



HKU
BUSINESS
SCHOOL
港大經管學院

Hong Kong Economic Policy Green Paper 2022



Table of Contents

Preface	01
Salient Features of Hong Kong's Economic Past and What They Tell Us About the Future	05
How Hong Kong Could Maintain its Competitiveness as an International Financial Centre	23
Creating a Good-jobs City	37
Hong Kong as an International Carbon Trading Hub	51
Hong Kong SAR's Role in the GBA's Path to Becoming a Global Innovation Hub	59
Hong Kong Should Prioritize Development of Innovation and Technology to Address the Great Global Change	69
Let Public Housing Once Again Complement the Development of Hong Kong: Reducing Misallocation to Enhance Productivity	81
What Caused Hong Kong's Housing Crisis?	93

Preface

In this volume are a collection of papers that studies a range of economic challenges in Hong Kong. This is a timely contribution by scholars in the Business School at the University of Hong Kong as the city recovers from the political turbulence that raged in the second half of 2019 and the pandemic that had descended since 2020.

The first chapter by Wong presents an overview of the salient features of Hong Kong's economic past divided into four periods emphasizing the core comparative advantage of the city's success is maintaining open and competitive markets to serve as a gateway of the world to China and for China to the world. There are obvious clouds on the horizon with the emergence of geopolitical tensions that could limit Hong Kong's access to world markets. A potential offsetting development to maintaining our traditional comparative advantage is the unification of the Mainland's market promulgated in April 2022 by the Central Government. If this comes to pass then it would finally provide light at the long tunnel to open services trade between Hong Kong and the Mainland under the Closer Economic Partnership Agreement of 2003. To take advantage of such a potential opportunity, Hong Kong must also seek to grow its skilled workforce and prevent the stagnation of its human capital that are under threat from a rapidly ageing population.

Gao, Meng and You examine why the price to book value on companies listed in Hong Kong are relatively low compared to other major financial centres. They examine it from the perspective of weaknesses in corporate governance that prevents the value of these listed companies to be better reflected. They show that improving the book to value ratio through improved governance could magically turn Hong Kong's stock market valuation into the world's best. By drawing attention to this important issue they draw out the challenges and potential remedies for advancing Hong Kong's competitiveness as an international financial centre. They also discuss the challenges of listing companies in Hong Kong that are now listed in New York.

Tang and Wu considers how to create good jobs in Hong Kong when she is facing three pressing problems: stagnant growth without new engines, rising living standards without rising incomes, and widening inequality with a hollowed-out middle class. They recognize that Hong Kong's past advantages have been eroded and needs to be reconstructed. They first dispel five myths about creating new jobs in Hong Kong. To create better jobs it is necessary to enhance Hong Kong's financial centre, upgrade its service sector, and support its emerging high-tech sector. They propose that the government should adopt a talent strategy, a public-private R&D partnership, strategic cooperation with mainland cities, and leveraging higher-education.

Fong and Tang propose the development of carbon trading and strengthen ESG-related disclosure to enhance Hong Kong's role as a financial market for attracting global green capital. This would allow the city a sharper role in the Greater Bay Area and after joining the Regional Comprehensive Economic Partnership economies. Hong Kong could leverage on its reputation as an international financial centre, its robust legal system, and strength in Fintech to build a recognized third-party verification system. The strategy aims to reduce or eliminate green washing to build a healthy carbon trading ecosystem. The Hong Kong Exchange could also build an official platform for the Greater Bay Area carbon market and provide professional ESG standards and audits.

Tang and Zhang examines opportunities and potentials for Hong Kong to support the development of the Greater Bay Area as a global innovation hub. Their focus is to foster a knowledge economy in Hong Kong and enhance effective economic collaboration and integration within the Greater Bay Area. They examine the fastest growing industries in key cities in the Greater Bay Area to identify promising potential for Hong Kong to buttress research and development in science and technology areas to develop the city's comparative advantages.

Mao's study proposes to seize the opportunity presented by the Northern Metropolis Development Plan to spearhead high-end manufacturing industries in driving the city's economic transformation. He sees Hong Kong's economic future in the current geopolitical environment is best served by advancing a two-wheel growth model driven by both manufacturing and services—of I&T plus finance and trade. The city can develop a new growth pole by transforming the farms and villages into a Northern Metropolis bustling with new industries and employment opportunities through top-level policy design and initiatives. This would create new synergies between Shenzhen and the Northern Metropolis to open a new phase of economic development.

Charting a new course of economic development will not be successful in the city has a severe housing shortage. The final two essays in this volume address issues of housing shortage at the lower income end of the housing market, where the inefficient and wasteful utilization of housing resources is most serious. Addressing the problems here require an in-depth understanding of the micro-forces that are operating on the lower end of the housing market in both the public and private rental housing sectors.

Yuen's study focus on the history of government's housing policy, especially the public rental housing sector. Unfortunately, the current policy has led to a very inefficient and wasteful use of these public rental housing resources. Economically active households are mostly concentrated in the far-off areas in the New Territories, while economically inactive households are often housed in the urban areas of Kowloon and Hong Kong island, where most of the jobs are located. She shows if allocation inefficiencies of public rental housing units are eliminated, simply the reduction of

commuting time alone would save 113 million hours per year, which is worth about \$1.9 billion per year, which amounts to some \$2,000 per month for the average working person. It may also encourage more economically inactive households to choose to live in other parts of the Greater Bay Area.

The final study by Wong shows that the distribution of increases in real private housing prices in Hong Kong between 2004 and 2020 were significantly higher among low-end properties. His findings were for all private housing properties valued below \$8 million in 2004 dollars. He concludes that the unmet demand for housing is significantly more acute at the lower end of the housing market. He downplays speculative demand, stamp duties, US monetary policies and financial conditions on the Mainland, and low housing supply as adequate explanations for the unmet demand. He points to low rents and slow supply public housing of as the primary cause of why low-end housing prices has spiked in the private housing sector. Increasing the supply of public rental housing will provide relief but does not change the underlying dynamic of low rents. He recommends deeper reforms to reorient Hong Kong's housing policy away from unresponsive public housing rents towards subsidized ownership.



Salient Features of Hong Kong's Economic Past and What They Tell Us About the Future

Salient Features of Hong Kong's Economic Past and What They Tell Us About the Future

Yue Chim Richard Wong

Hong Kong's economic history can be divided into four periods. Each period is characterised by distinct features that mark them apart from other periods. One can claim that each period has its own economic model, which I shall describe. Hong Kong's changing economic interactions with the Mainland and the external world are studied as they evolve from period to period. Both political and economic factors determine the shifts from one period to another. At the same time, there are also deep continuities from one period to another. Long persistent factors like its external connectivity have continued to shape Hong Kong's economic history. Both change and persistence are important for understanding the city's economic future.

To glimpse into the future, I draw attention to some persistent features in the past, and pick out features that appear in the present. The method used here follows Peter Drucker, who was careful to point out that the method does not amount to predicting the future. No one can predict the future. Perhaps by examining the historical circumstances of what transpired and revealing their underlying economic logic, I hope to highlight what has changed and persisted in each historical period. I hope such an exercise might tell us something about the city's economic future.

1. Before 1842

A census in 1841 put the inhabitants on the island of Hong Kong at about 7500. But long before the British arrived, the waters and the area to the west of the island was a natural crossroad between East and West and a gateway to China. This fact is borne out by archaeological findings and written records that date back some two millennia.

The earliest archaeological discovery made in Lei Cheng Uk Village is an Eastern Han dynasty (25-220) tomb believed to be of a salt official attached to the local garrison. Historically, the Pearl River estuary region was well known for its salt pans. After the Han conquest of Nanyue in 111, an imperial outpost to administer the salt monopoly was established in Panyu, to the northwest of present-day Hong Kong.

During the Tang Dynasty, trade flourished in the city of Guangzhou, which had a monopoly over foreign trade, and a reported colony of foreign traders over 100,000 strong. For many centuries the Tuen Mun area served as an outer port for Guangzhou, a naval base, a center for religion, and a production center for salt. The garrison at Tuen Mun was definitely in place by 424-453, when the monk Pui To (杯渡) established

a hermitage on the mountain behind the anchorage. As a religious center, Tuen Mun played host to Buddhist monks and Islamic mullahs. It is therefore not accidental that today's Tuen Mun and Lantau are still renowned for their Buddhist, Taoist, and Catholic monasteries. The naval and customs headquarters at Tuen Mun date from the early Tang dynasty.

During the Song Dynasty the administration of the government salt monopoly was relocated to present-day Kowloon City next to the old Kai Tak airport, known at the time as Guanfu (官富). In 1197, the authorities deployed some 300 of the water-borne soldiers from the garrison at Guanfu to end constant revolts on Lantau staged by the local population. After 1898, when the New Territories was leased to Britain, the garrison area remained off limits to British rule. It developed into the ungoverned Kowloon Walled City that was demolished in 1993 and converted into a commemorative park by agreement between the British and Chinese governments.

The Tolo Harbour and Sai Kung areas have a vibrant pearl industry operated under an imperial pearl monopoly. Pearls are valuable, and the risk of theft and smuggling was clearly very high. The pearl monopoly thus had a large garrison of some 2,000 soldiers that patrolled the area with the local pearl monopoly headquartered at Tai Po. The soldiers also convoyed the pearls gathered up to Canton.

The Tuen Mun area went into decline after the Mongols successfully invaded China and founded the Yuan Dynasty. In the war against the Mongols, the Tuen Mun area was ravaged for having supported the ill-fated last Song emperors in its final resistance. The customs points were moved from the Tuen Mun area north up the Pearl River to Huangpu, and Tuen Mun was reduced to a mere anchorage.

The subsequent Ming Dynasty was extremely insular and banned all forms of foreign trade except tribute trade for many years. This led to the growth of a large illicit trade in the area, coastal piracy, and numerous military adventures. Trade was finally legitimised because it was impossible to stamp out piracy, but the Tuen Mun and Guanfu areas did not recover. A navigation map from this period kept at Oxford University's Bodleian Library showed detailed sea routes between Quanzhou, Fujian and the east coast of Africa. The map was bilingual in Chinese and Arabic, suggesting shared use by seamen engaged in trading activities.

The worst was yet to come during the Qing Dynasty, when the Ming loyalist Zhen Chenggong retreated to the Island of Taiwan. He continued to harass the China coast, forcing the Qing court to adopt a policy of "moving the territories" in 1622. All land within twenty-five kilometres of the sea coast was abandoned. The population had to be evacuated and the buildings demolished so that no food or assistance would be available to the loyalists. Most of present-day Hong Kong was affected. The policy of

“moving the territories” was abandoned in 1669. The population grew again, but most who came were the Hakkas.

Trade was restored in a number of coastal cities but was later restricted to the city of Guangzhou and the Macau settlement. Tuen Mun and Guanfu ceased to be an outer port for Guangzhou and became mainly a lair for pirates who preyed on the lucrative trade. The British opium traders in particular used Hong Kong waters for moorings and relied on the migrant Hakkas and the Tankas for their trade.

Ruminations

From this limited record of Hong Kong’s early history three points stand out. First, the territory has been a natural crossroad for trade and cultural intercourse since time immemorial by virtue of its geographic location and natural environment. A modern-day observer may well marvel at the fact that Hong Kong’s container and river boat terminals are located in the same Tuen Mun area. Indeed, today’s international airport at Chek Lap Kok is also situated in this location.

Second, the sovereign state was able to derive significant economic revenue from harvesting salt and pearls in the region to be worth stationing a significant military garrison in the territory to protect these activities and maintain law and order.

Third, the territory thrived during the Tang and Song dynasties, when the central government in China pursued a policy of openness to the outside world, and it declined during the Yuan, Ming, and early Qing dynasties, when the policy became insular.

2. From Barren Rock to a Home for Migrants

The establishment of British rule provided Hong Kong with a certain degree of insulation from central policy decisions in China. Hong Kong could pursue its own natural advantages in trading activities with limited interference from Chinese authorities. It also coincided with British interests to use Hong Kong primarily as a trading post. Given the importance of trade to the British, it is not surprising that Hong Kong was declared a free port. The opium trade dominated at the beginning. As entrepôt trade with the Mainland expanded, and the role of opium was eclipsed by other merchandise trade.

One of the challenges of trade with the Mainland was the difficulty of navigating its customs bureaucracy and penetrating the domestic market. British traders relied heavily upon Chinese middlemen, even for the opium trade. The Chinese merchant class grew rapidly both in numbers and in wealth. A survey conducted in the late 19th century found that Chinese families far outnumbered all others among the wealthiest group in the territory.

In the period from 1842 to 1942, the population flow between Hong Kong and the Mainland was unrestricted except during the war years. The size of the sojourner population rose and fell with the boom and bust of entrepôt trade that depended on world market fluctuations. Relatively unfettered population movements between the Mainland and Hong Kong suggest that there were no significant differences in the living standards of workers between the two places. This suggests that although there were many Chinese families who accumulated huge fortunes as a result of their trading activities, it is unlikely that the vast majority of the laborers prospered. Indeed, life in Hong Kong was far less colourful and exciting than in Shanghai, which was clearly the leading industrial and commercial center of China in that era.

Most of the inhabitants were sojourners, primarily men, who came for the work and returned to their ancestral home when work ended. It was only much later that some of their families started to join them. The earliest available records show that in 1845, out of an estimated total population of 23,817, there were 19,201 men, 2,862 women, and 1,754 children. It was not uncommon for 10 to 20 per cent of the population to leave Hong Kong and return to the mainland in any one year, and in some years the figure was as high as 35 per cent.

The predominance of sojourners within the population generated very few demands on the government to provide public assistance or services. Private charities and missionaries were the main sources of social support and services. On the whole it was both possible and expedient for the government to adopt a light handed approach to social intervention. Public expenditure and revenue were kept simple, and for many years the government opium monopoly provided most of the public revenue. Indeed, the only well-organized group that stood up to defend their special status, land rights, and land use, extant to this day, was the indigenous rural inhabitants in the New Territories. They had fought the British Empire in 1899 in the Six-Day War, suffering 500 dead on the Chinese side with two wounded on the British side.

Hong Kong's economic fortune in this period was entirely determined by external factors to which merchants and labour had to adjust. To survive and thrive, Hong Kong had to compete and adapt quickly to changes in faraway world markets and also to close neighbours. Hong Kong's emergence as an entrepôt was dictated by unique historical circumstances. To maximize merchandise trade value and to economize on the cost of managing customs, Hong Kong became a duty free port (except for the opium trade). The practical outcome was a flourishing of trade values that would eventually eclipse Guangzhou as the monopoly centre for China's trade with the West. The history of this period showed that free trade in Hong Kong trumped regulated monopolistic trade in Guangzhou.

The future of Hong Kong took a dramatic turn at the end of the World War II, when migrants escaping the ravages of a civil war on the Mainland streamed into Hong Kong. The population rose from 500,000 at the end of 1945 to 2.36 million in 1950. After the People's Republic of China was founded, the border became effectively closed on the Chinese side and the population of Hong Kong evolved from a city of sojourners to permanent residents that would eventually call it home.

The migrants who arrived were mainly laborers and farmers from Guangdong province, but they also included entrepreneurs and industrialists from Shanghai. These businessmen and professionals brought management, technical know-how, and market acumen from one of the most advanced economic centres in Asia. They would in time start numerous new industries, including manufacturing, retail business, banking, movies, shipping, and the professions. This concentration of skills was much broader than the trading activities of a port city.

Eclipse of Entrepot Trade and Rise of an Asian Little Dragon

In 1950, Hong Kong's unique advantage in entrepôt trade was abruptly halted with the outbreak of the Korean War, and the United States and the United Nations imposed a trade embargo against China. The combination of two external events, civil war in China and the Korean War in the Pacific, turned Hong Kong into an economically standalone autonomous territory. By relying on its new found comparative advantage in manufacturing production and its long trading experience with the outside world, export-oriented manufacturing production replaced entrepôt trade as the city's primary economic activity. Manufacturers were able to obtain credit from Hong Kong banks and to work with the British trading companies to enter the Commonwealth market and later the North American market.

Both as a matter of necessity and out of conviction¹, the government continued to pursue a light handed approach to economic policy and allow Hong Kong's business community to pursue economic gains by following and adapting to the needs of the world market. The fact that these new entrepreneurs and industrialists were recent migrants also reduced the level of business lobbying, which would otherwise have led to more government intervention. British businessmen arguably had better access to government and dominated the more regulated services.

The positive non-interventionist view² that the Hong Kong British government adopted had little interest in indulging in grandiose schemes to promote economic development³. The government's short-term horizon also sat well with local residents who acquiesced so long as they were left alone to their own business. Her Majesty's

¹ See Monnery (2017)

² See Haddon-Cave (1980)

³ See Monnery (2019)

government in Westminster was probably more eager that Hong Kong would not become its fiscal burden. The British Foreign Office also recognized that its mandate to govern was in the final analysis at the pleasure of the Chinese authorities. And, finally, Pax Americana after World War II provided the most favourable global economic environment for Hong Kong's embrace of positive non-interventionism to thrive.

The contrast between Hong Kong and Singapore cannot be more stark. Singapore's natural advantage, like that of Hong Kong, was in entrepôt trade. But, unlike Hong Kong, Singapore did not receive an infusion of entrepreneurial talent and workers on the eve of its independence. It also never lost its advantage in entrepôt trade as Hong Kong had during the Korean War. But finding itself in a difficult neighbourhood, Singapore chose to industrialize its economy. As a young and independent state struggling to find its proper place among suspicious neighbours, the government had to forcefully embrace interventionist policies at its Singapore Economic Development Board to target and attract foreign investments in manufacturing. It also had to finance such investments with forced savings mobilized through an onerous Central Provident Scheme with mandatory contributions of some 30 to 40 per cent of earnings, on top of a 15 per cent income tax.

The renowned entrepreneurial spirit of the Hong Kong business community may well be the result of the self-selection of a migrant population, the absence of mandatory contributions, and the minimalist policies of the government that provided clear, simple, and non-onerous predictable rules of the game.

The British government's greatest folly in this period was the introduction of rent control on pre-war housing within two years after World War II to protect existing tenants. The long lasting consequences were broad and deep for Hong Kong. Its immediate result was to nearly halt urban redevelopment at a time when Hong Kong's population swelled from massive migration. An extreme shortage of housing ensued, fuelled by overcrowded living conditions in private rental housing that spilled over into illegal squatter housing. A similar folly also occurred in Singapore, but the situation was much less severe and also much better tackled by Lee Kuan Yew's government, which provided publicly subsidized Housing and Development Board homeownership units with permanent long-term benefits. These units had accommodation space that were 2 to 3 times larger than Hong Kong's public sector ones and were mostly for rent units.

The extreme housing shortage in Hong Kong created mounting pressure to remove the hurdles to evicting tenants in the old pre-war housing stock for redevelopment. Cheung (1979) showed that the massive overbuilding in the years 1962-65 was the inadvertent consequence of the haphazard manner of regulatory change to relieve

redevelopment pressure⁴. He estimated that had all redevelopment applications been approved, one-third to one-half of the pre-war structures in the city could have been torn down for rebuilding.

The anarchy of over-demolition and over-construction were catastrophic. Hong Kong experienced a bank run, numerous developers became insolvent, many projects were never completed, and large numbers of evicted tenants from demolished units crowded into existing structures, spilled onto the streets, and overwhelmed squatter areas. Hong Kong society was filled with despair, anxiety, and ripe for unrest. Wong (2017a) argues that one of the underlying causes of the 1966 Star Ferry Riots and the more severe 1967 Riots was the folly of rent control and the resulting extreme housing shortage⁵. Hong Kong's massive public rental housing program and the development of satellite towns in the 1970s are the permanent by-products of the follies of this era, according to Wong (2017b)⁶.

More Ruminations

The closing of the borders between Hong Kong and the Chinese mainland ushered in an era in which Hong Kong's economic development was quite insulated from the Mainland and its role as the gateway to China receded in importance. There were four important sources for Hong Kong's post-war economic miracle. First, a highly supportive institutional and policy framework provided the economic logic of positive non-interventionism. The light handed government economic policy manifested itself in low taxes, minimal regulation, open competition, free trade, and export led growth. It presented a stark contrast to the failed dirigiste import substitution policies practiced in the rest of the developing world.

Second, Milton Friedman had championed Hong Kong's free market approach for other nations to emulate. For many decades Hong Kong became the exemplary model for developing countries everywhere. This helped entrench positive non-interventionism as the guiding light on economic policy. Nevertheless, the city's success might not have been possible without the post-war influx of new migrants. The historical arrival of vast amounts of entrepreneurial talent and manpower created the necessary practical domestic conditions for realizing the free market approach.

Third, the US-dominated post-war world trading economy under General Agreement on Trade and Tariffs (GATT) rules created a favourable environment for export led growth. It provided the external conditions for a British colonial enclave to develop. Hong Kong emerged as one of the four Asian Little Dragons. Until somewhat recently,

⁴ See Cheung (1979).

⁵ See Wong (2017a).

⁶ See Wong (2017b).

the Mainland also benefitted from this favourable trade environment for several decades.

Fourth, the disruptive and social pains of economic development in this era were alleviated in part by the composition of Hong Kong's industries. While most sectors were spearheaded by key leading companies, the city was supported by a vast cluster of highly competitive small and medium enterprises. They were the bedrock of the city's dynamism and created an economy operating under free entry and open market conditions of shared prosperity and a society with upward social mobility from one generation to the next. Hong Kong's famous "Lion Rock Spirit" describes this era. Some of the extreme inequalities and deprivations were contained by an array of progressive social policies in housing, education, health care and social welfare that were put in place in the 1970s after the 1967 Riots. Public spending was limited and deficit financing avoided by adhering to a prudent fiscal philosophy. Populist pressure on the budget could be resisted because politics in the city was tame enough to allow positive non-interventionism to be pursued.

3. China Opens and Structural Transformation

The world economy in the 1970s began to experience rising protectionism. The implementation of the first Multi-Fibre Agreement 1974-77 was quite adverse for Hong Kong manufacturers since many were in textile and garment industries. There other pressures: the Vietnam War resulted in stagflation; the suspension of the US dollar's gold convertibility ended the Bretton Woods arrangement; and the Volcker Fed's high interest rate policy to break inflationary expectations exported recessions to our shores. The future of Hong Kong's industries, like those in Japan, faced fairly strong headwinds in the turbulent world of the 1970s that the US dominated.

In 1977, the Hong Kong Government appointed an Advisory Committee on Diversification. It recommended technology upgrading for industry and diversification of both industries and markets. The report published in 1979 became immediately obsolete, however, with the opening of China in the previous year. The entire economic landscape in the city would soon be transformed.

The impact of China's opening on Hong Kong was immediate. Within a span of eighteen months between 1980 and 1981 some 400,000 individuals crossed the border into Hong Kong. The impact on labor market conditions was swift. Real wages failed to increase for several years, but the competitiveness Hong Kong's labor intensive manufacturing industries was restored with the increased supply of workers.

Manufacturing industries soon started to migrate north and substantially expanded to take advantage of lower land and labor costs. At its peak, Hong Kong companies employed 10 million workers across the border. Initial public offerings (IPOs) on the

Hong Kong Stock Exchange was dominated by the city's manufacturing companies in this period. Full employment in the labour market was preserved by the flexible labor market during the entire period.

The hollowing out of manufacturing production transformed the city into a service economy. It is very significant to recognize that the growth of the services was predominantly in producer services, i.e., services that were used by firms to produce output, and not consumer services to meet the consumption demands of the local population⁷. In an important sense, manufacturing did not die in Hong Kong. Rather, firms in the city were managing their production operations across the border. Many of them were registered in Hong Kong as importers and exporters, not manufacturers. They were producer service firms with manufacturing operations across the border.

The clients of Hong Kong's producer services were not limited to Hong Kong's manufacturing industries across the border, but also other foreign invested enterprises and Chinese enterprises. The division of labor between the manufacturing base on the Mainland and the producer services hub in Hong Kong emerged naturally. Local government authorities on the Mainland were keen to create the institutional and policy environment to enable such economic collaboration. For Hong Kong, it was the natural expansion of its enterprises and aligned well with the government's free market policy.

Hong Kong's logistics management services grew rapidly with China's opening and became once again the entrepôt for China. Financial services also became one of the fastest growing services. The Hong Kong Stock Exchange became the IPO centre of many Chinese enterprises wishing to raise international financial capital. This helped the city become one of three major international financial centres in the world.

But the recommendations of the 1979 Report of the Advisory Committee on Diversification were forsaken. As her manufacturing industries moved across the border, Hong Kong did not have to invest in new technologies to be profitable. Production could be scaled up easily at lower land and labour costs. The need for manufacturers to diversify into different manufacturing industries and new markets was no longer pressing. For some time, Hong Kong believed that producer services alone would be sufficient to sustain the city's economic prosperity.

Over time, this became increasingly difficult. Firstly, the mix of Hong Kong manufacturing industries operating across the border remained essentially the same and made it increasingly difficult to grow new demand for her producer services. Official barriers of entry existed in many local service markets on the Mainland that were often challenging for Hong Kong's service providers to overcome. Secondly, as the working population stopped growing, it became increasingly difficult to grow

⁷ See Wong (1996) and Tao and Wong (2002).

producer service capacity in many areas. Hong Kong failed to expand the size of its workforce and invest in human capital to upgrade its productivity. The growth of Hong Kong's service economy stagnated except in financial services, where it was possible to import talent from overseas.

Public investment in schooling and higher education had made very slow progress in recent decades. The average years of education of the Hong Kong population fell behind South Korea, Singapore and Taiwan. Without an adequate pool of human capital, Hong Kong lost its appeal as an attractive place to invest for new firms, local or overseas. As a result, industry investment in innovation and knowledge, and research and development, fell behind many other places. While this has been recognized for some time, the policy attention has focused on encouraging industry investment rather than improving the quantity and quality of human capital in the workforce.

After the hollowing out of manufacturing production, many industrial buildings and properties became inefficiently used. There were long delays in converting and redeveloping these buildings and properties into other uses. The real culprit was the very formidable regulatory restrictions on land use conversion and redevelopment⁸. With hindsight, these added to the opportunities lost to new economic activities.

In one respect, Hong Kong's free market approach to labour markets was very successful. The massive structural transformation was completed in a very short span of time and without any perceptible increase in unemployment⁹. This was an incredible demonstration of the efficiency of flexible labour markets in facilitating the transformation of a manufacturing into a producer services economy.

