

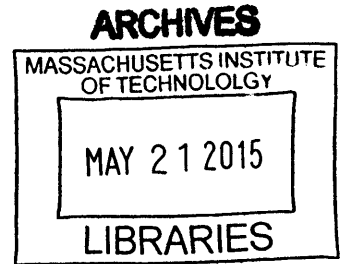
**Effects of Land Policies and Development Strategies on Housing:
A Case of Hong Kong**

by

Shu Wang

B.S., Architecture, 2011

McGill University



**Submitted to the Program in Real Estate Development in Conjunction with the Center for Real Estate in
Partial Fulfillment of the Requirements for the Degree of Master of Science in Real Estate Development**

at the

Massachusetts Institute of Technology

February, 2015

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ABSTRACT

The objective of this thesis is to investigate the effects of land supply on housing prices in Hong Kong. Studies will be carried out to define whether there are any correlation between land supply, housing supply and residential property prices. In order to better understand Hong Kong's housing market, this study will first present a background of establishment of Hong Kong's land tenure system, land administration system and the government's land sale process, while trying to answer the question of whether the perceived shortage in housing supply is a direct consequence of the shortage in government's land supply. The study then examines the concentration of market shares among a handful of developers and the high barrier to entry that have resulted in such anti-competitive environment. The study analyzes the leading developers' competitive advantages in terms of land bank and financial strength, and their housing supply strategies in relation to the government's land supply decisions.

This paper will then insert the theoretical findings into realistic settings of Hong Kong's housing development industry, and apply the methodology of event study to detect the impact of real estate companies' development strategies and how it alters the perceived relationship between the supply of land and the supply of housing. By simultaneously considering the effects of development strategies with government land policies, the paper aims to better evaluate governments measure to regulate housing market and hope to recommend more effective policies on residential land supply in Hong Kong.

Thesis Supervisor: Professor Albert Saiz

**Title: Daniel Rose Associate Professor of Urban Economics and Real Estate,
Department of Urban Studies and Center for Real Estate**

ACKNOWLEDGMENT

I wish to dedicate this thesis:

To my family, you know who you are: for loving me, believing in me, and making me brave.

To my advisor, Professor Albert Saiz: for your invaluable support and guidance, allowing me the freedom to choose the research direction, and inspiring me with your own brilliance. To Professor Bill Wheaton: for enlightening us with your pioneer work in the field of Land and Housing Economy. To Tricia: for helping us in every possible way, and always “having our backs”.

To my mentors at Sun Hung Kai Properties, Mike Wong, Robert Chan, Andy Mok, and Alonzo Cheng: for sharing your insightful industry knowledge with me, and providing kind assistance with the information for my thesis.

To my good friends, Alice Lin, Florent Bekerman, James Gibson, Pierre Bi, and Shuo Wang: for supporting me, understanding me, putting up with me; for your persistent efforts of dragging me out of the library, and teaching me to see the brighter side of things.

And to Steven Hu: for always being by my side even when you are not, and being my best motivation for thesis, and everything else in life.

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CHAPTER 1 INTRODUCTION

Why has Hong Kong remained one of the most expensive places to live in? An obvious answer would seem to be scarcity of developable land. But this scarcity is in fact more of a consequence of government's artificial restriction to supply, than the geographical limitation. The land system in Hong Kong is one that focuses on supply restriction and the resulting land shortage has been inducing the prevalent high cost setting of its property market. Empirical research has conclusively established that restriction on land supply raises urban housing prices. However, most of the previous researches have adopted a purely quantitative approach in search of a correlation factor between land market and housing market movement. There is rarely research that relates the effects of land policies to the development strategies employed by major real estate firms, which more than often alters the theoretical relationship between land supply and the supply of housing. Besides government's restriction on land supply, land and spacial monopolies by a few leading property developers have also been contributing to the artificially inflated housing price. The uncompetitive market structure has enabled the oligarchy to exercise market power and indirectly controls both supply and price of housing through their development strategies.

Thus, the objective of this thesis is to investigate the combined effects of land policies and development strategies on housing prices in Hong Kong. Hong Kong provides the ideal case study for this research due to several unique aspects of the city-state: land scarcity, high price, high volatility, and a concentration of market share among a small group of major property developers. Moreover, government has ownership over virtually all land in Hong Kong, and hence, absolute control of the time and volume of land supply released onto the property market.

This paper starts by examining the current situation of Hong Kong's housing market and some of the issues that have been imbedded in the system, such as low affordability and availability in both private and public housing sectors. Studies will be carried out to define the major factor that has been contributing to these issues. The hypothesis is that government's land policies and developers' strategies

are essential factors influencing housing output and prices. In order to better understand Hong Kong's housing market, this study will then present a background introduction of establishment of Hong Kong's land tenure system, land administration system and the government's land sale process, while trying to answer the question of whether the perceived shortage in housing supply is a direct consequence of the shortage in government's land supply. The study then examines the high concentration of market shares among a handful of developers and the barrier to entry that have resulted in such anti-competitive environment. The paper further analyzes the leading developers' competitive advantages in terms of land bank and financial strength, and their housing supply strategies in response to the government's land supply decision. The paper argues that the market power of developers derives not from their monopoly in the actually building process but from their monopoly in the market for developable land. Since, in Hong Kong, the access to developable land equals the possession of market power and indirect control of housing prices.

The years around 1997 are a turbulent age for Hong Kong due to the transfer in sovereignty from Britain to China. The city-state went through major political, economical and social changes. The housing market fluctuated as the result of a series of changes in land supply policies and restructuring in government's land administration departments. Therefore, this thesis focuses on the period from 1980 to 2002 to investigate in the impact of various land policies on residential property development using evidence from the land market during this transitional period. However, it is observed that, often times, government land disposal measures lead to results different from what they have previously anticipated. For instance, the implementation of the restriction of 50-hectare land supply per year did not incur a resulting supply shortage in housing units, nor did the 9 month land sale suspension implemented in 1998. This result agrees with Peng and Wheaton's prediction in their 1994 research paper. On the contrary, from 1970 to 1981, government failed at its attempt to cool down the housing market by tripling sales of developable land; housing supply did not increase immediately as government expected, and housing price continued rising.

As Lai and Wong suggested, the missing link between land supply and housing supply is the result of real estate developer's profit-maximization decisions. Due to their oligopolistic position in the residential property market, they were able to independently decide on the amount of housing supply and the schedule to release those supply. Therefore, leading property developers indirectly controls the price of residential market. The findings from this paper indicate that it is important to consider the real estate firms development strategies when evaluating public policies related to the property market.

The lack of a reliable measure of the existence or developers profit maximization strategies impedes the debate and enacting of government policies aiming at a healthier and more sustainable housing market. Evaluating the effect of market competition and the result of business decisions are, however, challenging through quantitative measures. Therefore, this study employed the method of event study analysis in order to examine how these development strategies modify the perceived relationship between land supply and housing supply. There exists economic profits derived from these big developers anti-competitive behavior, which harms consumers' benefits, not only because the developers overcharge consumers for the cost of building space but also because the developer have incentives to restrict their own housing production in order to artificially drive up housing price. The result shows that the developers' strategies are conducive of the mismatch of composition between housing supply and the needs of the general public. From there, the paper concludes that government's simply increasing the land supply is not an adequate solution to solve the issue of housing supply shortage.

By inserting theoretical finding of correlation between land supply and housing price into the realistic context of Hong Kong's unique development setting, and analyzing the joint effects of government's land policies and developer's strategies, the paper examined two land supply scenarios respectively. The study concluded that when government releases more land on the market, it doesn't necessarily increase the housing production, and price will only cool down after a period of lag. Reverseely, when government

implements land sale restriction, the resulting land shortage will cause higher housing price, but not necessarily a supply shortage for housing units.

While of course the magnitude of the outcome varies with different exogenous factors, hopefully the findings of this study will provide ways to better evaluate and introduce effective policies on land supply in efforts to improve Hong Kong's current housing market condition.

CHAPTER 2 AN OVERVIEW OF HONG KONG

The discussion on residential property market is especially interesting in the context of Hong Kong for several reasons. First of all, in Hong Kong, property market plays a dominant role in Hong Kong's economy; and residential property market is the most correlated to the land supply market. In 2010, real estate service accounted for 5% of Hong Kong's GDP, while the housing costs comprised 31.7% of the Hong Kong CPI basket.¹ Second, Hong Kong's geographic boundary is fixed by the Basic law, the region cannot expand its boundary like other cities, hence the land supply is potentially a binding constraint. Besides its natural constraint on land supply, the amount of new land available for development in Hong Kong is directly controlled by its government. Hong Kong's government has the sole ownership of land in Hong Kong, and controls when and how much new land will be put on the market, as well as the uses allowed on this land. Finally, there have been dramatic swings in housing price in Hong Kong over the past few decades. For example, the territory-wide housing price index more than octupled for the period between 1985 and 2011.² Interestingly, there have also been several drastic changes in Hong Kong's land control policy; these conditions provided us with good anecdotes to observe the relationship between land restrictions and property prices. For example, the land supply restriction due to the signing of the Sino-British Declaration caused a major shock on the real estate market back then and is probably leaving a perpetual impact on the property market even as of today. A close look at the major factors causing Hong

¹ Dong He, Property prices, inflation, and policy challenges in Hong Kong

² Funke, Michael, and Michael Paetz. "Housing Prices and the Business Cycle: An Empirical Application to Hong Kong." *Journal of Housing Economics* 22 (2013): 62-76.

Kong's sky-high property price, especially the government's artificially crated land supply shortage could derive useful information for future policy making and governmental corrective strategies for the wellbeing of Hong Kong's housing market.

2.1 Hong Kong's Political Background

2.1.1 The History of Hong Kong

On July 1st 1997, sovereignty of Hong Kong was transferred to the People's Republic of China (PRC), ending over one and a half century long British administration that started in 1842. As stipulated in the Basic Law of Hong Kong³, today's Hong Kong is governed under the principles of "one country, two systems", under which China has agreed to give the region a high degree of autonomy and to preserve its economic and social systems for 50 years from the date of the handover. It has been allowed to maintain its own legal system, monetary system, customs and immigration policy, police force, and delegates to international organization and events. While China controls Hong Kong's foreign and defense policies, but the territory has its own currency and customs status.

In fact, Hong Kong has undergone a series of significant political struggles. China ceded Hong Kong Island to Britain in 1842 after the First Opium War under the Treaty of Nanking, which was signed on 29th august 1842 and ratified on 26th June 1843. Furthermore, under the Treaty of Tientsin and Convention of Peking, signed 1860, Kowloon Peninsula and Stonecutter's island were also ceded to Britain 'in perpetuity'. In the Second Convention of Peking, which was signed on 9th June 1898 and came into effect on 1st July 1898, the rest of Kowloon Peninsula south of Shenzhen River and the 230 surrounding islands, collectively know as the New Territories, was leased to Britain for 99 years, ending at midnight on 30th June 1997.

³ The Basic Law of Hong Kong SAR (Hong Kong Special Administrative Region) serves as a constitutional document for Hong Kong.

2.1.2 The Change in Sovereignty

In the late 1970s, people started questioning the future of Hong Kong due to its uncertain political status. The Sino-British negotiation took place during the early 1980s to determine the future of Hong Kong. After resolving all the conflicts, the agreement, recognized as the Sino-British joint declaration, was signed on 19th December 1984. With the signing and ratification of the Sino-British Joint Declaration, a restriction of new land supplies to 50 hectares per annum was implemented from 1984 to 1997, and a Sino-British Land Commission was designated to monitor such restriction. The reason behind this stringent control was Deng Xiao Ping's prevention of the British Government selling excessive land stock and use the revenue on administrative matters, which Deng worried would leave an outstanding liability to the new Hong Kong SAR government after the handover in 1997. ⁴ The effect of this sudden land supply restriction will be discussed in more details in the later section of the paper.

2.1.3 The New Relationship between Hong Kong and Mainland China

Since the handover, the new relation of the Special administrative region of Hong Kong (SAR) with Mainland has brought significant changes to Hong Kong. One notable change is the capital influx from China that has boosted real estate and the retail sector. Trade ties between Hong Kong and China have strengthened so much that Hong Kong is now Mainland's biggest source of foreign investment. Hong Kong is also the top destination for investment for the Mainland, as well as tourism destination. While the Chinese capital has greatly stimulated business in Hong Kong, China's political and economical environment has prominent effects over Hong Kong's market in both directions.

⁴ Wong, K.C., Chau, K.W. and Ma, S.M. (1999). "The disposal of the Hong Kong land stock under the Sino-British Joint Declaration", *Journal of Property Research*, 16(4), 323-337

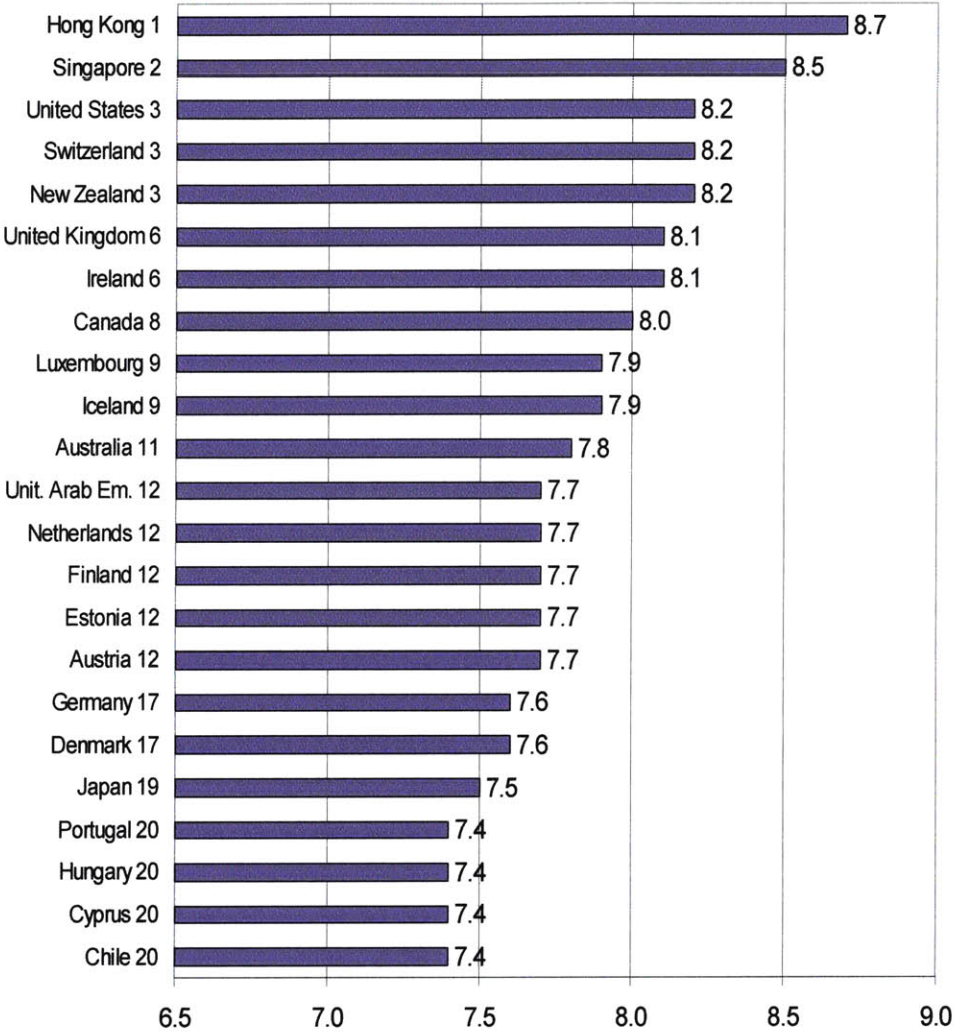
2.2 Hong Kong's Economic Background

2.2.1 Hong Kong's Free Economy

For 17 consecutive years, Hong Kong has been named the world's freest economy by the U.S. based Heritage Foundation in its 2014 Index of Economic Freedom Report. Out of a total score of 10 on the index, Hong Kong achieved a high score of 8.7; Singapore came in a close second at 8.6; while New Zealand, Switzerland, Britain, and the United States tied for third with a score of 8.2.⁵ As one of the world's leading international financial centers, Hong Kong's free market economy is characterized by its low taxation, free port trade, a transparent legal system, private ownerships of most utilities, the absence of tariffs and foreign exchange controls, and minimal government intervention in industries. Its economy is governed under positive non-interventionism, and highly dependent on international trade and finance. The late economist Milton Friedman once praised Hong Kong as the perfect free market model. Free market policies indeed transformed Hong Kong from a city of refugees to a prosperous international financial center.

⁵ The Fraser Institute, Economic Freedom of the World – 2006 Annual Report

Figure 2-1: Summary of Economic Freedom Ratings (Top 20), 2014



Source: The Fraser Institute, Economic Freedom of the World — 2014 Annual Report

2.2.2 Laissez-Faire Philosophy vs. Market Oligopoly

On the other hand, what the city’s advocates failed to see is that free economy is a double-sided sword. On the positive side, Hong Kong government’s laissez-faire philosophy has attracted companies to establish and grow in Hong Kong in the past few decades, transforming Hong Kong from a modest

trading entrepot to the international acclaimed financial center today. On the other hand, however, it has been a catalyst in an anti-competitive business environment, which has resulted in unbridled market power and economic concentration. Due to the lack of comprehensive competition policy and a regulatory body, the government's non-interventionism allowed the rise to power of big real estate corporations and at the same time, conveniently protects their interest.

