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Principal Investigator :
首席研究員： Mr LEUNG Cheuk Fai Jimmy
梁焯輝先生

Institution/Think Tank :
院校 ／智庫： The University of Hong Kong
香港大學

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Industrial Land Use Changes in Response to Economic Restructuring in Hong Kong

香港在經濟轉型中的工業土地利用變化

Principal Investigator: Mr. Leung Cheuk Fai Jimmy
Co-investigator: Dr. Tang Siu Sing Kenneth
Senior Research Assistant: Dr. Bai Xianlu

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Abstract

This research titled industrial land use changes in response to economic restructuring in Hong Kong investigates four issues: 1. what has been happening to Hong Kong's industrial stock; 2. how several rounds of economic restructuring have shaped the development of industrial buildings since the 1950s; 3. why this research believes that industrial stock matters to Hong Kong, and in particular the four selected sectors: manufacturing, logistics, cultural and creative industry and innovation-driven start-ups; and 4. what this research recommends the government to do to overcome the current difficulties in optimising uses in industrial buildings for a more diversified and resilient Hong Kong.

Through reviewing past and current government policy measures, interviewing stakeholders of industrial buildings, conducting overseas case studies and analysing quantitative data, this research has drawn five conclusions:

1. Existing industrial premises still matter to Hong Kong economically and socially.
2. It is important to provide land for future demand of the logistics and manufacturing industries.
3. Hong Kong's innovation and creativity sectors need more affordable space
4. There are two unresolved issues of industrial premises: non-conforming uses and fire safety
5. The shortage of developable land is the bottleneck of current and future development.

Based on these conclusions, 12 policy recommendations have been made:

1. To continue with the existing revitalization policy but restricted to non – "I" zone only (i.e. for "OU(B)", CDA, R(E) zones), successful applicants would be required to dedicate a portion of the space free of charge to government. The dedication is only restricted to the life of the existing building. Upon redevelopment, the premises will be returned to the landowner unconditionally.
2. To preserve warehouses and cold storage particularly those located near the port, airport and major transport infrastructure linking Hong Kong with the Mainland. Any application for rezoning or redevelopment of purpose-built facilities to other uses should be treated cautiously.
3. To dispose sites with regular shape and sufficiently large floor plate for modern logistics facilities as early as possible.
4. To adopt a prudent approach in rezoning of "I" zone and change of use particularly for ground floor space in industrial buildings on "I" zone.

5. To encourage high-tech industries to be set up in Hong Kong, new sites should be made available for industrial estate development.
6. To build generic factory for leasing in more flexible terms to industries which are considered suitable for establishing in an industrial estate but do not require a whole site.
7. To lease back underutilised premises in industrial estates for re-allocation.
8. To review the admission criteria for industrial estate to encompass other considerations such as the future prospect of the industry, multiplier effect on the economy, the number and type of jobs to be created and the amount of R&D investment.
9. To revise future leases of industrial estates to 30 years certain with an option to renew for another 20 years subject to mutual consent.
10. To permit a certain portion of a building for co-living spaces in industrial buildings converted purely for co-working spaces and CCI uses in non-"I" zones.
11. To adopt a reverse BOT model for government to secure a long lease of an industrial building and convert it for CCI and other related uses. Under this model, government would lease an old industrial building, renovate it and grant it to the HKADC or other agents for allocation and management of the space at subsidised or market rents. This is the most preferred way to address the shortage of affordable space for artists.
12. To develop the "C" site at Lei Yue Mun road/Cha Kwo Ling Road/King Yip Lane at Kwun Tong for CCI and related uses. This will help to provide space for artists displaced by the redevelopment of industrial buildings to office buildings in Kwun Tong and Kowloon Bay under the CBD² initiative.

The researchers aim at achieving a better understanding of Hong Kong's industrial premises before suggesting implementable policy recommendations that will benefit Hong Kong society as a whole. This study is not making recommendations on industrial policy, or intended to be a strategic plan for Hong Kong. As argued in this research, affordability, flexibility and accessibility have made industrial buildings ideal work spaces for the selected sectors and possibly more. Therefore more general, macro conclusions and detailed policy recommendations are drafted for the government's consideration.

摘要

“香港在經濟轉型中的工業土地利用變化”旨在探討四項問題：一、香港的工業用地歷經的變化；二、自五十年代以來香港經濟數次轉型如何影響工業樓宇的發展；三、為何本研究認為工業用地對香港的發展，特別是製造業、物流業、文化創意產業和創新產業意義重大；四、本研究對政府克服當下優化工業樓宇使用存在的困難提出建議，從而促進香港的多元化發展及經濟恢復能力。

通過回顧過去及目前的政府政策，採訪工業樓宇的利益相關人，海外案例研究及定量數據分析，本研究得出如下五條結論：

一、工業樓宇對香港的經濟及社會發展仍意義重大。

二、足夠的土地供應對物流業及製造業未來的發展至關重要。

三、 香港的創新與創意產業需要更多可負擔的空間支持。

四、工業樓宇面臨兩大未解難題：非工業用途及火災風險。

五、可發展土地的緊缺是當前和未來發展的瓶頸。

綜上結論，本研究提出十二項政策建議：

一、繼續推行活化工業大廈政策，但只限於非工業用途地帶〔即其他指定用途“商貿”、綜合發展區及住宅 （戊類）〕。成功的申請人將被要求回饋一小部分樓面面積供政府免費使用，使用期與該工業大廈剩餘樓齡相等。如該樓重建，則政府將無條件奉還有關處所。