In the 1980s and 1990s, Hong Kong became more productive by moving her manufacturing production across the border to take advantage of a larger lower cost labour market. Producer services located in Hong Kong supported the larger production base on the Mainland. By allowing such a specialization and division of labour between Hong Kong and the Mainland, productivity increased in both places. This would not have happened without China's opening and market reforms. The economic results that followed were spectacular. Producer services became Hong Kong's domestic economic activity and manufacturing her cross border activity. This was her new economic model. Positive non-interventionism was not displaced as government policy.

⁸ See Glaeser, Gyourko, and Saks (2005).

⁹ See Chan and Suen (1997).

4. China Becomes the World's Largest Manufacturing Base and Consumer Market

Two watershed events changed both China and the world.

The first watershed event was in 1978. China opened its economy and started to reform. Hong Kong's market institutions became a natural role model for China to learn from. The building blocks for creating market institutions were transplanted first into Shenzhen. They were then mimicked by other special economic zones and later spread throughout the Mainland.

A second watershed event occurred around 1990. The world economy entered a new stage of hyper-globalization driven by innovations in information and communication technology (ICT)¹⁰. This followed the triumph of Milton Friedman's free market liberalism in the US, UK, and beyond. Economic production around the globe was transformed. Production processes within the factory were reconfigured into geographically dispersed global supply chains using extensive outsourcing enabled by the ICT revolution.

By 1990, China had in place a reasonably well functioning set of market institutions. The world discovered not only a place with abundant low cost labour, but a business friendly market economy pieced together by learning from Hong Kong's institutions and practices. This quickly made China a very attractive place for foreign investments. China's international trade leaped forward in the age of economic hyper-globalization. The connectivity of China with the world economy paved the way for her ascension to the World Trade Organization in 2001.

In short, there was a convergence of a number of factors, including, (1) China's opening in 1978, (2) the rapid diffusion of Hong Kong's market model in the decade following, (3) the arrival of hyper-globalization after 1990, and (4) the rise of Milton Friedman's free market liberalism in the years 1980-2005¹¹. These influences helped turn China into the world's largest manufacturing and trading nation. The Chinese economy grew rapidly. China's manufacturing value added today has reached USD4 trillion and is equal to the combined sum of US, Japan and Germany put together. China also has the world's largest consumer market. In 2019, China's consumer market was worth USD6 trillion while the US market was at USD5.5 trillion.

The vast scale of China's economy presents an enormous business opportunity for Hong Kong. In 2003, the Closer Economic Partnership Arrangement (CEPA) was formally announced. CEPA is a free trade pact between the Mainland and Hong Kong proposed by the C. H. Tung government. Its immediate aim in the recession years

¹⁰ See Baldwin (2016).

¹¹ See Shleifer (2009).

following the Asian Financial Crisis was to revive the Hong Kong economy through greater economic integration with the Mainland.

CEPA's promise of free trade in services should play to Hong Kong's advantage in producer services. But genuine progress, with the exception of tourist visitors coming to Hong Kong, has been modest. Local governments on the Mainland are slow to open their service sectors. By 2011, the State Council became impatient with the slow progress and confirmed that 2015 would be the deadline for full 'liberalization of trade in the services'. Hong Kong Legislator Christopher Cheung Wah-Fung, representing the financial services constituency, described the obstacle as, "the big door has opened but the small door remains shut." He added, "That is to say, Hong Kong companies were allowed in name to go to the Mainland for jobs and business opportunities, but in reality, they have no way to carry out such activities." The 2015 deadline came and went. The task of greater economic integration of the Mainland and Hong Kong remains a project in the making.

The great obstacles are local barriers and the lack of a unified domestic market on the Mainland even after decades of market opening. In April 2022, Beijing released new guidelines to "step up building a unified national market that is highly efficient, rules-based, fair for competition and fully open" which had been approved by President Xi Jinping in December 2021. Perhaps progress would be faster now with the new emphasis on "dual circulation" with the deterioration of US-China relations.

As the scale of economic activity on the Mainland expanded enormously, Hong Kong's capital and financial markets were enlisted to bring savers and investors together directly. In order to mitigate the considerable risks of trading with strangers, it had to be based on deep trust in the integrity of capital and financial market institutions in the city. Trust that these institutions were supported by high quality professional services, impeccable standards of integrity, and effective legal protection of shareholders and senior creditors to limit the extent of expropriation of such investors by corporate insiders, the state, corrupt government officials and politicians.

Hong Kong's common law system underpinned this trust. It provided assurance of robust contract enforcement and property rights protection. Compared to the civil law system, the common law system is well known to provide much more favourable institutional environment for financial and capital markets to develop¹². The world's leading international financial centres are all found in common law jurisdictions. Hong Kong offers China an exceptional legal and institutional advantage in supporting her long term capital accumulation and financial innovation through access to international financing.

¹² See Glaeser and Shleifer (2002) and La Porta, Lopez-De-Silanes, and Schleifer (2008).

Unlike the previous period when manufacturing production crossed the border, the growth of producer services and economic integration with the Greater Bay Area has been slow in the current period. The growth of Hong Kong's producer services has been quite modest despite the rapid rise of the Chinese economy. There are both demand and supply side challenges. On the supply side, Hong Kong's workforce has suffered from slow growth in both numbers and productivity. Real wage growth have been slow to stagnant. The bright spot in producer services has mostly been in the capital and financial markets.

On the demand side, economic integration with the Greater Bay Area has been more limited because regional and local authorities across the border have been slow to open their service sectors. This has not worked to the advantage of Hong Kong's service economy. But, the incentives to do so for regional and local authorities are not high today given the relatively small scale of Hong Kong's service economy.

Interestingly, this means regional and local barriers in the service sector will have to come down to support economic growth in the future as the international economic environment becomes less open. China will be shifting her policy attention to domestic circulation and efficiency. Deregulation and competition in services should be getting more attention from regional and local authorities. Properly executed, they will benefit the Mainland economy. Hong Kong may also gain as a consequence. Regulatory and public authorities in Hong Kong should unshackle and galvanize our services sector.

Imagining the Future

In the face of growing international headwinds starting with former US president Donald Trump imposing tariffs on Chinese exports and pushing hard for decoupling in areas of strategic concern. These policies have continued under US president Joe Biden. As the international environment worsens, China's emphasis on "dual circulation" and a unified domestic market makes good economic sense. China has a huge population and a large manufacturing base to support domestic circulation. A rebalancing towards more consumption driven growth provides support for its manufacturing base and will help restore the proper division between investment and consumption for more sustainable growth.

In a more unified domestic market, regional and local governments on the Mainland may be more inclined to liberalize their service sectors and open its many small doors. Economic efficiency on the Mainland could improve significantly. As the small doors open it will release new sources of demand for Hong Kong's producer services. Closer economic integration within the Greater Bay Area will be achieved by unifying and opening up markets on the Mainland. When this happens it could be like the return of

1978 again for Hong Kong. But only this time it will be in services and not manufacturing.

Hong Kong should be prepared to boost its knowledge workers through attracting overseas talents and investing in local ones. Relaxing entry visa requirements to attract overseas talent should be a matter of top priority. Increasing investments in research and education opportunities would benefit further economic integration. The city must also bring in major anchor companies to set up operations in Hong Kong to allow new industries to appear after a long period of neglect.

What kind of companies should we have in Hong Kong for the future? The best companies in advanced economies are increasingly characterized by the accumulation of intangible capital rather than tangible capital¹³. In 2020, the value of intangible capital assets among the S&P 500 companies amounted to 90 per cent of total capital asset value. Intangible capital assets, include ideas, designs, research, and the like are growing and have eclipsed investment in physical assets.

An intangible investment assets list in most highly productive companies in advanced economies would cover (1) computerized information (software, database); (2) innovative property (R&D and mineral exploration, creating entertainment, literary, or artistic originals, design); and (3) economic competencies (training, market research and branding, business process re-engineering). Tangible investment assets would be buildings and structures, IT equipment, non-computer machinery, equipment and weapons systems, and vehicles. Almost all intangible capital assets are accumulated with the use of high value added producer services. They have been found to be the key drivers of productivity and innovation.

Integrity, professional standards, intellectual property rights, and branding matter greatly to the customers and clients of these companies. Being rich in intangible capital assets is a sign of quality, innovation and productivity. A wide range of professional services fall under this category, including medical and health care, tertiary education and training, academic and scientific research, product and process innovation (for manufacturers, inventors and creative artists,) hospitality and personal care services, cultural, media and entertainment services. The most innovative and creative companies are the most intensive users of producer services, and make heavy investments in intangible capital assets.

Developing Hong Kong into a high value added producer services centre represents a long term commitment to enhance the city's ability to attract and nurture talents, build up the capacity of our academic and research communities, and enhance innovation and productivity of our existing and new industries. Tomorrow's best companies will have an abundance of knowledge workers, invest heavily in intangible

¹³ See Haskel and Westlake (2017).

capital assets, and pursue high standards of integrity. Their work are the producer services.

Ensuring standards, supporting innovation, invention, discovery and creativity has historical relevance in a world economy where hyper-globalization has peaked and the threat of geopolitical and ideological contests after the close of the Cold War is rearing its head again. It plays to Hong Kong's economic logic where the key competitive advantage is in human capital, professional services and integrity standards, various kinds of intangible capital advantages, and supported by a robust legal system.

Unlike manufactured products that have to face international open competition, most services only compete in regulated markets dominated by local stakeholders. To promote high value added services in financial and capital markets, real estate markets, professional services, and innovation and creation services, Hong Kong should adopt an active policy to promote open market competition under a regulatory regime that protects private property rights, contract enforcement, and economic efficiency. Ensuring this proper mix of regulation and competition will be essential for advancing a high value added services economy.

To fulfil its role as a door for China to the world and the world to China, the city draws on its strength as an open and free market capitalist economy supported by the rule of law. It also needs an aggressive and deliberate set of policies to accumulate human capital and intangible capital, uphold integrity standards, and promote efficiency and competition in our producer services. These are areas where it can draw on its experiences and practices from all four periods of our past economic history.

All this would require considerable private and public capital investments. Financing can be raised in Hong Kong's capital and financial markets and through the sale of its vast stock of public rental housing to sitting tenants at a discounted price. The latter would narrow the huge disparity in wealth among the city's inhabitants, promote homeownership, and represent a critical step towards shared prosperity and social stability.

Another critical factor for future economic growth is to address the rapid ageing of Hong Kong's population. The massive influx of migrants in the period 1945-50 and the post-war baby boom birth that followed created a 21st century inverse population pyramid. There is now a large and growing population of retired persons, but a small and declining population of working age persons. The city urgently needs a population policy to grow its knowledge workforce. This would lay a better foundation for future economic growth. Otherwise, it would be a fatal drag on the city's future economic prospects.

The city must be willing to imagine a future metropolis that would be home to a population of 10 million inhabitants in the next 25 years with valuable talents and competencies. The city should seek to attract more talents. A metropolis of 10 million means attracting 100,000 per year for the next 25 years – a small challenge when compared to the experience of accommodating 372,000 per annum in the period 1945-50. A bigger and greater metropolis would add to the vibrancy and dynamism of the city's economy that it deserves and China should have.

References

Richard Baldwin, *The Great Convergence: Information Technology and the New Globalization*, Belknap Press, Cambridge, MA, 2019, 344 pages.

William Chan and Wing Suen, *Labour Market in a Dynamic Economy (Hong Kong Economic Policy Studies)*, City University of Hong Kong Press, 1997, 172 pages.

Steven N. S. Cheung, Rent Control and Housing Reconstruction: The Postwar Experience of Prewar Premises in Hong Kong, *Journal of Law and Economics*, Vol. 22, No. 1, 1979, pp. 27-53.

Edward Glaeser, Joseph Gyourko, and Raven Saks. "Why Have Housing Prices Gone Up?" *American Economic Review*, Vol. 95, No. 2, 2005, pp. 329-333.

Edward Glaeser and Andrei Shleifer, "Legal Origins", *Quarterly Journal of Economics*, Vol. 117, No. 4, 2002, pp. 1193-1229.

Philip Haddon-Cave, "The Making of Some Aspects of Public Policy in Hong Kong". In *The Business Environment in Hong Kong* Edited by: Lethbridge, David. Oxford University Press, Hong Kong, 1980, 2268 pages.

Jonathan Haskel and Stian Westlake, *Capitalism Without Capital: The Rise of the Intangible Economy*, Princeton University Press, 2017, 296 pages.

Neil Monnery, *Architect of Prosperity: Sir John Cowperthwaite and the Making of Hong Kong*, London Publishing Partnership, London, 2017, 320 pages.

Neil Monnery, *A Tale of Two Economies: Hong Kong, Cuba and the Two Men who Shaped Them*, Richmond, England: Gulielmus Occamus & Co. Ltd, 2019, 256 pages.

Rafael La Porta, Florencio Lopez-De-Silanes, and Andrei Schleifer, "The Economic Consequences of Legal Origins", *Journal of Economic Literature*, Vol. 46, No. 2, 2008, pp. 285-332.

Andrei Shleifer, "The Age of Milton Friedman." *Journal of Economic Literature*, Vol. 47, No.1, 2009, pp. 123-135.

Z Tao and YCR Wong, "Hong Kong from an Industrialized City to a Center of Manufacturing-Related Services", *Urban Studies*, Vol. 39, no. 12, 2002, pp. 2345-2358.

YCR Wong, "Service Industry Growth in Hong Kong", *Symposium on Services Promotion, Hong Kong into the 21st Century: The Servicing Economy*, Hong Kong Government, 12 March 1996.

YCR Wong, "Critical Junctures in Housing Policy Choices – Distant Causes of the 1967 Riots"
Hong Kong Economic Journal, 7 June 2017.

YCR Wong, Critical Junctures in Housing Policy Choices – Unintended Consequences of the 1967 Riot, *Hong Kong Economic Journal*, 14 June 2017.



How Hong Kong Could Maintain its Competitiveness as an International Financial Centre

How Hong Kong Could Maintain its Competitiveness as an International Financial Centre

Pingyang Gao
Rujing Meng
Yang You

With its strong rule of law, robust financial infrastructure, and resilient capital market, Hong Kong has long been regarded as an international financial centre (IFC). Even so, Hong Kong faces significant challenges in maintaining its IFC status.

In March 2022, Long Finance and Financial Center Futures published the 31st edition of the Global Financial Centres Index (GFCI 31). Hong Kong maintains third place, with the rating dropped by one. Regarding competitiveness, Hong Kong ranks after Singapore from the perspective of the business environment and human capital in GFCI 31. Besides, Hong Kong drops six places to eleventh in financial sector development. Also, according to World Competitiveness Ranking by IMD, Hong Kong drops two places to seventh. In addition, Hong Kong has been experiencing a serious brain drain as people emigrate. Even the top market regulator in Hong Kong, the Securities and Futures Commission (SFC), lost 12% of its employees in 2021, according to Bloomberg. Moreover, investors often have concerns about the market liquidity and also expect Hong Kong to attract more new economy companies to get listed in Hong Kong.

Some macro and political factors may explain part of the challenges, such as the social unrest in 2019, the uncertainties brought by the China-US conflicts, and the relatively stringent Covid-19 social distancing measures. Besides these recent market disruptions, some deeper root causes of the challenges Hong Kong is facing to enhance its IFC status are worthwhile to be explored.

One of the important issues could be the weak corporate governance, actually for decades. The fact that almost 38% of Hang Seng Index (HSI) constituents are trading at less than the book value reflects the concern about the corporate governance issue. In this article, we first show that the low valuation problem in the Hong Kong market is prevalent and persistent. We then propose a simple model to analyze how corporate governance could be one of the culprits. We next suggest a few directions to look for solutions.

Investor protection is an anchor in any markets that fosters investor confidence and trust. Weak corporate governance could be one of the root causes challenging Hong

Kong's IFC status. We hope the analysis can draw more people's attention, and appropriate actions could be undertaken to enhance Hong Kong's status as an IFC.

Almost 38% of HSI Component Firms are Worth More Dead than Alive

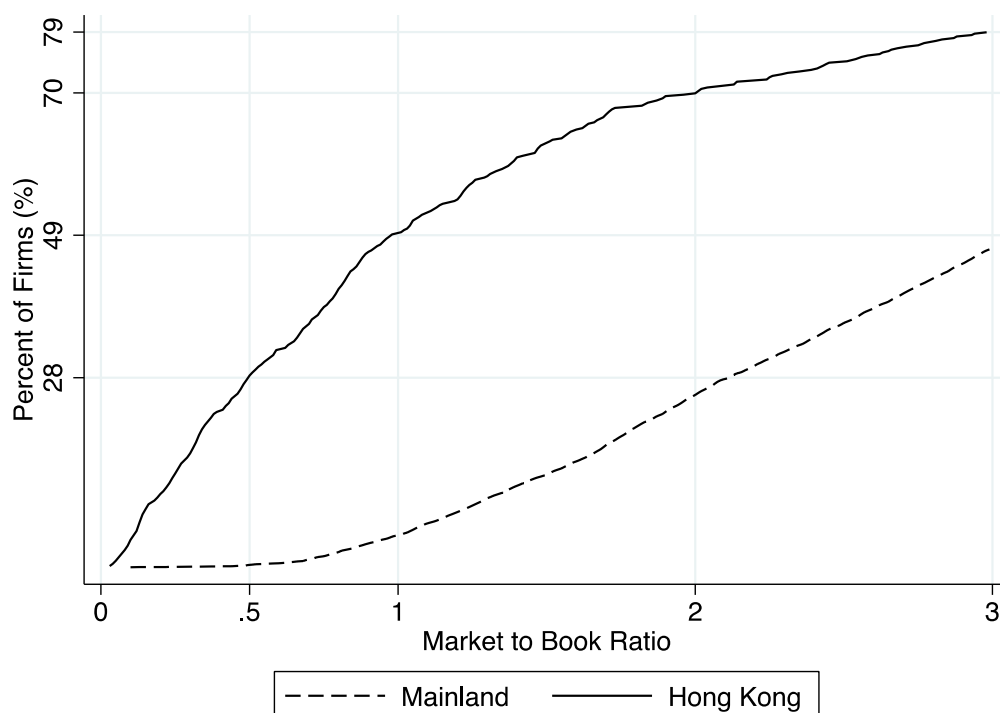
26 component firms of the prestigious Hang Seng Index (out of 69 or 37.68%) have a price-to-book ratio or market-to-book (PB, or MB ratio) below one as of 12/8/2022 (See Table 1). Among them, New World Development is 0.31, CKH Holdings 0.4, Henderson Land 0.41. If we view all firms in the index as one firm, the PB ratio is 0.83. The leading firms listed in Hong Kong as a whole are worth more dead than alive!

Table 1 Hang Seng Index Component Firms with Lowest Valuation

Name	Symbol	P/E	P/B
COUNTRY GARDEN	02007.HK	1.62	0.23
CHINA UNICOM	00762.HK	6.76	0.29
BANK OF CHINA	03988.HK	3.24	0.3
NEW WORLD DEV	00017.HK	59.35	0.31
CITIC	00267.HK	3.54	0.33
ICBC	01398.HK	3.53	0.37
CKH HOLDINGS	00001.HK	6.09	0.4
CCB	00939.HK	3.42	0.4
HENDERSON LAND	00012.HK	10.29	0.41
PETROCHINA	00857.HK	5.73	0.42
HANG LUNG PPT	00101.HK	15.67	0.43
SHK PPT	00016.HK	10.4	0.47
SINOPEC CORP	00386.HK	5.13	0.48
CHINA OVERSEAS	00688.HK	4.37	0.51
CK ASSET	01113.HK	9.44	0.53
WHARF REIC	01997.HK	25.93	0.55
CHINA LIFE	02628.HK	5.36	0.57
HSBC HOLDINGS	00005.HK	10.84	0.7
CHINA MOBILE	00941.HK	7.58	0.73
CNOOC	00883.HK	5.21	0.76
CHINA HONGQIAO	01378.HK	3.81	0.76
CHINA RES LAND	01109.HK	5.4	0.77
PING AN	02318.HK	6.37	0.83
LINK REIT	00823.HK	20.12	0.86
LONGFOR GROUP	00960.HK	4.41	0.87
BOC HONG KONG	02388.HK	12.8	0.99

If we look at the full universe of Hong Kong exchange (according to Compustat), 28% of listed firms have a PB ratio below 0.5, 49% with a PB ratio less than 1, and roughly 70% of companies with a PB ratio less than 2. More than 50% of companies listed on Shenzhen and Shanghai stock exchanges enjoy a PB ratio even higher than 3.

Figure 1: Distribution of Price-to-book Ratio in Mainland China and Hong Kong



In contrast, the PB ratio is 1.4 for CSI 300, 1.6 for MSCI emerging markets index, 2.9 for MSCI World index, and 4.2 for S&P500. To put these numbers in perspective, consider the current market capitalizations across stock exchanges in the world. NYSE is ranked first at 25T USD while HKEX ranked sixth at 5T, trailing Tokyo (5.2T), Shenzhen (5.3T), Shanghai (7.4T) and Nasdaq (17T). If the Hong Kong market valuation can be raised to the world average of 2.9 (as represented by MSCI World index that tracks 23 developed economies), then Hong Kong's market capitalization would increase by 3.5 times to 17 T to overtake Nasdaq. If it could be further raised to 4.2, the level of S&P 500, then Hong Kong stock exchange would beat NYSE to become ***the world's Number 1***.

Table 2 shows the median PB ratio across industries in Hong Kong and Mainland China at the end of 2018 and 2021. Across 10 different industries and both before and after the pandemic, the median PB ratio in Hong Kong is much lower than that in mainland. The low-valuation problem is not unique to real estate, but generally applies to all industries. For IT firms listed in Hong Kong, the valuation is only $\frac{1}{4}$ to $\frac{1}{3}$ to their counterparts listed in mainland China. Healthcare firms listed in Hong Kong suffer 50%

off in their valuation. On average, the valuation in Hong Kong is about half of that in mainland. More technology-oriented sectors clearly can boost the overall valuation; however, the more first-order issue is to restore valuation for these companies within industry.

Table 2: Market-to-Book in End of 2021

Industry Name	BM Ratio Median (2021)		BM Ratio Median (2018)	
	Hong Kong	Mainland	Hong Kong	Mainland
Energy	1.64	1.77	1.34	1.36
Materials	0.70	3.03	0.84	1.85
Industrials	0.96	2.99	1.05	1.99
Consumer Cyclical	1.12	2.71	1.14	1.78
Consumer Staples	1.30	3.69	1.49	2.50
Health Care	1.85	3.51	1.27	2.39
Financials	0.51	3.50	0.91	2.42
Information Technology	1.17	4.09	1.06	2.75
Communication	1.30	3.08	1.22	2.06
Utilities	0.49	1.87	0.44	1.29
Real Estate	0.42	1.07	0.51	1.09
Average	1.04	2.85	1.02	1.95
Hong Kong-Mainland Difference	-1.8		-0.93	

Source: Compustat Global companies with headquarter (LOC) located in mainland China and Hong Kong

Figure 2 and Figure 3 show the fraction of firms with PB ratio below 1 across different industries at the end of 2021 for Hong Kong and mainland China. All 10 industries in Hong Kong have a significant fraction of firms trading below book value, ranging from a quarter for the energy industry that enjoys the highest valuation to 90% for the real estate industry. In contrast, the worst industry in mainland sees about half of its firms trading below book value, while the second worst industry (utility) has only about 15% such firms.