An example of the government's laxity under the name of "free economy" can be found in 2010, against the backdrop of the forming of another big real estate bubble. With the market clearing overheating, government only planned for two lots of land to be auctioned and was reluctant to resume regular auctions, despite of the fact that housing supply had been seriously falling behind real demand over the last five years. According to data from Hong Kong's rating and valuation department, residential vacancy rate dropped from 6.8% in 2003 to 4.3% in 2009. Residential rental levels rose 15.4% between the first and fourth quarters in 2009 and the steep rise continued till 2011.⁶ In 2008, completed housing units decreased by 16.1% to 8800 units, the first time in two decades that the figure is below 10,000.⁷ At the same time, government chose to sit tight and let the developers have the complete control over the schedule, amount, and composition of housing production.

2.2.3 Real Estate Industry's Role in Hong Kong's Economy

Over the past decades Hong Kong has transformed from a manufacture-based economy to one that's service base, with 93% of GDP contributed by service industries. The property market is an important driver of the territory's macroeconomic outcomes. In 2010, real estate service accounted for 5% of GDP, while the housing costs comprised 31.7% of the Hong Kong CPI basket.⁸ Hong Kong's listed real estate market has long been one of the largest in the world (See Table 2-1). In April 2007, Hong Kong ranked fourth for its listed real estate market, in terms of market capitalization. At the end of June 2007, Hong

⁶ Poon, Alice. *Land and the Ruling Class in Hong Kong*. Singapore: Enrich Professional Pub., 2011.

⁷ CB Richard Ellis' Survey (www.cbre.com)

⁸ He, Dong. "Property Prices, Inflation and Policy Challenges in Hong Kong." 2012

Kong took up 18.01% of the total country weight in the S&P global Property 40 Index, which contains eight listed Hong Kong real estate companies and represents the third largest country weight after Japan (25.22%) and the United States (21.71%). The two largest Hong Kong real estate companies, Cheung Kong Holdings and Sun Hung Kai Properties, even ranked 3rd and 6th, respectively in the top 10 companies in the world that comprise the S&P Global Property 40 Index in terms of market capitalization (See Table 2-2).

Table 2-1: Listed Real Estate Companies in the S&P Global Property 40 Index

Rank	Country	Equity Market Cap. (US\$ Million)	Global Share	Cumulative Share
1	United States	367,600	35.66%	35.66%
2	Japan	141,690	13.75%	49.41%
3	Australia	113,993	11.06%	60.46%
4	Hong Kong	88,708	8.61%	69.07%
5	United Kingdom	87,687	8.51%	77.58%
6	Singapore	36,596	3.55%	81.13%
7	France	31,161	3.02%	84.15%
8	Austria	25,388	2.46%	86.61%
9	Netherlands	21,145	2.05%	88.66%
10	Canada	20,967	2.03%	90.70%
11	China	19,197	1.86%	92.56%
12	Sweden	11,151	1.08%	93.64%
13	Germany	10,373	1.01%	94.65%
14	South Africa	6,400	0.62%	95.27%
15	Italy	5,680	0.55%	95.82%
16	Switzerland	5,421	0.53%	96.34%
17	Taiwan	5,194	0.50%	96.85%
18	Belgium	4,725	0.46%	97.31%
19	Spain	4,037	0.39%	97.70%
20	Philippines	3,220	0.31%	98.01%

Source: S&P Global Property 40 Index Factsheet, 2007

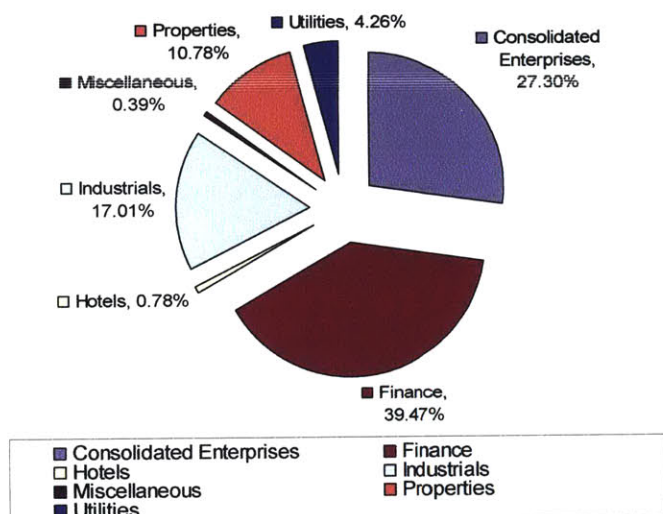
Table 2-2: Global Real Estate Index Performance of Listed Property Markets

Rank	Country	Company	Floated Adjusted Market Cap (US\$Million)	Index Weight
1	Japan	Mitsubishi Estate	31,461.3	9.86%
2	Japan	Mitsui Fudosan	22,326.9	7.39%
3	Hong Kong	Cheung Kong (Holdings), Ltd.	19,100.5	5.43%
4	U.K.	Land Securities	16,451.3	5.16%
5	Japan	Sumitomo Realty & Dev.	14,158.5	4.80%
6	Hong Kong	Sun Hung Kai Properties, Ltd.	16,685.0	4.76%
7	U.K.	British Land Company plc	14,022.8	4.48%
8	U.S.	ProLogis	14,600.3	4.29%
9	U.S.	Vornado Realty Trust	14,345.5	4.10%
10	France	Unibail – Rodamco SA	19,019.9	3.58%

Source: S&P Global Property 40 Index Factsheet, 2007

In the Stock Exchange of Hong Kong Limited (SEHK), the property sector has 10.78% of its total market capitalization, ranking fourth after the financial sector, consolidated enterprises, and utilities (Figure 2-2). In December 2006, ten real estate companies successfully positioned themselves among the 50 leading companies in the SEHK in terms of market capitalization, with a combine value of 897,193 HKD million (Table 2-3).

Figure 2-2: Hong Kong Capital Market's Composition



Source: HKEx Fact Book, 2006 (Year-end Percentage)

Source: HKEx Fact Book, 2006 (Year-end Percentage)

Table 2-3: Real Estate Companies among the 50 Leading Companies (2006)

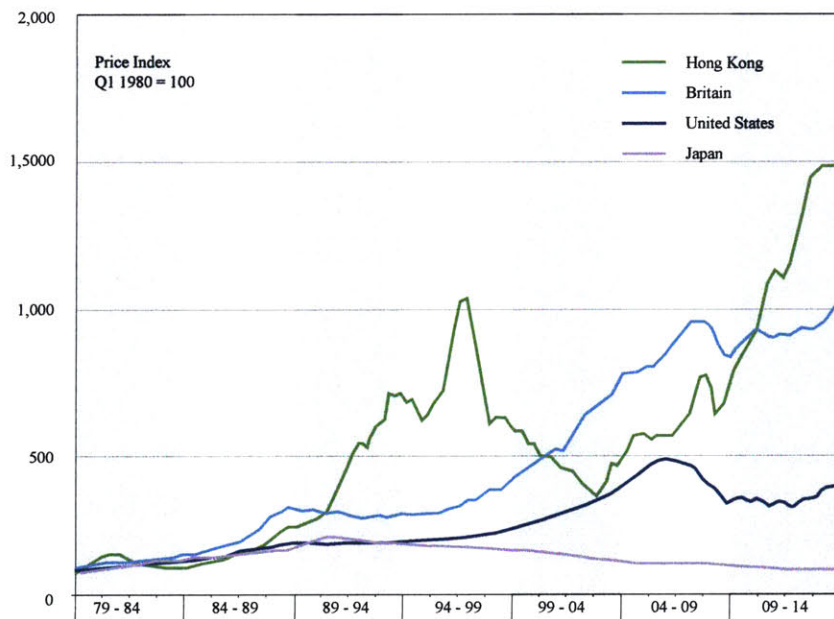
Rank	Company	Market Capitalization (HK\$million)	% of Market Total (%)
11	Sun Hung Kai Properties	222,645.31	1.68
12	Cheung Kong (Holdings)	221,772.74	1.67
28	Henderson Land Development Co.	84,502.33	0.64
30	Sino Land Co.	81,572.14	0.62
32	Hang Lung Properties	80,777.48	0.61
35	China Overseas Land & Inv. Ltd.	73,018.51	0.55
36	Wharf (Holdings)	70,376.45	0.53
41	New World Development Co.	57,376.43	0.43
47	Kerry Properties	44,968.48	0.34
49	Shimao Property Holdings	44,686.05	0.34
	Total	897,193.59	7.41
	Market total	13,248,820.50	100.00

Source: HKEx Fact Book, 2006 (Year-end percentage)

2.3 The Unique Position of Hong Kong's Real Estate Market

In summary, Hong Kong has been able to transform into one of the most active international financial service center from a small fishing village in just a few centuries. Its unique position in terms of its political and economic environment fostered this remarkable transformation. This 1,104 –square kilometer -city ranks the world's seventh largest by market capitalization, while its listed real estate market ranks the world's fourth largest by market capitalization, demonstrating the dominant role real estate industry plays in Hong Kong. However, Hong Kong's real estate market has also been proven to be one of the most unaffordable and volatile in the world (Figure 2-3).

Figure 2-3: International House Price Index Comparison

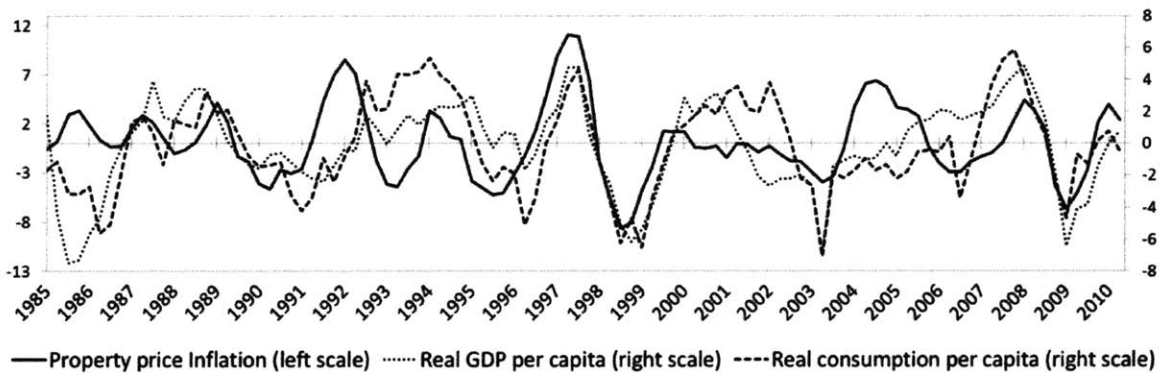


Sources: BIS; Census and Statistics Department

CHAPTER 3 AN OVERVIEW ON HONG KONG'S HOUSING MARKET

Hong Kong makes an ideal case study for analyzing factors contributing to real estate prices as it has experienced large swings in housing prices in recent decades. Moreover, home-ownership is widespread and the substantial amount of household wealth is tied up in housing. Figure 3-1 displays the development of Hong Kong's nominal residential property price inflation (solid line), real per-capita GDP (dotted line), and real per-capita consumption (broken solid line) over the period 1985Q1-2010Q2.

Figure 3-1: Hong Kong's Property Price, Real Per-Capital GDP and Real Per-Capita Consumption

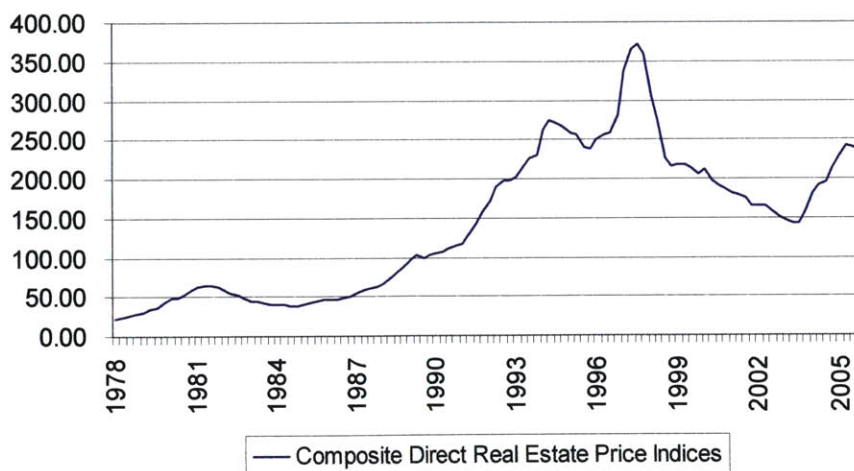


Source: M. Funke, M. Patetz/ *Journal of Housing Economics* 22 (2013) 62-76

3.1 Volatility of Hong Kong's Housing Market

The Hong Kong housing market experienced two major boom and bust cycles over the period of 1985-2010. The first property bubble emerged right before the Asian financial crisis when residential property prices climb 65% between 1995Q2 and 1997Q3. After the crisis struck, housing prices plummeted 36% in just twelve months (October 1997-October 1998) before settling into a slower rate of decline. Residential property prices overall fell 65% from the 1997 peak to their low point in 2003Q3. Prices rose 63% from July 2003 to May 2005, then stalled in the first half of 2006, before climbing up another 32.4% between mid-2006 and mid-2008. When the global financial tsunami hit, prices fell 17% between June and December 2008, then rebounded and rose 20% from end-2008 to August 2009. The price surge has since continued and prices have gone up one-third by 2011.⁹ The region-wide housing price index more than octupled between 1985 and 2011. Since then, the residential property market has risen relentlessly for four years, but a severe price correction now threatens, due to a combination of surge in new supply, cooling measures and China's slowing economy growth.¹⁰

Figure 3-2: Composite Price Indices of Hong Kong's Property Market

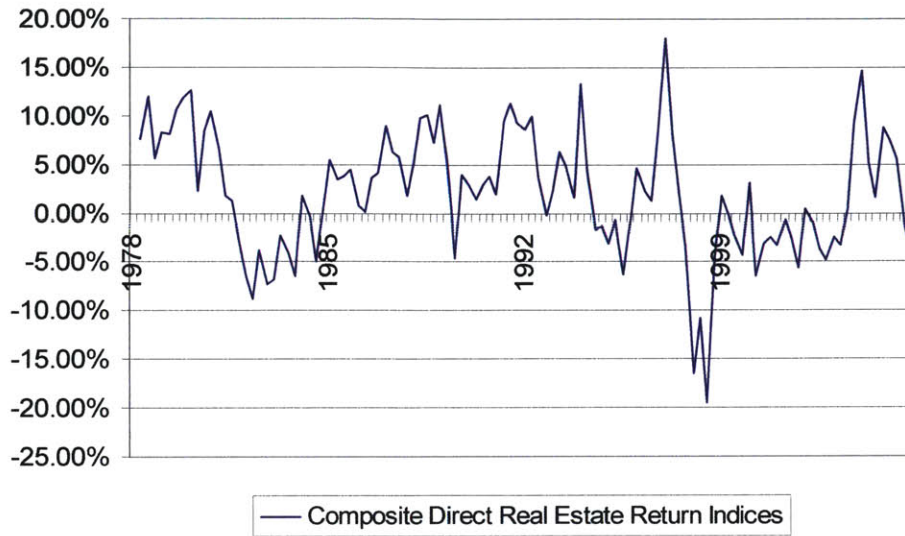


Source: Rating and Valuation Department Hong Kong Property Review

⁹ Leung Chun-ying's website (www.cyleung.hk)

¹⁰ Global Property Guide (www.globalpropertyguide.com)

Figure 3-3: Composite Return Indices of Hong Kong's Property Market



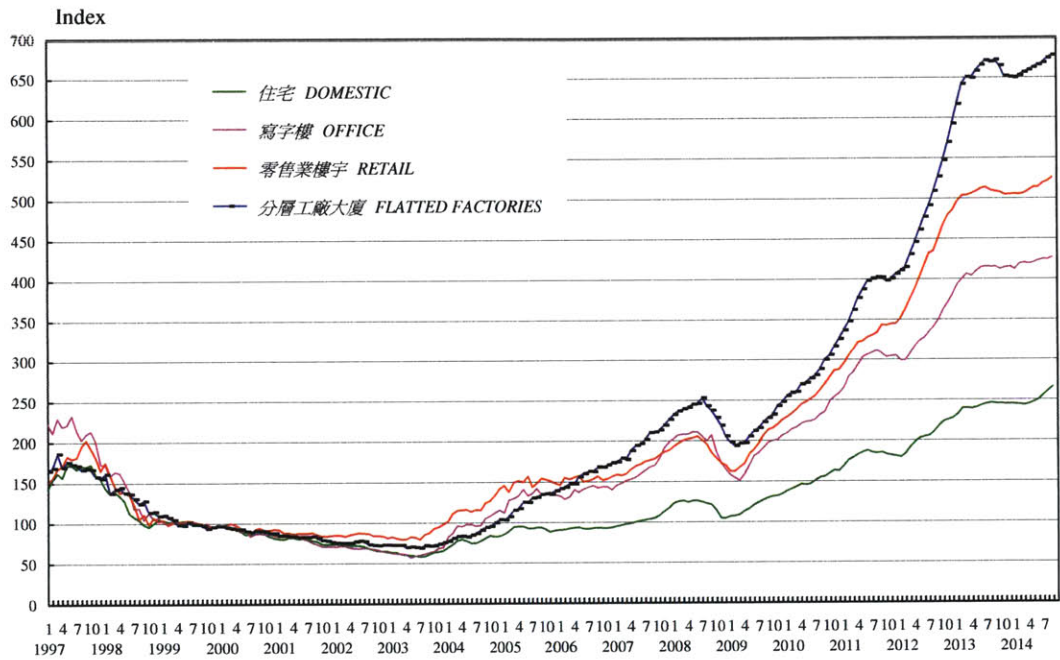
Source: Rating and Valuation Department Hong Kong Property Review