二、保留倉儲和冷藏倉庫，特別是那些位於港口，機場及其它聯通內地的主要道路週邊的用地。對重建專門設計的設施或改劃的申請應謹慎對待。

三、盡早為現代物流業提供形狀規則且地盤面積大的用地。

四、對工業用途地帶的改劃及申請在該地帶改變用途，特別是工廈地鋪的用途，應特別謹慎

五、為鼓勵高新科技產業在香港的發展，應提供土地以發展新的工業邨

六、在工業邨中建立一般性用途廠房並提供更靈活的租約，以滿足那些可在工業邨運營但又不需要佔用整棟廠房的廠家

七、將工業邨中未善加利用的用地租回並重新分配

八、檢討工業邨的租戶評　標準並增加其它考慮因素，比如產業前景、對經濟的乘數效應、新增職位數量和類型及研發投資數額。

九、將工業邨未來的租約修改為三十年，其後可根據雙方意願再續約二十年。

十、允許將非工業用途地帶內由工業大廈改造而成的共同工作空間和文化創意產業用地的一部分作為宿舍。

十一、套用反 BOT 模式，即政府與工業大廈業主簽訂長期租約並將其改裝作文化創意產業及其它用途。政府可將改裝後的工業大廈交由香港藝術發展局或其它機構，讓他們分配並管理該場地，同時按市場價或低與市場價的價格租給藝術家使用。

十二、開發觀塘區的鯉魚門道、茶果嶺道和敬業里之間的一塊商業用地供文化創意產業及其相關行業使用，以幫助那些在觀塘和九龍灣的工廈重建中被迫遷出的藝術家。

本研究意在獲得對香港工業用地更深入的了解，並以此提出對香港整體社會發展有利的、切實可行的政策建議。這個項目不是對香港工業政策的研究，也不試圖提出一個策略性的發展方案。正如報告所述，廉價、靈活和區位便利是四個被調查的行業及其它未被包含的行業將工業大廈當作理想的工作室空間的主要原因。因此本報告同時提出了宏觀的以及具體的政策建議，以供政府綜合考量。

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Chapter 1 Introduction

1.1 Prologue

Hong Kong's industrial land and premises can be puzzling and intriguing. Depending on the source of information or whom one speaks to – common perceptions, views of specific interest groups or government statistics – industrial premises can be mostly full or fairly underutilised, derelict or vibrant, in need of revitalisation or best left alone.

There have been several rounds of area assessment on industrial land in 2000, 2005 and 2009 with the 2014 survey published in August 2015 by the Planning Department. Subsequent to each survey, there have been rezoning of industrial land and revision of uses permissible in "I" zone. In 2010, the HKSAR government introduced new fiscal measures for industrial buildings, the "*revitalisation measures to facilitate the redevelopment and wholesale conversion of older industrial buildings*" (which will be referred to as "the revitalisation policy" in this report), has resulted in a wide range of discussions among the academics as well as the general public.

With the 3-year extension of the current revitalisation policy coming to an end in March 2016, the researchers believe that there is still a large gap between the current knowledge and/or perception of industrial premises, and the information and analysis needed to truly optimise uses of these buildings. For instance, simple questions like "how many industrial buildings are there in Hong Kong?" and "how many businesses in Hong Kong are operating in industrial premises?" may baffle many professionals and academics.

Therefore this study aims at achieving a better understanding of Hong Kong's industrial premises before suggesting implementable policies that will, as the researchers believe, benefit Hong Kong society as a whole.

1.2 Research background

Hong Kong has transformed from an industrial city to an international financial and business centre over the past three decades. With the production processes relocated to Mainland China and other Asian countries since the 1980s, manufacturing industries contributed a mere 1.4% of Hong Kong's GDP in 2013, which is a fraction of the 22.5% recorded in 1980.

In Hong Kong, the total stock of private flatted factories, industrial/office buildings, specialised factories and storage space amounted to 24 million square metres in 2012[1]. This is more than double of the total office stock of 10.9 million square metres. Vacancy rates for the various categories of industrial premises were maintained at relatively low levels ranging from 4.5% to 6.7% in 2012 (Rating & Valuation Department, 2013).

The phenomenon of shrinking manufacturing industries, a high usage of industrial space and the presence of non-industrial uses poses a number of questions. What has happened to Hong Kong's industrial premises and why did it happen? Who are using these premises and for what purpose? And more importantly, does industrial stock matter at all to Hong Kong at this day and age?

Out of all users in industrial premises, three sectors were selected to be examined in the research proposal. The logistics industry is the biggest user of industrial premises in terms of floor area occupied. Further, the manufacturing industry is another intended user of industrial buildings - especially flatted factories - the main category of all industrial premises. And the cultural and creative industry (CCI), although a relatively insignificant user with regard to space occupied or number of establishments, it is a particular vocal and active sector that attracts plenty of attention and discussions. Later in the study, start-ups have caught the eyes of the researchers and their potential in using industrial premises is also investigated.