Figure 2: Hong Kong Valuation by Industry

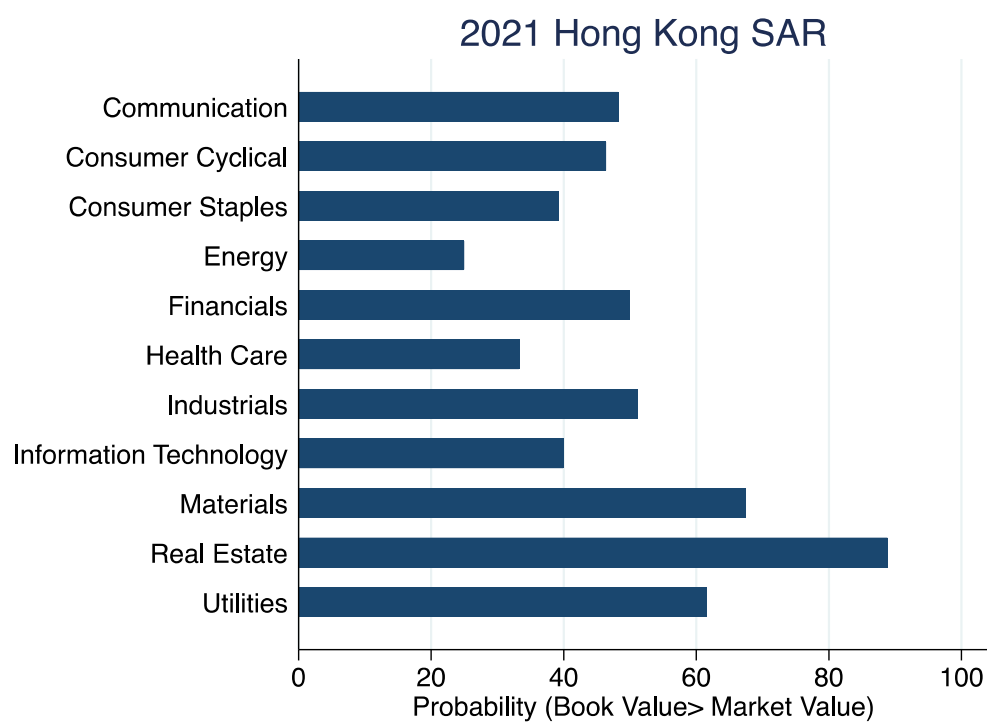
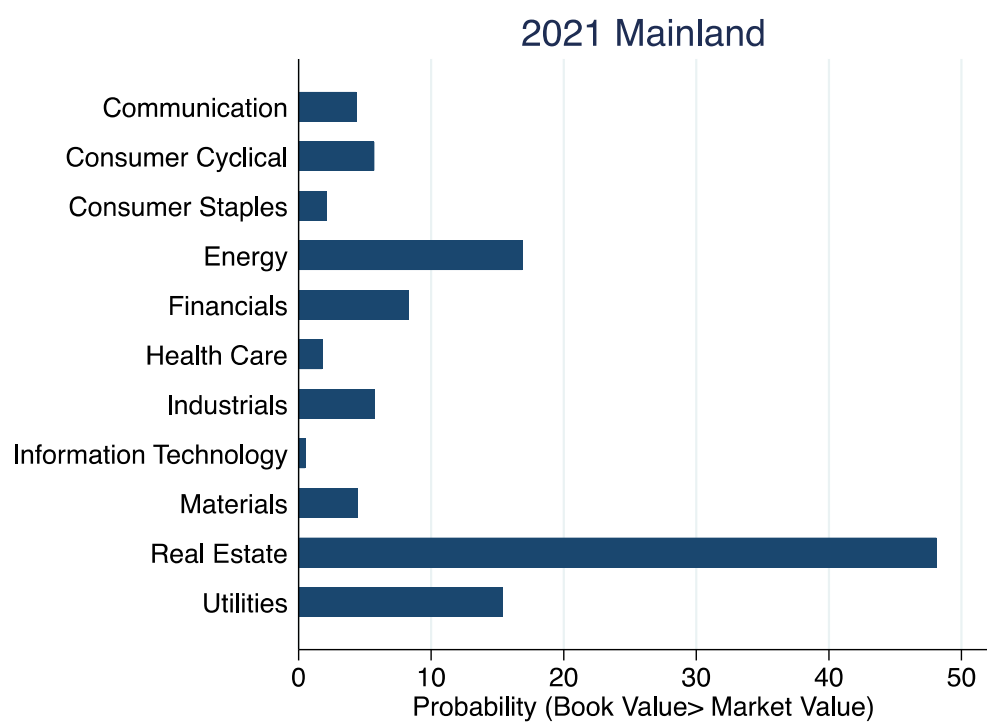


Figure 3: Mainland Valuation by Industry

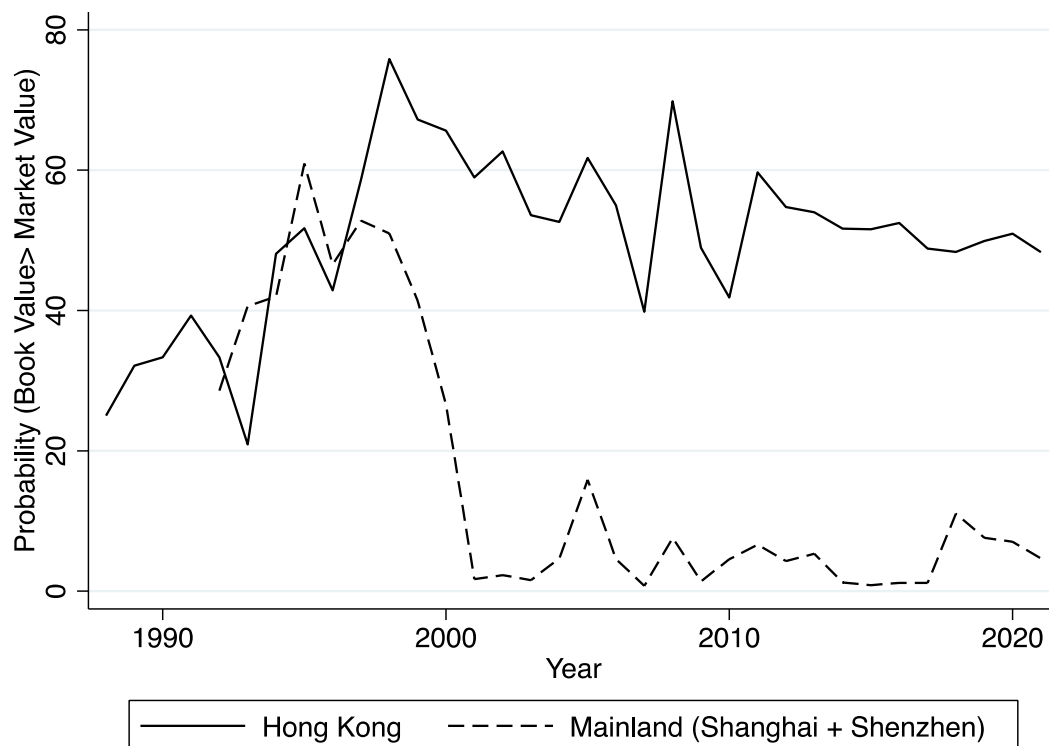


Investment Opportunities or Traps?

How to read these low valuation metrics for Hong Kong firms? Are the stocks in the Hong Kong market undervalued by the moody Mr Market, the pessimistic animal spirit, or the irrational fear? If so, value investors should get greedy while others are most fearful. Alternatively, does the low valuation originate from certain structural defects in the Hong Kong market and thus represents room for improvement for Hong Kong as an international finance centre?

Our research has swayed us more towards the latter. One way to distinguish the two hypotheses is to look at the persistence of the pattern. We have shown that the fraction of firms in Hong Kong trading below book value has been above 50% most of the time in the past two decades (see Figure 4) while the counterpart for the mainland market is typically below 10%. Almost at any point since 2000, half of the firms in Hong Kong are worth more dead than alive.

Figure 4: The Faction of Companies with Book Value Higher than Market Value

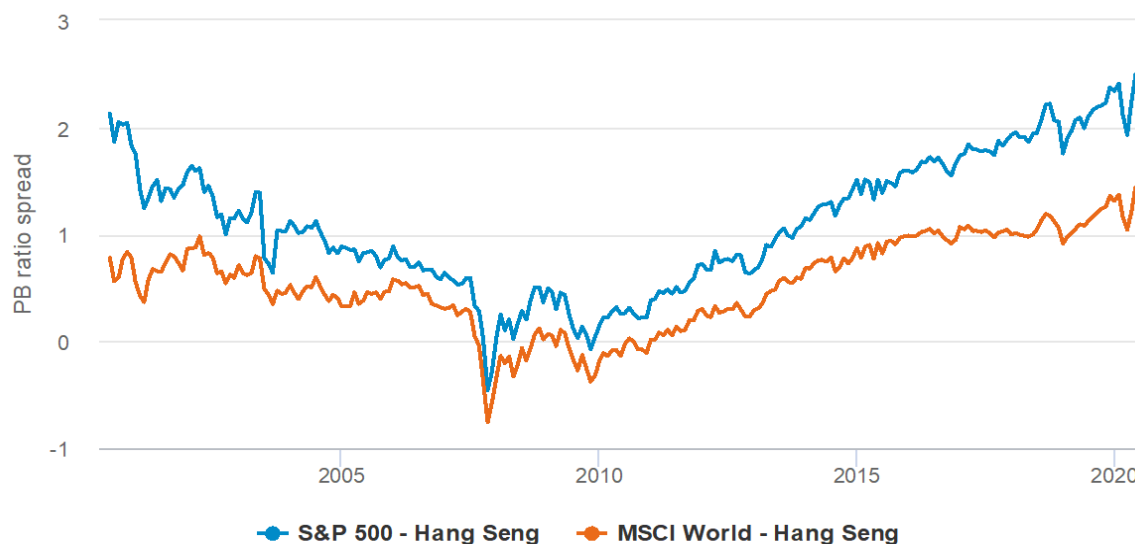


Benchmarking Hong Kong with the advanced markets shows a similar pattern. The PB ratio of Hong Kong has been trailing that of S&P 500 and MSCI World Index in the past two decades except the period of 2008-2010 (see Figure 5 created by Fidelity International). The 2008 financial crisis brought down the valuation in the United States and other countries more than in Hong Kong and thus reduced the gap.

However, since then the gap has been steadily increasing and has reached the highest level ever.

Figure 5: Hang Seng Valuation Relative to S&P 500 and MSCI World

Chart 1: Hang Seng Index looks cheapest in two decades on relative PB basis



Source: Bloomberg, Fidelity International, June 2020

Overall, we conclude that the low valuation problem has been both prevalent and persistent in the Hong Kong market. It indicates that there are systematic factors that investors are concerned about.

Corporate Governance Could be the Culprit

We propose a simple model to organize our discussion about the possible cause of the persistent low valuation. Call our protagonist John. John started a company with 25 million of his own capital, raised 75 million from the market, and thus controlled 25% of the firm. The book value of the firm was 100 million. The firm issued 1 million shares and thus the book value per share was 100. The market value of the stock would depend not only on the 100 million cash in the bank account, but also on investors' expectations and assessment of the firm's future activities. Suppose John changed his mind after raising the capital (or it could be his original idea). Instead of making best use of the cash to maximize shareholder value, John kept the cash in the firm's bank account and sent implicit messages, gradually, to investors that he would never return any money to them. Investors receiving the messages assess their credibility and adjust the prices accordingly. The stock price plummeted to 80 first and then to 60, with a screaming PB ratio of 0.6. Long-term value investors started to notice. More

and more brave souls got in as the valuation became ever lower. It continued to slide to 50, 40, 30 and even 20 in the next few years.

After the share price fluctuated around 20 for a year, John made the following announcement: “Our company is one of the greatest ever and has a promising future. Regrettably the capital market has persistently failed to recognize the gold buried in the sand and the stock price has been depressed for too long. The management, committed to protecting our shareholders’ interest, has proposed to take the firm private at the price of 30 per share, a 50% premium over the average price in the past year.” Board of directors supported the deal and carried out all the due diligence. The independent directors praised the proposal as enhancing shareholder value by pointing out the 50% premium over the prevailing stock prices. The financial advisor and legal adviser developed hundreds of pages of financial analysis, reaching the conclusion that the price of 30 per share is fair and reasonable. On this basis, the board approved the deal and sent it to a special shareholder meeting in which the majority voted favourably. The deal was completed.

We have assumed that John kept the assets in the form of cash to avoid complicated valuation issues. One otherwise might argue that the low PB ratio could be justified by the inflated book value. The moral of the story is exactly the same if the assets were stocks of other listed firms, or any other real assets.

Assuming cash assets also makes it crystal clear the benchmark shareholder value maximization solution: at the minimum, John could have liquidated the firm to return the 100 dollar per share to other investors if he were truly “committed to protecting our shareholders’ interest.”

The culprit for the persistently low valuation in our model world is the corporate governance. Valuation could be viewed as the product of the so-called fundamental (real assets) and corporate governance. When corporate governance stops working, the link of valuation to the fundamental value is attenuated or even severed. The low PB ratio, however low or persistent it might be, is ultimately a trap, even though it seemed an incredible investment opportunity in light of the 100 dollar cash asset. Even though the fundamental value (the 100 dollars per share cash asset) was for real, the valuation could be as low 20 dollars as the corporate governance factor that connects the fundamental value to the shareholder value has broken down.

The tenet of corporate governance is that shareholders are the most vulnerable group of stakeholders. A firm is a nexus of contracts among independent stakeholders who voluntarily participate in the entity to pursue their own best interests. All other stakeholders make their contribution to the firm and receive their payoffs from the firm through contracts, and they are further protected by the relatively frequent renegotiation of their contracts with the firm. In contrast, shareholders provide capital

upfront, but both the amount and the timing of their payoff are not contractually specified. The amount is the residual after all other parties have been paid, and the timing of the payoff is not legally stipulated.

Corporate governance arises as a response to address this concern of shareholders who otherwise will be reluctant to join the firm. The central purpose of corporate governance is to protect shareholders' interest against the exploitation by all other stakeholders. In the United States where ownership is most dispersed, the main threat to the shareholders' interests come from the management who has the power to change the payoffs to all other parties. In contrast, firms in Hong Kong markets often have concentrated ownership and, as a result, corporate governance should be designed to protect minority shareholders against expropriation by controlling shareholders.

Shareholders may sell their shares in the secondary markets to cash out, and capital appreciation (as opposed to dividends) is often the main component of investors' returns on the stock. They can vote with their feet. However, collectively, the payoffs to shareholders have to derive from the firm in the form of dividends or liquidation.

What Went Wrong?

Now let us analyze the model to discuss how the dismal outcome for shareholders in our model world could have been different.

First, John, the owner/manager in our model world, has control over the firm that is disproportionately larger than his economic interest, laying the background for the wealth transfer from other shareholders to controlling shareholders. In Hong Kong, companies with concentrated ownership are common and family-controlled firms are widespread. However, some shareholders with less than 50% equity interest seem to have substantial control as well.

Recall that a firm is a collection of individuals who voluntarily participate in the coalition to pursue their best interest. It is exactly what John did (even though he was apparently not performing his fiduciary duty to other shareholders in his capacity of a board director and senior manager). The question is that what check-and-balance do we have in the system to counter balance John's power over the firm? A number of corporate governance measures are designed explicitly to protect the minority shareholders' interest against the appropriation by controlling shareholders, including representation on the board of directors and specifically by independent directors, the mandatory use of independent financial and legal advisor, and the recusal system in the shareholder meeting. However, these systems may just look impressive on the paper.

Second, the obvious firm value maximization solution is to liquidate the firm. At the price of 20 dollar per share, liquidation increases the firm value by 500%. It is a blatant breach of fiduciary duty when the board of directors fails to pursue such avenues. In the real world, firms do not necessarily have to take such extreme corporate actions as liquidation, but there are many alternatives. For example, firms can pay out special dividends or aggressively buy back their own shares.

An often-heard counter argument to generous pay-out policy is that firms need capital to expand or grow “for a better future.” We shall briefly answer this objection. The first lesson students learn in corporate finance that corporate decisions are made to maximize the firm’s value. The second lesson we preach to students is the NPV rule for investment decisions. The core of the NPV rule is the expected future cash flows discounted by the firm’s cost of capital, which is defined as the opportunity cost of the firm’s funds. The new investment should yield a risk-adjusted return that is not smaller than that by all other alternative opportunities. When a firm’s stocks are trading at 20 cents on a dollar of book value, one dollar pay-out generates an immediate risk-free rate of return for shareholders of 500%. It is a bar too high for almost any firm.

Third, a strong corporate governance often involves external disciplines, including the corporate control market (hostile takeover) and critical media. In our model, when the stock price traded at 20 cents on a dollar, where were the “barbarians at the gate”? What prevented activist investors from building up a position and then launch a proxy fight to increase corporate pay-out? When John proposed the privatization at \$30 per share, how difficult was it for other investors to enter the race with competing offers? What prevented initial investors who acquired the shares at 100 per share from suing the company in the court? What were the media’s coverage and analysis of such transactions?

Fourth, investors were scared by the messages from John before he actually took any actions to divert the assets. They lack “confidence” in the firm’s corporate governance in safeguarding the firm’s assets and returning the assets to them. Even though there is an elaborate web of rules and regulations that are designed to stop John from keeping the assets within the firm forever, investors believe that the corporate governance system will succeed in protecting their interest with a slim chance of 20%, as revealed by the stock price at 20 cents on a dollar of book value.

Hong Kong SFC has the power to intervene in corporate cases at an early stage when it is reasonable to believe that a proposal contravened the principle of maximizing shareholder value.

Intervention in corporate governance by regulators, however, is different. In our model, the reason that pushed down the stock price was John’s messages that he wouldn’t return the assets to shareholders. Since he didn’t actually carry out any

tunnelling activities, it would take a fearless and, probably, reckless regulator to intervene in this early stage. Without being able to address this root cause, all other interventions would be complicated and futile. By the time the privatisation proposal was put on the table, it had become even more difficult for the regulator to intervene. The proposed price represented a 50% premium over the average price in the past year, all the other gatekeepers, including the independent directors and financial and legal advisors, had provided their professional fairness opinion, and, more importantly, shareholders themselves have voted in favour of the proposal.

Moreover, the expropriation by the controlling shareholders can take forms other than privatizations. These other forms are often even more difficult for regulators to intervene. A classic example is excessive perk consumption, such as club membership and luxurious corporate housing. Extravagant pay would be another example to eventually drain the firm's coffer. Yet another example is to hire family members and make the firm an extended family.

Thus, we have got into a vicious cycle. When investors do not have confidence in the corporate governance and thus pushes down the stock price in the first sight of any corporate trouble, regulators find it more difficult to intervene, which further pushes down the stock price and justifies the initial concerns of investors.

Finally, reputation and repeated transaction serve as a critical deterrent in corporate governance. If John expected to return to the capital market frequently in the future to raise capital for new investment opportunities, he would have a second thought before sending the messages to drive down the stock price. Corporate governance thus is often weaker in firms in declining or mature industries and with managers who have a shorter career horizon.

The Governance Problem in Hong Kong May Get Worse

We believe that the corporate governance problem laid out above can get a lot worse in the near future if no substantive actions are taken to address the problem. The stars are being aligned to exacerbate the problem.

First, at the macro level, the economy of mainland China and Hong Kong becomes more mature, and thus the growth prospect for many firms is likely to diminish. As a result, the controlling shareholders will shift their focus from enlarging the size of the pie more to the division of the pie.

Second, many Chinese private firms, which has been the growth engine for the economy and the backbone for the group of high-valued firms, are facing the succession problem as the first generation of founders and entrepreneurs started to age or failed to catch up with the time. They are likely to pass their control to their

own offspring. If and when they do so, the next generation of controlling shareholders are, on average, less motivated and capable in creating a larger pie. When they focus on the division of the pie, the corporate governance problem becomes even less tractable.

Finally, a large number of Chinese firms currently listed in America are expected to migrate to Hong Kong in the next few years. Their corporate governance in the near future could be a disaster for four reasons. The two reasons discussed above apply equally here. These firms are facing a much slower growth than expected even just a few years ago, and their founders are gradually exiting the firms. Moreover, most of these firms employ a variable interest entity (VIE) structure that has a built-in corporate governance weak spot. Finally, the value of the assets of these firms lies mainly in intangible assets, making it much easier to divert.

Suggestions

We don't have a silver bullet to cut through the problem of corporate governance. After all, it is truly a trillion-dollar question. We hope that our analysis of the problem could convince more people that not all things are right in Hong Kong's corporate governance system and that we need serious efforts to improve it before it's too late. With this first step of acknowledgment, our analysis has offered a few places to look for solutions. We trust that the corporate governance could improve in stride with the determination and calibre of policymakers. As a result, Hong Kong's status as an IFC would be even more prominent.



■ Creating a Good-jobs City

Creating a Good-jobs City

Heiwai Tang

Yanhui Wu

1. Introduction

The Hong Kong economy faces three pressing problems: stagnant growth without new engines, rising living costs without increasing incomes, and widened inequality with a hollowed-out middle class. A remedy to these intertwined problems is the creation of good jobs, which are the pillar of a stable, affluent, and energetic city.

The definition of good jobs is inevitably slippery. Nevertheless, there is still consensus that a good job should generate an income that enables at least a middle-class lifestyle, and provide workers with employment security and clear career paths. In Hong Kong, people who have good jobs are managers, senior administrators, bankers, lawyers, doctors, designers, professional agents, and probably professors in addition to well-to-do business owners. These jobs emerged during the transition of Hong Kong into a modern metropolis and have been the backbone of the Hong Kong economy. However, with the recent technological revolution, changing flows of trade and capital, and transformation of geopolitics, more and more Hongkongers are drifting away from good jobs. In parallel, Hong Kong's economy benefits less and less from these good-jobs sectors. To prevent the decline of economic competency and widening social inequalities, Hong Kong must rebuild a good-jobs city. Centering around two questions—where do good jobs come from? what policy design can help create good jobs?—this article outlines a strategic plan for rebuilding a good-jobs Hong Kong and proposes a number of feasible policies to achieve this goal.

2. Background: Five Myths About Job Creation in Hong Kong

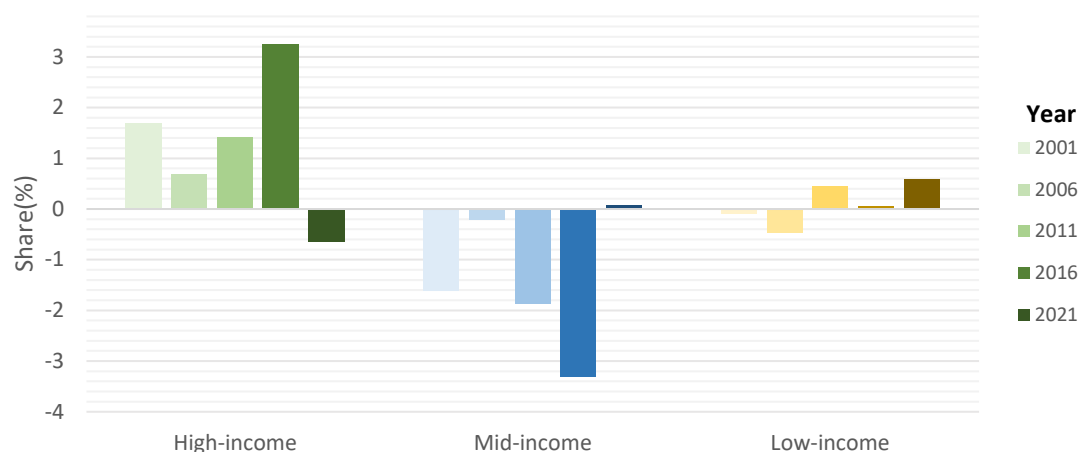
In asking how to rebuild a good-job Hong Kong, the first natural question is: where do good jobs come from? This question was easy to answer decades ago, when ample opportunities presented themselves to Hong Kong as a bridge between the West and China. Good jobs came from where Hong Kong had a comparative advantage over mainland China, and where Hong Kong mediated the international flows of goods, services, and capital. However, answering this question is much more difficult today because Hong Kong's role in the Asian-Pacific economy is no longer distinctively clear cut. Hong Kong's advantages in the good old days may hinder the creation of new good jobs today. To better understand the potential decline of good jobs and answer the question of where good jobs come from in Hong Kong, we demystify five myths about job creation, and more generally, about the entire Hong Kong economy.

Myth 1. Good jobs will recover and expand as long as the Hong Kong economy grows.

The COVID-19 pandemic has generated a substantial negative shock to the Hong Kong economy. Unemployment has intensified, and many good jobs cut. The Hong Kong government has used fiscal stimulus to avoid a demand crisis and resist a looming recession. An optimistic view is that after the economy recovers from the pandemic shock, good jobs will return and expand with economic growth. However, the main problem with job creation in Hong Kong is structural and distributional. Economic growth does not guarantee the abundance of good jobs. The last two decades have witnessed a trend of job polarization and the overall decline of good jobs in Hong Kong.

Figure 1 plots the dynamics of the Hong Kong job market by occupations. Most strikingly, the share of middle-income jobs—which include administrators, production workers, and even sales professionals—was disappearing, while the shares of both high- and low-income jobs increased. According to the latest micro data from Hong Kong’s Population Census, the growth of low-income jobs measured in changes in the share of total employment even surpassed the growth of high-income jobs over the past decade.

Figure 1: Changes in the Share of Employment by Occupations (%)



Source: Hong Kong’s Population Census

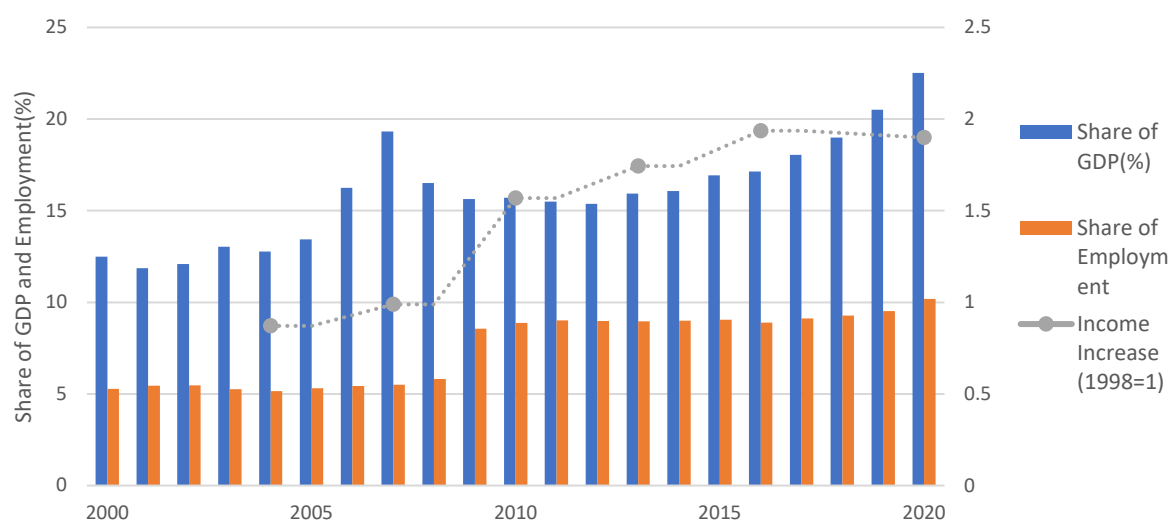
Note: The “high-income” group includes employment in the occupations of managers, administrators, professionals. The “mid-income” group includes employment in the occupations of associate professionals, clerks, and craft and related workers. The “low-income” group includes employment in elementary occupations, service and shop sales workers, and plant and machine operators and assemblers. Changes in share of employment are calculated by the year’s employment share minus the previous year’s employment share.

The tendency of job polarization in Hong Kong bears some resemblance to the pattern in the US and other advanced economies (e.g., Autor 2019). It is deep rooted in the technological revolution, which favors top talent and replaces middle-ranged skills, as well as in regional specialization due to globalization. Therefore, Hong Kong faces a two-folded problem: (1) whether it can maintain a large share of high-income jobs; and (2) whether these jobs can generate sufficient spillovers to revive the return to mid-level skills and thus expand the middle-income jobs.

Myth 2. A booming financial sector can create sufficient good jobs.

As in London and New York, the financial sector produces a cluster of high-pay jobs. Figure 2 shows the share of GDP, share of employment, and income increase of the financial sector in Hong Kong from 2000 to 2020. Since 2009, while the share of finance in GDP has increased from 15% to 20%, the financial sector has accounted for approximately 10% of the employment. This suggests that financial growth does not necessarily translate into employment expansion. Moreover, the slowdown of income increases after 2016 will constrain the flow of talent into finance. Another factor that may limit the employment expansion of the finance sector is the rapid adoption of AI technology in finance, which is likely to replace many finance-related jobs. Overall, without purposeful and directed development of the financial sector, its capacity for generating good jobs will have reached its limit.