3.2 Sky-High Housing Price

After a persistent period of fluctuating demand and volatile property rates, Hong Kong's housing prices have increased to more than double since the wake of 2008's global financial crisis. While the overall, monthly median earnings have only increased by 30% over the last 10 years, and Hong Kong's GDP has jumped 60%. Although the city's economy has grown, such "economic improvement doesn't benefit the majority of the people," said Paul Yip, a professor at Hong Kong University. Hong Kong's sky-high property price has caught international attention. The residential properties here rank the third most expensive in the world with an average price of US\$ 22,814 per Sq. m, after Monaco (US\$ 60,114) and London (US\$ 34,531).¹ According to Cushman& Wakefield, the average office property rent in Hong Kong is US\$ 2,248 per Sq.m per year, only second to London (US\$ 3,332).² Hong Kong also ranks the second most expensive area in terms of leasing retail with \$2,735 per Sq.m per year, only after Manhattan (\$3,500). Hong Kong's average home prices had recently hit a new record high in June 2014, a day after Sun hung Kai Properties began marketing the world's most expensive house per square foot in the city's premium Peak District. The property is listed at 819.1 million Hong Kong dollars (US\$105.7 million), if

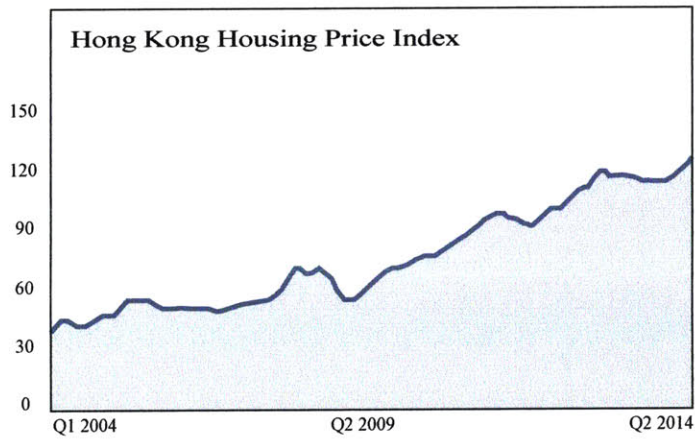
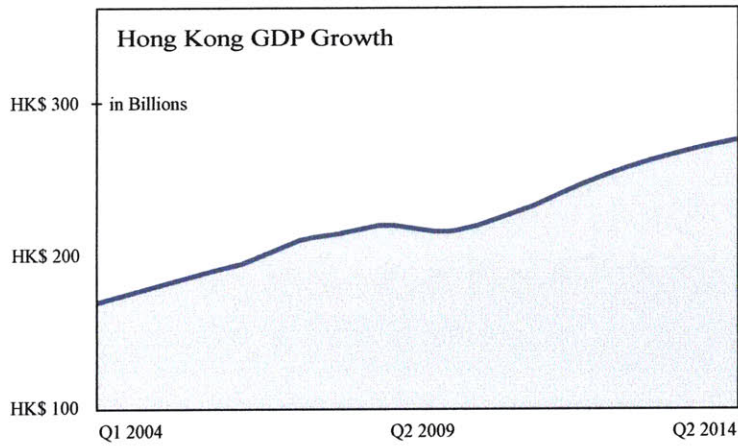
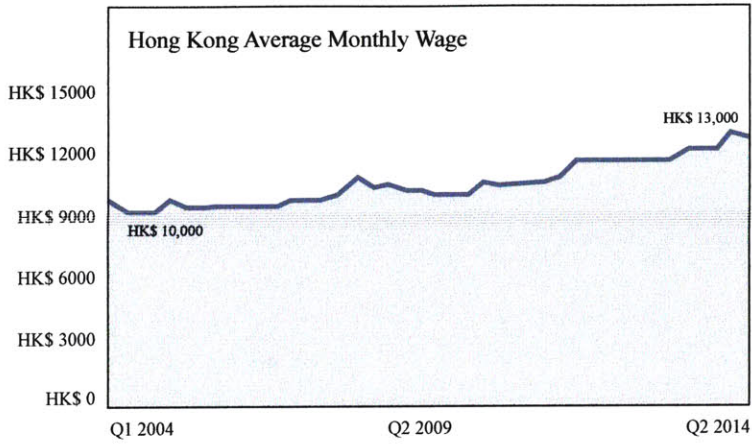
a buyer pays full price, it would represent a cost of HK\$ 175,735 (US\$ 22,664) per square foot, which makes it the world's most expensive home ever sold on a per square foot basis.

Figure 3-4: Price Indices for Hong Kong Property Market (1999=100)



Source: Rating and Valuation Department Hong Kong Property Review

Figure 3-5: Growth Comparison between Wage, GDP and Housing Prices

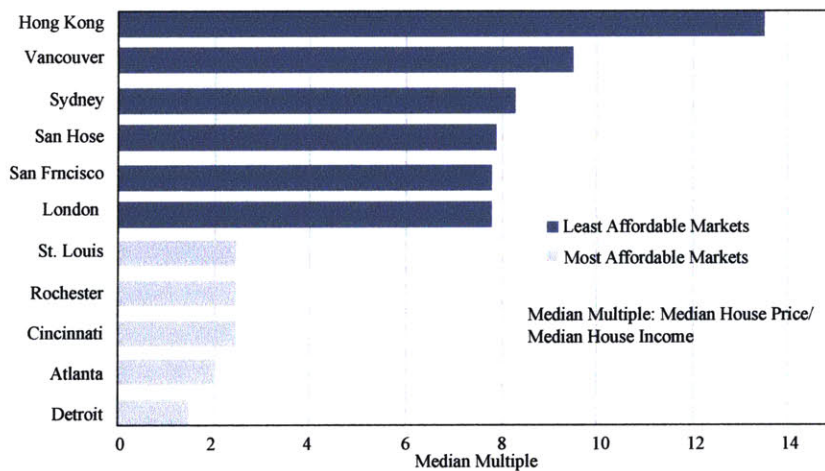


Source: Centerdata, CLSA

3.2.1 Housing Price vs. Average Income

While Hong Kong's housing ranks as the costliest in the world, it also ranks on the first place in the world in terms of Housing Price to Income ratio, which indicates an extremely low-affordability of its housing market. According to Demographia, in 2011, when Hong Kong's Price to Income ratio was 12.6, Singapore's was only 4.4, Los Angeles's was 5.7 and London's was 6.9.¹¹ Property valuation is still highly stretched relative to household income and the fundamentals, while housing affordability remains low. During the past 4 years, the growth rate of housing price has been increasing at a speed almost double that of household income growth. As a result, the Median Price to Income Ratio has been escalating from 11.4 in 2010 to 14.5 in 2014. The ratio of 14.5 is at a level comparable to the 1997 peak right before the housing bubble busted at the wake of the Asian financial turmoil, and the income-gearing ratio is staying high at 64.1%, 14.1% higher than its long-term average of 50%.

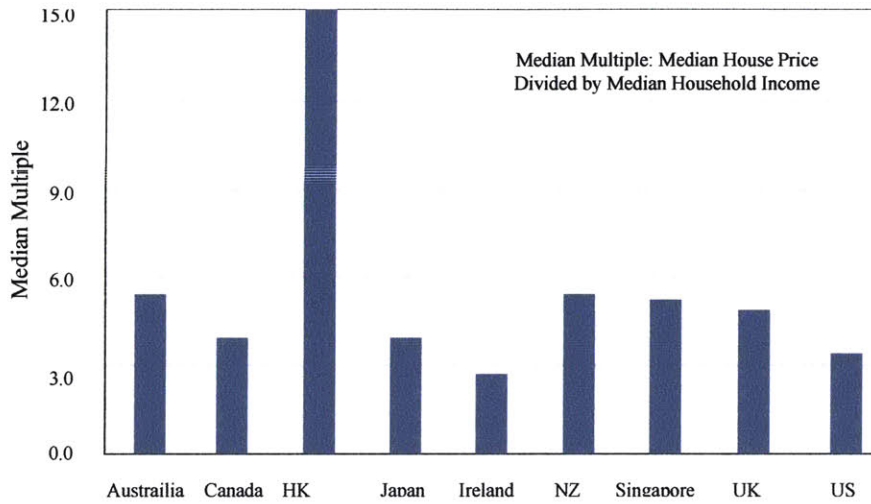
Figure 3-6: Most & Least Affordable Major Markets in 2013



Source: Demographia

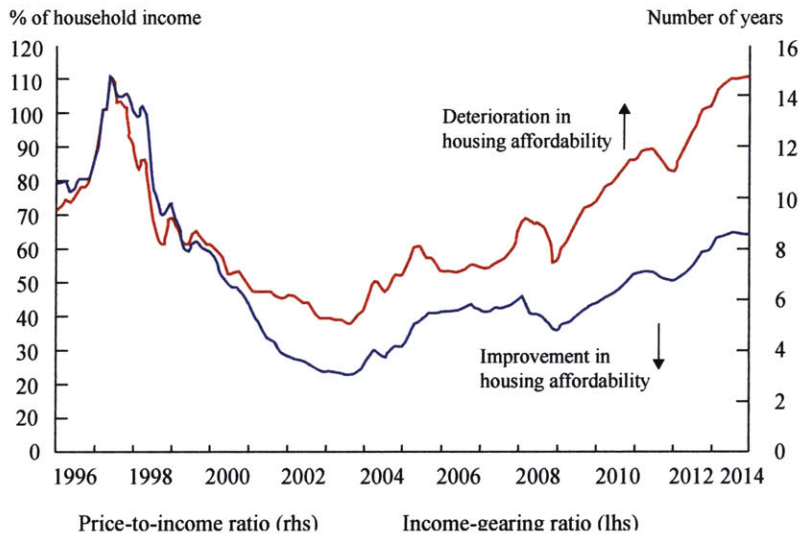
¹¹ Bertaud, A. (2014). 10th Annual Demographia International Housing Affordability Survey. (www.demographia.com/dhi.pdf)

Figure 3-7: Overall Housing Affordability in 2013



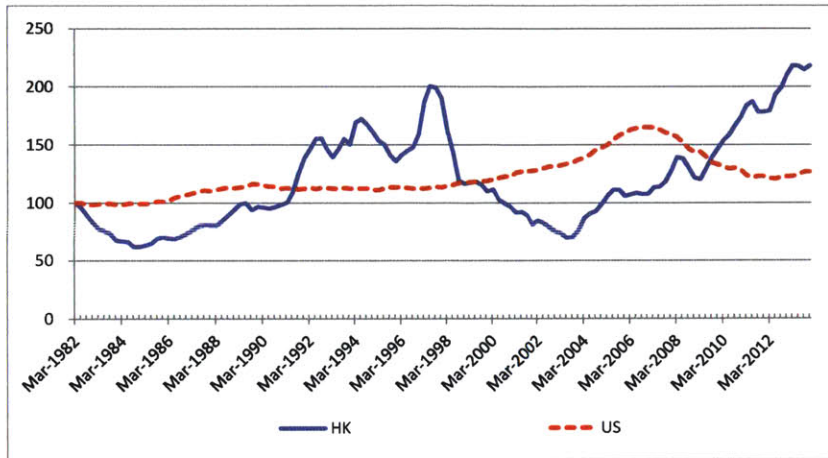
Source: Demographia

Figure 3-8: Indicators of Housing Affordability



Source: R&V, C&SD and HKMA staff estimates

Figure 3-9: Time Plot of Housing Price Index relative to Wage Index



Source: Rating and Valuation Department and Census and Statics Department, Hong Kong SAR government; Federal Monetary Fund; Federal Housing Finance Agency

3.2.2 The Widening Income Gap

In 2009, Hong Kong has a GDP per capita in 2009 of almost US\$43,000, which is on par with Switzerland. However, on top of the region's housing un-affordability issues, it also scores a high Gini index (rich-poor gap measure) of 43.3, which closely follows Central Africa Republic's 43.6 and is higher than Mainland China's 41.5. Hong Kong is the third most expensive Asian city to live in; it is the fourth priciest world city to own a home (at US\$ 1,382 a square foot, which is ahead of Tokyo) and it has the second costliest retail space in the world. Yet, despite of the overall economical strength and wealth of Hong Kong, it is apparent that this society's rich-poor gap is on equal footing with third world counties, which has brought despair for the medium to lower income group, and the young. The problem of "high land price policy" has been deeply imbedded in the land system and real estate market, distorting the entire property market's price structure.

Although Hong Kong's minimum wages rose from HK\$28 per hour (US\$3.61) to HK\$30 (US\$3.87) in May 2014, more improvement still needs to be done. The city has only had a minimum wage since 2011, and it's only been raised once. For those in the middle-income group, monthly median wages haven't

budgeted an inch since 2001, and are still hovering at HK\$8,000 (US\$1,031). Buying an apartment on Hong Kong island of less than 400 square feet now costs on average HK\$5.23 million (US\$675,000), and average monthly rent for a place that size is HK\$16,560 (US\$2,136). Homes on the outskirts of the city aren't much cheaper; places under 400 square feet in the New Territories still cost on average HK\$3.68 million (US\$476,000). Owning or renting takes a big chunk out of people's paycheck, meaning far less disposable income and lower quality of life, Yip said.¹² In 2014, it is measured that an average person in Hong Kong could only afford to purchase 11.8 square feet of housing with his or her annual income, which is in sharp contrast with Japan's 103 square feet per person. See table from CIEC. Moreover, if we further divide people into different income groups, the problem of unaffordable housing is not limited to just the lower-income group. While, people working at the supervisory level can only afford 30 square feet of a typical-sized (Classes A,B, and C) flat, or less than 20 sq ft of a luxurious (Classes D and E) flat. And of course, the affordability and housing quality are even lower for employees with lower income level.¹³

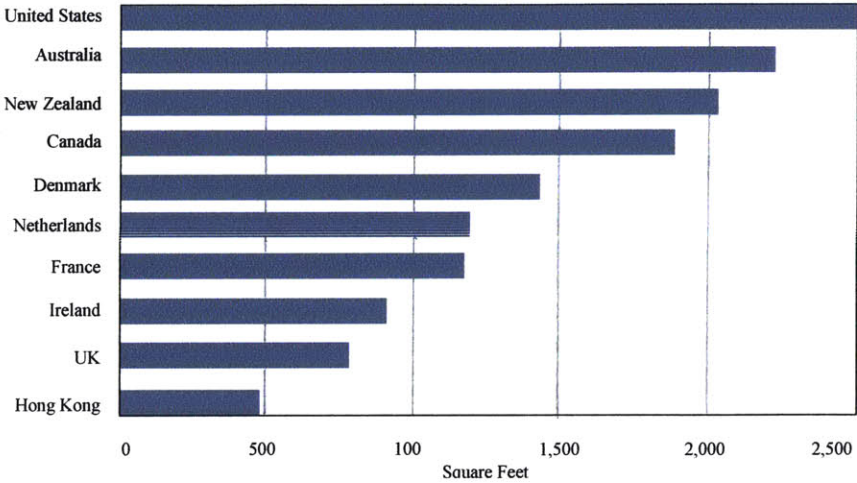
3.3 Housing Unit Size and Development Density

On top of the high property price, housing size in Hong Kong is notorious to be very small, the average living space is estimated to be 452 square feet per household, which is less than 50% of Singapore (1,044 square feet), and not to mention US (2,476 square feet). And housing space per capita is as low as 161 square feet per capita. Considering the extremely high home price in Hong Kong, the living condition is relatively poor and the price is even higher on a per square foot basis. Based on previous economic analysis, it can be concluded that the real estate market in Hong Kong is problematic in terms of affordability issues.

¹² <http://money.cnn.com/2014/11/06/news/economy/hong-kong-income-inequality/>

¹³ Class A apartments are defined to be less than 40 m², Class B from 40 m² to 69.9 m², Class C from 70 m² to 99.9 m². Class D from 100 m² to 159.9 m², and Class E 160 m² or above.