1.3 Purpose and significance of study

The five objectives of this study proposed initially are:

1. To assess the current state of play of manufacturing and logistics industries as well as the non-industrial uses in industrial premises;
2. To review government policies on industrial land and buildings as well as industries;
3. To ascertain the needs of manufacturing and logistics industries and non-industrial uses in factory buildings and to analyze their social and economic significance, future potential and interrelationship, if any;
4. To review the experience of other cities in re-using industrial premises and developing new form of industrial space in the wake of economic restructuring; and

[1] According to Ratings and Valuation Department, all figures here refer to Internal Floor Area (IFA) which is defined as area of all enclosed space of the unit measured to the internal face of enclosing external and/or party walls (Rating and Valuation Department, 2015a).

5. To recommend policies/strategies related to industrial land/buildings and industries having regard to the implications on Hong Kong's competitiveness and sustainability.

This study was purposely designed to provide pragmatic recommendations on industrial premises related government policies so that the optimisation of industrial premises can contribute to a more competitive and resilient Hong Kong. Through examining past and current policy measures on industrial land use and their impact on users of industrial buildings, this study acknowledges the complexities surrounding industrial premises. However, it is argued that there will not be a comprehensive industrial land use policy without a comprehensive industrial policy. Therefore this research is not only addressing land use related issues and make suggestions to the government accordingly, but also shining light to several sectors whose development is subject to availability and affordability of space. By reviewing the history of Hong Kong's manufacturing industry, this report intends to highlight the importance of government intervention in terms of industrial land provision and technological upgrading. Moreover, this study also demonstrates how the HKSAR government has an active role to play in the rise of the CCI and start-ups by making safe and affordable space available to them.

The research findings are not only academically but also practically significant for the following reasons:

i) Industrial land is the biggest floor space provider in Hong Kong where every square metre counts yet misconception is widespread. Understanding this large stock of space spatio-temporally is the foundation of any effective government policy. Due to different interest and regulations of government departments and different coverage of past studies, sizable gaps can be found in industrial land use related research, some of which this study attempts to fill up.

ii) This is the first study of its kind to investigate several sectors in industrial premises, and the selected sectors are representative of Hong Kong's "past" and "future" industries. Echoing recent signs such as re-industrialisation and artistification of industrial buildings, this report illustrates how these sectors particularly matter to Hong Kong's economic and social development and how industrial premises particularly matter to these sectors.

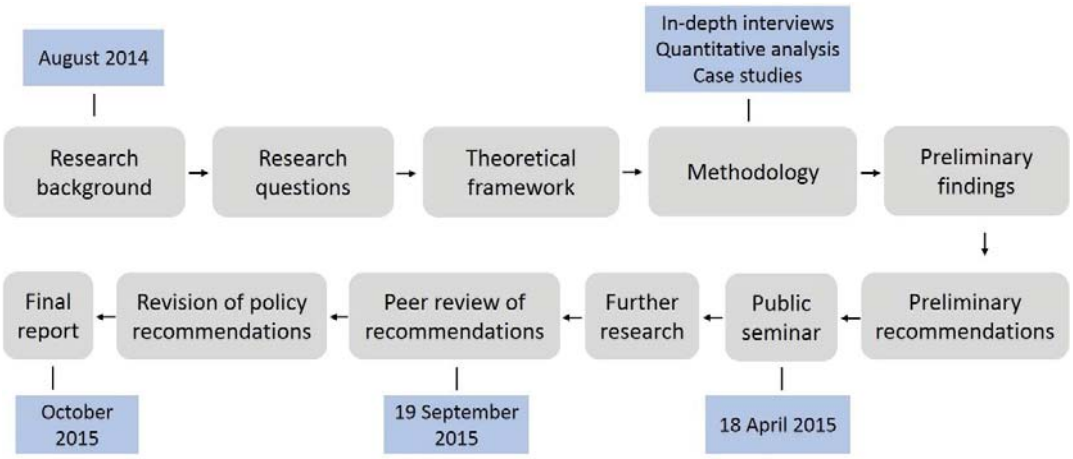
iii) The revitalisation policy is coming to an end soon yet the tension and impact within industrial areas and among industrial space users is not going to cease subsequently. This report provides timely recommendations to the HKSAR government for the next round of policy on industrial premises.

1.4 Research questions

Four research questions, one in each of the following chapters, have been raised in order to achieve the research objectives of this study mentioned above:

i) What has been happening in industrial premises in Hong Kong?
ii) How did the problems faced by users of industrial buildings emerge and develop?
iii) Why does industrial stock matter to Hong Kong?
iv) What kind of policy measures should the government take to truly optimise the use of industrial premises?

1.5 Research design



Due to the complexity of the research topic and limited resources, this study aims to make the best use of existing research and survey data on industrial land use and individual sectors which provide a solid foundation. Adopting both quantitative and qualitative research methodologies, this study has conducted policy review, semi-structured interviews, general statistical analysis and case studies.

Databases on industrial buildings and an area survey[2] as well as a 20% random sample of establishments in Hong Kong are provided by the Buildings Department, Planning Department and Census and Statistics Department respectively for this research. Data matching and analysis have been conducted.

Interviews are carried out from August 2014 to September 2015 with industrial organisations, industrialists, owners of factory buildings and individual units; logistics firms, logistics facility providers; artists, art groups, art administrators; relevant statutory bodies and government departments; and academics and experts in the relevant fields (please see the full list of interviewees in Appendix 1).