Figure 2: Financial Sector in Hong Kong (2000 – 2020)



Source: Hong Kong's Population Census

Unlike manufacturing, in which the expansion of an upstream firm directly generates demand and jobs for its downstream supplier, finance jobs do not have this multiplier effect. In other words, the supply chain in the finance sector is rather short. The employment spillover effect of a booming finance sector on other sectors is rather

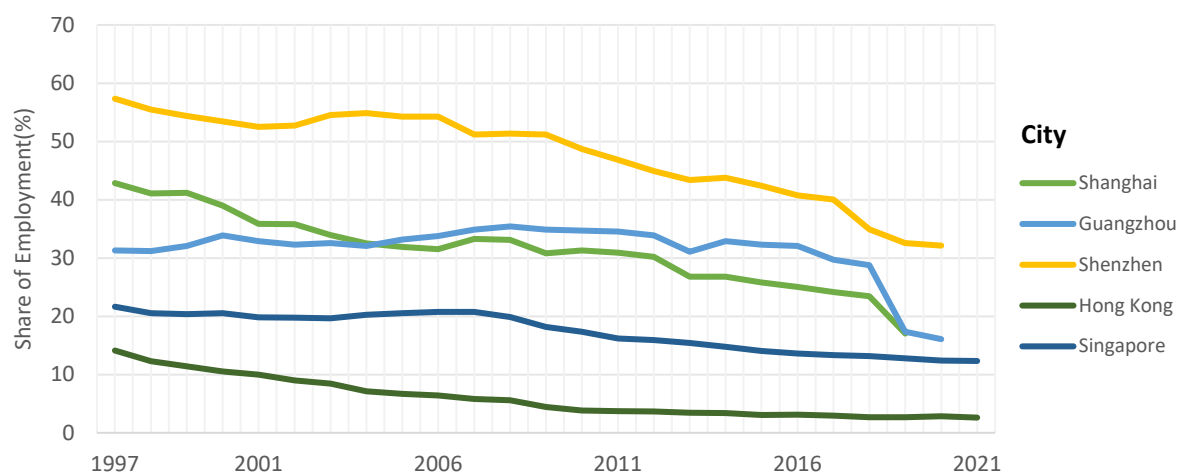
indirect, primarily through the demand for goods and services. In this aspect, the finance sector is unlikely to produce a large number of good jobs in the rest of the economy.

Myth 3. It is important to bring manufacturing jobs back to Hong Kong.

Because of manufacturing firms' ability to generate jobs, bringing manufacturing back has been a popular solution to aggregate employment problems in regions where manufacturing, after a glory period, moved to other regions. It is well known that Hong Kong was transformed into a manufacturing-led economy in the 1960s, and then gradually transferred to a service economy dominated by finance, logistics, and real estate after 1980s. The employment share of manufacturing declined continuously from slightly above 10% in 2000 to below 4% in 2020. Somewhat surprisingly, the return to manufacturing jobs—measured by the median monthly income in the sector—has gradually increased since 2010. Given this history, it is tempted to propose bringing manufacturing jobs back to Hong Kong for the sake of creating more good jobs and stabilizing the middle class. However, such a solution is neither necessary nor sufficient.

The decline of manufacturing and the rise of service industries is inevitable with economic advancements. Figure 3 demonstrates the time series of manufacturing share of employment from 1997 to 2021 in Hong Kong compared with four other Asian metropolitan cities: Singapore, Shanghai, Guangzhou, and Shenzhen. With the exception of Guangzhou, the share of manufacturing jobs in these cities all exhibits a significant downward trend. Clearly, there is no correlation between the size of the manufacturing industry and the number of good jobs in an economy.

Figure 3: Shares of Employment in Manufacturing (%): Asian Metropolitan Cities



Source: Hong Kong's Population Census, Singapore Department of Statistics, National Bureau of Statistics of China.

It is true that the other cities still maintain a sizeable manufacturing sector while manufacturing in Hong Kong is almost completely hollowed out. This distinct feature of Hong Kong, in contrast with the other Asian Tigers (Singapore, Taiwan, and South Korea) and metropolises in mainland China (Shanghai, Guangzhou, and Shenzhen), derives from its unique advantage not only as a hub of international trade and capital flow, but also as a gateway for Western firms to enter the Chinese market.

Basic economics principles tell us that, given the high living and labor costs, to bring manufacturing jobs back to Hong Kong, two conditions have to be met. First, manufacturing firms in Hong Kong must be able to adopt advanced technology (and appropriate managerial practices) to boost their total factor productivity. Second, there must be sufficient supply of high-skilled labor to exploit the complementarity between human capital and physical capital. Without these conditions, products made in Hong Kong will not survive fierce market competition, and good manufacturing jobs, even if created, will not be sustainable. Unfortunately, these two conditions are unlikely to appear in the near future. In the short- to medium-run, it is unrealistic to rely on the manufacturing sector to produce streams of good jobs in Hong Kong.

Myth 4. Good jobs in Hong Kong are stolen by mainland cities.

It is true that a large number of good jobs are created on the mainland because businesses operated by Hong Kong entrepreneurs or originated from Hong Kong move to mainland cities, especially those in the Greater Bay Area (GBA). However, there is neither solid evidence nor sound logic to support the substitution between good jobs in Hong Kong and those in mainland cities.

In the 1980s, when manufacturing jobs moved to the mainland en masse, Hong Kong did not lose good jobs. Instead, service jobs with higher pay and greater mobility proliferated. This is the power of specialization on the basis of comparative advantage. Nowadays, Hong Kong's advantages over mainland cities are less clear cut, and the regional specialization within mainland China tends to create competitive pressure on Hong Kong. The oft-cited case is the rise of Shanghai as a competing finance center in Asia. If within the same industry and facing the same market, Hong Kong loses its edge to mainland cities, lucrative business opportunities and associated good jobs will likely drain out from Hong Kong. However, this is not happening; the structure of the Hong Kong economy is so distinctive that no mainland cities can replicate and replace it. To the extent that firms in Hong Kong cooperate with their mainland business partners, the integration of the Hong Kong economy into the GBA will facilitate the creation of new good jobs in Hong Kong.

Myth 5. Investment in higher education does not pay off in Hong Kong.

It has been puzzling to outsiders that despite the relatively low cost of receiving higher education, the number of young Hongkongers with a bachelor's degree is disproportionately low compared to the abundance of positions offered by numerous universities in Hong Kong. In most PhD and master programs, rarely can we see the presence of local students. One popular answer to this puzzle is that education is not important to make money in Hong Kong, and investment in higher education does not pay off. This answer would have made sense twenty years ago when business opportunities abounded and the skills for being good merchants and businessmen were more valuable than formal education.

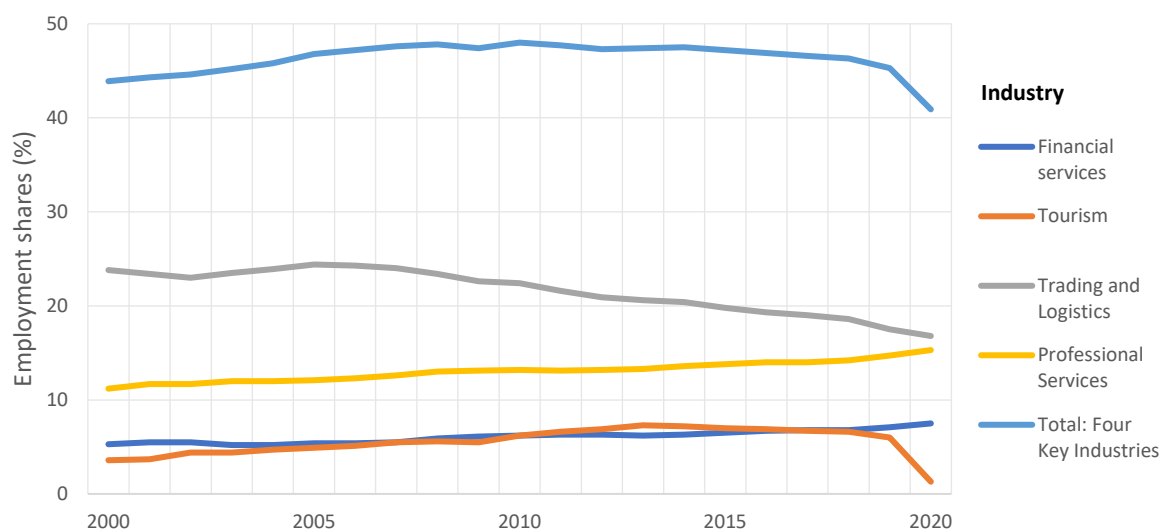
The problem with the relatively lower return to higher education in Hong Kong is structural. The Hong Kong economy is dominated by services, and only a small fraction of service jobs, for instance, in the finance sector, require substantial investment in formal education. Moreover, the Hong Kong labor market is highly localized and rigid. Therefore, the market does not provide sufficient opportunities for science and engineering graduates to apply their knowledge. However, with Hong Kong being transformed into a more-advanced economy and becoming more connected to high-skilled sectors, more and more good jobs require a higher level of general and specific education.

3. Strategic Plan: Three Pillars to Sustain and Expand Good Jobs

In clarifying the above five myths, it may seem that we hold a pessimistic view towards Hong Kong. To the contrary, our intention is to paint a realistic picture to help make a forward-looking and strategic plan for the Hong Kong economy. As we have stressed, Hong Kong is a unique economy with numerous non-imitable strengths. The key for a feasible strategic plan is to leverage these strengths and discover a path towards the goal with minimal disruptions and resistance.

In Hong Kong, the pillars of GDP and employment have been four traditional industries, namely, financial services, tourism, trading and logistics, and professional services. As seen in Figure 4, the employment share of these four pillar industries has been declining since 2011, largely driven by the rapid decline in employment in the “trading and logistics” and “tourism and related services” sectors. Aiming to expand good jobs and boost economic growth, the core of our proposed strategic plan is to upgrade two pillars (finance and professional services) and replace the two deteriorated pillars with a new one (high-tech).

Figure 4: Employment shares of Hong Kong's 4-Pillar Industries (%)



Source: Hong Kong's Population Census

A. Enhanced Financial Sector

The finance sector remains a strong pillar that provides a large quantity of good jobs in Hong Kong. With heightened China-US tensions, many Chinese firms listed in the US stock market have moved back to Hong Kong. This explains the expansion of the financial sector in Hong Kong despite the overall economic contraction. This trend will continue at least in the short run, and it is foreseeable that the finance sector will keep generating good jobs.

To enhance the finance pillar, the Hong Kong finance market should adapt its existing regulatory framework to increase its flexibility and provide higher quality services to attract more firms from mainland China, India, and East Asia. Another booster of the finance sector is fintech, which requires a broader skillset than traditional financial jobs and will generate streams of good jobs. Moreover, fintech is a natural stepping stone for Hong Kong to move onto its high-tech path, and will promote the employment of high-skilled workers in the science and technology sector.

An active venture capital industry significantly enlarges the finance sector. However, while Hong Kong is abundant in hot money and entrepreneurship, it lacks venture capital. This is perhaps caused by the lack of commercialization opportunities in Hong Kong. Thus, the cultivation of venture capital should go hand-in-hand with the development of high-tech industries in Hong Kong.

B. Upgraded Service Sector

The services sector accounts for the lion's share of employment in Hong Kong. However, a large portion of service work is oriented to local consumers and does not benefit much from either technological progress or globalization. The shrinking middle class will hurt providers of local services even further. Service jobs oriented to outsiders, particularly tourists, are sensitive to external factors and unstable in a changing environment. Therefore, Hong Kong faces the urgent need of upgrading its services sector as an engine of generating good jobs.

Among traditional service jobs, those providing professional services (e.g., legal, accounting, and consultancy) for local business activities belong to the good-job category. The economic integration of Hong Kong into the GBA provides ample opportunities for Hong Kong professionals to expand the scope of their services. Two particularly attractive areas of services are healthcare and higher education. These are two pivotal sectors that will have a long-term impact on the creation of good jobs for Hongkongers.

C. Emerging High-tech Sector

In the last decade, the contribution of the information technology sector to employment has increased. Although the share is still small (around 4% in 2021), it shows some sign that Hong Kong is moving towards the high-tech trajectory. The emergence of a sizeable high-tech sector is crucial to the future of Hong Kong, in terms of both economic growth and job creation.

Globally, high-tech jobs pay well. This is the undeniable triumph of science and technology. Moreover, economic research has shown that creating high-tech jobs has a strong multiplying effect on other job markets, including those in non-tech industries. Specifically, Moretti (2012) finds that in the US, a high-tech job created can lead to five other positions added in the economy, including those in high- and low-skilled service sectors. In this regard, creating high-tech jobs can expand the diversity of jobs and foster inclusive economic growth.

One may wonder what comparative advantages Hong Kong has in high-tech industries. Hong Kong's comparative advantage outside high-skilled services are probably in finance- and medical-related fields. The city has the potential to be a manufacturing and design hub for high-tech products in medical, biotech, pharmaceutical, and financial sectors. So far, the government, the Monetary Authority, and industry have pledged to develop fintech, which uses artificial intelligence and big data. In the healthcare and biotech sectors, digitalization and the adoption of artificial intelligence will also be key trends. There should be constructive cross-overs between the healthcare and IT sectors.

4. Government's Helping Hand: Four Policy Proposals

In the strategic plan described above, the essential idea concerns the redistribution of jobs across sectors. Such redistribution will not happen automatically. In a free market economy, it will be guided by the returns to human capital and talent across occupations and industries, which in turn depend on existing comparative advantages and the pace of technological adoption. Moreover, all sorts of market frictions will hinder the redistribution of jobs. Therefore, to facilitate the process of creating good jobs, government intervention is called for.

There are two traditional ways of government intervention. One is the Keynesian way of demand management, through which the government stimulates demand for certain goods and services and thus creates jobs in the target sector. The other way involves the design of industrial policies that directly reallocate resources towards the target industries. Both methods of government intervention raise concerns of inefficient use of public money and the distortion of resource allocation, and as such will likely face substantial resistance in Hong Kong. We propose a third way of government intervention: the government offers a helping hand to facilitate the accumulation of critical resources and relaxation of constraints in target sectors.

The intellectual origin of our proposed government intervention comes from Albert Hirschman's idea of deliberate unbalanced growth (Hirschman, 1958) and, more recently, Dani Rodrik's advocacy of inclusive growth (Rodrik and Sabel, 2019). They view the problem of stagnant growth and rising inequalities as a problem of gross economic inefficiency and mismatch between private pursuits and social consideration. Thus, the government should intervene to internalize the positive externalities of desirable economic activities (good jobs) and limit the negative externalities of undesirable economic activities (bad jobs). Based on this basic idea, we propose the following four policy suggestions.

Proposal 1. Talent strategy. *The Hong Kong government should adopt a grand talent strategy to attract and retain top talents, enlarge the talent pool, and improve labor mobility.*

In today's world, top talents are critical resources for many advanced economies and have become a highly mobile class. Any unfavorable factor could trigger a massive outflow of talents. For instance, given the rising tension between China and the West (the U.S. in particular), some leading science and technology experts in the West may be encouraged by certain push factors to consider opportunities in Asia. This provides good chances for Hong Kong and other Asian metropolises. Besides financial incentives and living conditions, top talents pay particular attention to whether there is a competent peer group to co-create ideas and products and whether there are complementary human resources to boost their productivity. Without a sufficiently

large talent pool, Hong Kong will encounter significant difficulties of keeping top talents. Therefore, attracting top talents and building a talent pool are two sides of the same coin. The problem is that Hong Kong does not have a sufficiently large talent reservoir.

To solve the talent shortage problem, the Hong Kong government should take measures to attract more foreign talents as well as to extend the talent market to mainland China. Regarding policies to attract foreign talents, the Hong Kong government should consider fine-tuning and expanding the scale of existing plans. For instance, only 321 skilled workers have come to Hong Kong since 2018 through the Technology Talent Admission Scheme (TechTAS), far below the expected 1,000-person target. While it is likely related to Hong Kong's economic instability in recent years, certain inflexible aspects of the plan may be partly to blame. For example, the two-year fixed term employment contract for foreign skilled workers and the bundled arrangement to employ at least one local staff per foreign worker hired at a related position are some of the reasons that have discouraged companies to use the plan.

Extending Hong Kong's talent market to mainland China should focus on enhancing labor mobility across borders rather than arranged talent flows. On the Hong Kong side, the Hong Kong government should substantially reduce barriers to the inflow of talents from mainland China. On the mainland side, the Hong Kong government should collaborate with local governments and firms to enhance the two-way flows of talents.

Proposal 2. Public-private R&D partnership. *The Hong Kong government should develop a new model of public-private collaboration to increase R&D expenditure in critical sectors.*

In 2020, R&D expenditure accounts for approximately 1% of the GDP for Hong Kong. Although this is a notable improvement from 0.5% in 2001, it remains significantly lower than most developed economies' counterparts (e.g., 1.94% for Singapore, 4.55% for South Korea, 3.26% for Japan, 2.82% for the U.S.) and many mainland cities (e.g., 6.3% for Beijing, 4.1% for Shanghai, 4.2% for Shenzhen, and 3.2% for Guangzhou).

One barrier limiting the expansion of R&D investment in Hong Kong is the government's lack of determination and policy tools to effectively distribute the R&D expenditure. In the government's 2017 policy address, then-chief executive Carrie Lam proposed to increase the share of R&D in the city's GDP to 1.5% (approximately HKD 45 billion or USD 5.8 billion per year) by 2022. Compared with the government's multiple epidemic relief measures totaling HKD 300 billion, the HKD 45 billion pledge as a long-term annual investment target is not ambitious. But the government still fell short of the scheduled target.

Other than making binding commitments to public R&D expenditure, the Hong Kong government should actively collaborate with the private sector to increase overall R&D investment and the efficient use of R&D resources. To this end, the government may consider using part of the substantially increased R&D expenditure to form partnerships with private firms to establish scientific research institutions for technological innovation and product design. Pilot areas include biotechnology, medical science, and financial technology, which are some of Hong Kong's existing comparative advantages. The government can also contract with local firms in its procurement of high-tech products and services. In addition to these quantity-based tools, the Hong Kong government should also flexibly use price-based tools, such as credit and tax incentives, to increase private firms' propensity for R&D investment, and importantly, improve specific innovators' initiative.

Proposal 3. Strategic cooperation with mainland cities. *The Hong Kong government should cooperate with governments in major mainland cities to co-expand business opportunities and co-create good jobs.*

As discussed before, because of its distinct economic structure and unique advantages, Hong Kong does not directly compete with mainland cities. Rather, Hong Kong will benefit tremendously from its booming neighbors. Integration into the GBA provides a promising path for Hong Kong to relax its resource constraints and upgrade its economy. The Hong Kong government should provide economic incentives to attract overseas and mainland Chinese new-economy companies to set up affiliates in Hong Kong. The goal is to transfer technology and knowhow, and to ultimately create high-tech jobs in Hong Kong. Policies such as subsidizing the labor costs of firms that can create good jobs will not only solve the shortage of talent supply but also help increase local demand for technology workers.

Cooperation with mainland cities requires the Hong Kong government to coordinate with and learn from the policymaking of its counterparts, which have developed an inventory of good practices and pilot programs. For instance, Shanghai government's adoption of a comprehensive talent strategy and Shenzhen government's leveraging of the private sector for R&D investment are well-acclaimed. Learning these practices will not only smooth Hong Kong's collaboration with mainland cities but will help Hong Kong's policy design and implementation.

Proposal 4. Leveraging higher-education. *The Hong Kong government should leverage and enhance the ample resources in the higher-education sector to facilitate Hong Kong's economic upgrading and the creation of good jobs.*

Universities play an important role in all the above three proposed policies. Research universities serve as a reservoir of top talents, a platform of materializing public R&D investment, a channel to link the public and private sectors in knowledge-intensive

production, and a factory to assemble and create knowledge distributed across various parts of a society. Proximity to top universities gives firms substantial advantages in technology transfer and innovation. Therefore, besides increasing the supply of mid-level talents, the Hong Kong government should simultaneously increase the quantity and quality of scientists and researchers from local universities.

The combined research and educational resources of all Hong Kong universities are incredibly rich. To better utilize these resources, the Hong Kong government should grant universities more autonomy. For example, the University Grants Committee currently has fixed quotas on the number of postgraduate student intakes in each department of a university. At the University of Hong Kong, this means that the Department of Economics has about 30 full-time research faculty members, but can only accept a maximum of 8-10 doctoral students each year. From the perspective of training and research, the ratio is far from ideal.

It should be noted that most of the doctoral students trained in Hong Kong are from mainland China. Even if the increased supply of doctoral students cannot be absorbed in the local labor market in the short run, many of the doctoral graduates can still choose to work in research institutions, companies, and universities in China. These students will be critical resources for talent mobility between Hong Kong and mainland China.

Similarly, the Hong Kong government should relax the quota of enrollment of non-local undergraduate students, at least in areas where local students are short of supply, for instance, STEM students. More and more mainland students will return to the mainland after receiving their education in Hong Kong. The massive flows of these students will help facilitate the integration of Hong Kong's labor market into the mainland's labor market, which is highly valuable for Hong Kong's economic transition. Moreover, given that the education and training provided by universities in Hong Kong are globally recognized, increasing the supply of "made-in-Hong Kong" students can help raise Hong Kong's soft power and its status as a global knowledge hub.

5. Conclusion

After a long period of "easy" growth, the Hong Kong economy now lags behind the technological revolution led by the rapid adoption of IT and AI, and has lost some of its unique strengths in the global division of economic activities. Hong Kong faces a trio of aggregate, structural, and distributional problems. As economic growth slows down, business activities delivering mid-level incomes hollow out, and social inequalities widen. We propose the creation of a good-jobs city to simultaneously solve these problems.

The importance of creating more good jobs for Hong Kong is not yet well recognized. We clarify five myths with regard to job creation in Hong Kong. Overall, Hong Kong needs to increase industrial diversity, enlarge market size, and improve labor mobility. Instead of advocating drastic changes, we recommend gradual adjustments to enhance the financial sector, upgrade the service sector, and cultivate an emerging high-tech sector. These three sectors will be the basis of producing a large quantity of good jobs in Hong Kong.

We see the creation of good jobs as a result of relaxing resource constraints, improving gross economic inefficiency, and solving economic externalities. The Hong Kong government should not shy away from its role in leading the economic transition and facilitating the redistribution of jobs towards good industries. To help the government carry out this role, we make four concrete policy proposals involving talent strategy, public-private partnership in R&D investment, strategic cooperation with mainland cities, and leveraging the higher-education sector.

References

Autor, David (2019) “Work of the Past, Work of the Future.” AEA Papers and Proceedings, vol. 109, pp. 1-32.

Hirschman, Albert (1958). *The Strategy of Economic Development*. New Haven: Yale University Press.

Moretti, Enrico (2012). *The New Geography of Jobs*. Houghton Mifflin Harcourt.

Rodrik, Dani, and Charles Sabel (2019) “Building a good jobs economy.” NBER Working Paper.



Hong Kong as an International Carbon Trading Hub

Hong Kong as an International Carbon Trading Hub

Yuk-fai Fong
Heiwai Tang

Introduction: Sustainable Investment and Carbon Trading

Many corporate executives used to view environmental, social and governance (ESG) initiatives as sole contributions to society and often considered them as resource drains or corporate expenses. Recent research and company reports show that firms' ESG and green finance strategies could be profitable and yet socially beneficial. For instance, ESG strategies can help companies win the war for talents, connect with clients, create social media sound bites, and display their concerns for local communities. As such, many companies have recently engaged in sustainable or green investment and financing. Critics are concerned about the potentially distortive effects of companies' green investment and funding strategies. Some simply refer to them as "green washing" activities and remain doubtful about their actual social benefit.

This study aims to share some preliminary views about developing Hong Kong as a carbon trading hub based on other countries' or regions' policies and experiences. Carbon trading can be classified as either "compliance" or "voluntary". According to the United Nations' Framework Convention on Climate Change in 1992, carbon trading refers to a country, region or enterprise obtaining the right to emit pollutants. Twenty-nine years later, at the 2021 United Nations' Climate Change Summit (COP26), governments and enterprises jointly formulated a path to achieve net zero emissions by 2050 in order to prevent the Earth from warming by more than 1.5°C. The global carbon price was \$51.45 per ton of carbon dioxide by the end of 2021, but according to IHS Markit, the carbon allowance price is estimated to have to reach \$147 per ton of CO₂ in order to meet the 1.5°C target. In other words, the potential of carbon pricing is largely untapped, and most carbon prices are too low to drive large-scale decarbonization.

Carbon trading is a market-based emission-reduction and thus energy-saving solution. The government formulates and controls the total amount of pollution and allocation mechanism, while enterprises obtain allowances according to regulations and their needs to decide whether and how many pollution allowances to purchase or sell in the trading market. For example, although the leading electric vehicle producer Tesla was excluded from the S&P 500 ESG Index this year, its total annual profit in 2021 was US\$5.519 billion, of which US\$1.465 billion or a quarter of the company's total profits was from selling carbon credits. In sum, carbon trading will be an important part of corporates' strategies and countries' carbon reduction in the future.

There are important advantages of using carbon-credit trading to achieve carbon emission goals rather than relying on a carbon tax or cap. Theoretically, carefully designed individualized carbon taxes can help regulators achieve desired carbon emission goals. However, for such taxes to be effective, regulators need to have good information about the benefits individual companies derive from carbon-emitting economic activities and the costs associated with their emission abatement, which is unrealistic. The regulator may also impose an overall quota, break it down into individual quotas, and allocate them to different companies. Similar to carbon taxes, without good information about individual companies, the imposed quotas will be ad hoc and unable to reflect individual companies' different environmental impacts. Also, when some firms face hard constraints to meet production goals, e.g., due to contractual obligations, they would pay a fine instead of complying with the quotas issued to them.

A carbon trading system, on the other hand, allows companies to buy or sell the rights to carbon emissions based on their individual needs. Given the equilibrium price for the carbon credit, companies deriving the higher benefits per metric ton of CO₂ emission will buy the credit to increase emissions while those who derive lower benefits will sell the emission right. This way, the right to pollute will be used by companies that can generate the highest economic benefit from the emission. Therefore, even if the carbon credits are not allocated according to the companies who need them the most, the trading system ensures they'll be bought by them. Allowing companies to produce carbon offset credits further enhances the system. This policy encourages companies that can most cost-effectively offset emissions generated by others to do so, further enhancing the economic efficiency for any given level of carbon emissions permitted.

A good case study for Hong Kong to consider is Switzerland's dual-track policy approach, which has combined carbon trading and a carbon tax since 2008. Switzerland's approach to reduce carbon and develop a carbon trading market can be roughly divided into three stages over a decade:

Phase (1): Switzerland implemented voluntary carbon emissions trading from 2009 to 2012, aiming to reduce carbon emissions by 8% compared to 1990.