Figure 3-10: Average New Home Size



Source: Demographia

Chapter 4 LAND SUPPLY ON RESIDENTIAL PROPERTY MARKET

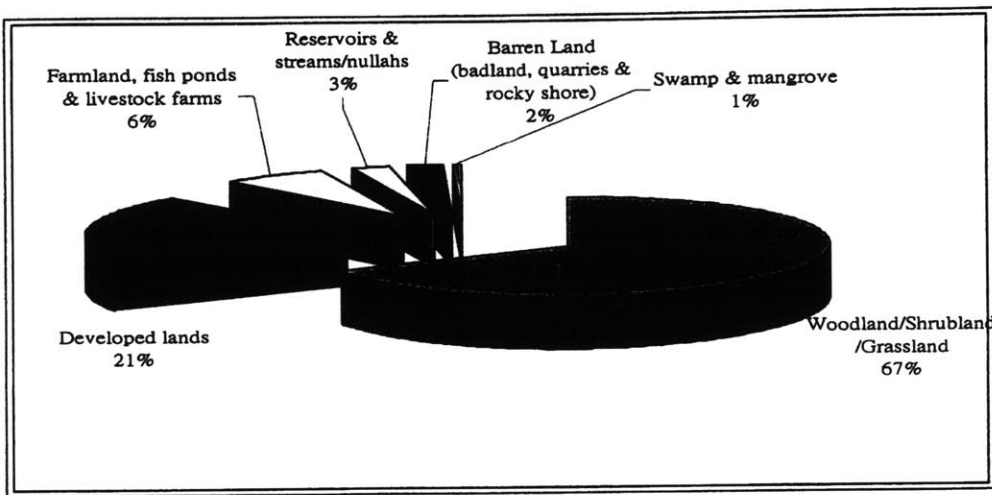
Why has Hong Kong remained one of the most expensive places to live and do business in? An obvious answer would seem to be scarcity of usable land. But this scarcity is in fact more of a function of government applying artificial restriction to supply, than in actuality. The land system in Hong Kong is one that focuses on supply restriction and the resulting artificial land shortage has been the cause of Hong Kong low affordability in the housing market.

4.1 Land use in Hong Kong

Hong Kong’s land is scarce. Due to the geographical limitation, and the binding constrain under the Basic Law of Hong Kong, the region has a binding constrain of its boundaries. Hong Kong has a total land area of 1,104 square kilometers. Only about 24%(260 square kilometers) is classified as developable, the rest is characterized as woodland/wetland. More than a third of that developable land has been artificially produced by reclamation, primarily on the coasts of Hong Kong Island and Kowloon. Hong Kong has 229.84 km² land that has already been developed, accounting for 21% of the total land area. Figure 4-1

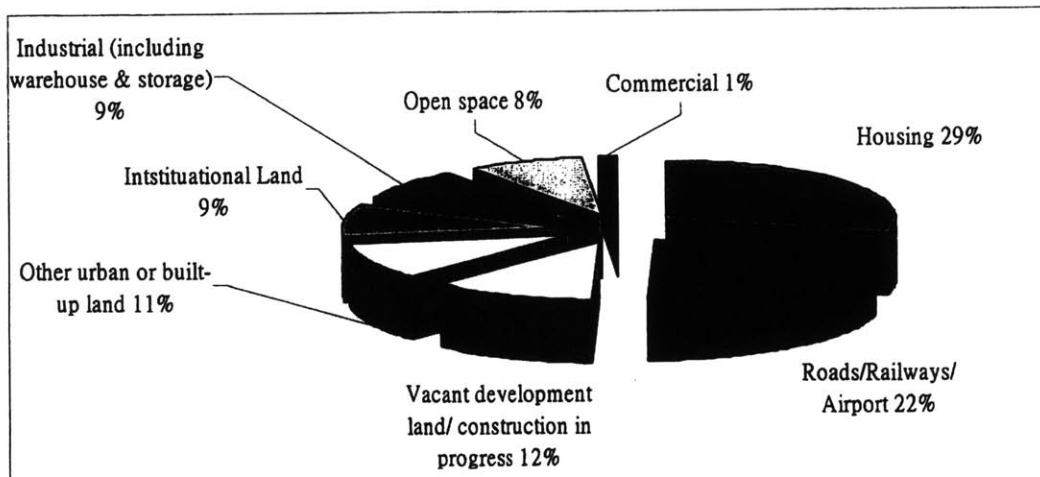
and 4-2 indicate the variety of land use patterns and programs of developed lands in Kong Hong as of 30 December 2000. Among the 229.84 km² of developed lands, 67 km² were for residential development, taking up only 29% of the total developed land area. These include 24 km² of private residential land, and 27 km² of rural settlements (Planning Department, 2010). Despite the small proportion of residential lands, figure 4-2 shows that there was 27 km² of vacant development lands available, which is equivalent to 12% of the developed land area.

Figure 4-1: Chart of land use pattern in Hong Kong



Sources: Hong Kong Government, Planning Department

Figure 4-2: Chart of usage of developed lands in Hong Kong



Sources: Hong Kong Government, Planning Department

4.2. Availability of Land

The supply of private housing units is directly linked to the availability of developable land. A shortage in the supply of residential land will raise the property prices due to decrease in the number of housing units. According to Consumer Council (1995), the government, as the sole supplier of land, directly controls the distribution of land for property development through sale of new land, approval of development and redevelopment, control through zoning and rezoning of land.¹⁴ Despite of the region's land scarcity, green areas, including woodlands, wetlands, barren lands, and parks, make up 70% of Hong Kong's land mass. By 2012, Hong Kong has 24 country parks, 6 nature reserves, 5 ocean parks and marine reserves, together they took up 39.6% of the total land area.¹⁵ As nice as the government's intention of keeping large amount of nature reserves is, when facing severe shortage in housing supply, un-affordable prices and poor living standards for the middle to lower income groups, one may question the appropriate amount of nature reserves should be maintained. The population explosion combined with economic development eagerly pursued in Hong Kong means increasing demand over this scarce land everyday. If part of the country parkland can be converted for housing, it would dramatically ease the housing pressure for Hong Kong. In this regard, it is evident that Hong Kong government in fact are keeping large amount of land reserves, and have been adopting conservative strategies when releasing land supply for commercial and residential uses. As land is a major input of building construction, severe land use restrictions are directly translated into high land prices, hence high property prices. The attitude and policy of government towards land supply have direct effects on housing prices and housing outputs in the property market.

Besides land sale policies, land planning system and zoning policy, building codes, and environmental policies can also affect the amount of land supply. For example, a lease modification in land use from agricultural to residential can increase the availability of land for the housing market. A change in

¹⁴ According to Consumer Council, 1995

¹⁵ Hong Kong Planning department

development density (denoted by plot ratio) or height limit can also change the volume of housing production. Moreover, a higher number of housing units can be produced with a higher density redevelopment projects than the original program. Interestingly, as stringent as Hong Kong government is on the matter of the amount of land supply and its stipulated use and programs, government is quite flexible in terms of development densities.

4.3 Hong Kong's Land Policies

4.3.1 Historical Background of Land Tenure System

The land system in Hong Kong is inherited from the colonial British government. Government owns the superior title to all lands. Sale of government-owned land is by way of leasehold grants, which allows for perpetual title of land to be vested in the government. (Except for the site of St. John's Cathedral). Virtually all land in Hong Kong is leased or otherwise held by the government of HKSAR. In the early days, leases were for terms of 75, 99, or 999 years, later, the term structure was standardized in the urban areas of Hong Kong island and Kowloon to 75 years, renewable at a re-assessed annual rent under the provisions of the old Crown Leases Ordinance.

The main difference between leasehold and freehold is the definition of land ownership. Leasehold land tenure system grants the government the complete control of the urban land use and development planning. Meanwhile, government benefit from land appreciation by collecting land premium of specific sites.

Both freehold and leasehold system are government's approach to distribute private property rights to individual or organizations under contractual agreement. In comparison, the leasehold system is more effective in terms of maintaining planning control of land and implementing government's overall urban planning schemes and zoning regulations.

The land policy and lease structures of Hong Kong went through dramatic changes due to the change in

sovereignty from Britain to China on 1 July 1997. The provisions of Sino-British Joint Declaration on Hong Kong included eight clauses under Annex III, which specifically dealt with the question of land leases up to June 1997. The land policies developed from this document enables the new government to establish lease conditions that not only regulates development requirement on a lot, but also restricts the maximum amount of land sold on the market per year.

According to Annex III, a restriction of new land supplies to 50 hectares per annum was implemented from 1984 to 1997, and a Sino-British Land Commission was designated to monitor such restriction. Paragraph 4 of Annex III of the Sino-British Joint Declaration states:

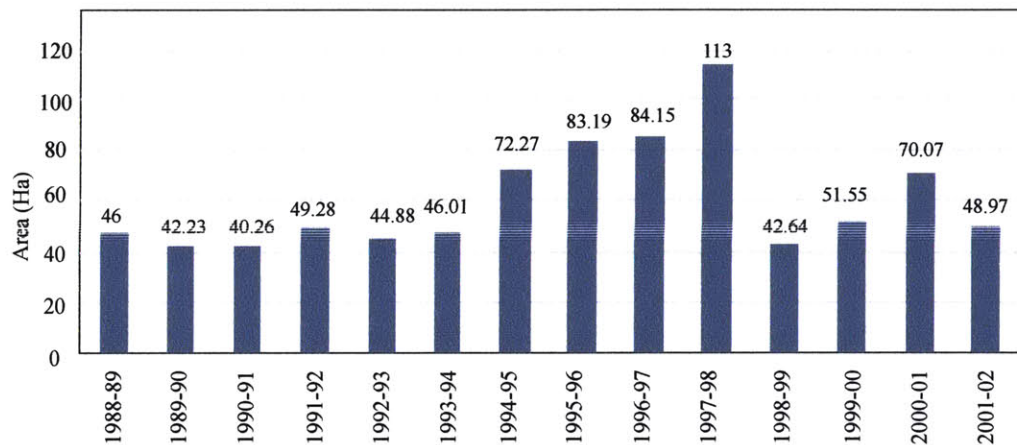
“The total amount of new land to be granted under paragraph 3 of this Annex shall be limited to 50 hectares a year (excluding land to be granted to the Hong Kong Housing Authority for public rental housing) from the entry into force of the Joint Declaration until 30 June 1997 (China, 1984).”

The reason behind this stringent control was Deng Xiao Ping’s prevention of the British Government selling excessive land stock and use the revenue on administrative matters, which Deng worries would leave the outstanding liability to the new Hong Kong SAR government after the handover in 1997.

¹⁶Hong Kong real estate developers were forced to seek alternate sources of land. The effect of this sudden land supply restriction will be discussed in more details in the later section of the paper. AS Figure 4-4 indicates total residential land supply volume between the period from 1988 to 2002 has varied dramatically from 40 to 113 hectares per annum. Since land is the most important factor in housing production, such dramatic swings in the volume of land supply has coincided with the 12 years of the most bullish phase in the history of development in Hong Kong. The close relationship between movement’s land supply policies and housing market is undebatable.

¹⁶ Wong, K.C., Chau, K.W. and Ma, S.M. (1999). “The disposal of the Hong Kong land stock under the Sino-British Joint Declaration”, *Journal of Property Research*, 16(4), 323-337

Figure 4-4: Total Residential Land Disposal from 1989 to 2002



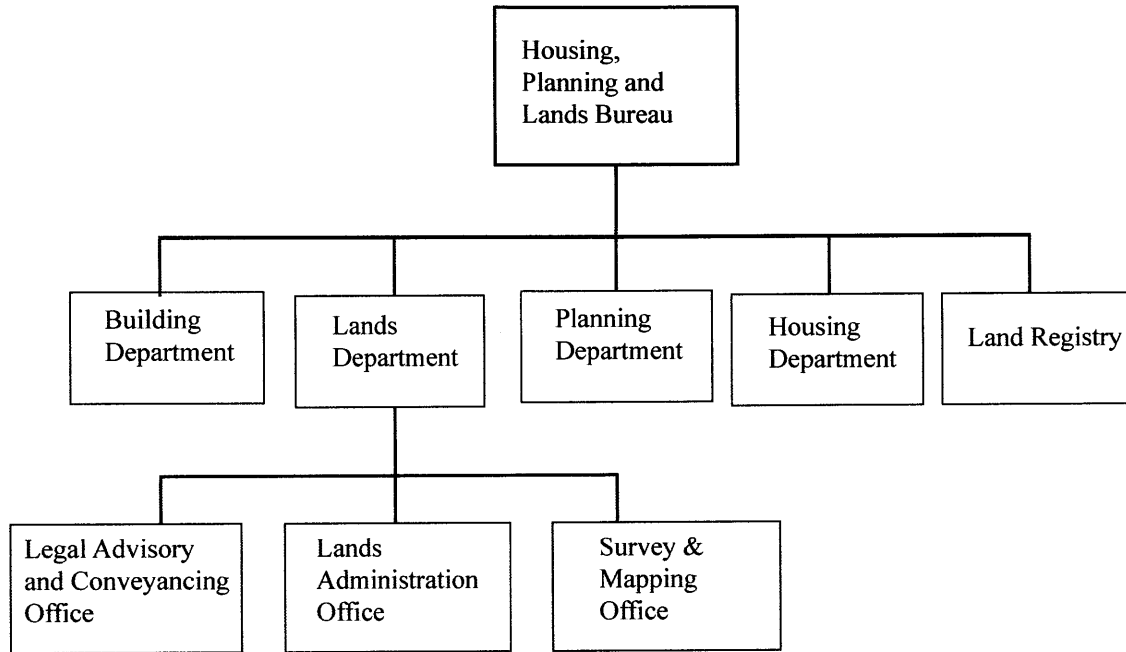
Source: Hong Kong Housing Department

4.3.2 Lands Administration Departments

The Housing, Planning and Lands Bureau is the main department that's responsible for managing land use and development requirements, as well as lease granting of developable land in Hong Kong. The Housing, Planning and Lands Bureau is composed with the Buildings Department, Lands Department, Planning Department, Housing Department and Land Registry. The Lands Department and Planning Department collaborate to monitor Hong Kong's development process with a goal to facilitate the region's continual growth through steady and sustainable land use strategies. While the rest promotes efficient registration of land, building safety, timely maintenance, and expediting Hong Kong's urban renewal¹⁷.

¹⁷ Hong Kong Housing, Planning and Lands Bureau, 2000

Figure 4-5: Organization chart of Housing, Planning and Lands Bureau



Source: Housing, Planning and Lands Bureau

The Lands Administration Office (LAO) under the Lands Department is the one directly in charge of land disposal programs, such as arranging public auctions and tenders, and granting leases and private treaties for sites assigned long-term development purposes. In addition, LAO needs to ensure that developers are building on the required land according to the requirements stipulated in the lease conditions, which is commonly referred to as “Conditions of Sale”. The LAO also has the responsibility to ensure that land already granted by the government is used in compliance with the stipulated lease conditions. In the case of landowner’s failure to comply, the LAO may re-enter the land for sales as a last resort after repeated warning.

4.3.3 Land Disposal Methods and Land Acquisition

Developers in Hong Kong acquire their land holdings from three main sources: public auction and tender, private treaty grants (PTGs), and land exchange.

4.3.3.1 Public Auction and Tender

The majority of Hong Kong government's land releases is by means of public held auctions. At each auction or invitation to tender, the land put up for sale goes to the bidder who offers the highest price. The buyer of the lot has to accept the corresponding development conditions, such as the plot ratio (the multiple of gross floor area to site area) and specified land use (whether residential, commercial, industrial or others), which are all written in the new land grant document called "conditions of sale". Besides complying with such development conditions, a developer would also need to satisfy zoning requirements under the Town Planning Ordinance, as well as building control requirements under the Building Ordinance. Essentially, the development requirement in Hong Kong is comprised of three separate tiers, which are planning control, land lease control and building control. Although separate government departments monitors developers compliance simultaneously, they generally complement each other in implementing the most efficient land use planning. And when there is divergence between the regulations of different sectors, developers must comply with the more stringent one. Only upon full compliance with the terms and condition specified in the conditions of sale, as well as the Certificate of Compliance, will the Occupations Permits be issued by the relevant District Land Officer to the new landowner. However, in some instance, land is not sold through public auction but by tender. This is mainly for land which the user is strictly defined by government and the sale is unlikely to attract general interest, or where government wishes to examine in advance the detailed proposals for the particular development site.

The sale of lease by public auction or tender is generally referred to as land sales in Hong Kong. However, the government does not actually sell the property like it would under a freehold system. Government grants the lease transfer to potential landowners than that the actual ownership of the property. Therefore, the owner of a piece of land in Hong Kong does not technically own the lot, but has the exclusive right to

use it according to the sales conditions for a agreed period of time. From the period of 1989 to 2002, land obtained through tender and auctions accounts for 30.9% of the total area of land supply granted.

4.3.3.2 Private Treaty Grants (PTGs)

Private treaty grants are mostly reserved for public utility companies and non-profit organization. In order for public utility companies to acquire a plot of land to develop, they are usually required to pay a premium assessed by assuming industrial land value for the location, and multiple it by the actual gross floor area of the building to be constructed. In addition, land for community purposes such as public housing, the Home Ownership Scheme, public utilities, schools, churches, clinics, welfare, and certain charitable purposes is usually granted by private treaty grants. From the period of 1989 to 2002, land obtained through tender and auctions accounts for 65.6% of the total area of land supply granted.

