The Hong Kong-Zhuhai-Macau Bridge was put into operation in October 2018

Source: Ernst and Young, 2019, "Guangdong-Hong Kong-Macau Greater Bay Area: From Connectivity to Integration", pp. 1-22.

APPENDIX A2 SALIENT PLANNED MEASURES WITHIN THE PLAN TO ENHANCE THE FINANCIAL CONNECTIVITY OF THE GBA

To enhance the Shenzhen-Hong Kong stock[31] and bond connect;
To expand the channels for mainland and Hong Kong residents to invest in financial products in each other's financial markets;
To grant Hong Kong-based firms and professionals national treatment in more financial sectors for practising, investing and doing business in the Mainland;
To permit Hong Kong and Macau RMB settlement banks to participate in the mainland interbank lending market;
To support investment institutions in Hong Kong to raise RMB funds for investing in the capital market in Hong Kong;
To allow the use of forex and RMB for carbon emissions transactions in the GBA;
To set up a future exchange in Guangzhou;
To push for cross-boundary wealth management connect between Hong Kong and the Mainland;
To allow Guangdong residents to purchase wealth management products sold by Hong Kong and Macau banks, as well as Hong Kong and Macau residents to purchase wealth management products sold by mainland banks; and to promote the integration of wealth management across Hong Kong, Macau and the nine involved Guangdong cities through establishing cross-border wealth management connection mechanisms;
To allow banking institutions in Hong Kong and Macau to develop RMB-related derivative business;
To permit Hong Kong and Macau institutional investors to invest in privately offered equity investment funds and venture investment funds in the nine mainland cities via the Qualified Foreign Limited Partnership (QFLP) programme;
To implement Qualified Domestic Limited Partnership (QDLP) and Qualified Domestic Investment Enterprise (QDIE) trials to support overseas investment through domestic, privately offered equity investment funds.
To announce specific measures in support of Macau's efforts to act as a hub for the provision of financial services between Portuguese-speaking countries and China. The state's aim is to attract financial institutions from Portuguese-speaking countries to use Macau as a platform to do business and access the financial markets in the GBA.
To support the establishment of foreign-invested, share-controlled personal insurance enterprises in the nine mainland cities;
To allow Hong Kong and Macau insurance firms to establish insurance after sales service centres in the nine mainland cities under the Closer Economic Partnership Agreement. This literally means that the entitlements of insurance products purchased in Hong Kong are also claimable in the Mainland.
To expand both the scope and scale of the cross-boundary usage of RMB in the GBA as well as the permits to invest in domestic private equity funds and venture capital funds.

Source: "Opinions Concerning Financial Support for the Establishment of the Guangdong-Hong Kong-Macau Greater Bay Area", May 2020.

[31] To boost Hong Kong's financial sector, the Shenzhen-Hong Kong Stock Connect was launched in 2016. From May 2018, the North's bond daily quota has increased to RMB52 billion and the South's bond daily quota has grown to RMB42 billion.