Phase (2): From 2013 to 2020, Switzerland switched to a mandatory carbon trading system, with a targeted reduction of 1.7% of the quotas each year, and with 5% of the quotas reserved for auctions or newly registered companies. A carbon tax system was implemented concurrently. Companies engaged in carbon trading would be exempted from carbon tax from 2013 to 2020.

Phase (3): The Swiss carbon market was linked to the EU carbon market from 2020.

As revealed by the approach adopted by Switzerland, the establishment of links between different carbon markets comes with scale effects and can generate more trading opportunities. Compared to the EU, the Swiss carbon market was small and less liquid, with much higher allowance prices. It enhanced its competitiveness through cooperation with the EU carbon market.

Carbon Trading - An Indispensable Element to Consolidate Hong Kong's IFC Status

The main push by Hong Kong policymakers and financiers towards carbon neutrality has been based on various green financing initiatives to encourage companies to invest in projects with certain ESG-friendly measures. For example, the MTR's construction of the eastern section of the South Island Line will reduce carbon dioxide emissions by about 21,000 metric tons per year. If a carbon trading platform can be established in Hong Kong and a mechanism for corporations to earn carbon credits is developed, then companies like MTR can use its competitive advantage to profit by trading credits, in addition to doing good for society. Capital markets can then convert tradable carbon rights into retail exchange-traded funds (ETFs), such as one of the largest asset management (by assets under management) voluntary carbon trading ETFs, KraneShares Global Carbon ETF (ticker: KRBN). Since its launch in July 2020, the net asset value under management already exceeds US\$1 billion. In the past two years, the fund price has grown by over 120% (up to end of July 2022).

Many companies in Hong Kong's capital market have the potential to participate in carbon trading, such as many world-leading companies in the electric vehicles and new energy industries. Currently, there are limited carbon trading markets in Asia except Mainland China. An open and well-functioning carbon market can be an important attraction for global capital. Riding on the trend in global banking and finance on developing carbon trading and strengthening ESG-related disclosure, a potential carbon trading market in Hong Kong can attract more green capital and new energy companies to raise funds and get listed in Hong Kong. Regulators should encourage companies to use ESG disclosure as a business strategy to connect with global markets and attract more foreign capital. In addition, we also need to think about how Hong Kong, as a 'super-connector', can introduce funds for mainland enterprises to 'go global' and raise funds through their green finance listings.

Suggested Strategies

Strategy 1: Facilitate Public Private Partnerships (PPP), Use Blockchain Technologies, and Articulate International Standards to Avoid Greenwashing

The "Green and Sustainable Finance Inter-agency Steering Group" of the Securities and Futures Commission (SFC) recommended policymakers to strengthen the current requirements for corporates to disclose their ESG engagement, improve the

monitoring of fund managers' sustainable investment procedures, and build a regulatory framework for carbon markets. These recommendations aim to turn Hong Kong into a green capital market. A sustainable investing cycle involves investment guidelines, asset allocation decisions, portfolio construction, portfolio management and monitoring, active ownership engagement, as well as ESG reporting. The International Sustainability Standards Board (ISSB) aims to formulate the first set of international sustainability standards by the end of 2022 or early 2023. This transition period is a critical time for policymakers, capital markets, and enterprises to deepen their understanding on sustainable investment and equip themselves to meet a new era of carbon trading.

Currently, around 90% of global carbon credit transactions is processed by Xpansiv, a U.S. based carbon trading platform. Consider a carbon trading transaction that can achieve a metric ton reduction of carbon. Both sides of the transaction face the problem of computing the liability associated with the carbon emitted over a certain period and determining which authority will measure the amount of carbon emission reductions. There is currently no single authoritative standard for net zero emissions. Some organizations state that they have achieved net-zero emissions by adopting certain green energy or abatement technologies. Some purchase credits to offset emission at a minimum price, while claiming to have achieved zero carbon emissions. Such differences in behavior pose major challenges for investors looking for more sustainable investments.

Building a carbon trading hub requires a carbon trading ecosystem. Hong Kong could leverage its reputation as an international financial center (IFC), its strong legal system, and its strength in Fintech to build an internationally recognized third-party verification system for companies' carbon emission and credits. It should also consider deploying blockchain technologies to relate a specific carbon credit to a gas emission based on a unique code. The blockchain-backed code can help market participants determine the value of the carbon projects. It also helps confirm that each unit of carbon is only calculated once and can be tracked for its entire "journey", from data collection, analysis, all the way to the verification stage of the project. Making good use of Hong Kong's existing strengths, the local bourse Hong Kong Exchanges and Clearing (HKEX) could consider establishing an official evidence-based greenhouse gas (GHG) emission reduction platform with a top-tier third party verification process. Given its mandates and expertise, HKEX is in a better position than private companies to establish a world's carbon trading hub.

Strategy 2: Green Education: Include More Green Finance Courses in CEF Structure

HSBC's 2021 Sustainable Financing and Investment Survey found that 40% of Asian institutional investors have difficulty investing in ESG due to the lack of expertise or qualified talents. Only 39% of the surveyed investors have an ESG investment or

corporate policy in place, significantly lagging behind 91% in Europe and 72% in the US. In Asia, green finance is an emerging industry and there are plenty of opportunities. More companies will want to be perceived as a contributor to sustainable development, including not only green investment and carbon trading, but also ESG reporting and auditing, community relations, as well as corporate social responsibility supply chain management. Such developments will likely increase the demand for a large number of ESG professionals, providing new job opportunities to the young generation as the industry's development takes shape. However, up to now, only limited number of courses related to sustainability are certified as Continuing Education Fund (CEF) courses, which reimburse students for part of their tuition fees. For example, international standards like GRI, BEAM Pro, LEED AP, WELL AP, CFA Green Investing, Certified ESG Analyst are highly recommended for green finance professionals. Policymakers should identify investors and provide support for continuous education on sustainable investment and carbon trading.

Universities in Hong Kong are also in a good position to contribute to green education. We hope to see new sustainability and ESG focused undergraduate and postgraduate degree and certificate programmes being offered soon. Filling the ESG talent gap in Hong Kong will play a critical role in the overall strategy of developing Hong Kong into a green finance and carbon credit trading hub.

Strategy 3: HKEX as an Agent Building an Official Platform and Standards for the Carbon Trading Market and Connect with GBA

In 2011, the national pilot scheme of carbon emission trading was launched in 7 provinces and cities across China. In 2021, the trading of the national carbon market was launched. A few key obstacles can be identified based on Mainland China's experiences. First, China's carbon market is mainly driven by emission control by companies with real carbon emission needs. Relatedly, there are not enough institutional investors trading in the market. Power generating companies, which have recently been affected by the squeeze between declining electricity prices but rising coal prices, would naturally prefer to participate more actively in carbon trading as a way to diversify risks.

Second, large price fluctuation among seven carbon market pilots in Mainland China is not conducive to the long term development of carbon markets. Low carbon prices will give people the illusion that reducing carbon dioxide emissions can be done at low costs. High prices are not good for carbon transformation. Carbon trading serves not only as a financial product, but also serves a social purpose. Effective pricing in an efficient market defined by transparency and liquidity is important.

Based on Mainland China's pilot scheme experiences, the key market regulators in Hong Kong should advocate lower management fees of various mutual funds and ETFs.

Many green funds and ETFs in Hong Kong currently charge more than 1%, which is usually higher than that in mature green financial markets such as Europe and the US. Meanwhile, the audit and assurance processes for carbon credits are still not fully developed due to the existence of many different standards in the global carbon trading markets. HKEX should aim to build an official platform for the Greater Bay Area (GBA) carbon market and provide professional ESG standards and audits, leveraging Hong Kong's IFC status. Efficient market pricing for emission reductions can encourage more companies to trade voluntary emission allowances through Hong Kong's carbon trading platform. The proposed carbon trading market should use fintech and blockchain technologies to develop a credible third-party verification scheme.

The current government's emission reduction policy is mainly based on the "Hong Kong Climate Action Blueprint 2050" released in 2021, with the promotion of the use of renewable energy and low-carbon power generation technologies as the main approach to offset carbon footprints. In addition, Hong Kong policymakers can consider the future role of Hong Kong in the Regional Comprehensive Economic Partnership (RCEP) and the GBA, particularly in China's carbon markets. The institutional interconnection of carbon markets with neighboring economies is also an important goal for policymakers to dismantle and loosen corporate barriers, so as to enhance the HKSAR's leadership in green finance and tackling climate risks.

Conclusions

The G20 finance ministers and central bank governors acknowledged last year that a carbon price is one of the important tools for tackling climate risks. Hong Kong's green finance and carbon trading developments are about a decade behind other mature financial economies such as Europe. It is time to catch up and contribute to the development of the green economy in Mainland China and the region. At the occasion of the 25th year anniversary of the HKSAR, we hope that stakeholders can jointly promote the development of the carbon trading market as a key part of the city's repositioned international financial center, which shall in turn create a variety of good jobs with upward mobility for the next generation.



Hong Kong SAR's Role in the GBA's Path to Becoming a Global Innovation Hub

Hong Kong SAR's Role in the GBA's Path to Becoming a Global Innovation Hub

Heiwai Tang
Hongsong Zhang

For decades, Hong Kong has played an important role as an economic and financial gateway between Mainland China and the rest of the world. However, the ongoing deglobalisation trend, partly accelerated by geopolitical tensions and the COVID-19 pandemic, has posed significant challenges to the city's role as a trade and financial intermediary. Moreover, despite the stellar performance of the city's financial sector during the COVID pandemic, increasing specialization in finance and the real estate sectors have contributed significantly to the rise in income and wealth inequalities in the city. A more diversified economy would help foster sustainable and inclusive economic growth in Hong Kong.

The question is, in which direction should Hong Kong diversify its economy? We think the overall strategy should be one that can help Hong Kong leverage the opportunities arising from the pandemic and geopolitical tensions. The overdue economic transformation should be one that (1) fosters the development of a knowledge economy buttressed on science and technology (S&T) and research and development (R&D); and (2) enhances its effective economic collaboration and integration with other Greater Bay Area (GBA) cities according to Hong Kong's comparative advantages, which shall contribute to the development of the region on the one hand, and overcome Hong Kong's limitation on the other.

The Hong Kong Special Administrative Region (HKSAR) Government may want to grasp the opportunities offered by the changing domestic, regional, and global geopolitical and economic environments to implement the necessary policies for facilitating a long overdue economic transformation. Such a transformation should help foster the city's inclusive and sustainable economic growth, creating multiple innovative knowledge-intensive sectors and a variety of good jobs that offer diverse opportunities, upward mobility, and on-the-job training in a polarizing labor force.

To achieve those goals, reindustrialization is an essential step not only to diversify the city's economic portfolio, but to help complete the ecosystem for scientific research and innovation, which will empower the city's role in contributing to the development of the international innovation hub with Shenzhen. In 2019, the manufacturing sector accounted for less than 1% of Hong Kong's GDP. A commonly proposed reason for this tiny share of manufacturing in Hong Kong is its high cost of production, which is related to limited land supply or high wages. However, looking at another "Asian Tiger",

Singapore, or other advanced economies like Switzerland and Israel, one finds counterexamples to reject the hypotheses that high cost of production is a key obstacle to reindustrialization.

Successes in other economies' industrial development are not purely about minimizing costs, which will be quite challenging given lower costs in developing economies. They are more likely outcomes of strategic adoption of technology, automation, supply chain management, and marketing in international markets, together with effective government policies that promote innovation and public-private partnership.

In this study, we aim to analyze the path of Hong Kong's transition into an innovative economy based on its competitive advantages, including its strength in basic science research, world-renowned universities, well established intellectual property rights institutions, deep and mature financial markets, professional service talents and know-how, experience in doing businesses with foreign companies and exporting, as well as transportation and information infrastructures, among others. Being part of the GBA, Hong Kong should exploit opportunities to collaborate with other GBA cities, which tend to be stronger in applied science research and significantly more competitive in advanced manufacturing. We will focus on analyzing the comparative advantages of key GBA cities, which include Shenzhen, Guangzhou, and Dongguan, and identify how they can each collaborate with Hong Kong to create synergy and spillovers from one another.

Hong Kong can serve as a research and design hub in the GBA's path to becoming a global innovation hub. Given its comparative advantages (and disadvantages), Hong Kong can focus on capital- and skill-intensive R&D and innovation, instead of mass industrial production. Hong Kong should collaborate with GBA cities in their traditionally dominating industries like computer, telecommunication, and other electronics on the one hand, and fast-growing industries, like recycling and processing of waste resources and materials and pharmaceutical industry on the other. Moreover, Hong Kong can invest in the upstream and downstream segments of different high-tech supply chains as a way to facilitate the expansion of an integrated market in the GBA, given the strong upstream-downstream vertical industrial clustering as observed in other parts of Mainland China.

To achieve these goals, the HKSAR government can consider incentivizing corporates' and universities' innovation and collaboration with GBA cities through R&D subsidies, streamlined and expanded immigration policy to attract global talents, enhanced livelihood support (e.g. education and housing subsidies) to keep talents, and more flexible measures to attract and retain innovative companies. The HKSAR government should also review its medical, education, and other service industries to enhance mutual mobility of workers in Hong Kong and Guangdong.

Hong Kong's Advantages and Path to Reindustrialization

Despite rising competition from other GBA cities, especially Shenzhen, Hong Kong still maintains clear comparative advantages to participate in R&D, innovation, and even certain high-end manufacturing production and testing in selected industries. First, as an international financial center, Hong Kong has access to abundant capital from international investors and domestic tycoons and large-scale middle-class households. Second, Hong Kong remains attractive to many foreign talents due to its culturally diverse and inclusive society. Third, its strong intellectual property protection institutions and stable business environment encourage long-term investment in R&D and innovation in the city. Moreover, it has served as the information and capital intermediary between Mainland Chinese companies and the world, contributing substantially to its boom and Shenzhen's growth in the past three decades. Although this role is weakening in recent years following China's global integration and the wide use of information and communication technology, Hong Kong still has a strong competitive edge as an information hub in the GBA, which helps it understand global market trends and the constantly changing knowledge frontier. These factors give Hong Kong comparative advantages in engaging in capital- and skill-intensive activities in the upstream (e.g., R&D, innovation, and small-scale high-end production) and downstream (e.g., marketing, exports, and post-sales services) segments of the region's reindustrialization, in selected industries in the supply chain.

On the other hand, Hong Kong has its own disadvantages, including high labor costs, limited and expensive land space, physical and even cultural distance to various Mainland markets, and lack of manufacturing capacity. The city currently also lacks engineering and industrial talents. Many of the high-tech industrial entrepreneurs and executives who were on the rise in the 80s and 90s have already retired or are about to do so. These disadvantages pose challenges for Hong Kong to compete with other GBA cities and integrate in the supply chain.

To exert Hong Kong's advantages and mitigate its disadvantages, the city can focus on the following activities to pave its way toward reindustrialization:

1. Hong Kong should focus on capital- and skill- intensive activities such as R&D and innovation.
2. Hong Kong can utilize its role as an international information hub and allocate more resources on product design to satisfy the demand of international markets.
3. Hong Kong's reindustrialization should emphasize automation and focus on high-end activities along the supply chains for high value-added products, including medicine, medical equipment, EV parts and components, etc.

- Hong Kong can also maintain its advantage in providing professional services, including financing, insurance, quality assurance, marketing, post-sales customer services, and patenting, to firms in GBA cities.

Collaboration with GBA Cities to Build a Global Innovation Hub

Given its relatively small size, it is difficult for Hong Kong to establish the whole supply chain for most products. Hence, the city should actively collaborate with other GBA cities in terms of innovation and reindustrialization to fully exert its comparative advantages and create synergetic effects. Given that each GBA city has its own comparative advantages in different industries, Hong Kong can exert its own advantage by participating in partnerships with selected industries in different GBA cities.

Table 1 displays the top five industries of each GBA city in Guangdong province in 2020. Take Shenzhen as an example. The top five manufacturing industries are manufacturing of computer, electronic and optical products, electrical machinery and equipment manufacturing, specific equipment manufacturing, cultural products, and general equipment manufacturing. In contrast, Guangzhou excels at special-purpose equipment manufacturing, electronics, petrochemical industry, energy production, and food products; Dongguan focuses on computer and electronic information, electrical equipment and machinery, rubber and plastic products, metal products, and special-purpose machinery manufacturing.

Table 1: Top 5 Dominant Industries in GBA Cities

Major industrial industries in the Greater Bay Area cities in 2020 ^a Sorted by GDP, from largest to smallest					
	1	2	3	4	5
Guangzhou	Manufacture of special-purpose machinery	Manufacture of computer, electronic and optical products	Manufacture of chemicals and chemical products	Electricity, steam and air conditioning supply	Manufacture of food products
Shenzhen	Manufacture of computer, electronic and optical products	Manufacture of electrical equipment and machinery	Manufacture of special-purpose machinery	Manufacture of cultural and educational, art and craft, sports and entertainment products	Manufacture of general-purpose machinery
Zhuhai	Manufacture of electrical equipment and machinery	Manufacture of computer, electronic and optical products	Manufacture of pharmaceuticals, medicinal chemical and botanical products, and medical and dental instruments and supplies	Manufacture of chemicals and chemical products	Manufacture of general purpose machinery
Foshan	Manufacture of electrical equipment and machinery	Manufacture of basic metals and fabricated metal products, except machinery and equipment	Manufacture of non-metallic mineral products	Manufacture of motor vehicles, trailers and semi-trailers	Manufacture of rubber and plastics products
Huizhou	Manufacture of computer, electronic and optical products	Manufacture of chemicals and chemical products	Manufacture of electrical equipment and machinery	Electricity, steam and air conditioning supply	Manufacture of rubber and plastics products
Dongguan	Manufacture of computer, electronic and optical products	Manufacture of electrical equipment and machinery	Manufacture of rubber and plastics products	Manufacture of basic metals and fabricated metal products, except machinery and equipment	Manufacture of special-purpose machinery
Zhongshan	Manufacture of electrical equipment and machinery	Manufacture of computer, electronic and optical products	Manufacture of general-purpose machinery	Manufacture of basic metals and fabricated metal products, except machinery and equipment	Manufacture of chemicals and chemical products
Jiangmen	Manufacture of food products	Electricity, steam and air conditioning supply	Manufacture of basic metals and fabricated metal products, except machinery and equipment	Manufacture of computer, electronic and optical products	Manufacture of electrical equipment and machinery
Zhaoqing	Manufacture of non-metallic mineral products	Manufacture of computer, electronic and optical products	Manufacture of basic precious and other non-ferrous metals	Manufacture of furniture	Manufacture of basic metals and fabricated metal products, except machinery and equipment

Source: The Statistical Yearbook of each city.

On the other hand, GBA cities have been undergoing fast economic transformation in the past decade, pressured by changing economic conditions such as rising wages and

land costs. Governments in these cities have been actively pushing for industrial upgrading in response to these challenges. Therefore, a new set of fast-growing industries emerged and they created new business opportunities not only for these cities, but also for Hong Kong. As shown in Table 2, the GBA cities have experienced industrial upgrading from 2012 to 2020. Guangzhou experienced fastest growth in specific equipment manufacturing, water production and supply, fuel gas production and supply, wooden furniture and related products, and pharmaceutical manufacturing. In contrast, Shenzhen's top five fast-growing industries are recycling and processing of waste resources and materials, specific equipment manufacturing, arts products, automobile, and pharmaceutical manufacturing.

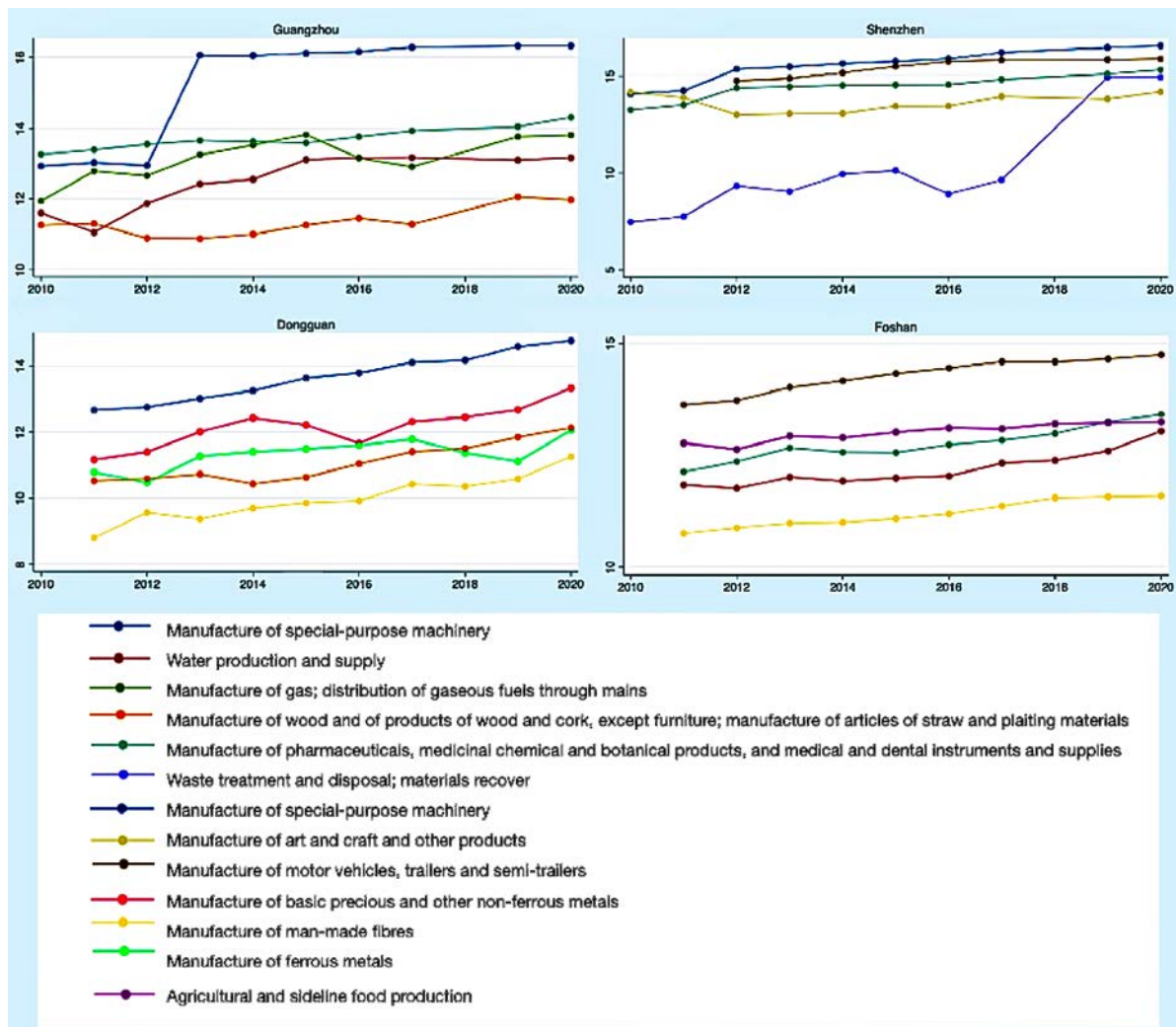
Table 2: Top 5 Fastest-growing Industries in GBA Cities

Fastest Growing Industrial Sector in Greater Bay Area Cities (2012-2020): Sorted by growth rate, from largest to smallest					
	1	2	3	4	5
Guangzhou	Manufacture of special-purpose machinery	Water production and supply	Manufacture of gas, distribution of gaseous fuels through mains	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	Manufacture of pharmaceuticals, medicinal chemical and botanical products, and medical and dental instruments and supplies
Shenzhen	Waste treatment and disposal; materials recovery	Manufacture of special-purpose machinery	Manufacture of art and craft and other products	Manufacture of motor vehicles, trailers and semi-trailers	Manufacture of pharmaceuticals, medicinal chemical and botanical products, and medical and dental instruments and supplies
Zhuhai	Waste treatment and disposal; materials recovery	Manufacture of plastics products	Manufacture of gas, distribution of gaseous fuels through mains	Repair and installation of machinery and equipment	Manufacture of food products
Foshan	Water production and supply	Manufacture of pharmaceuticals, medicinal chemical and botanical products, and medical and dental instruments and supplies	Manufacture of motor vehicles, trailers and semi-trailers	Manufacture of man-made fibres	Agricultural and sideline food production
Huizhou	Manufacture of gas, distribution of gaseous fuels through mains	Manufacture of measuring, testing, navigating and control equipment, watches and clocks, optical instruments and photographic equipment	Repair and installation of machinery and equipment	Water production and supply	Manufacture of special-purpose machinery
Dongguan	Manufacture of special-purpose machinery	Manufacture of basic precious and other non-ferrous metals	Manufacture of man-made fibres	Manufacture of ferrous metals	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
Zhongshan	Manufacture of motor vehicles, trailers and semi-trailers	Manufacture of measuring, testing, navigating and control equipment, watches and clocks, optical instruments and photographic equipment	Water production and supply	Manufacture of furniture	Manufacture of general-purpose machinery
Jiangmen	Waste treatment and disposal; materials recovery	Mining and quarrying of non-metal ores	Manufacture of general equipment	Manufacture of motor vehicles, trailers and semi-trailers	Manufacture of basic precious and other non-ferrous metals
Zhaoqing	Manufacture of gas, distribution of gaseous fuels through mains	Manufacture of furniture	Manufacture of motor vehicles, trailers and semi-trailers	Manufacture of beverages	Manufacture of man-made fibres

Source: The Statistical Yearbook of each city.

The growth rates of these industries are stunning. As shown in Figure 1, the value-added of the specific equipment manufacturing in Guangzhou expanded by almost 30 times from 2012 to 2020 to reach 123 billion RMB in 2020. In Shenzhen, the recycling and processing of waste resources and materials industry expanded by 272 times during the same period to reach an annual value-added of more than 30 billion RMB in 2020.

Figure 1: Value-added (in logarithm) of Top-5 Fastest-growing Industries in 4 GBA Cities



Source: The Statistical Yearbook of each city.

Hong Kong can leverage the opportunities arising from the economic transformation in GBA cities to strengthen its R&D, innovation, and reindustrialization through economic collaboration and integration with GBA cities. Besides joining the supply chains of the traditionally strong industries in the GBA cities, Hong Kong can play a more proactive role and try to direct its R&D and innovation toward serving the recently fast-growing industries in these cities, to help them develop more new products and improve technology and product quality.