4.3.3.3 Land Exchange

Development rights can also be obtained by means of a land exchange, whereby a land owner can surrender an existing land holding and be granted a new site, normally in site, to which more conditions apply so that development will meet the up-to-date planning requirement. The other type of land exchange is non-in-site, where the land to be granted will be physically separated from the land being surrendered. Land exchange commands land premium for the government. Land premium occurs when developers apply to convert, for example, their holdings of agricultural land into developable land with residential or commercial purposes. In simpler terms, land premium is the difference between the market value of the old lease and the lease with the newly assigned land use.

Letter A and B tender are unique types of land exchange programs. Letter A and Letter B are those land exchange entitlements issued by Hong Kong government from 1960 to 1983 as large-scale rural redevelopment plans. This land exchange system is interesting because it is what subsequently contributed to the start of leading developers land monopoly. As the new town program was becoming insufficient to meet land needs in the 1990s, developers incessant accumulation of agricultural land in the

earlier two decades has laid foundation for their unchallengeable position in property market since then. Letter A and B was originated by the government as an alternative to cash compensation for their collection of agricultural land, as local villagers in the new territory were not prepared to give up the entitlement to their ancestral lands. Both Letter A and Letter B can be exchanged for building land, residential or industrial at any time when suitable land becomes available by payment of premium based upon the difference in value of the agricultural land surrendered and the building land selected. According to the covenant, every two square feet of building land can be exchanged for five square feet of agricultural land that is surrendered. For building land, the ratio is one to one.¹⁸

In March 1983, the government stopped introducing the Letters A and Letters B for land resumption. Prior to the termination, many major real estate developers seized the opportunities and started eagerly collecting large amount of land from the villager by directly purchasing their exchange documents; examples of such companies are: Sun Hung Kai Properties, Nam Fung Development, Henderson Land Development and Chinachem Group. The developers' aggressive acquisition of agricultural lands during these two decades proved to be a winning tactic. As a result, some have built up an impressive agricultural land bank and would never run out of developable land even if when the government stopped selling land for years. By the end of 1990s, Sun Hung Kai Properties owns 24 million square feet while Henderson Land has 32.8 million square feet in stock. As these agricultural lands were usually acquired at negligible costs, their carrying costs were correspondingly low. As mentioned before, when the developers decide to convert a lot into residential or commercial uses, all they need to do is to pay a land premium. The premium is derived by subtracting the previous agricultural land value from the new land value based on the newly proposed use. These agricultural land holdings are like a form of land purchase option with no time limit and with the "strike price" being the land premium, which practically pegged to the market price.¹⁹ In addition, the developers with the land holdings have absolute control of the conversion time, hence, they can choose to convert the land anytime as long as the generated profit

¹⁸ Hong Kong Housing, Planning and Lands Bureau, 2000

¹⁹ Poon, Alice. *Land and the Ruling Class in Hong Kong*. Singapore: Enrich Professional Pub., 2011

exceeds the land premium, aka. strike price. The amount of land premium brings developers apparent advantages, since it is almost legible comparing to the price derived through public bidding with auctions and tender.

Big developers enjoy a certain extent of enology of scales in terms of the premium assessment. As the final assessment is the result of negotiations between the applicant and government, there's no public competition driving up the price, unlike in the case of a public auction or tender. Moreover, with each party using its own appraisal method to evaluate the lot, the final amount usually end up being lower than the originally proposed priced by the government. With the help of Letter A and B land exchange program, by 2009, agricultural land holdings of Sun Hung Kai Properties and Henderson Land together reached 56.8 million square feet, which is roughly equivalent to 1 per cent of all undeveloped lands excluding country parks in Hong Kong.²⁰ Cheung Kong Holdings owns an agricultural land bank too, although the group has not disclosed the size of that stock. Such huge land holdings, coupled with the groups' overwhelming financial and market power, would ensure their dominating position in the property sector would be almost impossible to challenge in the foreseeable future. From the period of 1989 to 2002, land obtained through tender and auctions accounts for 3.5% of the total area of land supply granted.

²⁰ The HKSAR government website (www.info.gov.hk/info_serv/statistic/landu_e.htm)(Map on Land Utilization in Hong Kong 2000)

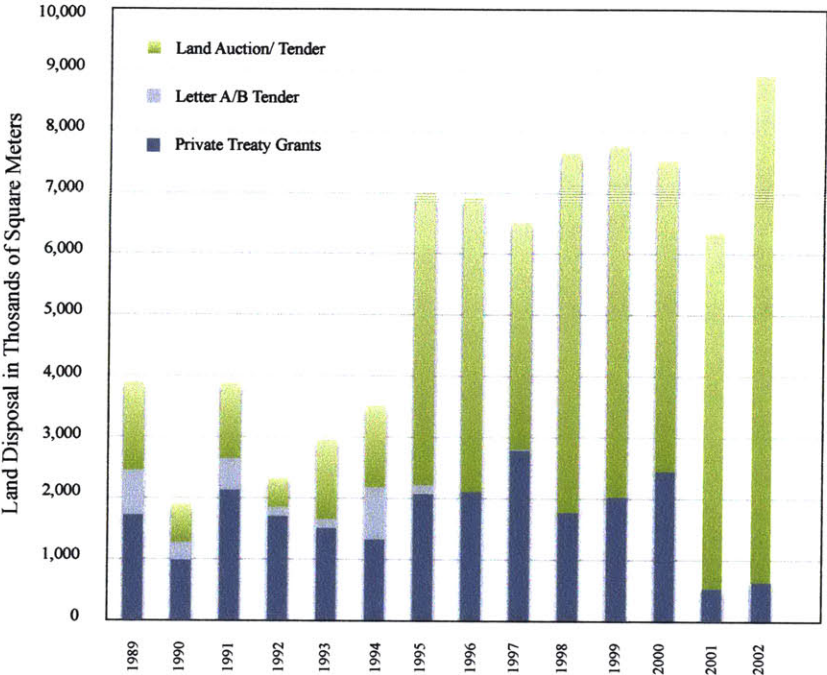
Table 4-1: Private Residential Land Disposal Methods Distribution 1989 to 2002

Year	Land Auction/ Tender		Letter A/B Tender		Private Treaty Grants		Total Area sq.m.
	C&R	%	C&R	%	C&R	%	
1989	172,796	44.32	72,345	18.55	144,764	37.13	389,905
1990	99,168	52.01	28,579	14.99	62,933	33.00	190,680
1991	213,154	55.1	51,595	13.34	122,097	31.56	386,846
1992	170,447	73.01	15,013	6.43	47,993	20.56	233,453
1993	150,980	41.20	15,013	23.34	129,939	35.46	295,932
1994	132,920	47.49	85,515	5.22	132,380	47.30	350,815
1995	207,500	30.28	14,600	0.00	477,684	69.72	699,784
1996	211,360	30.52	0	0.15	480,057	69.33	691,417
1997	279,180	42.95	1,020	0.00	370,849	57.05	651,049
1998	177,657	23.21	0	0.00	587,698	76.79	765,355
1999	202,901	26.11	0	0.00	574,166	73.89	777,067
2000	244,848	32.52	0	0.00	508,129	67.48	752,977
2001	53,637	8.46	0	0.00	579,997	91.54	633,634
2002	64,200	7.19	0	0.00	828,445	92.81	892,645
Total	2,380,748	30.93	268,667	3.49	5,047,131	65.58	7,696,546

Note: C&R=Commercial/ Residential (m²)

Source: Hong Kong Monthly Digest of Statistics, Various years

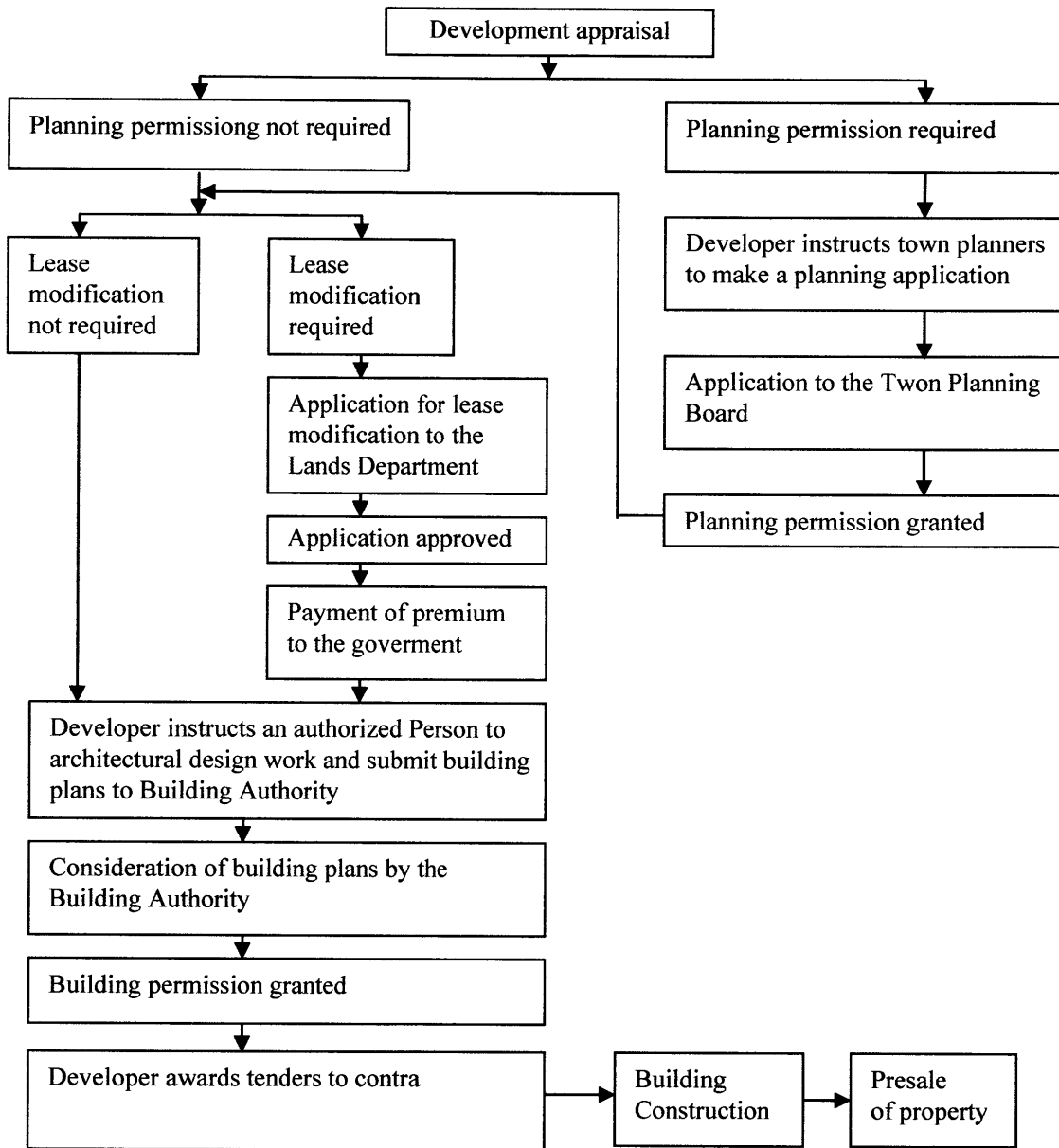
Figure 4-5: Private Residential Land Disposal Methods Distribution 1989 to 2002



4.3.4 Development Process in Hong Kong

In Hong Kong, the completion of a typical private housing project involves the following steps: application for planning approval under the Town Planning Ordinance, application for modification of government lease conditions, submission of building plan under the Buildings Ordinance, carrying out the construction works, certificating the completion of housing development from the Building Authority (the issue of occupant permit) and the Land Authority (the issue of certificate of compliance), and finally handover. The land development process will normally take 3 to 4 years to complete on average.

Figure 3-3: The Development process in Hong Kong



Source: Lai et Al. (2006)

Chapter 5. Hong KONG'S REAL ESTATE COMPANIES AND THEIR DEVELOPMENT STRATEGIES

5.1 The Major Market Players

The property development industry in Hong Kong is highly concentrated. Ten major publicly listed developers accounted for 70% of the total of the market capitalization of all property companies listed on the Stock Exchange in Hong Kong. These top ten developers in terms of market capitalization are: Sun Hung Kai Properties, Cheung Kong (holdings), Henderson Land Development Co., Sino Land Co., Hang Lung Properties, China Overseas Land & Inv. LTd., Wharf (Holdings), New World Development Co., Kerry Properties, and Shima Property Holdings (See Table 5-1). Through holding the dominant share of stock market, capitals and land bank, these real estate companies effectively control and influence both the supply and pricing of the property market. A 1996 Consumer Council study revealed that in the period 1991-1994, 70 per cent of total new private housing was supplied by seven developers and that 55 per cent came from just four developers, it also reported that one developer consistently supplied 25 per cent of new housing units. The study concluded: "The market in new residential property in Hong Kong is not highly competitive and not very contestable."²¹ These surprising figures might have even understated the true concentration ratio, since the developers usually specialize in different sectors of the market. The largest of these sectors in the property market are usually dominated by the top developers, such as the market of median size flats by Sun Hung Kai Properties or market for high end retail by Swire , whereas the marginal developers might focus on more niche property market sectors. In that sense, the concentration ratio of each developer on a particular property segment can presumably reach as high as 80 to 90 percent.²²

²¹ Consumer Council. 1996. How Competitive is the Private Residential Property Market? Hong Kong Government Printer

²²Fun, Yuming, and Stephen Ching. "Examining Competition in Land Market: An Application of Event Study to Land Auctions in Hong Kong." (2001)

Such industrial and economies concentration can be delimited as an oligopoly in the market. As a result, the consumers, due to a lack of alternatives and bargaining power, are often forced to accept price that are too high for their income level. The market power among the group of major developers also led to the crowding out of smaller market players from the marketplace. Evidence shows that such a phenomenon is already a common sight in Hong Kong's property market, especially for housing. The ever more powerful real estate corporations are still accumulating more economic assets, including land, which will lead to more extreme concentration of market share in the development sector. The result is more artificially inflated prices, more demand-supply-imbalance, and less bargaining power for consumers. The economic wellbeing of the consumers has been severely compromised under this prevailing market structure in Hong Kong.

Table 5-1: Hong Kong Real Estate Companies' Market Capitalization

No.	Listed Real Estate Companies	Market Capitalization* (HK\$ Billion)
1.	Cheung Kong (Holdings) Limited	247.13
2.	China Overseas Land & Investment Limited	115.05
3.	China Resources Land Limited	49.28
4.	Chinese Estate Holdings Limited	25.86
5.	Guangzhou Investment Company Limited	14.30
6.	Hang Lung Group Limited	46.68
7.	Hang Lung Properties Limited	110.41
8.	Henderson Investment Limited	36.87
9.	Henderson Land Development Company Limited	101.60
10.	Hopewell Holdings Limited	30.59
11.	Hopson Development Holdings Limited	30.40
12.	Hysan Development Company Limited	20.35
13.	Kerry Properties Limited	67.59
14.	New World China Land Limited	27.21
15.	Pacific Century Premium Development Limited	5.54
16.	Shun Tak Holdings Limited	24.36
17.	Sino Land Company Limited	78.86
18.	Sun Hung Kai Properties Limited	244.08
19.	Tsim Sha Tsui Properties Limited	40.66
20.	Wheelock and Company Limited	40.60
21.	Wheelock Properties Limited	16.74

Source: Datastream (Hong Kong Real Estate Development 2006)

5.2 Real Estate Developers' Private Land Banks

As mentioned previously, Hong Kong's property market is characterized by its oligopolistic nature. The big developers in Hong Kong are all essentially landowners. The possession over substantial amount of land holdings, or the so-called "land bank", is the major factor contributing to their undefeatable position in the property market. Land bank refers to developers' land holding that they have previously accumulated for future development purposes. The huge amount of land holdings gave them market power to dominate and influence the supply and price of the residential property market. Thus, it is sometimes said that Hong Kong's property market is controlled by the "visible hands" of the small group of big property developers.

However, Hong Kong's housing market is jointly determined by the developers and government. Even though property developers have the ultimate freedom to determine the time and amount of housing they are putting onto the market, government indirectly controls the overall market condition simply by controlling the amount of residential land supply. Empirical evidence have drawn conclusive result on this government's power over housing market in the form of land disposal policies. Hong Kong's property market has experienced its five years of the most hyper-bullish phase from 1992 to 1997. This wild property craze was mostly induced by political uncertainty and change in land policies caused by the upcoming transfer of Hong Kong's sovereignty from Britain to China.

One of the political events that have brought about irrevocable changes in Hong Kong's land market was the 1967 riot. The riot refers to the large-scale leftist protest between communist members and its sympathizers and the establishment, and was largely triggered by China's infamous Cultural Revolution. The political crisis caused major concerns of Hong Kong's political future, and dampened market confidence, especially of the British "Hong" developers, such as Jardines, Hong Kong Land, Wheelock Marden, Swire Pacific and Hutchison. In the late 1960s up to the mid-1970s, in the face of political turmoil in the mainland, the British Hongs began exiting Hong Kong property markets by disposing their land and properties assets. Meanwhile, the Chinese companies like Cheung Jong, Sun Hung Kai

Properties, Wing Tai and New World Development started aggressively buying those disposed land assets, and even maximized their purchasing powers by raising funds through means of public listing.