Case studies are conducted on the use of industrial space for other purposes and field study of industrial and technology parks, including east London's Tech City, Taiwan's Hsinchu and Taipei and the Pearl River Delta (PRD)'s Shenzhen and Dongguan (please see Appendix 2 for the list interview questions). Experiences of these cities will provide Hong Kong a reference point and inspirations for potential directions in the future.

1.6 Scope and limitations

This is a 15-month research project that involves merely three researchers, therefore it would be impossible to cover all sectors in industrial premises or conduct survey at a meaningful scale. This study is not making recommendations on industrial policy, or intended to be a strategic plan for Hong Kong. Focusing solely on how the use of industrial land can be optimised for the interest of society, the conclusions made at the end of this study will be more general but unequivocal on the macro scale, and the recommendations more specific and technical on the micro scale. This study is not an academic research project. Applicability is always the top priority for researchers although it is also possible for more theoretical research to be developed from this study.

[2] See Planning Department, 2011

Chapter 2 The matter of fact-ory is…

2.1 Facts of Hong Kong's industrial stock

Hong Kong is famous for being "Asia's world city" and international financial centre status and its iconic skyline. Little do many people know that industrial buildings' total floor area is about double as much as that of office buildings. To propose how to optimise uses of such an important space provider in Hong Kong where land has always been precious, this chapter will first examine what is going on with Hong Kong's industrial premises.

2.1.1 Definition, stock and age of industrial buildings

Table 2.1 Number of industrial buildings in Hong Kong according to different government departments and this study

	Planning Department	*Buildings Department*	*Rating and Valuation Department*	*Development Bureau*	***This study***
Flatted factory	YES	YES	YES	YES	YES
Private storage	YES	YES	YES	YES	YES
Industrial/office building	YES	SOME[3]	YES	NO	YES
Industrial estates	NO	YES	YES	NO	YES
Housing Authority's factory estates	NO	NO	NO	NO	YES
Rural industries and special industrial uses[4]	NO	YES	YES	NO	YES
Total number of industrial buildings	1,448[5] [2014]	1,851[6] [2014]	No information	1,435[7] (*1,019+416*) [2010]	**1,894** (*1,851+6+37*[8])

[3] According to the Planning Department, there are 43 Industrial/office buildings in Hong Kong and 5 of them are included in the Building's Department's list of industrial buildings.

[4] "Rural industries and special industrial uses" refers to those industrial buildings that have submitted building plans to the Buildings Department, such as rural sheds, oil depots and marine or port-related industries. Constructions that are for industrial uses but have not submitted building plans to the Buildings Department are not included.

[5] According to the Planning Department's *Report on 2014 area assessments of industrial land in the territory*, p.2-1

[6] According to the List of industrial buildings ("*List*") provided by the Building's Department in 2014

[7] According to the Development Bureau's website "Optimising the use of industrial buildings to meet Hong Kong's changing economic and social needs": http://www.devb.gov.hk/industrialbuildings/eng/background/potential_of_industrial_buildings/index.html, there are 1019 flatted factories and 416 private storages in Hong Kong.

[8] "1851" refers to the number of industrial buildings on the Buildings Department's *List*, "6" refers to the number of Housing Authority's factory estates and "37" refers to the number of industrial/office buildings that are not on the Buildings Department's *List*.

Different government departments in Hong Kong may have their own way of calculating the total amount of industrial buildings, mainly according to their scope of duties and responsibilities. For instance, the Planning Department is more concerned with zoning whereas the Buildings Department deals with building plans. Figures published by different government departments will then follow their own area of responsibilities or interest.

The total stock of industrial premises, based on the Ratings and Valuation Department's *2015 Property Review*, is estimated to be 21.3M square metres. Among the industrial stock, approximately 80% are flatted factories while the remaining are private storage and industrial/office buildings[9], constituting 16.9% and 3.1% of the total stock respectively.

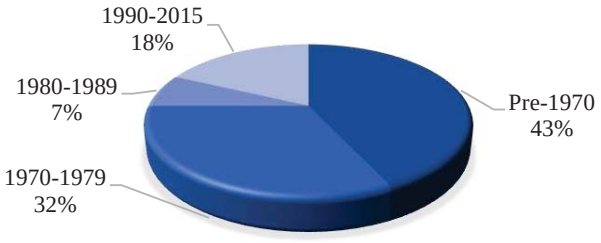


Figure 2.1: Age Profile of Flatted Factory Buildings[10]

Figure 2.1 shows that in terms of building age, 75% of the industrial buildings are over 35 years (Rating and Valuation Department, 2015b). In the 1960s and 1970s, the industrial stock supported the growth of labour-intensive manufacturing industries which were mainly accommodated in flatted factories. Since the 1980s, owing to the relocation of a substantial amount of the production processes to the PRD, a large proportion of the local industrial stock has been used by the production service sector and other booming sectors, such as storage and logistics.