Take the potential collaboration between Hong Kong and Shenzhen as an example. Given Shenzhen's traditional advantage in manufacturing of computer, telecommunication and other electronics, electronical machinery and equipment manufacturing and cultural products, Hong Kong can invest more R&D and innovation in these industries that focus on providing production services and design new

products for these industries. Moreover, Hong Kong may also invest in Shenzhen's fast-growing industries in recycling and processing of waste resources and materials, because Hong Kong also has a large demand for waste management and experiences in this industry. In addition, Hong Kong can also utilize its strong research capability in the pharmaceutical industry to strengthen collaboration with Guangzhou, Shenzhen, and Foshan, whose pharmaceutical manufacturing industry experienced a rapid growth in the past 10 years. Hong Kong can specialize in R&D to develop new medicines, medical equipment, and new examination methodologies.

Moreover, based on our research of industrial clustering in China, horizontal clustering of an industry typically leads to a boom of vertical industrial clustering, creating new business opportunities in both the upstream and downstream industries. Hence, Hong Kong should identify and invest in the beneficial upstream and downstream sectors of growing supply chains. Given the large market potential, Hong Kong can on the one hand invest in R&D in new technologies, new materials, and intermediate inputs that are in the upstream sectors of emerging industries in each of the GBA cities. On the other hand, Hong Kong can also invest in the downstream sectors of those supply chains, utilizing the productivity growth of the fast-growing industries in the GBA and its own strength in the export-related professional services.

Challenges and Policy Recommendations

On the path to reindustrialization and innovation, Hong Kong faces a series of challenges. These challenges include competition from other GBA cities, high costs of labor and land, high housing and rental costs, frictions in cross-border collaboration and integration, as well as the lack of R&D culture in an economy dominated by financial and professional services.

To overcome these challenges and pave its way toward innovation and reindustrialization, we recommend the HKSAR government to consider the following policy measures.

1. Hong Kong needs a strengthened R&D-enhancing policy. This includes but is not limited to R&D tax reduction and improved property rights sharing between researchers and universities in order to incentivize more applications of basic research and development.
2. Hong Kong needs enhanced measures to attract more international innovative firms to create the external economy of scale in R&D and innovation. These measures include reducing labor costs and land costs in science parks through various incentive programs. One possibility is to build governments' subsidized apartments to house local and foreign talents in Hong Kong Science and Technology Parks Corporation, or provide rental subsidies to young talents who

work in strategic industries. In addition, Hong Kong needs to improve its current talent policies by launching an enhanced talent program and simplifying immigration policy for international talents, especially in STEM fields.

3. A big challenge for Hong Kong is to keep existing talents. The current double stamp tax policy significantly raises the costs for the newly immigrant talents to purchase an apartment, which in turn increases the likelihood that they leave Hong Kong in the short run. The HKSAR government may consider a “buy-pay-rebate” double stamp tax policy, allowing non-residents to purchase apartments by paying a double stamp tax first, but which be fully rebated if they subsequently obtain permanent residency. This measure encourages new talents to purchase property, increasing their probability of staying in Hong Kong.
4. Different local governments in the GBA can enhance cross-border collaboration between Hong Kong businesses and those in other GBA cities by further reducing border frictions against integration, providing more information services to both employers and employees, increasing cross-border business exchanges, and improving cross-border labor mobility by providing mutually acceptable medical and educational services for people who are willing to work in any city in the GBA.



Hong Kong Should Prioritize Development of
Innovation and Technology to Address
the Great Global Change

Hong Kong Should Prioritize Development of Innovation and Technology to Address the Great Global Change

Zhenhua Mao¹

Abstract: The COVID-19 pandemic, Russia-Ukraine conflict, and superpower rivalry has brought a new round of setbacks in global trade and financial links. As a result, Hong Kong's growth momentum in trade and finance is likely to remain compromised. This paper argues that Hong Kong has a comparative advantage in developing the innovation and technology (I&T) industry. Presented with development opportunities from China's national development strategy of "internal circulation" as the mainstay and the growing importance attached to I&T factors, Hong Kong should in the future achieve economic transformation through "reindustrialization".

This paper suggests that the Hong Kong SAR Government should take advantage of the implementation of the Northern Metropolis Development Plan, with an emphasis on spearheading high-end manufacturing industries and proactively driving the city's economic transformation towards a two-wheel mode: manufacturing and services.

Keywords: Hong Kong's economic transformation; development of the innovation and technology industry; development of the Northern Metropolis

In the face of the once-in-a-century Great Global Change against the backdrop of China-US rivalry, the devastation of the pandemic, and the Russia-Ukraine conflict, the development dividends derived by Hong Kong from global trade and financial ties are likely to be compromised. Add to that is an unbalanced domestic economic structure and an ageing population, and Hong Kong must not only strive to maintain its status as an international financial centre and sustain its pre-existing trade advantages but also seek new economic breakthroughs and growth momentum.

Creating a "New Hong Kong" is as much a challenge as it is an opportunity. The Hong Kong SAR Government should adapt its role to changing circumstances and transform itself from purely a limited government to an organic combination of "limited + proactive government", and from an economic growth forecaster to an advocate of growth targets. By fully leveraging the promising comparative advantages of local high-end manufacturing industries as well as the Northern Metropolis development as an opportunity to propel the innovation and technology (I&T) industry, the SAR

¹ The author is a professor of HKU Business School and Chief Economist of China Chengxin International Credit Rating Co. Ltd.

Government should commit to advancing the SAR's economic transformation towards a two-wheel mode of "I&T + finance & trade".

I. Vision for Hong Kong: The Two-wheel Mode of "I&T + Finance & Trade"

The world economy is faced with a sea change. China and the US have become rivals rather than partners helping each other to win. With the coronavirus pandemic compounded by the Russia-Ukraine war, black swan events have greatly accelerated the mercurial dynamics of international politics. Recent years have seen the US trying to suppress China in the geopolitical, trade, and technology arenas. The clash between China and the US is intrinsically a rearrangement of relations between an emerging force and an established power. It is therefore necessary to realize that a trade war is just the starting point rather than the finishing line for the superpower conflict.

Since its outbreak in 2020, the ongoing coronavirus pandemic has wreaked havoc on the global economy, possibly stepping up the restructuring of industry chains and supply chains. The flare-up of the Russia-Ukraine conflict in early 2022 has exacerbated the split between different country blocs, further complicating and destabilizing the external environment of China. The external environment in which the Chinese economy operates (including Hong Kong) has undergone a profound change.

As a bridge between East and West, Hong Kong could bear the brunt of the once-in-a-century Great Global Change, with its status as a trading centre and a financial centre to be challenged. Since the onset of the China-US trade war in 2018, Hong Kong has increasingly come under the pressure of capital and talent outflows. The net change in financial non-reserve assets fell from HK\$174.7 billion in 2017 to a deficit of HK\$379.1 billion in 2021. Not only will Hong Kong inevitably be susceptible to any further decoupling of China-US relations, it will also find itself under the risk of decoupling. Since the outbreak of the Russia-Ukraine conflict, the US and Europe have imposed sanctions against Russia, including banning Russia from SWIFT. These sanctions can be regarded as a stress test; both the Hong Kong dollar and the renminbi can also be excluded from SWIFT.

Moreover, Hong Kong's export trade predominantly consists of re-exports, of which nearly 60% are from mainland China. Under the dark clouds of the China-US standoff, the anti-extradition law amendment bill saga, and the COVID-19 crisis, Hong Kong's re-exports have been increasingly subject to fluctuations. The ravages of the Omicron variant have even once again left Hong Kong with negative growth of re-exports. Needless to say, the SAR's comparative advantages in finance, trade, and shipping have come under serious threat.

Table 1 Increased Capital Outflow Pressure in Hong Kong

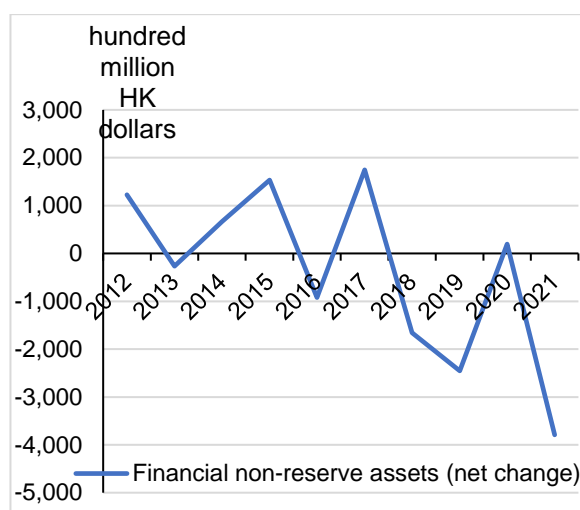
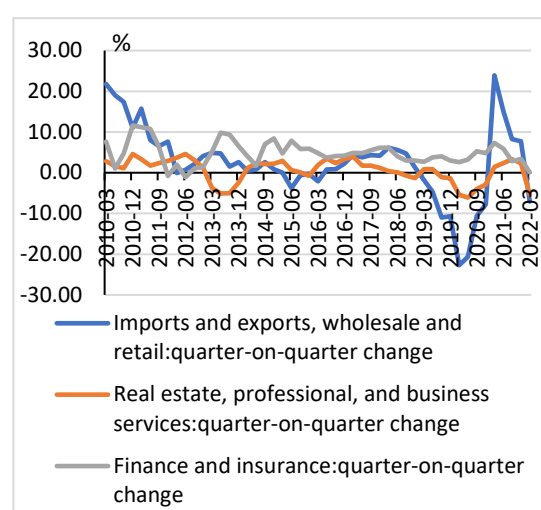


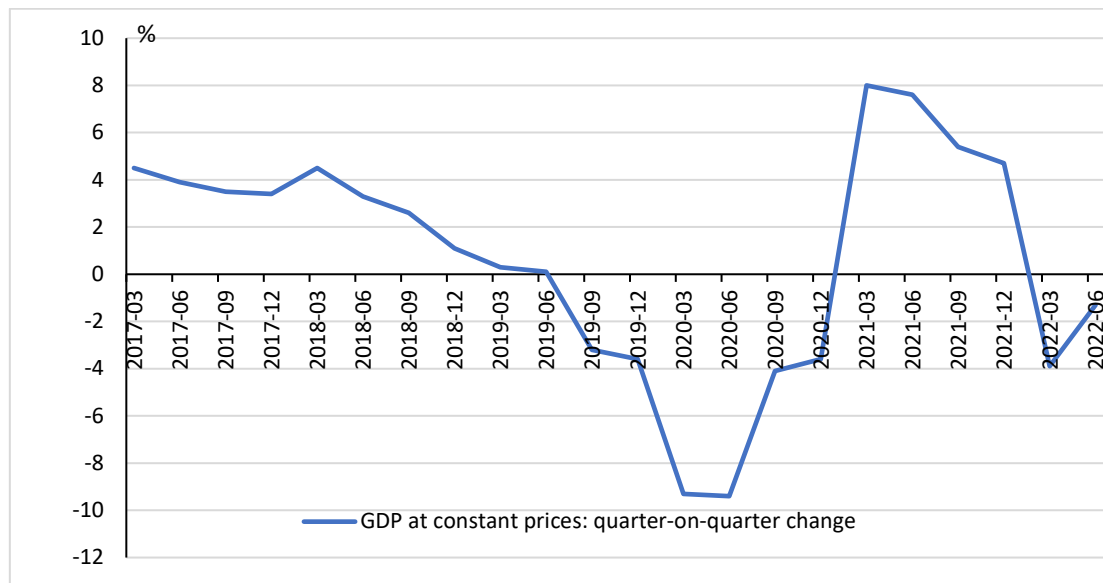
Table 2 Across-the-board Downturn in Major Sectors, e.g. Trade, Real Estate, and Finance



The fact that geopolitical considerations play a vital part in mapping the future of Hong Kong provides a golden opportunity for the development of I&T. On the one hand, by advancing the I&T industry, Hong Kong can reindustrialize and rekindle its past glory as one of the Four Dragons. The reindustrialization of Hong Kong, instead of returning to the former labour-intensive path, will rely on I&T as a springboard for steering traditional industries onto a new path of transformation and upgrading through Internet of Things, new materials, Industry 4.0, and smart manufacturing, etc. On the other hand, developing the I&T industry will be conducive to optimizing industrial structure in the long run. Under the raging fifth wave of COVID-19, despite the reduced contraction rate of the Hong Kong economy from 3.9% in the first quarter to 1.4% in the second quarter of 2022, local economic growth remains in negative territory.

In the short term, with the easing of the COVID-19 pandemic, the local economy is expected to gradually bottom out. In the long run, however, the structural problem of the services sector as a heavy share of the gross domestic product (GDP) has become prominent. The two-pronged development strategy of the I&T industry and the financial industry will benefit the overall economic structure and promote diverse development. In addition, should collaborative relations be resumed after global political and economic rapprochement, the two-wheel mode of I&T + finance will become a reality for Hong Kong, characterized by a more balanced development of different sectors.

Figure 3 Hong Kong's Economic Growth Back in Negative Territory



II. Hong Kong's Unique Edge in Developing I&T Under "One Country, Two Systems"

Under the Mainland's development pattern of "dual circulation," particularly the "internal circulation" geared towards remedying domestic shortcomings, Hong Kong should take the initiative to align with the National 14th Five-Year Plan by building an international I&T centre and forging a technopole in the Northern Metropolis. Such efforts would help the SAR achieve development in the twin-engine mode of "I&T + finance" and set up a platform for potential economic growth. From the perspective of comparative advantages, under "one country, two systems", the comprehensive intellectual property protection systems, an international capital market, a low tax regime, and high-quality I&T talent pool of Hong Kong are favourable conditions for I&T development.

1) "One country, two systems" is Hong Kong's most fundamental and core asset.

Under the "one country" framework, Hong Kong can fully embrace the Mainland market – the second-largest economy in the world, take an in-depth part in the national "internal circulation", and reap the opportunities that come with the Chinese economy geared towards compensating for shortcomings, transformation, and upgrading. The "two systems" design is such that Hong Kong maintains its pre-existing capitalist system, enjoys a high degree of self-autonomy, and possesses a common-law rule of law in line with that in Western developed economies. Coupled with its independent intellectual property protection systems, internet regulatory mechanism, relatively convenient connection with countries around the world, and a fairly Westernized lifestyle, these factors give Hong Kong a unique appeal to science and technology talent, especially ethnic Chinese.

In developing I&T, Hong Kong should focus on taking full advantage of the “one country, two systems” framework to not only encourage Hong Kong people to become entrepreneurs but also to enlarge its talent pool by attracting an international workforce and companies to come and grow their business in Hong Kong.

2) To capitalize on Hong Kong’s reputation as a meeting point for East and West in the capital market. Staunch support from the Mainland and its own worldwide connections are the prominent advantages of Hong Kong, which also has the Central Government’s backing to maintain its unique status and consolidate its role as an international financial, shipping, and trading centre in the long-term. Over the past 30-odd years, serving as the Mainland’s window on and bridge to the rest of the world, Hong Kong has not only made tremendous contributions to the nation’s economy but has also brought prosperity for itself. As Mr. Li Xiaojia, former chief executive of Hong Kong Exchanges and Clearing, has said, Hong Kong has made the following three vital contributions to China’s reform and opening up: re-export trade, foreign direct investment, and capital market. Re-exports have enabled China to strike it rich. Foreign direct investment has enabled China to become the world’s factory. The growth of Hong Kong’s capital market has provided an endless source of invaluable capital for the Mainland’s economic development. As a matter of course, Hong Kong has thus become a world-renowned trading centre and financial centre. Hong Kong’s development has not just benefited from the Mainland’s economic development but has also contributed to its success.

In the future, its competitive edge encompassing close ties with the Mainland and openness to the world will continue to play an indispensable role in Hong Kong’s development of I&T. On the one hand, against the backdrop of its further improved “internal circulation,” the vast Mainland market will have a greater focus on technological innovation and industrial upgrading. Targeting the pivotal areas (pharmaceutical products, big data, etc.) of the Mainland’s transformation and upgrading, Hong Kong can develop its research and development (R&D) activities, enabling the Mainland’s economic transformation as well as elevating local I&T. On the other hand, the development of I&T cannot do without the support of capital. Hong Kong can, with its status as an international financial centre, attract more funds in support of such development. At the same time, the SAR can also provide financial services for Mainland I&T companies to list overseas so that its I&T sector and financial sector can jointly grow and prosper.

3) A sound intellectual property protection system is conducive to motivating companies to innovate and develop new businesses. In the opinion of new institutional economists such as Harold Demsetz, given the existence of transaction costs, the definition of intellectual property rights (IP) has a significant impact on resource allocation. Clearly-defined IP rights can enhance economic efficiency substantially. Over its long process of development, Hong Kong has gradually built up

a robust IP protection regime under common law, e.g. a high threshold of application for Mareva Injunction and the establishment of a sound IP protection system. A relatively strong legal sense was created during the development of market economy for more than a century. Being highly internationalized, Hong Kong is served by a wealth of legal talent, providing fertile ground for IP protection.

The concise definition of and protection for IP rights are conducive to forming reasonable expectations among enterprises so that entrepreneurs are encouraged to build start-ups and innovate for maximum profit while achieving optimized allocation of social resources. The Outline Development Plan for the Guangdong-Hong Kong-Macao Greater Bay Area spells out the objective “to fully leverage the advantages of Hong Kong in IP protection and related professional services and support the development of Hong Kong as a regional IP trading centre.” The development of the Greater Bay Area is likely to propel Hong Kong’s expertise in IP protection to new heights.

4) A simple and low tax regime that is exceptionally attractive to I&T companies.

One of Hong Kong’s core competitive strengths is its simple and low tax regime with only three direct taxes and not too many indirect taxes, which will help to alleviate the financial burden of enterprises. From the perspective of macro tax ratio (government tax revenue / GDP) in a narrow sense, Hong Kong’s macro tax ratio in the past three years was just 11% while those in the Mainland and the US in the same period were 15% and 21% respectively.

In the World Competitiveness Yearbook 2022 of the International Institute for Management Development in Lausanne, Switzerland, Hong Kong is ranked fifth globally, up from the seventh place in 2021 and is ranked among the top three under the sub-factors of “Public Finance”, “Tax Policy”, and “International Investment”.

5) Talent pool with enormous potential. Universities in Hong Kong are at the forefront of teaching and research in the Asia-Pacific region. According to the 2021 Policy Address, the SAR has five universities ranked on the list of top 100 universities in the world, 16 State Key Laboratories, six Hong Kong Branches of Chinese National Engineering Research Centres, and 22 Joint Laboratories with the Chinese Academy of Sciences, testifying to its strong research capabilities and talented workforce. What’s more, with historical links with the West that go way back and its role as a cultural bridge between China and the West, Hong Kong is well-positioned to attract global talent and to provide professionals for developing the I&T industry.

Notably as of the end of 2021, the number of tertiary students in Hong Kong standing at 307,000 accounted for 4.1% of total population. In comparison, the corresponding rates of higher-education students (including undergraduates and postgraduates) in Wuhan and Guangzhou, two educational powerhouses in the Mainland, were 9.4%

and 8.2% respectively. As a matter of fact, Hong Kong's participation rate in higher education is low among advanced economies. Improvements should be made in this regard to attract students from the Mainland and overseas to study in the SAR. The number of its higher-education places each year should be expanded to around 500,000 to sustain the nurturing of talent for I&T development.

III. Recommendations for Developing I&T in the Northern Metropolis

Creating a "New Hong Kong" is as much a challenge as it is an opportunity. The Government's proposal to develop the Northern Metropolis is a godsend for forging the platform and the space for this purpose. The Northern Metropolis plan marks a clean break for the first time from the concept of demarcating space with administrative boundary, making direct integration of the development of "two systems" under "one country, two systems" possible. Conceptual change is the first step towards nurturing breakthroughs.

The Government should take a proactive stance and fully leverage its role as an "advocate of growth targets" and enhance the urban functions of the Northern Metropolis, with an emphasis on spearheading high-end manufacturing industries to drive economic transformation.

1) Strengthening top-level design to highlight the development positioning of high-end manufacturing industries. The Northern Metropolis plan should further underline the positioning of the high-end manufacturing cluster. Shenzhen has now become a stronghold of high-skill industries and modern manufacturing industries. Yet the New Territories North on the opposite side of the Shenzhen River is scattered with farms and traditional villages while land resources that should have been put to a high degree of use are underutilized. The Northern Metropolis plan covers the objective of developing I&T but in the 300 sq. km. economic belt, only the San Tin Technopole and adjacent areas covering 11 sq. km. are dedicated to developing I&T. It remains unclear how the development of manufacturing in other new towns will be coordinated or how the fan-out effect of the Technopole can be maximized. Only when there is already a significant size of development can employment capacity and new growth momentum be in place one after the other. New Development Areas such as Kwu Tung North as well as the early new towns including Tsuen Wan, Sha Tin, Tai Po, Tuen Mun, etc. mark the Government's endeavour to enlarge the space for urban development in the New Territories North. However, owing to the lack of new industries to provide job offers, such "commuter towns" have failed to achieve the core objective of maintaining jobs-residence balance. Hence, the authorities should continue to optimize planning for the Northern Metropolis, with an emphasis on spearheading high-end manufacturing industries.

2) Guidance to industries with a central focus on differential development and coordinated development. The government is to a certain extent in a position to take the lead in industrial agglomeration. Studies have shown² that the degree of agglomeration is significantly higher among advanced manufacturing industries than among other industries while producing a greater positive spillover effect on neighbouring areas. Moreover, the agglomeration of diversified advanced industries is more conducive to producing innovation results. Given the ample breadth and depth of modern manufacturing industry chains, boosting industries does not call for the agglomeration of factories but instead relies on the creation of an interactive effect among industry chains spanning from fundamental research and applied research to advanced manufacturing. The Northern Metropolis should provide some support for Hong Kong's reindustrialization in the areas of land, finance, and complementary policies, providing impetus before market factors take charge. Due to their knowledge-intensive and capital-intensive characteristics, new materials, new energy sources, and biomedicine do not require much land or logistics and transportation at an early stage. As such, they are compatible with Hong Kong's existing comparative advantages.

The planning of manufacturing industries in the Northern Metropolis necessarily entails coordinated development and differential development vis-à-vis Shenzhen and neighbouring cities. Despite the positive spillover effect and complementary structures between the upstream and downstream segments of industry chains and among industry clusters, there is keen competition within the industries of general equipment, electronic equipment, and semiconductor chips. Given that Shenzhen has launched its "20+8" industry cluster plan, Hong Kong should come up with its own guidance to industries, listing objectives tailored for various industries so as to achieve coordinated development and differential development for the manufacturing sector under the Hong Kong-Shenzhen coordinated development framework. Should there be too much overlap between the two cities, the problem of industrial hollowing-out may arise and financial development lacking real industries will face long-term fluctuation risks.

3) The government serving its role to develop land and open up financing opportunities. A designated institution should be set up to expedite land reservation and lower the transaction costs of development. Under the common law system, despite ample discussion regarding large-scale development projects, transaction costs are high and consensus is hard to reach for public consultations, compensation for land resumption, environmental assessment, etc. Add to that a mix of land uses in the New Territories North with complicated land titles, and transaction costs for land resumption arrangements are high as a matter of course. I suggest that the SAR Government should set up a dedicated institution to coordinate the operations of

² 張彩雲，中國高技術產業集聚效應研究，吉林大學博士論文，2021 年

Scholars such as 辜勝阻（2018）and Jian Wang (2022) have also come up with similar conclusions.

various departments and strengthen communication with stakeholders such as local residents, land owners, environmental protection bodies, etc. The authorities concerned should also strive to streamline the approval process; speed up project implementation; recruit talent in accordance with social development needs; keep updating the general public on the status of achieving the milestones under environmental protection, housing, and infrastructures; and enhance transparency and monitoring by Legislative Councillors.

It is necessary to proactively seek financing options for the Northern Metropolis plan. Coordinated development for Hong Kong and Shenzhen is conducive to land revaluation for the Greater Bay Area. In the long run, land value in Hong Kong will not be significantly reduced because of short-term supply increase. In the process of financing for infrastructure development and industrial development, constant efforts should be made to facilitate input of private capital and to encourage participation of private institutions in the construction process by various means, such as Environmental, Social, and Governance (ESG), green finance, and community investment funds. The Government could consider issuing infrastructure bonds, municipal bonds, etc. for institutional and individual investors. In addition, financial institutions should be invited to take part in the infrastructure development of the Northern Metropole through financial innovation. Under the arrangements of related mechanisms, eligible enterprises would be able to issue corporate bonds, medium-term notes, etc. in the Mainland to raise capital.

4) Lowering the costs of “two systems” and driving economic and trade integration of Hong Kong and Shenzhen. Initiatives include speeding up cross-border transport construction and perfecting the customs clearance system. In the run-up to the large-scale infrastructure development in the Northern Metropolis, cross-border transportation of construction materials and machinery is necessary and construction progress will inevitably be subject to clearance efficiency. In my opinion, it is essential to accelerate the railway construction and streamline immigration, health quarantine requirements, etc. between the two cities. In the long run, Hong Kong’s development integration with Shenzhen will hinge on mutual, easy access. Hence, under the existing customs policy, it is necessary to further optimize the crossing arrangements for residents, aiming at round-the-clock opening hours and unlimited number of trips. As for further integration of Shenzhen and Hong Kong, the authorities should consider setting up the areas (including the Lok Ma Chau Loop) along the southern and northern coasts of the Shenzhen River as an open zone, with shared electricity and water supplies so that development of the Northern Metropolis can be expedited as well.

Moreover, it is important to boost the efficiency of mutual investments between Hong Kong and Mainland companies. Approval for granting Mainland capital access to Hong Kong is mainly made under the investment facilitation policy for Mainland enterprises to invest and to establish their businesses in the Hong Kong and Macao SARs. The

Shenzhen and Hong Kong authorities can jointly apply to the Ministry of Commerce and the Hong Kong and Macao Affairs Office of the State Council for further shortening the approval time under the policy above. With the review process streamlined, Hong Kong can make good use of its appeal to high-quality international capital and pave the way for foreign capital investments in the Loop area between Hong Kong and Shenzhen. Consideration can also be given to directly bringing in advanced manufacturing enterprises to set up in the San Tin Technopole.