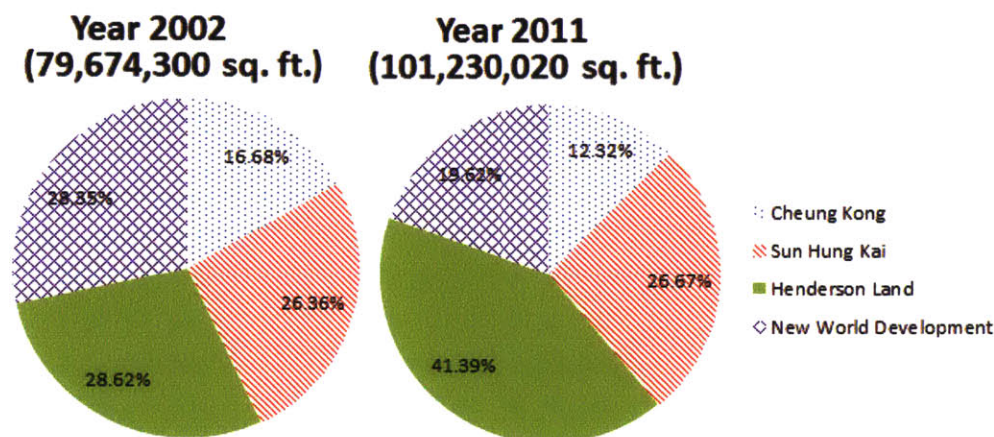
Funds thus raised were used to increase land holdings avidly. The acquisition of these lands from the British Hong Kong developers gave a strong boost to the rise of the Chinese developers in respect of their land banks, as well as dominating market power. Even before this irrationally hyper-bullish phase, leading developers had scored extremely well in the sector for the decade prior to 1983 during the government's large-scale rural redevelopment plan. As mentioned before, the developers seized the opportunities to aggressively collect large amount of land in New Territories by directly purchasing Letter A/B land exchange documents from the villagers at negligible costs. These two major political events allowed the leading developers to build up impressive agricultural land banks, which had secured them the unrivalled positions in the property market.

As of June 30, 2009, Sun Hung Kai Properties owns a land bank comprising 41.9 million square feet of developable gross floor area and 24 million square feet (in site area) of agricultural land. Henderson Land held 19.8 million square feet of developable floor area plus 32.8 million square feet in site area of agricultural land. In terms of market share, the top three developers supplied 46 percent of total new private housing stock in 1991-1994, according to the Consumer Council. In 1996, new residential units marketed by these developers accounted for 42 per cent of the total number for that year, according to a survey conducted by leading property agency Centaline. From 2002 to 2011, the agricultural land bank of the four major developers increased from 79.6 million square feet to 101.2 million square feet. In this period, about 25% of the abandoned agricultural land was in the hands of developers.²³ An anti-competitive market structure, coupled with supportive government policies, ensures that the leading developers' dominant market position will be hard to challenge. The high concentration of new private

²³ Leugn, Charles Ka Yui, and Edward Chi Ho Tang. "Availability, Affordability and Volatility: The Case of Hong Kong Housing Market." (2014): 2-11, 15-18.

housing supply is mirrored by a high concentration of private land bank. Data collected by the Consumer Council indicate that the landholding by the six major developers can support an amount of housing development three to four times the total annual completion in the private housing market.²⁴

Figure 5-1: Agricultural Land Holding



Source: Hong Kong Exchanges and Clearing Limited

5.3 Property Market’s Barrier to Entry

The high concentration of market power among a few major property developers is the result of a number of entry barriers to the real estate development industry. In this property market characterized by shortage and high cost of land, the possession of huge land bank combined with the financial resources gives the major developers absolute advantages over the other market players. For example, even when the government suspend land sale for 9 months in 1998, the big developers were still able to develop land from their own respective land bank by simply applying for a land conversion permit. It allows them the flexibility to act during market downturns and captures excessive profits due to lower development cost and lack of competition.

²⁴ Consumer Council. 1996. How Competitive is the Private Residential Property Market? Hong Kong Government Printer.

During the pre-1997 era, developers with the largest land bank were indeed the biggest winners. Even five years after the property market had crashed in 1998 with prices falling 65 per cent from the 1997 peak, profits made by the five leading developers were still substantial: Cheung Kong Holdings made an average annual profit of US\$1.15 billion from 1977 to 2002; while Henderson land pocketed US\$1.1 billion per year till June 30, 2002; Wharf and Wheelock together collected US\$394 million and New World Development made US\$168 million.²⁵ Such profits were particularly outstanding considering the setting of a extremely depressed macro economic environment, where countless smaller companies had no choice but to exist the market.

As explained previously, the real estate market in Hong Kong has a relatively high volatility. During the 1980s and 1990s, the markets experienced four downturns and the standard deviation of the CPI-deflated housing, retail and office price indexes were 40 percent relative to their mean values²⁶. Only the large, well-capitalized developers can survive such volatile economic environment, because of their low debt ratio, they are able to wait out market downturns to cash in their investment. In fact, most smaller developers exited the market during exact that period of time. Due to the high-density nature of Hong Kong, when land is obtained from the government, authorities usually come with a set of specific requirement in terms of the development density and the program of the development. The cost of the saleable space decreases with higher plot ratio due to increased efficiency in space and shared amenities. So in order to have a positive net present value to justify the investment of the project, the optimal scale of the project must be above a minimum size and density. Smaller developers would have difficulty in financing such projects, as developers in Hong Kong rely heavily on their own capital. Large-scale high-density projects also require well-trained construction teams, and most of the major developers have their own construction teams in-house. At the same time, big developers benefit from close relationships with

²⁵ Poon, Alice. *Land and the Ruling Class in Hong Kong*. Singapore: Enrich Professional Pub., 2011

²⁶ Fu, Yuming. 2000. Hong Kong: Overcoming Financial Risks of Growing Real Estate Credit. Koichi Mera and Bertrand Renaud, editors. *Asia's Financial Crisis and the Role of Real Estate*. M.E. Sharpe: New York

the government, especially in terms of the bureaucratic approval process and negotiating development terms. The leading developers also enjoy significant lower cost of capital in land financing, due to their good track records and close business relationship with most banks. They were able to obtain financing at reduced rates, which gives them critical financing advantage given the extremely high land values in Hong Kong. The cost of land usually accounts for half of the total development cost in core urban areas. All these aforementioned barriers to entry enable the major developers to crowd out the smaller market players, causes low degree of contestability in the market place, resulting in the currently market structure for the dominant developers to claim a substantial share of economic profits.

Chapter 6 LAND POLICIES AND HOUSING PRICE

6.1 Effects of Land Policies on Housing Supply

6.1.1 Housing Demand

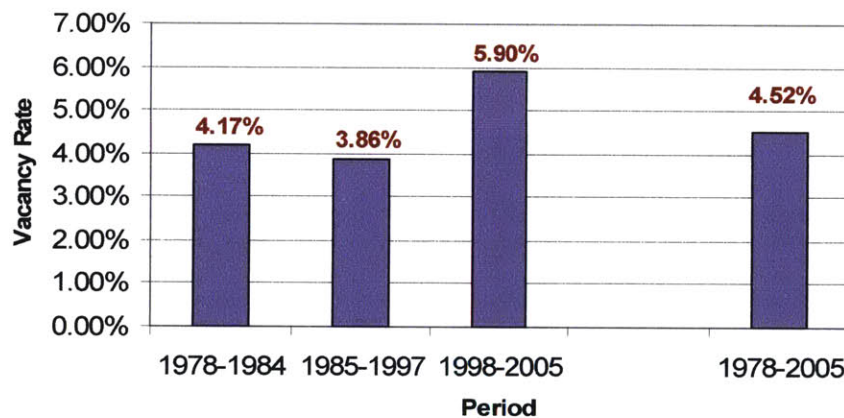
As we know, the price level of the housing market is determined by the relationship of demand and supply, hence, the soaring housing price in Hong Kong is a clear indicator of a shortage in housing supply, or at least some kind of mismatch between the two. The three major issues that are causing the problem are one, the supply could not keep up with the fast growing demand; two, the uneven distribution of existing housing supply; and three, the mismatch in the composition between the new supply and the public needs.

Hong Kong is one of the most densely populated cities in the world. Strong demand for housing has been created from the significant increase in population from 4.2 million in 1973 to 7.2 million in 2014. In addition, the average household size has fallen from 4.64 in 1961 to 2.9 in 2014.²⁷ the decline in the average household size combined with the significant increase in population means that there has been a strong demand for housing Hong Kong during the past decades.

²⁷ Census and Statistics Department (2002) Hong Kong Annual Digest of Statistics. Various issues. Hong Kong Government Printer.

In 2014, Hong Kong's Chief Executive adopted the housing supply target of a total of 470,000 units in the coming then years, with public housing accounting for 60% of the total amount. To meet this target, the government needs to be providing enough land for about 22,000 units per year for the next five to ten years, according to Royal Institution of Chartered Surveyors' calculation. Yet current land policy only allows for the construction of 18,500 housing units per year. The population explosion combined with the regions actively pursued economic development results in demand growing at a much faster rate than the supplies. The latest population assessment published by Hong Kong's Housing Bureau in 2010 projected the city's population to hit 8.9 million by 2039. That, including the daily quota of 150 one-way entry permits for mainland people with Hong Kong family ties, is capable of producing huge multiples.²⁸

Figure 6-1: Housing Demand Measured by the Vacancy Rate



Source: *Hong Kong Property Review, Rating and Valuation Department, 1978-2005*

6.1.2 Housing Supply

The amount of private housing units put on the market each year is not only regulated but also fluctuates widely depending on market conditions. In an economy based on a laissez faire philosophy, the government has what it describes as a “private sector-led housing strategy”. This means that the government estimates housing demand and supply, which reflects on their decisions in terms of land use and land supply. Whereas, the private sector decides how much and when to supply residential property

²⁸ Luo, SL. "Dreams of Country Living." *China Daily Asia*. Focus Hong Kong, 09 Sept. 2013. Web. 18 Dec. 2014.

through its purchases of land and land entitlements. Moreover, the private sector is primarily made up of a few large companies such as Cheung Kong (Holdings) Limited, Henderson Land Development Limited, New World Development Limited, and Sun Hung Kai Properties Limited, and these four company together provide 55 per cent of the new housing supply. Such high industrial concentration causes an anti-competitive environment in the housing market. As a result, the consumers, due to the lack of alternatives have no bargaining power, and hence they are often forced to accept price that are too high for their income level.

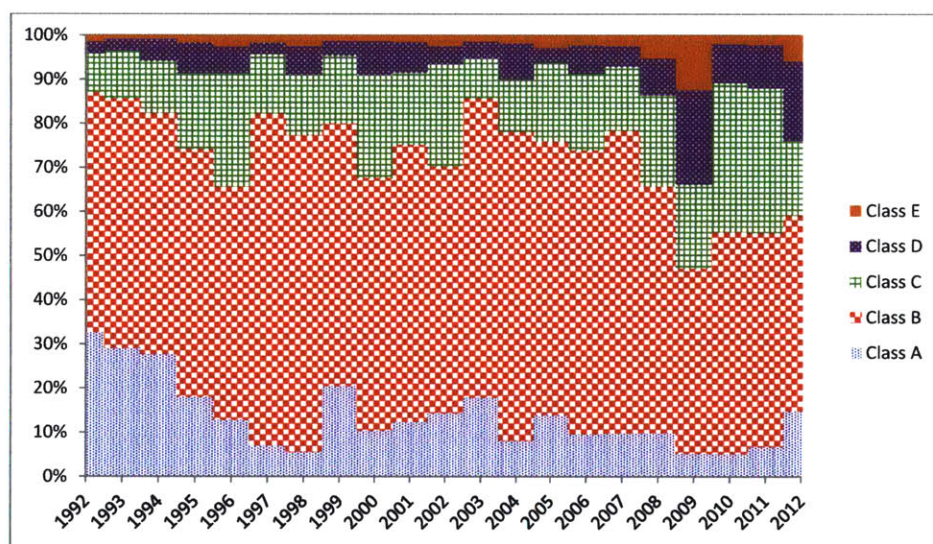
On a closer examination of Hong Kong's current housing market availability, according to the Housing Authority, there were 2.389 million households in Hong Kong by the end of 2012. In march 2013, there were 2.616 million housing units available, which averages to 1.1 units per household. Therefore, it is evident that housing units are not evenly distributed, due to the wide rich-poor gap explained earlier in Chapter 2. Some households have multiple units for both dwelling and investment purposes, while some household couldn't even afford one. As the result, the demand for both public and private housing is still un-fulfilled. If housing units were evenly distributed, many issues wouldn't exist.

Therefore, the real problem isn't really housing shortage, but rather a shortage of affordable housing, and that is in fact an issue for all income groups. Hong Kong Royal Institution of Chartered Surveyors reports, "at present, there appears to be a mismatch between the supply of small sized flats, Class A flats, and the needs of the average households, but in recent years, we noticed that the unit price per square feet price of large size flats, class C, D and E flats, of three or four bedrooms were rising much faster than those small sized flats with one or two bedrooms."²⁹ Figure 6-2 shows that the supply of small units (class A) as a share of new housing units has dropped significant over the years. More generally, there is a tendency for developers to allocate more focus on building more luxurious housing units, whereas the "need for

²⁹ Class A apartments are apartment with net saleable area less than 40 m², Class B apartments are from 40 m² to 69.9 m², Class C apartments are from 70 m² to 99.9 m², Class D are from 100 m² to 159.9 m², and Class E are 160 m² and above.

smaller units” may be under-served, and hence overall house prices increase due to the supply shortage. However, the fulfillment of public’s housing needs does not exactly align with the developer profit maximizing incentives. The developers enjoy greater economy of scale with more high-end housing productions, the return per saleable area increases with size and quality of the housing supply due to increased profit margin and shared amenities. So even though, government plays a key role in redevelopment projects, scheduling land sales and the conversion of land usage, based on government’s non-interventionist ideology, the developers are the ones to determine the composition of new housing supplies.

Figure 6-2: Composition of New Housing Units



Sources: Planning Department, Hong Kong SAR government

6.1.3 The Housing Supply-Demand Imbalance

In order to meet the housing needs of the public, the government policy is to provide sufficient land to meet the long-term housing production and to achieve stability in the private property market. The government believes that the “housing shortage” is mainly caused by a shortage of land supply. And by releasing more land on to the market, they can drive up the amount of housing output. However, in order for the government policy to be effective, an increase in the land supply must directly translate into an increase in the new housing supply. According to Lai and Wong’s study³⁰, there is no significant correlation between the increase in land and housing supply, nor is there correlation between the increase in developer’s land bank with their individual housing output. The missing link here is developers’ profit maximization development strategies. All of the leading developers that possess absolute market power are indirectly controlling the supply and price of the housing market, and most of them are listed corporations on the Hong Kong Stock Exchange. As all listed public companies, the ultimate business target is to maximize shareholders’ wealth. Hence, it is speculated that instead of following the closely to the movement of the land market, developers would employ development tactics that benefit themselves the most. Such development tactics include, first, to decide the time and amount of housing supplies that they produce. In order to maximize their profits, all the major developers undertake some form of “explicit co-operation”³¹ under the oligopolistic market structure. They will have the rough information about the number of units and timing of the completion dates for projects to be offered for sale. Therefore, they can plan the timing in launching new projects to when the “right market” arrives, or when there is minimal competition for the same category of product. The developers would still try to obtain land from auction and tender, but instead of developing right away, they would withhold land supply, pocket into their land banks. They delay construction through the market trough, and only start building when expected future prices are higher, and hence, maximize the selling price. As a result, the prices will be

³⁰ Lai, Neng, and Ko Wang. "Land-Supply Restrictions, Developer Strategies and Housing Policies: The Case in Hong Kong." *International Real Estate Review* 2.1 (1999): 143-59.

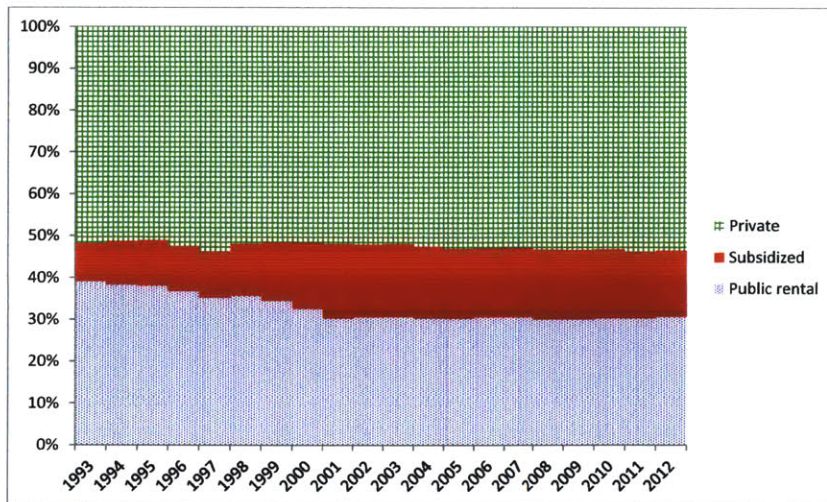
³¹ Same as Above.

higher due to a shortage in supply which is restricted by the developers. The same strategies are also applied for utilizing their own land banks; they would convert the land use during market trough, so the premium is at the lowest.