2.1.2 Spatial distribution of industrial buildings

Most of the industrial buildings in Hong Kong are located in the Kwun Tong, Tsuen Wan, Tsing Yi and Yuen Long Districts (see Figure 2.2). With the exception of Yuen Long, these areas were an extension of the urban core at the time when Hong Kong's industrialisation began. They are mostly formed by reclamation and are close to high density residential areas with the comparative advantages of large labour supply and good accessibility, and thereby reducing the transportation

[9] Industrial/Office building is a building type for dual purpose, first introduced in the early 1990s to optimise the use of land resources.
[10] Data source: Rating and Valuation Department, 2015b.

cost for raw materials and products. Proximity to the port and the airport is crucial for logistic firms and these firms are mostly located in the Western part of Kowloon and the New Territories.

According to the Planning Department (2015), industrial buildings can be found in "I", "OU(B)", "R(A)", "R(E)" and "CDA" zones and the majority of them are found in "I" and "OU(B)" zones. The distribution of the 1,894 industrial buildings is shown in the map below:

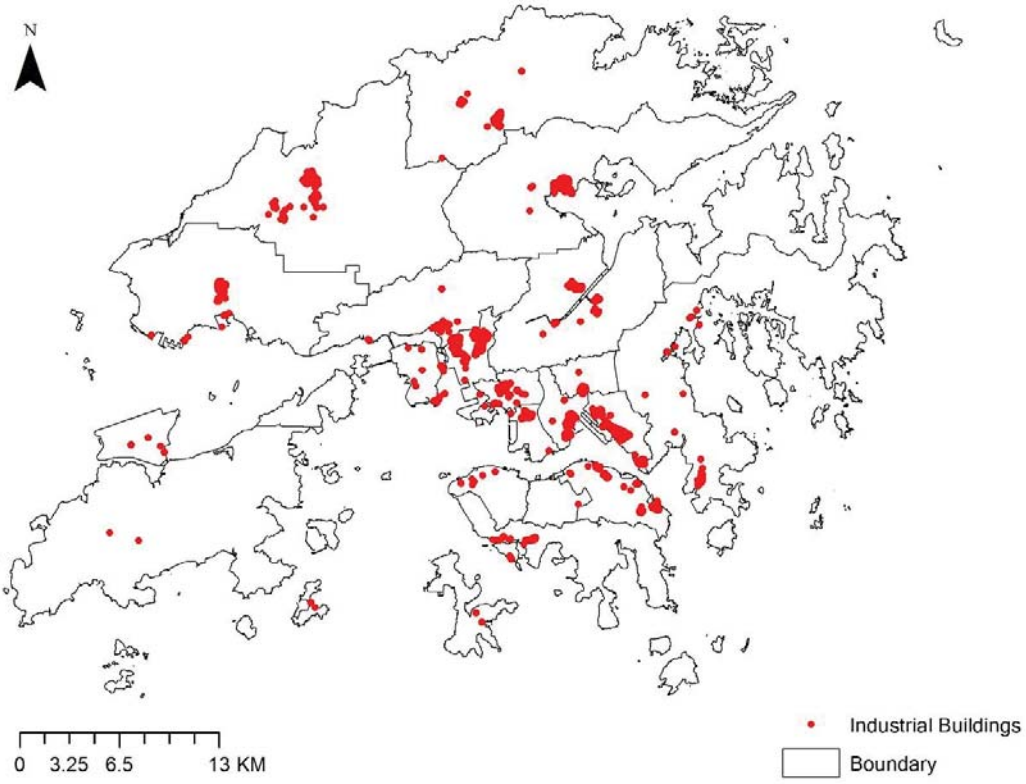


Figure 2.2 Distribution of 1,894 Industrial Buildings in Hong Kong

2.1.3 Ownership of Industrial buildings

According to information provided by the Planning Department in 2014, about 420 industrial buildings are under single ownership in "I" Zone and "OU(B)" Zone.[11] Not only the majority of industrial buildings – around 1,000 of them – are under multiple ownership, the ownership also tends to be very fragmented, i.e., in many cases there are tens or even hundreds of owners in one industrial building. The fragmentation of ownership was formed as a result of individual floor or

[11] The figures have excluded industrial buildings for rural industries and special industrial uses which are mostly under single ownership. 167 industrial buildings in the three industrial estates managed by HKSTP are also excluded (see Table 2.1)

unit sold by the developer to small owners after the construction of the building and can be considered a double-edge sword.

On one hand, fragmented ownership is one of the major obstacles to carry out revitalisation and redevelopment under prevailing land and planning practices. It was suggested that when an industrial building has more than a couple of owners, any negotiation on renovation or redevelopment would become very difficult. Therefore, at the moment the majority of industrial buildings under multiple ownership remain almost untouchable. On the other hand, fragmented ownership preserves affordable industrial space due to the difficulties it creates in redevelopment. Industrial buildings under multiple ownership have been the main provider of cheap space for industrial and non-industrial users.

2.1.4 Vacancy rates of the industrial stock

According to the Rating and Valuation Department, "[v]acancy indicates that a unit was not physically occupied at the time of the survey conducted at the end of the year. Premises under decoration are classified as vacant" (2015a:69). This means that when a building or unit is under decoration, although it is not available to be used, is considered vacant. Other than decoration, there are also other reasons why not all the vacant space is available to the market. According to an interview conducted with a market expert, space in office buildings is sometimes reserved for a customer who would take several floors but these floors may become available at different times. The landlord will then reserve the floors that are vacated early till all floors become available. In another case, undesirable space such as windowless units will be much harder to be rented out but still considered "vacant", or a unit might be used as a model unit.