5) Clearing market roadblocks to strengthen connection and collaboration among industry, academia, and R&D. To stimulate the integration between Hong Kong's R&D and the Mainland manufacturing market. Despite their strong fundamental research capabilities, Hong Kong's higher-education institutions are, for all sorts of reasons, out of touch with the Mainland market. It is not easy to productize their research results. Hence, it is less than ideal for the relevant departments of the SAR Government and universities to only strengthen their cooperation with government departments and academic institutions of Guangdong province and Shenzhen. Instead, they should also focus on closer collaboration with the midstream and downstream manufacturing companies in the Greater Bay Area in order to nurture upstream R&D manufacturing companies in Hong Kong to close the gap between fundamental research and end products.

To further facilitate the flow of cross-border elements and the establishment of an intermediary service platform. Adapting research needs to industrial demand is determined by research resources, industry talent, funding subsidies, and free mutual flows of data and information resources in the age of the big data. Simultaneously, for Hong Kong to achieve breakthroughs in its development of I&T, it is critical to attract and nurture innovative talent. On the one hand, proactive efforts should be made to draw in high-quality talent from overseas and the Mainland. On the other hand, I&T companies can, by granting employee stock options, stimulate creative vitality so that more middle-class talent can share in the development results, thus leading to upward social mobility.

The governments of Hong Kong SAR and Shenzhen should join hands to strive for higher-level policy incentives in order to lower the threshold of cross-border mobility of talent and capital in addition to streamlining regulatory procedures. I suggest encouraging the establishment of intermediary service platforms familiar with the legal and business environments of both cities. These platforms will proactively help Hong Kong's manufacturing companies to familiarize themselves with the Mainland market and make Hong Kong into the crown jewel of the advanced manufacturing and I&T hub in the Greater Bay Area.

References

辜勝阻，2018：構建粵港澳大灣區創新生態系統的戰略思考，《中國軟科學》

毛振華，2022：有為政府應為「目標提出者」，鳳凰衛視專訪

香港特區政府，2021：北部都會區發展發展策略，報告書

張彩雲，2021：中國高技術產業集聚效應研究，吉林大學博士論文

香港特區政府，行政長官 2021 年施政報告

香港特區政府統計處網站 <https://www.censtatd.gov.hk/sc/>



Let Public Housing Once Again Complement
the Development of Hong Kong: Reducing
Misallocation to Enhance Productivity

Let Public Housing Once Again Complement the Development of Hong Kong: Reducing Misallocation to Enhance Productivity

Vera Yuen

Hong Kong's housing problem has long been framed as one of government failure to plan and construct sufficient units to meet increasing demand. Efforts and discussions have focused on the construction pipeline of public housing and key performance indicators for various government departments, such as waiting time for public rental housing. Less examined is the role and function of public housing policy in Hong Kong. This paper discusses what public housing policy can do for Hong Kong to maintain its competitive edge.

The first part of this paper reviews the history of public housing policy and how it helped Hong Kong's development. The second part introduces two principles of recalibrating future public housing policy: productivism and allocative efficiency. The third part employs statistics to illustrate the potential gain from addressing resource misallocation, and provides policy suggestions. Finally, it discusses the integration of public housing into the Greater Bay Area in the medium term.

The Development of Public Housing Policy

Colonial Public Housing Policy

Hong Kong's first public housing estate was built to house victims of a fire at a squatter settlement. At that time, the influx of emigrants from mainland China was substantial. With limited residential housing and inflexible supply in the short run, these emigrants began to live in crowded squatter houses with bad hygiene conditions and few facilities. The colonial government took a laissez-faire approach and allowed the squatter houses to proliferate. In the 1950s, an estimated 190,000 victims lost their home in squatter fires (Smart 2006). For example, the famous Shek Kip Mei fire which broke out on Christmas Day of 1953 alone displaced 58,000 settlers. This led to the first chapter of public housing policy in Hong Kong: the resettlement of squatters.

The second chapter was the "big bang" era of social welfare, which included a major expansion of the public housing program. The 1967 riots forced the government to confront intense social tensions. The state response to the political turmoil was to improve living standards. The goal of improving living standards was driven by both

social and political considerations (Scott 1989, 153; Hong Kong Legislative Council 1972). The government's narrative changed from "laissez-faire" to "positive non-interventionism." By claiming that the housing problem was a "market failure" (Tang 1998), the government justified its market intervention. In addition to introducing nine-years of compulsory education, constructing the Mass Transit Railway, and increasing the provision of social services, one of the most notable moves was the Ten-year Housing Programme that began in 1972 with the aim of alleviating housing problems.

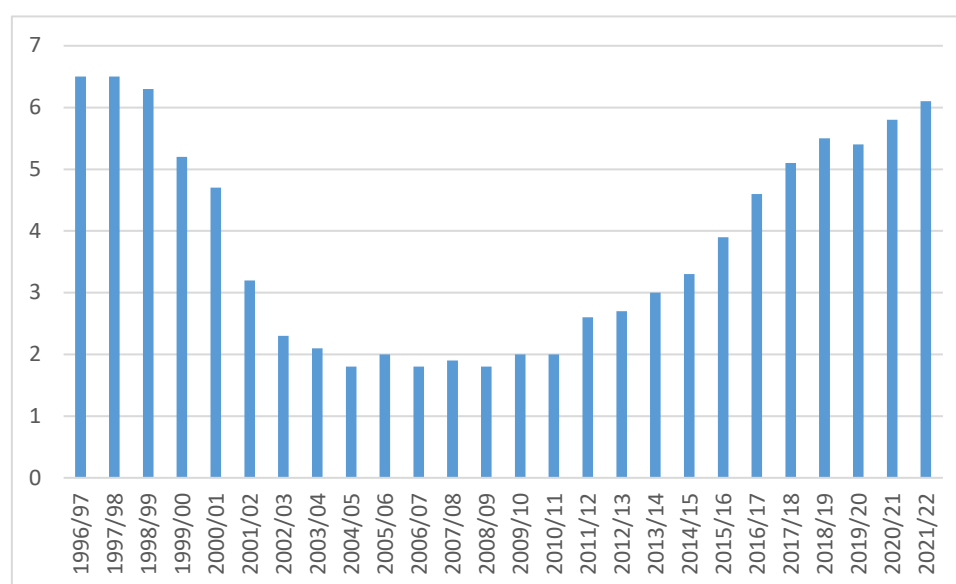
At the same time, the government took steps to form a 'housing ladder' to increase home ownership rates. Murray MacLehose, the Governor from 1971 to 1982, mentioned in a speech to the Legislative Council, that the "promotion of home ownership is such a desirable social objective." (Hong Kong Legislative Council 1976) The subsequent Home Ownership Scheme made its first sales in 1978. Though the government failed to meet the target of housing 1.8 million people between 1973 and 1983, by 1980s, the public housing sector in Hong Kong was the second largest in the world; the 'housing ladder' mentality became institutionally entrenched and continues to this day.

The Post-handover Continuity of the 'Housing Ladder' Philosophy

At the time of Hong Kong's handover to China, house prices were unaffordable and waiting times for public housing were long (See Figure 1). Insufficient supply to meet demand essentially broke the housing ladder to public rental housing and home ownership. Tung Chee-hwa, the first Chief Executive (CE), reiterated home ownership as an overall objective. He wanted to see 70% of total domestic households being owner-occupiers within 10 years (Chief Executive 1997), up from 46% in 1996, according to Census and Statistics Department. To achieve that goal, Tung announced a plan to supply 85,000 units annually. But the plan was halted abruptly due to the Asian Financial Crisis (AFC) and the subsequent plunge in house prices.

The AFC triggered a burst of the housing bubble causing a 70% peak-to-trough drop in house prices. Waiting times for public housing dropped from over 6 years to about 2 years in 2002–2011. Administratively, allocation of housing would take roughly one year, so supply of public housing was adequate. Some overbuilt subsidized housing for home ownership was converted to public rental housing.

Figure 1 Waiting Times of Public Rental Housing (Years)



Source: Housing Authority

Little wonder why Tung's successor, Donald Tsang, pushed for a "re-positioned housing policy" and allowed land supply to be market driven, in order to "rebuild people's confidence in the property market, solve the over-supply problem and allow the property market to resume development and vitality." (Chief Executive 2008) His administration supplied public housing units by a conservative 15,000 per year on average during his two office terms, a huge reduction from an annual average of 42,000 units in the 1990s, and halted the Home Ownership Scheme indefinitely.

Problems began to emerge after 2008 as house prices picked up again. Having neglected to build a land bank for future use, the government reduced its own capacity to meet rising housing demand. Both subsequent chief executives, Leung Chun-ying and Carrie Lam, stipulated in their policy addresses the ambition to rebuild a housing ladder. However, limited land availability for housing construction and various regulatory constraints in development had led to insufficient supply of housing.

The establishment believed that the unaffordable house prices and the lack of social mobility were the causes of social movements in 2014 and 2019. This thinking was similar to MacLehose, the former Governor of Hong Kong, who concluded, 'the inadequacy and scarcity of housing and all that this implies, and the harsh situations that result from it, is one of the major and most constant sources of friction and unhappiness between the Government and the population.' (Hong Kong Legislative Council 1972) Xia Baolong, the Director of the Hong Kong and Macao Affairs Office of the State Council, made it clear that the priority was to resolve housing problem in Hong Kong. The government responded with an aggressive plan to develop the Northern Metropolis to house more than 900,000 people, alongside the already-announced Lantau reclamation project. Fifty years after MacLehose's tenure, we

might be seeing another big bang phase of housing expansion, similarly initiated by social unrest.

Supplying housing in Hong Kong is no easy task. Identification of suitable land, planning, and fabrication of land could take a decade. Given that more land has been identified and the Northern Metropolis project is underway, greater supply capacity can be expected within 10 years. But in the short run, little can be done to speed up supply as construction projects have long and inflexible timelines. Eliminating bureaucratic inefficiencies can reduce production delays, but will not speed up supply dramatically.

Given the hard short-term supply constraints, it would be beneficial to think beyond supply. One key consideration is allocation. With 30% of the Hong Kong population living in public housing, improving allocation of this resource can go a long way in improving livelihoods. But the principle of allocation depends on what is envisioned and prioritized for the future Hong Kong. Is housing policy merely welfare provision, or an investment to make Hong Kong more productive and competitive?

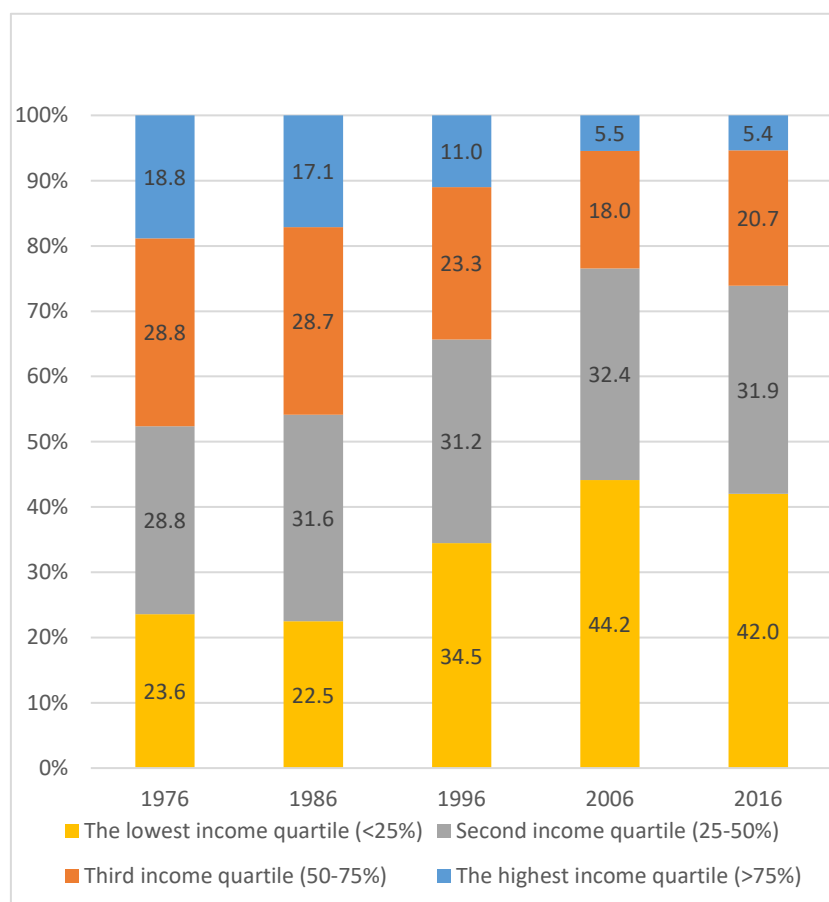
Two Principles: Productivism and Allocative Efficiency

Productivist vs. Welfarist Approach of Public Housing

It is again useful to study the existing system. Hong Kong was never a welfare state (or if it was, never a typical one) given its positive non-interventionist approach. In productivist states, “social goals are subordinated to the domains of productivity growth” (Fitzpatrick 2004, 215). The expansion of welfare policies in the MacLehose era was a productivist one. There is unevenness across different areas of social spending in Hong Kong. The government finances universal education and health care but refrains from providing generous social security. For example, public housing estates were built neighboring industrial buildings. This strategy helped subsidize wages for the export-oriented manufacturing industry. Public housing had historically complemented Hong Kong’s economic development.

After decades of development, the public housing system has shifted from being productivist to welfarist. Thousands of families of the older generation, now in their 60s and 70s, had climbed the housing ladder and proceeded from being a tenant in public housing estate to owning a subsidized flat or a private property. They eventually accumulated good amount of wealth to become middle class. However, public housing has increasingly become more welfarist over time, serving more people at the lower income quartiles after 2000s (Figure 2). About one-third of the elderly today live in public housing, representing an important old-age welfare. The lack of subsidized flats for sale also stunted the housing ladder and reduced social mobility.

Figure 2 Income Quartiles of Household Head (Aged 20-65) in Public Housing (1976-2016)



Source: Census and Statistics Department

In view of an ageing labor force, low fertility, and a brain drain from Hong Kong in the current tide of emigration since 2019, it is important to reestablish productivism as the principle in designing future housing strategy, and then incrementally steer the policy implementation toward this goal. One way to operationalize this productivist principle in the public housing system is the allocation mechanism.

More Efficient Allocation of Public Housing Units for Economically Active Households

According to existing public housing policies, tenants cannot relocate within public housing estates unless for reasons such as elderly care, overcrowding, major clearance or renovation of the estate, and special reasons on social and medical grounds. Under-occupied households may also be asked to move to small units. Outside of these exceptions, the vast majority of households stay in the same units indefinitely until they leave the public rental housing system. Incoming tenants are only allocated vacant units. In the year of 2021-2022, only 0.75% of the total public rental housing stock was reallocated due to clearance rehousing and other kinds of transfer (The

Hong Kong Housing Authority 2022), showing the limited flexibility given to the tenants.

The rigidity of the public housing system creates important efficiency loss (Wong and Liu 1988). A key source is the misallocation of the tenants and the units. For reasons discussed above, public housing tenants are less mobile and less likely to live near their workplace than private housing tenants (Lui and Suen 2011). From 2016 by-census data, only 10% of households then living in public housing had moved over the last five years (mainly new tenants), whereas the fraction for tenants living in other types of housing who had moved over the same period was much higher, at 57%. This clearly indicates the extent of misallocation of public housing.

The misallocation of resource leads to lower welfare yielded from each unit of public rental housing. For instance, a worker who lives in public housing in Tin Shui Wai and works as a security guard in Aberdeen may find it costly and time-consuming to commute to work (a one-way trip would take around 1.5 hours and cost about \$40). Under the existing system, there is no provision to swap public housing across different districts for this reason. Given the low rent, the household is unwilling to give up the unit. Long commuting time reduces workers' productivity and job opportunities and discourages the working population from joining the labour force. Worse still, some more well-off tenants may choose to leave the unit vacant without giving it back and live in another place closer to the workplace. This leads to public resources being wasted.

Not surprisingly, jobs are highly concentrated in urban areas, but less so for public rental housing units. As shown in Table 1, 66% of jobs were located in urban areas in 2016, compared to 48% of public housing units, an 18% discrepancy. At the same time, about one-fourth of the households living in urban areas were economically inactive. This indicates potential for reallocating working households to urban and extended urban areas to reduce commuting distances.

Table 1 Distribution of Jobs, Public Housing Units, and Percentage of Economic Inactive Households in Public Rental Housing

AREA	JOB	PUBLIC RENTAL HOUSING	% OF ECONOMIC INACTIVE HOUSEHOLDS
URBAN	66%	48%	26%
EXTENDED URBAN	18%	38%	25%
NEW TERRITORIES & ISLANDS	16%	14%	26%

Source: Hong Kong by-census 2016

Note: Urban includes Hong Kong Island and Kowloon; Extended Urban includes Island (North Lantau), Sha Tin, Ma On Shan, Tseung Kwan O, Tsuen Wan, Kwai Chung and Tsing Yi; The New Territories include Tuen Mun, Yuen Long, Tin Shui Wai, Sheung Shui, Fanling and Tai Po; The Islands refers to Islands (Other areas). Jobs are reported fixed workplaces.

According to existing policy, normal public rental housing applicants cannot choose urban areas for allocation. However, elderly who are eligible to apply via the Single Elderly Persons Priority Scheme and the Elderly Persons Priority Scheme can choose urban areas. This is a mismatch as a matter of productivity. It suggests the current philosophy is not a productivity-enhancing one and is not driven by efficiency considerations.

Ample Gains in Shortening Commuting Cost

To gauge the potential efficiency gain from better allocation of public rental housing, a hypothetical allocation exercise is conducted.¹ In essence, I consider an alternative public rental housing allocation that is the “best” for households. Then I compare this allocation with the current allocation. The “best” algorithm uses the following criteria:

- (1) The highest earner in the household should work and live in the same district;
- (2) If (1) is not possible, the highest earner in the household should live in a district with the next nearest commuting distance to workplace.

After running the algorithm, 69% of the highest earning member could live and commute in the same district, contrasting with the current 22%, showing enormous potential for reallocation to improve efficiency.

There is also sizable improvement in commuting distance, time, and transport fare. Data of commuting distance, time, and fare by shortest route of each district pairs are collected using approximation from Google Maps. Assuming zero within-district transport, the total commuting distance after reallocation can be reduced by 72% of the original allocation; commuting time is reduced by 64%, and transport fare by 64%.

What is the total efficiency gained by reducing misallocation? Assume that a worker works 22 days a month in a fixed job location, the highest possible time and transport fare saved in commuting for all highest household earners in public rental housing combined are 113 million of hours and \$1.9 billion per year (Table 2). If some modifications are made in the existing system to improve the current status such that even just 5% of the possible gain can be reaped, that’s still a total of 5.6 million hours and \$96 million saved — a huge gain in productivity or leisure, both of which are good for residents’ livelihoods.

¹ A 5% sample of 2016 by-census is used.

Table 2 Projected Gain in Commuting Time and Fare in the Whole
Public Rental Housing Population Per Year

IN MILLIONS	5%	10%	20%	100%
SAVE IN TRANSPORT FARE (\$)	96	192	385	1923
SAVE IN COMMUTING TIME (HRS)	6	11	23	113

Note: Based on an estimation using a 5% sample of 2016 Hong Kong by-census.

Table 3 puts it in perspective. On average, each working person in the model can save 54 minutes and \$15 per work day. If we compute total monthly savings to be the hours saved multiplied by the minimum wage rate plus fare saved, it is a gain of \$1075. If we follow the sample average wage rate, it amounts to \$2193 per month—a substantial portion of the rent of the public rental housing and representing 7% and 14% of the average income of the highest household earner in the sample.

Table 3 Before and After-reallocation Commuting Time and Fare and
Saving Per Person

PER WORKDAY	TIME (MINS)	FARE
BEFORE REALLOCATION	83	\$24
AFTER REALLOCATION	29	\$9
SAVING	54	\$15
ASSUMPTION OF WAGE	MINIMUM WAGE	SAMPLE AVERAGE WAGE RATE*
TOTAL MONTHLY SAVING (WAGE RATE X HOURS SAVED + FARE SAVED)	\$1,075	\$2,193
AS A % OF AVERAGE INCOME	7%	14%

Of course, the exercise above relies on many simplifying assumptions. For example, there are district preferences other than commuting distance of the highest earners, such as preference of the secondary earners, living near relatives within the local community, school catchment area, size of the unit, age of the housing estate, or simply unwillingness to move. These preferences are not observable, thus no allocation system, which relies on observable traits, can perfectly optimize. Even if all

preferences are observable and known, there has to be a system to reallocate, and that system will not be as efficient as the market. Another point from which I abstract is that the current job location of the highest earner in the household may be endogenous to the location of their public rental housing. Despite these complications, the bottom line is that reducing misallocation can make a big difference.

Policy Suggestions to Improve Misallocation and Enhance Productivity in the Existing System

There are multiple ways to incrementally improve the misallocation in the existing system. First, on allocating new applicants, households with only persons aged 60 or above, and economically inactive households, could be allocated to units in remote areas. This would free up space for households with working-age members in urban areas, to encourage the latter to take up better jobs and do more productive work. Second, the existing system does not allow home-moving unless for reasons accepted under existing transfer schemes and other special reasons. This practice can be relaxed if a worker can provide proof of long-term employment, and a worker may choose to live in a unit nearer to their workplace. For example, a transfer scheme can be set up for this kind of transfer. Third, any transfers and rehousing should consider the working and economic activity of the household for the location. Fourth, an official unit exchange system can be hosted for tenants to exchange units at their convenience to increase the utility of public rental housing units. Once approved, this would be a permanent change of the household registration in public housing estates. Because the public rental housing is designed to house people in need, the suggestions above do not interfere with the waiting list for public rental housing.

Releasing Housing Places by Integrating into the Greater Bay Area in the Medium Term

The discussion of housing strategy in the medium term may not center in Hong Kong alone. Under the 14th Five-Year Plan (2021-2025), there will be new development opportunities in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA). The closer cooperation and economic integration between Hong Kong, Macao and nine cities within Guangdong province presents further possibilities to improve allocation efficiency of public housing, which will in turn address Hong Kong's housing shortage problem.

Non-working households may be drawn to live in the GBA because of lower living costs and a more spacious living environment. Some households have close relatives living in GBA cities or permanent jobs there and may want to stay on the mainland. This aligns with the spirit of the Guangdong Scheme and Fujian Scheme, which allow the elderly to reside outside of Hong Kong according to their preference and also receiving

social assistance from the Hong Kong government. At the same time, it will free up valuable housing units in Hong Kong for those who need them.

In the 2016 by-census sample, 1.3% of working public rental tenants worked on the mainland and in Macao; 2.3% of students in public rental housing studied on the mainland and in Macao. Among all tenants, 1.9% moved from the mainland and Macao to public rental housing in Hong Kong in the past 5 years; 13% of all tenants had resided in Hong Kong for 10 or fewer years. These people may have a strong connection with the mainland or Macao and may opt to live there. When asked of their whereabouts at a random reference point (3 a.m. on 30 June 2016), 3% of the public rental housing tenants replied that they were either on the mainland or in Macao.

If these numbers translate to demand from 1% of the households in public rental housing to live in the GBA, this amounts to 7,600 households; 2% would mean 15,000 households. These numbers are already the size of a few housing estates in Hong Kong.

Furthermore, nearly half of the public housing tenants were not working, studying, or had a fixed work or study place in Hong Kong. These people may not need to live in Hong Kong as much as people who have fixed work or study places in Hong Kong. Adhering to the principles of productivism and allocative efficiency, there is great prospect for these people to move to the GBA and let the most productive and talented workers to take up residence in Hong Kong.

Better Retirement Lives in the Greater Bay Area

For retired households, access to elderly care and health care is an important consideration. Currently, there is a shortage of care workers in Hong Kong. The shortage of care workers and high land rent mean that elderly care is expensive, and quality of service is sometimes undesirable. The crowded environment and lack of personal space in local elderly homes also has negative effects on mental health.

Again, the GBA may provide a solution to improve welfare by making allocation more efficient. For example, Zhuhai has been developing as a quality retirement hub with a booming healthcare industry. Elderly homes in GBA only cost RMB 2,000–6,000 (吳迦銓 and 方玉輝 2019), far cheaper than local private ones. With the Guangdong Scheme, seniors can enjoy better-quality elderly home in terms of both services and the environment. If Hong Kong lacks the factors of production for such provision, outsourcing it to the GBA, and establishing “silver estates” for the elderly to build their own communities may be a better choice. In the 2016 by-census sample, around one-fifth of public rental households consisted entirely of retired persons. Moving to the GBA could be an upgrade to some of their retirement lives. The occupied units are then freed up and reallocated to the labor force of Hong Kong, enhancing overall productivity.

References

Chief Executive. (1997). Policy Address.

<https://www.policyaddress.gov.hk/pa97/english/patext.htm>

Chief Executive. (2008). 2008-09 Policy Address. Hong Kong.

<https://www.policyaddress.gov.hk/08-09/eng/docs/policy.pdf>

Fitzpatrick, T. (2004). A post-productivist future for social democracy? *Social Policy and Society*, 3(03), 213-222.

Hong Kong Legislative Council. (1972). The session of the Legislative Council of Hong Kong which opened 18th October 1972. Hong Kong.

Hong Kong Legislative Council. (1976). The session of the Legislative Council of Hong Kong which opened 6th October 1976. Hong Kong.

Lui, H.-K., & Suen, W. (2011). The effects of public housing on internal mobility in Hong Kong. *Journal of Housing Economics*, 20(1), 15-29.

Scott, I. (1989). Political change and the crisis of legitimacy in Hong Kong. University of Hawaii Press.

Smart, A. (2006). The Shek Kip Mei myth: Squatters, fires and colonial rule in Hong Kong, 1950-1963 (Vol. 1). Hong Kong University Press.

Tang, K. L. (1998). Colonial state and social policy: Social welfare development in Hong Kong 1842-1997. University Press of America.

The Hong Kong Housing Authority. (2022). Estimated public rental housing allocation for 2022-23 Hong Kong.

<https://www.housingauthority.gov.hk/en/common/pdf/about-us/housing-authority/ha-paper-library/SHC152022EN.pdf>

Wong, Y.-C., & Liu, P.-W. (1988). The distribution of benefits among public housing tenants in Hong Kong and related policy issues. *Journal of Urban Economics*, 23(1), 1-20.

吳迦鎔, & 方玉輝. (2019). 粵港澳大灣區安老對香港的啟示 . The Hong Kong College of Community Health Practitioners.