Additionally, the big developers might restrict their own housing supply to artificially create housing supply shortage in order to drive up the price and then release their product output. All of these profit maximization strategies are made possible due to the oligopolistic nature of Hong Kong’s property market. Table 6-1 presents the amount of land banks and the amount of housing supplied by the four major developers. Given the land bank practice, it is reasonable to suspect that, even if the government releases more land to the developers, the supply of housing units might not necessarily increase accordingly.

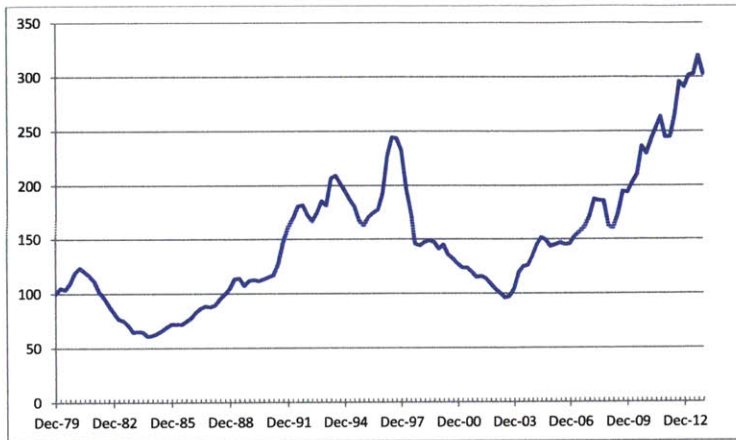
The demand-supply imbalance of the property market will likely remain in the near term. Actual completion of new private residential units dropped by 17.8% to 8,300 units in 2013, while the vacancy rate fell to 4.1% by 2013, the lowest since 1997 and well below the long-term average of 5.0% in the past twenty years. Clearly, the market is failing to correctly match supply of apartments to the demand, which also incorrectly prices apartment that are on the market.

Figure 6-3: Domestic Household by Type of Housing



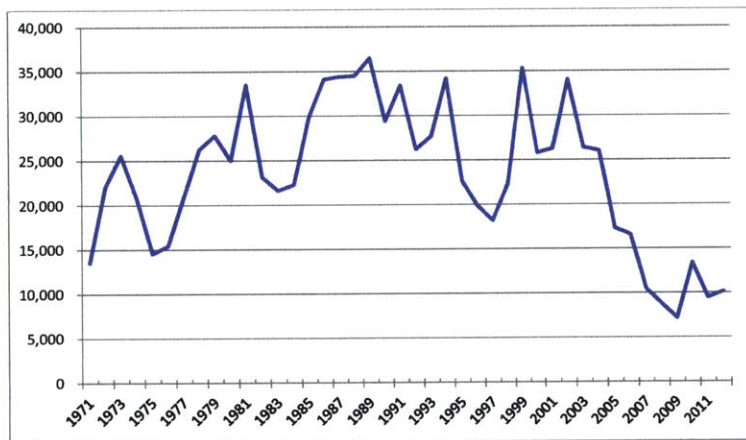
Sources: Census and Statistics Department, Hong Kong SAR government.

Figure 6-4: Real Housing Price Index



Sources: Rating and Valuation Department and Census and Statistics Department, Hong Kong SAR government

Figure 6-5: Completion of Private Housing

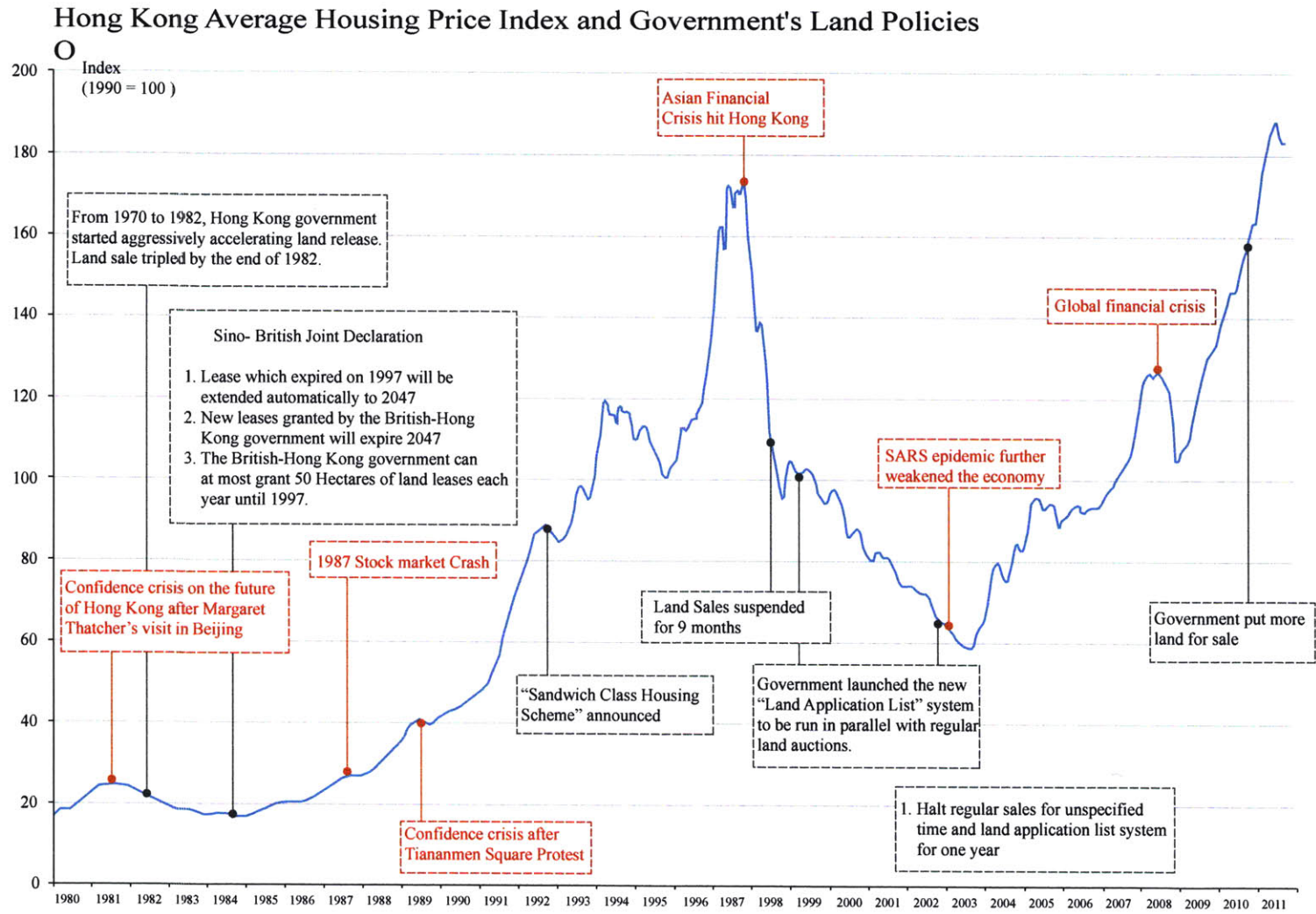


Sources: Rating and Valuation Department, Hong Kong SAR government

6.2 Effects of Land Policies on Housing Prices

Although Hong Kong is a market economy, the supply of new land is under strict government control. There were a series of political changes in Hong Kong from the late 1980s to 1990s, during which time, the government played an important role in determining the conditions of private housing market through adjusting the amount of land disposal. This period in Hong Kong provides an invaluable case study on the relationship between land policies and housing market price. Moreover, in Hong Kong, the supply of new building space, especially that of new homes, is highly concentrated among a handful of big developers. There exist economic profits due to these big developers' anti-competitive behavior, which harms consumers, not only because the developers overcharge consumers for the cost of building space but also because the developers have incentives to restrict their output in order to achieve the maximum economic profits. Evaluating the combined result between land supply and developers' strategies is, however, difficult. Even though, several studies had taken a quantitative analysis examining the correlation between the movement of the land supply and housing prices, due to the oligopolistic nature of Hong Kong's property market, the results cannot be as indicative without considering the competition and profit-maximization strategies among the major market players. The lack of a reliable measure of the existence of economic profits to the developer's action hinders the debate and evaluation of government policies aiming at improving housing affordability and availability in Hong Kong. In the next part of the thesis, the method of event study analysis is applied to detect the joint effect of government's land policies with developers' profit maximization strategies and determine how they affect the price of housing market. Two major events will be used as case study: one is the expansion in land sale during 1970 to 1981, the other one is the stringent restriction in land sale in 1984 as part of the condition in the Sino-British Joint Declaration, and the effects of such two reversed policies will be discussed respectively.

Figure 6-6: Hong Kong Average Housing Price Index and Government's Land Policies



6.2.1 Land Sale Expansion: The Case of Hong Kong 1970-1981

In the 1950s, Hong Kong was developing into a manufacturing center and required a huge amount of labor. Immigrants were pouring from Mainland China to take up these job opportunities, and Hong Kong absorbed them like a sponge. As a result, there was a big surge in population in the 1950s through the 1970s. As population and industrial activity increased, so did the demand for land and housing. As land in urban Hong Kong and Kowloon was becoming increasingly scarce, government released large amount of land supply in the New Territories. The development program was later expanded to include five more new towns, with an objective to provide enough housing for about three million people. Leading developers Sun Hung Kai Properties and Henderson Land were the most aggressive of all in terms of land purchase in New Territories in the 1970s and 1980s.

As the expected change of sovereignty approaches, the concerns about the uncertainty of Hong Kong's political and economic future caused social unrest. The tension was heightened by the 1967 riots, which were connected with China's infamous Cultural Revolution. In the late 1960s up to the mid-1970s, in the face of political turmoil in the mainland, the British Hongs began exiting Hong Kong property markets by disposing their land and properties assets, which caused the housing market to plummet. The market trough lasted through the late 1970s. In order to boost the market, the Hong Kong government started aggressively accelerating land release. Land sale tripled from 1979 to 1981. Even with a crash in real estate prices, land sales in the early 1980s were maintained at a historically high level. (Table 6-1)

Table 6-1: Private Residential Land Supply, Average Housing Price, and New Completions

Year	Private Residential Land Supply (Sq.m.)	Average Housing Price (HK\$/Sq.m.)	New Completions (No. of Units)
1980	558,504	8,340	25,634
1981	897,480	10,755	34,475
1982	529,181	9,523	23,900
1983	127,456	8,200	23,860
1984	733,265	7,695	22,270
1985	341,535	8,006	29,875
1986	258,427	9,100	34,105
1987	273,752	11,565	34,375
1988	260,993	13,659	34,470
1989	389,905	17,265	36,500
1990	190,687	18,278	29,400
1991	386,846	24,271	33,400
1992	233,453	36,583	26,200
1993	366,434	43,003	27,670
1994	279,90	55,817	34,170
1995	685,184	51,229	22,620
1996	692,437	57,321	19,870
1997	650,029	84,411	18,202
1998	765,355	58,899	22,278
1999	777,067	49,333	35,322
2000	752,977	45,530	25,790
2001	633,634	39,633	26,262
2002	892,645	36,457	34,035

In contrary, the Chinese development companies took advantage of the dramatic increase in land sale, and snapped up huge amount of development sites. In the early 1970s, the Chinese companies like Cheung Jong, Sun Hung Kai Properties, Wing Tai and New World Development started aggressively buying those disposed land assets, and even maximized their purchasing powers by raising funds through means of public listing. Funds thus raised were used to help them further accumulate their land holding. Between the end-1970s and mid-1980s, almost the entire ownership of large land-rich British companies like Hutchison Whampoa, Green Island Cement, Hong Kong Electric, Wharf and Wheelock Marden fell into the hands of local major property developers. Acquisition of these land-rich companies gave a strong boost to their respective group's land banks, as well as dominating position in the property market.

6.2.2 Effect of Land Sale Expansion on Housing

However, like previously discussed, this increase in land sale did not translate into increase in housing output, or the price change in the housing market. The private housing prices escalated continuously and rose up over 130% from 1991 to 1994, but the private housing supply increase only by 2.3%. (Table 6-1)

Acquisition of these land-rich companies gave a strong boost to their respective group's land banks, instead of going into housing production. The developers chose to hold land as inventory and wait for the "right market" by only providing housing supply at the peak season and delaying it through the market trough to maximize the selling price. By doing so, they also artificially created a housing supply shortage, which eventually drove up the price. Releasing housing outputs then not only compensates the opportunity cost of their land holding, but also brought them substantially more return on their investment. This is, in fact, what happened by the end of 1980s. The residential market price started an incessant climb since the market trough in 1984. Housing supplies also started rising. However, another political event was about to happen, which caused an irrevocable impact in Hong Kong's housing market.

6.2.3 Land Sale Restriction and the 1984 Sino-British Joint Declaration

In December 1984, Prime Minister of United Kingdom, Margaret Thatcher and Chinese leader, Deng Xiaoping, signed the Sino-British Declaration, a document on the ratification of China's resumption of its sovereignty over Hong Kong. While the document guaranteed an unchanged economic and legal system for Hong Kong citizen for the 50 years after the change of government, it brought about a dramatic change in land sale policy. Paragraph 4 of Annex III of the Joint Declaration limited the amount of land that could be granted in any one year to 50 hectares.

"The total amount of new land to be granted under paragraph 3 of this Annex shall be limited to 50 hectares a year (excluding land to be granted to the Hong Kong Housing Authority for public rental housing) from the entry into force of the Joint Declaration until 30 June 1997 (China, 1984)."

With the signing and ratification of Sino-British Joint Declaration, a restriction of new land supplies to 50 hectares per annum was implemented from 1984 to 1997, and a Sino-British Land Commission was designated to monitor such restriction. The reason behind this stringent control was Deng Xiao Ping's prevention of the British Government selling excessive land stock and use the revenue on administrative matters, which Deng worries would leave the outstanding liability to the new Hong Kong SAR government after the handover in 1997.³²

Nonetheless, this land supply restriction gave a strong psychological boost to the property market. The logic was that as land supply would always be insufficient and thus should naturally command a high price, this would automatically translate into higher property prices and rental prices in the public's perception. It would therefore be the public's incentive to buy properties while they are still available on the market. Regardless of the validity of this argument, the idea of running out of housing supply was instilled into the minds of the public. Therefore, the joint declaration created a catalyst effect on the housing market.

By the end of 1985, almost immediately after the signing and the ratification of the Joint Declaration, the primary developers all took actions, competing to acquire as much land as they can before the 50-hectare a year land supply quota went into effect. Towards the end of 1984, Cheung Kong Holdings obtained 1.69 million square feet Whampoa Gardens site in Hung Hom. The project was one of the largest private residential projects in urban Kowloon, with 11,224 residential units in 94 towers and a 1.69 million square feet shopping center. It was completed in two phases between 1985 and 1989.³³ New world development reached agreement with the Trade Development council to develop the Hong Kong convention and exhibition center on the 335,000 square feet Wanchai waterfront site with a totally gross floor area of 4.4 million square feet. Mean while, sun hung Kai Properties and Henderson land continued

³² Wong, K.C., Chau, K.W. and Ma, S.M. (1999). "The disposal of the Hong Kong land stock under the Sino-British Joint Declaration", *Journal of Property Research*, 16(4), 323-337

³³ Feng Bangyan, 1997, *Xianggang huazi caituan 1841-1997* (Chinese Conglomerates in Hong Kong 1841-1997). Hong Kong Joint Publishing.

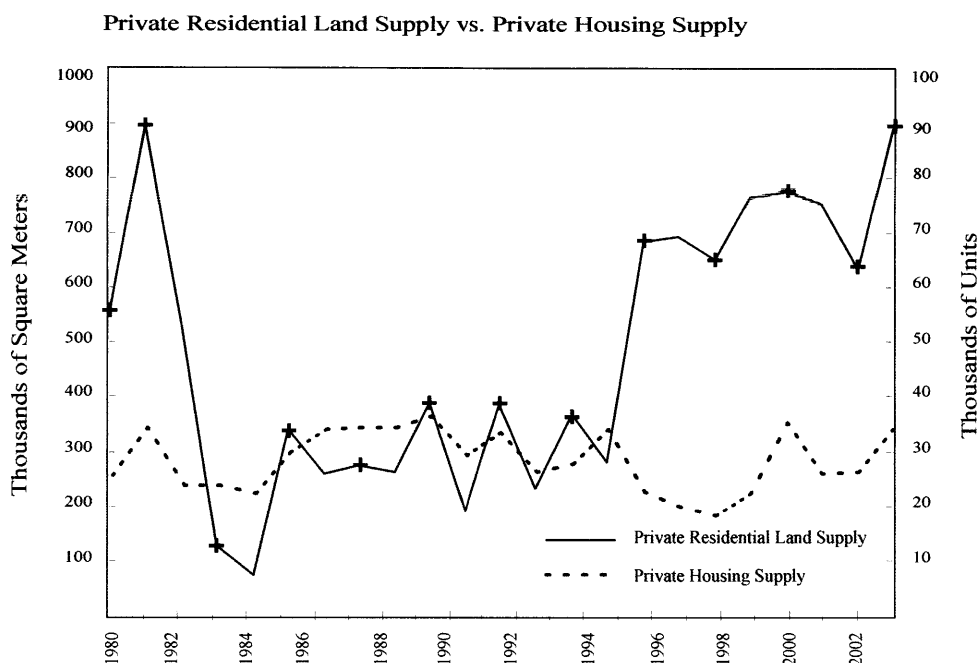
to expand their development in the New Territories, where land was still very cheap and competition for land was relatively low.