The current practice of surveying unoccupied premises has another issue – some space may be underutilised for general storage and/or showroom uses because the owner of the entire property is using the other parts of the building. In other cases, the owner does not want to invest on renovating the property to rent it out. This type of premises is by definition occupied but in practice not fully utilised in the best possible way.

Therefore it should be noted that the actually available space for rent or sale will not always be reflected in the vacancy rates provided by the Rating and Valuation Department. In terms of interpreting the vacancy rates in Hong Kong the market in general considers above 10% high and under 5% tight. When vacancy rates drop under 5%, landlords may be increasing rent and when

there is an extremely low vacancy rate resulting in very high rent, many business may find it difficult to function.

The vacancy rates of office buildings, flatted factories, industrial/office (I/O) buildings and private storage are shown in Figure 2.3. It is noted that except for I/O uses, all the other uses have reasonably low vacancy rates. Both flatted factories and private storage have less than 10% vacancy rates since 2004. Private storage's vacancy rates have been particularly low – less than 10% for the past two decades with several years under 5%.

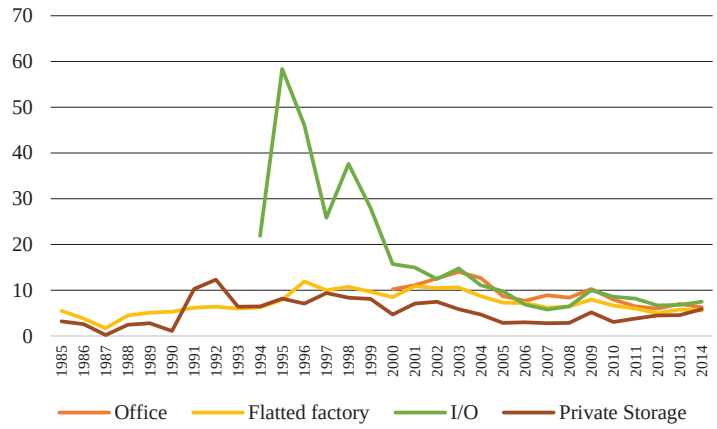


Figure 2.3 Vacancy rates of office and industrial buildings 1985-2014 (%)[12]

The I/O categorisation was first introduced in the early 1990s. During the period 1994 to 1998 when most I/O buildings were completed and supplied to the market, the vacancy rate of I/O buildings was maintained at a high level (ranging from 20% to 60%). As the rent of these buildings was relatively less competitive compared to industrial buildings, some firms which were operating in industrial buildings but could not meet the prevailing statutory requirements had adopted a wait-and-see attitude for cost saving reasons. With the economic downturn and substantial drop in the rent for I/O buildings in the late 1990s, the vacancy rate dropped to around 10%. Over the years, the vacancy rates of other types of industrial buildings generally remain at less than 10%.

2.1.5 Rental and price indices of industrial premises

In comparison to price of land for commercial or residential uses, industrial land is often sold at much lower prices. Industrial properties are in general the cheapest type of property in Hong Kong

[12] Data source: Rating and Valuation Department, 2015c.

in terms of both price and rent. The trends of the rental and price indices of industrial premises are given in Figure 2.4 with several key events that affected the property market since the 1980s highlighted. Office, residential and retail properties' price and rental indices are also shown for comparison purposes.