What Casued Hong Kong's Housing Crisis?

What Caused Hong Kong's Housing Crisis?

Michael B. Wong¹

For over a decade, Hong Kong has ranked as the least affordable housing market in the world (Kwan 2021). Between 2004 and 2021, the real price index of residential homes in Hong Kong rose by 239 percent, even though the real wage index grew by only 7.1 percent². Hong Kong's exorbitant rents have contributed to political discontent, led to the proliferation of subdivided houses, and attracted global concern.

Although many observers have proposed explanations, it is not well understood why Hong Kong's housing prices have risen so much. Recent studies find that trends in Hong Kong's housing price index have at best a weak relationship with macroeconomic factors that drive housing demand, such as credit conditions and economic growth (Leung, Ng and Tang 2020b; Taghizadeh-Hesary et al. 2020). Many suggest that a slowdown in housing construction raised housing prices (Leung, Ng and Tang 2020a). However, it is unclear how slower housing creation could have led to an ungodly rise in prices when population, income, and credit grew only moderately.

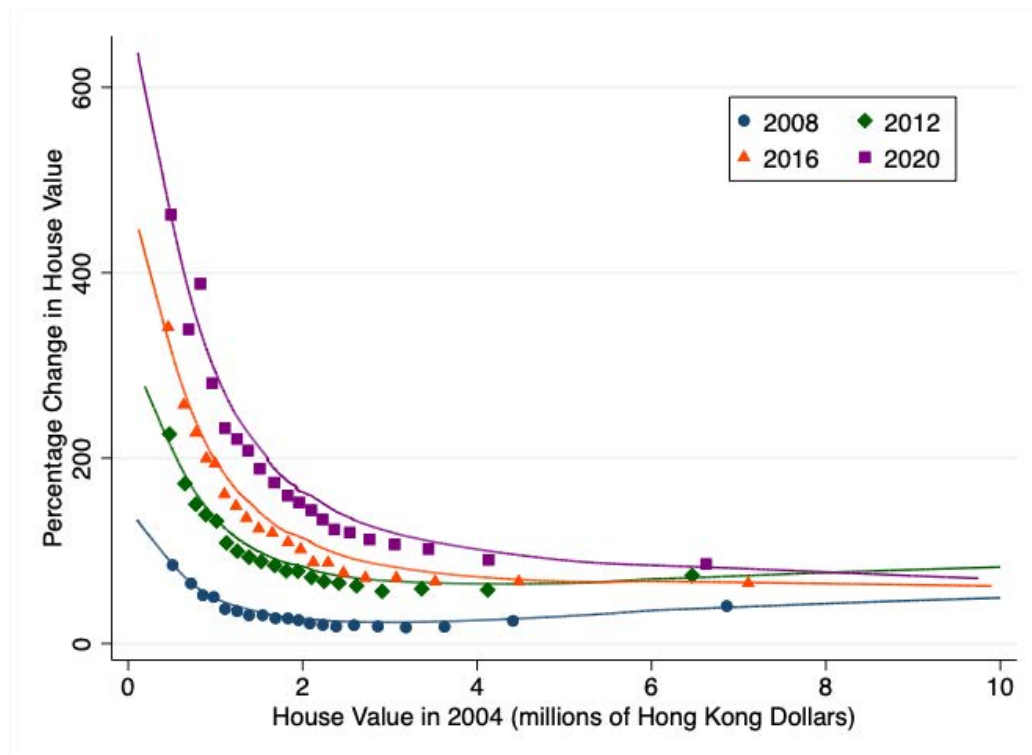
A clue to this puzzle is that the prices of the lowest-value homes in Hong Kong grew many times faster than those of higher-value homes. Figure 1 shows the distribution of changes in housing prices from 2004 until 2020 in four year intervals, using repeated sales data scraped from Midland Realty. Between 2004 and 2020, the average real price of a unit valued at one million Hong Kong dollars in 2004 quadrupled, while that of a unit valued at five million dollars only doubled. To my knowledge, this startling cross-sectional heterogeneity in price changes has not previously been documented.

What explains the sharp and highly uneven ascent in housing prices? This paper presents evidence that Hong Kong's extreme and unusual housing crisis was caused by unresponsive public-sector rents. Unlike many other cities, roughly half of Hong Kong's population reside in government-built units whose occupancy costs do not vary with housing market conditions. About two-thirds of these are rental units whose rents are tied to an income index, capped, and revised biennially; the remainder are subsidized ownership units, almost all of which are subject to strict resale and leasing restrictions.

¹ Email: mbwong@hku.hk. Jimmy Ho provided excellent research assistance. William Tsang generously shared housing transactions data. Richard Wong and William Lui provided helpful feedback.

² See the Bank for International Settlements and the Hong Kong Census and Statistics Department.

Figure 1: Distribution of Private Housing Price Changes in Hong Kong: 2004-2020



Note: Figure plots the percentage change in real house value against price in 2004 for private-sector properties with transactions in both 2004 and the year indicated above. Each dot represents one of twenty equal-sized bins grouped by their house value in 2004, which are restricted to be between 0.1 and 10 million Hong Kong Dollars. The solid lines are the percentage change predicted by a regression of the change in house value between 2004 and the particular year on the initial value in 2004 with the use of locally weighted scatter plot smoothing (LOWESS) fit.

Unresponsive public-sector rents mean that low-end private housing prices in Hong Kong are extremely sensitive to housing demand and supply conditions. As documented below, new housing construction experienced a slowdown during 2004-2020, while housing demand continued to steadily rise. Since public-sector rent adjustment lagged behind market rent growth, public renters were increasingly discouraged from moving into the private sector. Public housing wait times sharply rose. A large share of the lowest-income households was locked out of public housing and had to compete for a small pool of low-end private-sector homes. Prices for low-end housing consequently skyrocketed.

Explaining the Uneven Rise of Housing Prices

To systematically analyze Hong Kong's housing prices, we first introduce an economic framework that generates cross-sectional heterogeneity in prices. We then examine evidence on the drivers of housing price changes as suggested by the model.

The housing assignment model developed by Landvoigt, Piazzesi and Schneider (2015) has three building blocks. First, there is a population of households with housing demands determined by their economic and financial characteristics, such as age, income, and access to credit. Second, there is a continuum of indivisible houses providing different flows of housing services. Finally, there is an outside option for households who decide not to reside in private-sector urban housing. In equilibrium, housing prices adjust to induce households with lower demand for housing services to move into lower-value houses. The distribution of equilibrium prices thus depends on the distribution of the population's characteristics, the distribution of house qualities, as well as the population's outside option.

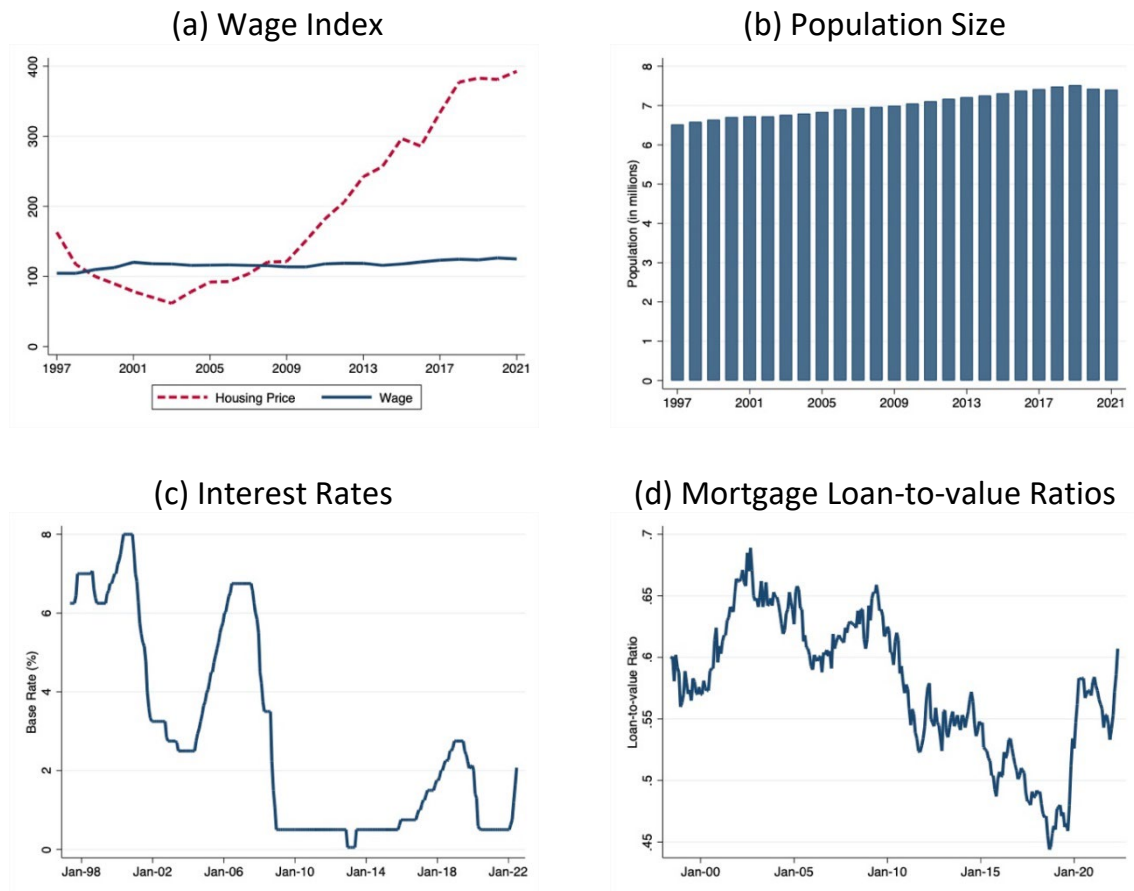
In most other metropolitan areas, the outside option is given by the rural sector at the margins of the city, where the lowest value land will either be left unused or used for farming. In Hong Kong, however, there is essentially no rural frontier, because rural land is extremely limited and there are strong restrictions prevent it from being used as housing. Instead, Hong Kong has a very large population residing in government-built subsidized housing, which primarily serves the lower-income population. As such, Hong Kong's private-sector housing demand at the bottom end is heavily influenced by the availability of public housing.

The model therefore suggests three potential culprits for the sharp rise in low-end housing prices in Hong Kong. First, incomes and credit access of the lower half of the population may have sharply risen. Second, the supply of low-value private-sector housing may have sharply fallen. Third, the availability of public housing may have declined. As I shall show, the first two possibilities are inconsistent with the data.

Housing Demand

The first potential culprit for the sharp rise in low-end housing prices is a shift in housing demand due to changes in income, population or credit availability. However, these changes were small during 2004-2020, and they did not disproportionately affect the low-income population, so they cannot explain the sharp and uneven rise in property prices.

Figure 2: Drivers of Housing Demand



Sources: Census and Statistics Department, HKMA and Rating and Valuation Department.

Notes: Panel (a) plots the private housing price index and real wage index. Panel (b) plots the population in Hong Kong. Panel (c) plots the base rate of Hong Kong. Panel (d) plots the average mortgage loan-to-value ratio.

As shown in Figure 2 both income and population growth were slow. Real median wages in the city grew only 7 percent during the entire period. At 0.6 percent per year during 2004-2020, population growth was also rather slow. Expansion in credit availability was also limited. Even though interest rates fell to nearly zero in the wake of the US subprime crisis in 2008 to follow US interest rate policy, fears of financial instability led the government to limit credit expansion by requiring larger mortgage down payments and increased transaction fees. The loan-to-value ratios for mortgages in Hong Kong therefore fell during this period.

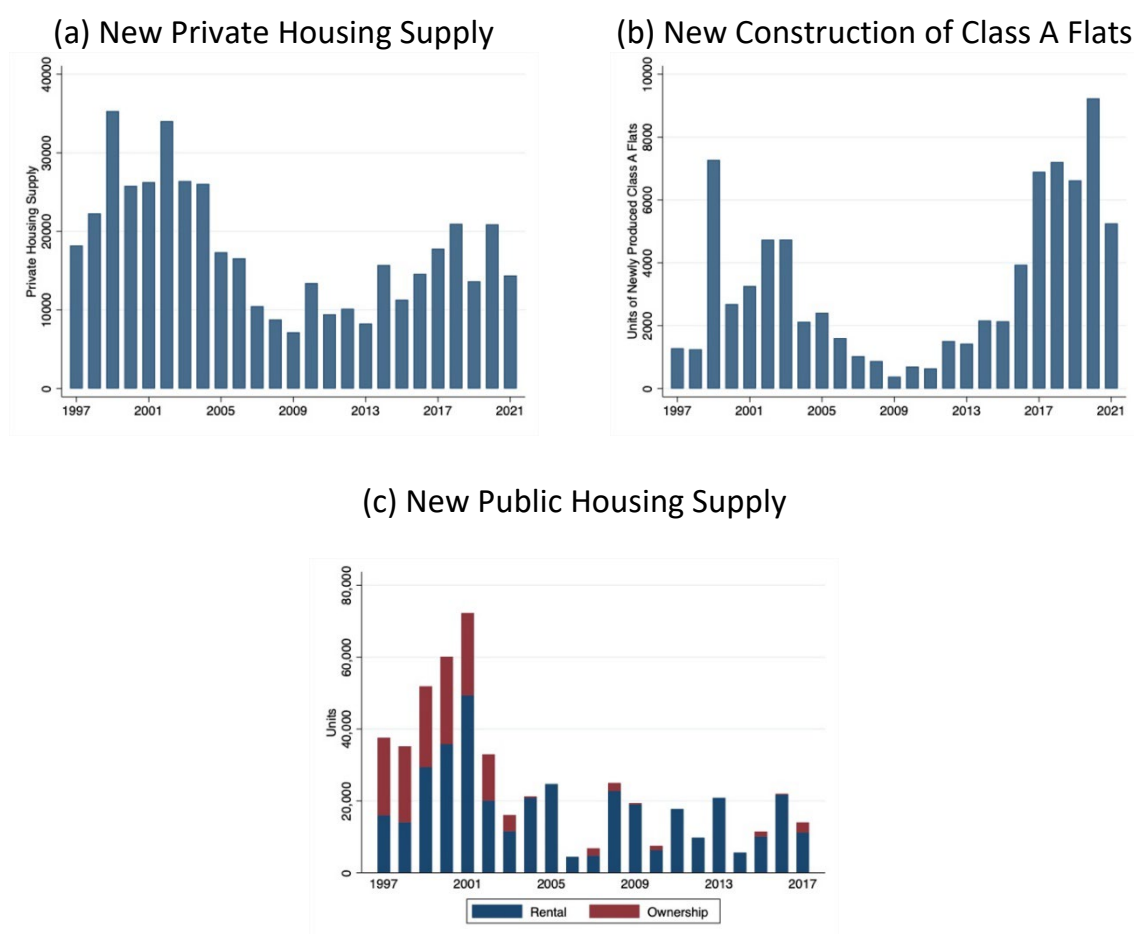
It is also unlikely that the rapid rise in property prices is due to speculative demand. Stamp duties and other transaction costs enacted during this period limited speculation. Property prices in Hong Kong also did not fall despite the COVID-19

pandemic, US monetary policy tightening in 2022, and deteriorating financial conditions in China in the same year, which popped many other asset bubbles.

Private Housing Supply

The second potential culprit for the uneven rise in housing prices is a fall in the supply of lower-value private-sector homes relative to higher-value homes. This possibility is also ruled out by the data.

Figure 3: Changes in Housing Supply



Source: Rating and Valuation Department and Hong Kong Housing Authority.

Notes: Panel (a) plots the supply of new private housing. Panel (b) plots the new construction of Class A flats. Panel (c) plots the total supply of new public housing, as the sum of public rental housing and subsidized home-ownership scheme housing.

Even though the creation of new private housing supply was slow during 2004-2020, there was in fact a large increase in the building of low-value housing. As shown in Figure 3, the average number of new private sector houses built between 1997 and 2003 was around 26,900, but declined to an average of around 14,300 between 2004

and 2020. However, the new construction of small units increased. The number of new Class A unit (defined as those with saleable area less than 40 sq m) rose from 2122 in 2004 to 6622 in 2019. The number of new nano flats (defined as those with saleable area less than 20 sq m) increased from zero in 2012 to around 1,000 in 2019 (Our Hong Kong Foundation 2022). Changes in private housing supply therefore could not have driven the disproportionate rise in low-end housing prices.

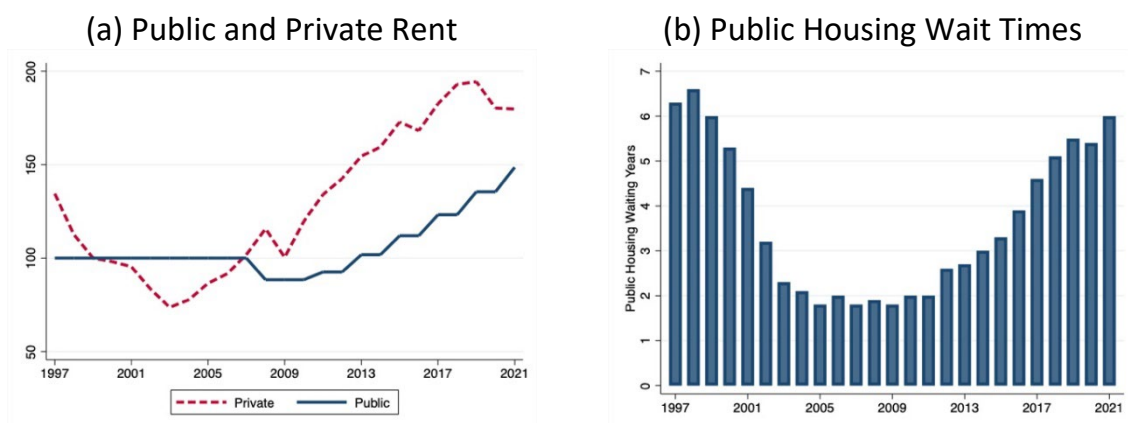
Rather, the rise in new construction of smaller units was the property market's response to increased demand for lower-quality private-sector units. Given that the prices of low-value private homes still soared, there was in fact too little new construction of low-value private homes. Recent policies to curtail the construction of small units will have the perverse effect of exacerbating the housing crisis.

Public Housing Availability

The remaining culprit for the sharp and uneven rise in housing prices is a reduction in public housing availability. As shown below, public housing became increasingly inaccessible to low-income households due to both reduced housing supply and unresponsive public-sector rents.

As shown in Figure 3 Panel (c), the supply of new public housing slowed from an average of approximately 44,000 between 1997 and 2003 to an average of around 15,000 between 2004 and 2017. Together with Panel (a), this confirms that overall housing supply slowed relative to housing demand beginning in 2004.

Figure 4: Public Housing Rent and Wait Times



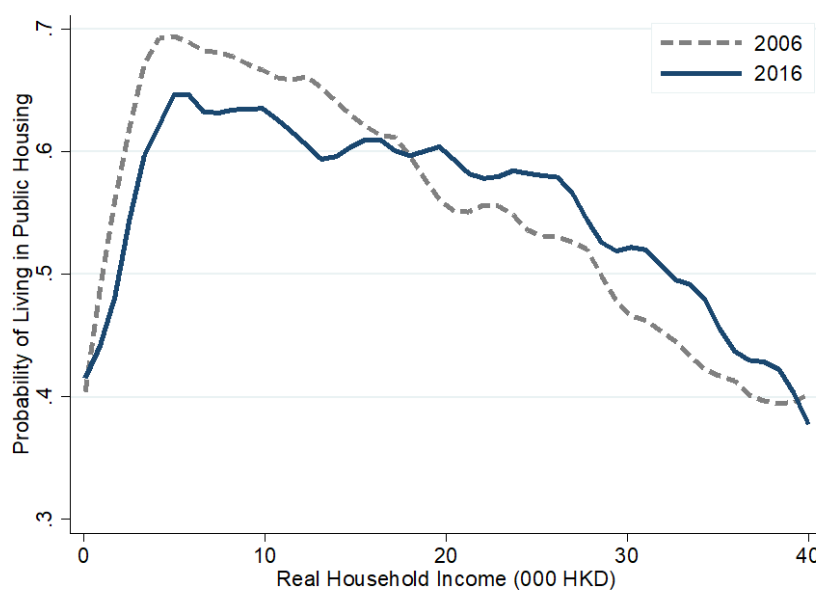
Sources: Rating and Valuation Department and Hong Kong Housing Authority.

Notes: Panel (a) plots the trend of private and public rent indices. Panel (b) plots the wait year for public housing.

Figure 4 Panel (a) confirms that public-sector rents adjusted much more slowly than private-sector rents throughout the study period. Between 1997 and 2007, there was no change in public-sector rents, even as private-sector rents fell sharply. In 2007, a rent adjustment mechanism was put in place, which tied rents to changes in an income index. However, public housing rent adjustments now lagged behind now rapidly increasing private-sector rents. Faced with rapidly increasing private-sector rents, incumbent public housing renters who might have moved to the private sector thus increasingly preferred to stay in public housing.

Figure 4 Panel (b) shows that periods of high private-sector rents relative to public-sector rents corresponded to longer public housing wait times. Public housing wait times declined from 1997 to a trough in 2004, as private-sector rents fell relative to public-sector rents. Wait times began to rise again after 2011, as private-sector rents increased relative to public-sector rents, from around two years to over six years by 2022.

Figure 5: Likelihood of Residing in Public Housing by Household Income



Notes: Figure plots the likelihood of residing in the public sector for households with different real monthly household incomes (in 2006 HKD) using 5% samples from the 2006 and 2016 Hong Kong Population Census. Local mean-smoothing with Epanechnikov kernel weights and a bandwidth of 1000 HKD is used. 95% confidence bands are included.

Figure 5 shows that the lowest-income households were less likely to live in public-sector homes in 2016 than in 2006. Furthermore, the relationship between public housing residence and household income considerably weakened. This implies that long wait times have worsened the ability of the low-income population to receive

public housing. Since a larger share of low-income renters now had to compete to rent low-end private housing, it is unsurprising that low-end housing prices spiked.

Conclusion

Hong Kong's unusual housing affordability crisis was caused by unresponsive public-sector rents that made low-end housing prices extraordinarily sensitive to inadequate housing supply. Because public-sector rent adjustment lagged behind rising market rents during 2004-2020, incumbent public renters became unwilling to move out to the private sector. As public housing wait times soared, a large segment of the lowest-income households had to compete for a small pool of low-end private-sector housing. The increase in prices for low-end housing was consequently not only sharp, but also many times greater than that for higher-end housing.

Increasing the supply of public rental housing will provide relief, but does not change the underlying dynamic. Even if there is more public rental housing, low-end private housing prices will remain highly sensitive to housing supply and demand conditions. If in the future housing demand grows faster than housing supply once more, then private-sector rents at the lower end will spike again. At that point, coffin homes and subdivided units will re-emerge. To prevent recurring housing crises, deeper reforms are necessary to not only ensure adequate supply, but also reorient Hong Kong's housing policy away from unresponsive rents and towards subsidized ownership instead.

A politically palatable step in this direction is to allow existing public owners to freely let their Homeownership Scheme and Tenant Purchase Scheme units without the payment of a land premium. This simple policy change benefits both public owners and low-income private renters and it does not raise the rents of public renters. Public owners would retain the option to stay in their units while gaining the option to earn rental income. Low-income private renters could then rent from a broader set of low-end units and hence will face less exorbitant rents. This reform can be done without significant administrative costs and does not require finding land for new construction. Given its lack of downsides, it is recommended that the administration enact this change as soon as possible.

In the longer run, the government should strongly consider selling public housing to sitting tenants at low prices and allowing buyers to lease out units. This way, the prices of low-end housing will no longer be so sensitive to housing market conditions, and subdivided houses will no longer be a recurrent feature of Hong Kong's housing market.

References

Kwan, Shawna. 2021. “Hong Kong Homes Ranked Least Affordable for 11th Year.” *Bloomberg*. Accessed at <https://www.bloomberg.com/news/articles/2021-02-23/hong-kong-homes-ranked-world-s-least-affordable-for-11th-year> on October 11, 2021.

Landvoigt, Tim, Monika Piazzesi and Martin Schneider. 2015. “The Housing Market(s) of San Diego.” *American Economic Review* 105(4):1371–1407.

Leung, Charles Ka Yui, Joe Cho Yiu Ng and Edward Chi Ho Tang. 2020a. “What do we know about housing supply? The case of Hong Kong SAR.” *Economic and Political Studies* 8(1):6–20.

Leung, Charles Ka Yui, Joe Cho Yiu Ng and Edward Chi Ho Tang. 2020b. “Why is the Hong Kong housing market unaffordable? Some stylized facts and estimations.” ISER Discussion Paper 1081 Institute of Social and Economic Research, Osaka University.

Our Hong Kong Foundation. 2022. “Supply Quick Fixes Exhausted: How to Navigate the Undercurrents Ahead?” Land and housing policy research report.

Taghizadeh-Hesary, Farhad, Naoyuki Yoshino, Aline Mortha, Alvin Chiu and Niki Naderi. 2020. “Internal and External Determinants of Housing Price Boom in Hong Kong.” *Buletin Ekonomi Moneter dan Perbankan* 23:597–620.

List of Contributors from HKU Business School

Professor Yuk-fai FONG	Associate Dean (Taught Postgraduate) Professor in Management and Strategy, and Economics
Professor Pingyang GAO	Area Head of Accounting and Law Professor in Accounting
Professor Zhenhua MAO	Professor of Practice in Economics
Dr. Rujing MENG	MFin Programme Director MFFinTech Programme Director Associate Professor of Teaching Associate Director, Asia Case Research Centre
Professor Heiwai TANG	Victor and William Fung Professor in Economics Director, Asia Global Institute Associate Director, Institute of China Economy Associate Director, Hong Kong Institute of Economics and Business Strategy
Dr. Michael B. WONG	Assistant Professor in Management and Strategy, and Economics
Professor Y.C. Richard WONG	Provost and Deputy Vice-Chancellor, The University of Hong Kong Chair of Economics Philip Wong Kennedy Wong Professor in Political Economy Director, Hong Kong Institute of Economics and Business Strategy
Dr. Yanhui WU	Associate Professor in Management and Strategy, and Economics
Dr. Yang YOU	Assistant Professor in Finance
Dr. Vera YUEN	Lecturer in Economics
Dr. Hongsong ZHANG	Associate Professor in Economics Associate Director, Institute of China Economy

**In alphabetical order of surname*