6.2.4 Effects of Land Sale Restriction

After the signing of the Joint Declaration, the property market entered the longest bull phase in its history, lasting for a total of 12 years and peaking shortly after the change of sovereignty. Not only did this phase turn the already-powerful developers into unrivalled industry giants. Hong Kong government has also collected US\$ 25.4 billion of land premium from land sales during this period with accrued interest.³⁴ More interestingly, despite of the sever land restriction in 1997, the major developers all produced exceptional amount of housing development during this period of time. For example, New World Development was commissioned to develop the Hong Kong Convention and Exhibition Center on the 335,000 square feet Wanchai waterfront site. The whole development consisted of two luxury hotels, one office building and one luxury apartment building, apart from the international convention and exhibition facilities. The project was completed in 1988 with a gross floor area of 4.4 million square feet. In contrary to common belief, the sudden scarcity of land actually caused a temporary increase in housing supply.

³⁴ Poon, Alice. *Land and the Ruling Class in Hong Kong*. Singapore: Enrich Professional Pub., 2011.

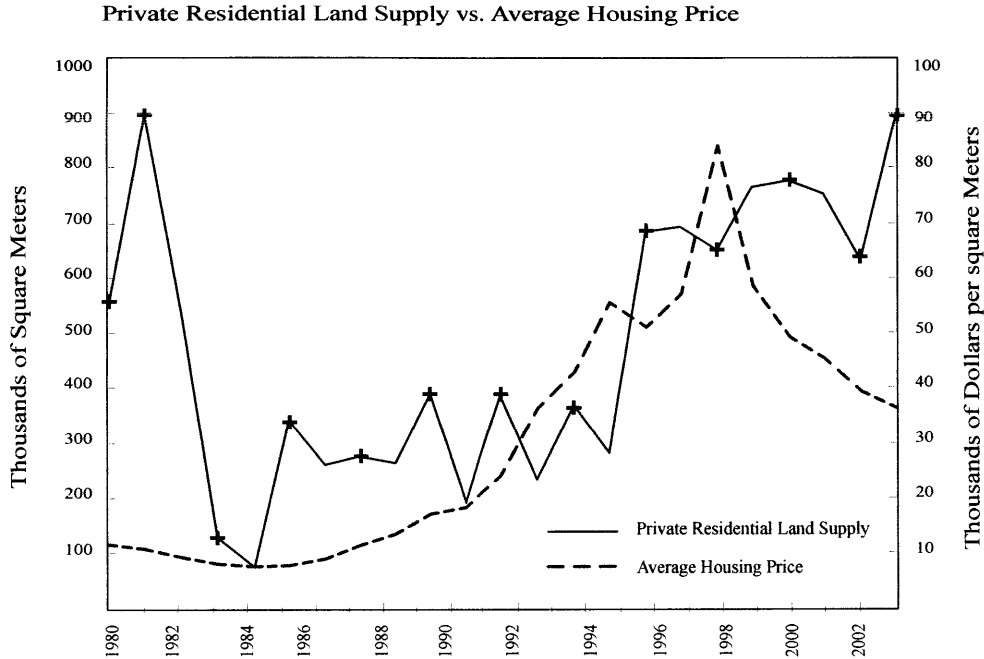
Figure 6-7: Private Residential Land Supply vs. Private Housing Supply



Residential property prices kept on surging in the 1990s. By this time, property prices shot up almost 30 per cent, especially after the government’s announcement in 1992 of the planned Chek Lap Kok airport construction. Housing price then doubled, tripled and in many cases quadrupled in mid-1990 to 1997. The first half of the 12-year bullish phase of housing market, from 1958 to 1991, can be described as a sturdy upward movement, together with Hong Kong people’s income and savings growth. The second half, from 1991 to 1997, was the manic property phase with prices shooting upwards due to the housing markets’ overheated speculation. During this period, a small apartment about 600 square feet in the urban area would cost HK\$ 5 million (US\$ 645,000) or thereabouts, or over HK\$8,000 (US\$1,030) per square foot. While a luxury apartment with 1,000 square feet floor area in an upscale urban district could easily cost HK\$ 20 million (US\$ 2.58 million), or HK\$ 20,000 (US\$ 2,580) per square foot.³⁵

³⁵ Poon, Alice. *Land and the Ruling Class in Hong Kong*. Singapore: Enrich Professional Pub., 2011.

Figure 6-8: Private Residential Land Supply vs. Average Housing Price



As the property market entered its hyper-bullish phase, leading property developers had become so dominant, both in terms of financial strength and market share, that their leading status was virtually undefeatable. Against such backdrop, leading developers' monopolistic strategies grew stronger by day, such as charging higher prices and holding on to undeveloped land assets. While minor market participants did emerge from time to time, their business were often impeded by the costly land price and its accessibility. their greatest obstacle was the hefty costs and limited availability of land. The land banks and land exchange entitlements accumulated by leading developers prior to the start of the 12-year bull phase were an unbeatable cheap source of land supply.

6.3. Development strategies: The Missing Link

By the 1990s, the major developers had all become very experienced in terms of how to work with the property market cycles. From 1945 to 1984, the Hong Kong property market had experienced five cycles. Going with the cyclical movement of the market, those developers adopted a “buy low and sell high” approach.³⁶ This approach is essentially the missing link that explains the lack of correlation between the movement of the land market and the housing market. More land being released by the government, doesn't necessary increase the housing market, because developers might decide to hold the acquired land as inventory and wait for the right market it to develop it, resembling the idea of an option call. And when the government implement sudden restriction on land sale, this expectation of higher property price in the future, and fear of housing shortage directly capitalize into higher housing prices. While the housing output remain relatively constant, since the big developers all possess enormous land bank as their ‘cushions’. Moreover, the sudden land shortage might even temporarily increase the housing supply due to the psychology boost.

In order to maximize their profits, all the major developers undertake some form of “explicit co-operation” under the oligopolistic market structure. They will have the rough information about the number of units and timing of the completion dates for projects to be offered for sale. Therefore, they can plan the timing in launching new projects to when the “right market” arrives, or when there is minimal competition for the same category of product. The developers would still try to obtain land from auction and tender, but instead of developing right away, they would withhold land supply, pocket into their land banks. They delay construction through the market trough, and only start building when expected future prices are higher, and hence, maximize the selling price. As a result, the prices will be higher due to a shortage in supply, which is restricted by the developers. The same strategies are also applied for utilizing their own land banks; they would convert the land use during market trough, so the premium is at the lowest.

³⁶ Poon, Alice. *Land and the Ruling Class in Hong Kong*. Singapore: Enrich Professional Pub., 2011

Additionally, the big developers might restrict their own housing supply to artificially create housing supply shortage in order to drive up the price and then release their product output. All of these profit maximization strategies are made possible due to the oligopolistic nature of Hong Kong's property market. Table 6-1 presents the amount of land banks and the amount of housing supplied by the four major developers. Given the land bank practice, it is reasonable to suspect that, even if the government releases more land to the developers, the supply of housing units might not necessarily increase accordingly. This scenario would not have occurred in a perfectly competitive market. If there exists effective competition, the developers' housing supply would follow closely with the movement of the land market, because if they postpone developing the acquired land, the consumers would have enough alternatives from the other developers. The prices of housing would respond precisely to the market demand and the volume of land supply. However, in Hong Kong's uncompetitive housing market today, where the supply of land is controlled by the government, developers could withhold housing production until the expected future price is higher, and few other developers would have the capacity to fill the supply gap.

According to professor Wheaton's four-quadrant model, reduction in land sales prevents developers from getting the land they need to complete desired housing production. As construction slows, the stock of housing fails to keep pace with demand, raising prices. But what failed to be considered is the market dominant developers alternative sources of developable land. One example is their enormous land holdings that they have been accumulating decades before the announcement of the land restrictive policy. Another one is the large amount of agricultural land conversion permits they have purchased from the native residents of the New Territory. All that's required is a small amount of land premium and the completion of the land conversion application process before they could develop residential and commercial project on the lot. All these different form of land holdings served as "cushion" or contingency in times of land supply shortage, which explains the lack of correlations between the decrease in land supply and the decrease in new housing output.

As mentioned early, by the 1980s, the big developers had enough land 'inventories' and would practically never run out of developable land even if the government stopped selling land for years. Indeed, in his later study, Peng & Wheaton³⁷ stated that land supply has a direct effect on housing prices, but no direct effect on the production of new housing units. This suggested that the higher housing prices are not caused by a housing shortage but are a direct result of expected high future rents.

Besides the possession of large amount of land banks, there are also other possible explanation for the mismatch between movements in the land sales and new housing supply. In Hong Kong all the government land grants given with a document called "conditions of sale", which always specifies a minimum amount of gross floor area. This planning regulation ensures the completion of buildings in an efficient manner, and hence limits the developer's flexibility in adjusting the density of its development according to market condition. The development process usually takes several years from land acquisition, design approval, construction, permitting, and to the final handover, which causes great lag effects for the housing output to correspond to the change in property prices. In the case of Hong Kong especially, housing production usually takes longer period of time. Residential development largely takes the form of high-rise flats, with very high density, and sometime built on mountainous sites. The situation is further complicated by the stringent three tiers of permitting process and building approval process. A large-scale residential project in Hong Kong usually takes three to four years. Short-term housing supply is inelastic due to the lengthy and cumbersome nature of the development process. Therefore, when the government releases more land on to the market, residential property market cools down, the developer cannot adjust the scale of their project accordingly. The moment the developer accepts the "condition of sales," the minimum gross floor area requirement becomes binding.

³⁷ Peng, Ruijue, and William Wheaton. "Effects of Restrictive Land Supply on Housing in Hong Kong: An Econometric Analysis." *Journal of Housing Research* 5.2 (1994): 263-88.

Another important reason for why the number of new completions is generally not affected by the change in supply of new land is Hong Kong government's flexibility regarding building density. Although the government controls over the land supply and land use with a set of pre-determined requirements, they reserves a certain amount of flexibility in terms of the cap on plot ration (aka. development density). Developers, especially the primary developers can always negotiate for a higher development density in exchange for the providing of public housing units are community amenities and civic facilities. The big real estate conglomerates also benefits from a close relationship with the "pro-business" government and enjoys certain economy of scale when dealing with bureaucratic planning process. So when land supply is limited, developers have certain contingency to compensate the decrease in building area with a higher development density.

CHAPTER 6 CONCLUSION

6.1 Conclusion

It is the common belief that Hong Kong's high property price and volatile market movements are due to the fact that land supply is limited both naturally and artificially controlled by the government. When facing the housing problems in Hong Kong, most of government's solutions are related to an increase in the land supply in order to drive up the housing supply. However, after examining the characteristics of the leading developers, such as their land bank and housing supply tactics in the past, this paper argues that simply adjusting the amount of land supply might not have direct impact on the amount of housing supply. This paper has investigated both theoretical and empirical evidence on the relationship between land supply and housing prices in Hong Kong. While focusing on the extent of the effect of land supply on housing market, this paper also examines the impact derived from development strategies of a handful of major real estate companies.

The paper confirms that housing supply and development process is largely influenced by government land polies and regulation. Theoretically, housing supply can be increased through expanded land sale

from the government, and hence decrease the housing price. The reduced supply of land has just the opposite effect; it reduces housing supply and drives up housing prices. However, by examining empirical evidence, it is detected that very often, there is little correlation between the amount of land supplies and housing supplies, and the effects on price happens to be more responsive in the long run, and the short-term effects are some times different than expected due to market's anticipation of the future housing price.

Using the event study method, evidence can be found that the major developers' housing supply decisions are quite independent from the land supply decision by the government. Instead, the developers housing production schedules follows economic condition of the housing market. The findings from this paper suggest that it is important to examine the profit maximization tactics of the developers in conjunction with the effect of the land supply decisions when trying to evaluate housing policies. In this particular case, since developers can always adjust their land banks to absorb the increase in land supplied by the government or serve as contingency when government limits the land supply, and increase or decrease in land supply might have a minimal effect on developers housing output. This profit-maximization strategy distorts the theoretical correlations between land supply and housing supplies, and hence complicates its relationship with housing price. The findings of this empirical analysis have important policy making implication.

6.2 RECOMMENDATION

Restricted supply of land and high land value presents a major barrier to healthy competition in the land market. The market power of major real estate developers causes disincentive for the property developers to collectively acquire and develop land at a socially efficient level, thus compromising the benefits of the consumers due to the lack of alternatives and hence, bargaining power. Although it is evident that there has been increased competition in the land market today compared with the situation decades ago, there are still areas where government policies may further improve competition in the housing market. One

such area concludes improving the accessibility to land supply to the smaller developers in the property market with land financing plans. Hong Kong government could undertake to provide land credits to lower the financial barriers in obtaining land stock for smaller developers, which is essential since the cost of land normally takes up half of the total development cost. Currently, in Hong Kong, land premium is a lump sum payment paid at the time of developers' application to convert the land into commercial or residential property site. Therefore, another measure could be allowing developers to pay the land premium in installments over the length of the development process or till the time of pre-sale, which can happen 20 months before the completion of the development project. In that case, the installment could be financed with pre-sale proceeds. In addition, the major developers enjoy significant advantage in obtaining land financing at a favorable costs. Hence, government can encourage potential market entrants by lowering the borrowing rate for the smaller or entrepreneurial residential developers. Consequently, a higher degree of contestability in the housing market will automatically correct housing price to a more affordable level, by providing customers with more purchasing options. It will also increase the elasticity of the supply of housing, thus, lower housing price volatility to avoid dramatic price swings in situations such as a sudden inflow of capital or market shocks.

To address the issues of low housing affordability in Hong Kong and the underlying land monopoly and property market distortion, one direct method would be for government to employ a low land price policy. This can be derived through the release land supplies with allocation requirement specified in order match the market demand. For example, land supplies should be granted first to developers targeting at affordable housing or smaller scale private housing for the lower to middle income group, where the problem of housing availability is the most severe. The pre-determined program of the lot for sale can be regulated as part of the development controls that are inherently incorporated into the Building Ordinance, Town Planning Ordinance and government leases.

In addition, in order to correct the developers' "hold and wait" strategies, government can specify in the land sale documents a maximum length of time during which private developers must complete a specific number of units. Government also needs to provide regulations in terms of development densities, so the number of housing units correspond directly to the change in land supplies. If government of Hong Kong restricts the increase in land supply but remain flexible on construction density, the resulting shortage of land will not lead to a shortage of housing units, and hence, the government's land policies will not derive the anticipated effect. Government can also increase the land premium according to the extended length of holding period for developable land, so the decision of waiting for the "right market" comes with a higher opportunity cost.

Transparency of information is also very important to the healthy development of the property market. As one of the advanced economy in terms of GDP per capital in the world, Hong Kong has little reason postpone the implementation of comprehensive competition and consumer protection policies and laws. A competition authority could be set up to investigate suspected abuses of competition law. The authority could be given considerable powers to prohibit anti-competitive activities, to issues warnings against anti-competitive behavior, and to impose fines on firms found guilty of such conduct.

Hong Kong government itself should also improve its transparency in the land administration system. Government should announce the relevant information, for example, the amount of new land supply to be expected in advance of land sale events to improve the predictability of government land release volume. By doing so, government can facilitate fair competition in the land market by allowing timely adjustments in the capacity of the property development industry.

More information should also be accessible to the general public, since, currently there exist a certain extent of information asymmetry between the developers and the market. Developers some times have incentive to restrict their housing output in order to drive up the price and then execute development at the "right market" to extract the maximum economic profits. They will have the rough information about the

number of units and timing of the completion dates for projects to be offered for sale. Therefore, they can plan the timing in launching new project to minimize direct competition. As a result, the prices will be higher due to a shortage in supply, which is restricted by the developers. While the general public has no access to obtain such information and are forced to bluntly accept housing prices too high for their income level, or the quality of the units.

Realizing some of the above-mentioned issues, Hong Kong government has been making numerous attempts to correct the current condition of the housing market. As government trying to readjust its long-term housing and land policies and improve the transparency in its land administration system, the property development industry is also undergoing structural changes. The number of players in the land market has been increasing and the traditional developers are expanding their business to the mainland cities and merging into other industries to diversify their portfolios. The methodology of this study, however, can be useful for continued monitoring and evaluation of policy making in the land and housing market, aiming to facilitate Hong Kong's continuous housing development through steady and efficient guidelines.

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