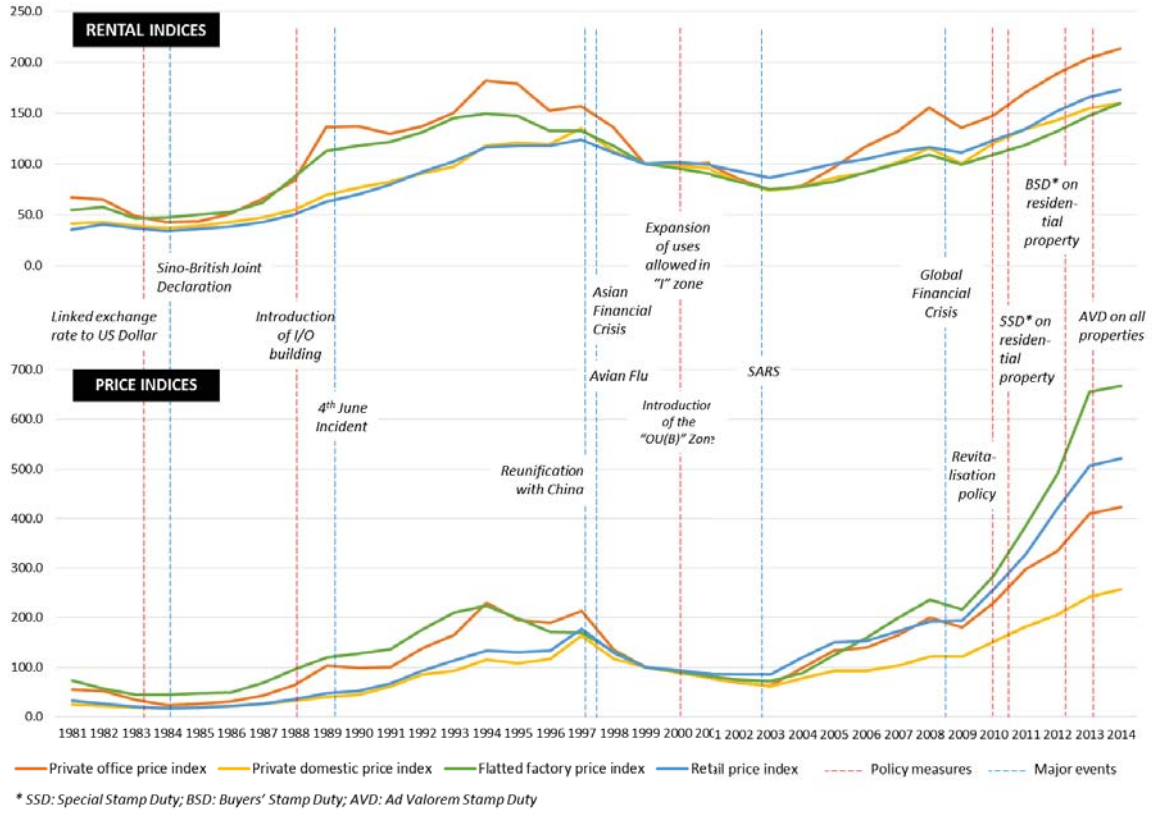


Figure 2.4 Rental and Price Indices of four types of properties 1981-2014[13]

Both rental and price indices of office and flatted factory reached a high point a few years prior to Hong Kong's unification with China due to optimism and speculation in the property market followed by domestic and retail property a few years later. The drop from then on resulted from the decrease in demand for industrial premises due to the extensive move of industrial production processes to the PRD and more importantly, the downturn of the economy from 1997 due to the Asian Financial Crisis till the eventual end of SARS in 2003. It was surmised that the rise in rent and price of industrial properties commencing 2004 was caused by the influx of non-industrial uses in industrial buildings. This is facilitated by the flexibility in uses permitted in "I" zone in 2001 and the introduction of "Other Specified Uses (Business)" ["(OU(B)"] in the same year,

[13] Data source: Rating and Valuation Department, *Property Review*, 1981 - 2014

allowing buildings to be used for both industrial and office/commercial uses and the steady recovery of the economy.

The second sharp increase in 2009 was surmised to be partly caused by the revitalisation policy introduced in 2010 and the high demand for industrial premises. However, it should be noted that the revitalisation policy is not the only reason of high speculation in the industrial property market. Excessive liquidity and very low interest rates also led to asset appreciation after the global financial crisis. Special Stamp Duty on residential property transaction was introduced half a year after the revitalisation policy and Buyers' Stamp Duty on residential property transaction was introduced in 2012 which mitigated the over-heating of the residential property market. Subsequently, industrial properties became a new interest of investors who are another key reason of the doubling in price of flatted factories within three years of the introduction of the revitalisation policy. It was not until 2013 that the introduction of Ad Valorem Stamp Duty on both residential and non-residential properties that price and rental indices of industrial property stabilised in 2014.

2.1.6 Use of industrial buildings

Figure 2.5 shows the distribution of uses in the "I" zone and "OU(B)" zone in 2014 (Planning Department, 2015). It is apparent that warehouse/storage uses occupy substantial space - a phenomenon caused by the rapid expansion of the retailing sector has generated a great demand for storage space. Moreover, the "I" zone could better meet the operational and space requirements of warehouse/storage uses and its comparatively lower rent is more welcome by warehouse/storage operators.

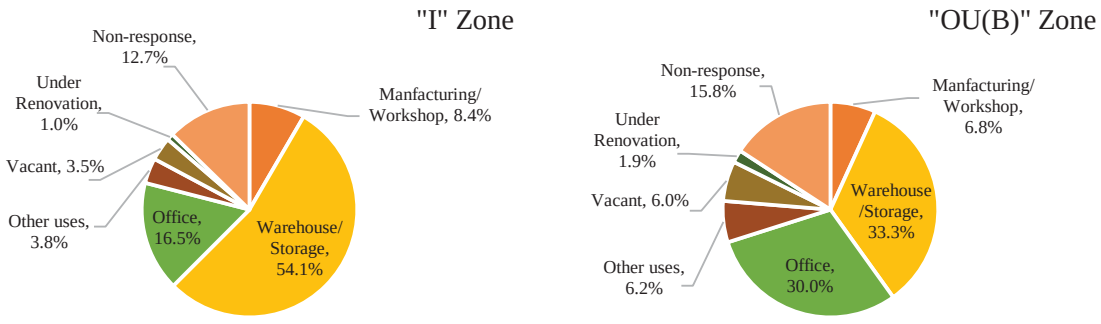


Figure 2.5 Distribution of industrial land's uses in "I" Zone and "OU(B)" Zone[14]

[14] Data source: Planning Department, 2015

The Planning Department's latest survey on uses of industrial premises is the *Report on 2014 Area Assessments of Industrial Land in the Territory*. While storage is the major use of industrial premises – about 42% of industrial floor area in both "I" and "OU(B)" zones combined, to what extent such use is related to the manufacturing industry and retail sector is however not clear. Manufacturing/workshop takes up a combined total of 7.5% in both zones. Meanwhile, non-industrial uses like offices and other uses such as art/music/film studios, eating places, shop and services, training centres/education institutions and research/design/development centres take up slightly more than half of the space in factory premises (Planning Department, 2015).

In the metro areas, land designated for the "OU(B)" zone is substantially larger than that of the "I" zone. Most of the "OU(B)" zones in metro areas are located at Eastern Kowloon, Tsuen Wan and Kwai Tsing, while the majority of "I" zones are found at Tsuen Wan and Kwai Tsing. Contrary to the situation in the metro areas, the area of "I" zones in the non-metro areas is much greater than the "OU(B)" zones. A small amount of "OU(B)" zones could be found at Shek Mun and Yuen Long. This is a reflection that office and ancillary office operators are not yet interested to locate their operations in non-metro areas and consequently rezoning has not yet been conducted by the planning authority.

To use the total industrial stock in each zone and the percentages provided in Figure 2.5, the total gross floor area (GFA) of industrial uses and non-industrial uses is compiled in Table 2.2:

Table 2.2 Stock of industrial land for industrial and non-industrial uses in five different zones

Industrial stock (million m²)	*Total stock (GFA)*	*Manufacturing use*	*Logistics use*	*Non-industrial uses*
"I" zone	9.93	0.83	5.37	3.73
"OU(B)" zone	15.16	1.04	5.04	9.08
"R(A)" zone	0.28	0.04	0.12	0.12
"R(E)" zone	1.59	0.21	0.67	0.71
"CDA" zone	0.89	0.06	0.44	0.39
TOTAL	**27.85**	**2.18**	**11.64**	**14.03**

The total stock of industrial land in "I" and "OU(B)" zones is 25.09 million m² (the green boxes). Industrial uses (i.e. manufacturing and logistics uses) occupied 12.28 million m² (the yellow and

blue boxes) altogether. This means that the non-industrial uses (grey boxes) occupied slightly more than half of the industrial floor space in these two zones. This is the same case if all five zones are considered, 50.3% of all industrial stock in Hong Kong is used for non-industrial purposes.

From analysing Table 2.2, it can also be found that existing industrial stock in "I" zone (9.93million m²) is far from sufficient to accommodate current space used by the manufacturing and logistics industries (2.18 and 11.64 million m² respectively). As the "OU(B)" will be gradually redeveloped or converted to other non-industrial uses in the years to come, "I" zone will be under pressure to accommodate the existing users, not to mention the future demand.

The layout of an industrial building can be rather flexible depending on the use. In a survey conducted in Kowloon East[15], 52.9% of all companies surveyed are operating in premises with GFA ranging from 1,000 to 5,000 square feet, although some others operate in an area as small as less than 100 square feet (2.3%) or as large as over 10,000 square feet (4.6%).

2.1.7 Fire safety concerns in industrial buildings

Fire safety issues are of particular concern in industrial premises due to the nature of high-density, high-rise buildings. On 8 March 2010, a fire in a flatted factory at Castle Peak Road in Cheung Sha Wan caused the death of a senior fireman and injuries of three firemen. This industrial building built in 1961 had no automatic sprinkler installed and the fire revealed the fire safety problems in similar buildings. Automatic sprinkler systems were not mandatory for industrial buildings completed before early 1970s. According to the Fire Services Department, there were around 650 industrial buildings built before 1973 and 358[16] of them do not have automatic sprinkler systems. Existing legislation requires 12,000 buildings in Hong Kong completed in 1987 or before to improve fire safety measures but that does not apply to industrial premises. As a result, old industrial buildings and their users are in a much more vulnerable position in case of an outbreak of fire.

Secondly, industrial buildings in Hong Kong also accommodate all 4,165 licensed dangerous good warehouses. On 5 July 2012, a large quantity of chemicals stored in a warehouse in Tsuen Wan caught fire at 6:06am which took firemen two hours to put out. High concentration of dangerous goods or inflammable chemicals requires higher fire safety measures in industrial buildings,

[15] See Planning Department, 2011.
[16] Information provided by the Fire Services Department in October 2015.

especially those located in areas of high population density. Paradoxically, management of some industrial buildings is not stringent enough.

In addition, non-industrial uses are very common in industrial buildings as mentioned before. Not only are the majority of these non-conforming uses illegal, some conversions may have serious fire safety consequences that the users are not aware of. On 22 May 2010 an indoor rock climbing centre "Go Nature" caught fire which burnt for five hours and completely destroyed the establishment. Although the building does not breach current regulations for not installing automatic sprinkler systems, cushions made of latex and the simulated rock made of wooden structures are flammable materials which made the fire particularly difficult to extinguish, 138 firemen were sent. A similar fire on 26 January 2015 happened in a Korean-style sauna centre where a warehouse was illegally converted into more than 20 units for commercial use (see Figure 2.6).

Figure 2.6 A warehouse-converted sauna centre after fire caused by overheating of the sauna heater[17]

When applications of similar conversions are received by the Town Planning Board, the FSD is usually in a position of opposition due to the nature of the applicants' business, in that the general public will be attracted to industrial buildings. They are unlikely to be familiar with fire escape routes of industrial buildings which on their own have a higher risk of fire and particularly those without automatic sprinkler systems. In recent years, shops, restaurants, sport facilities, and hobby classes are very popular in industrial buildings that all attract a large number of "outsiders" into industrial buildings. Among these uses, children's extracurricular classes are of particular concern given that children as young as three play next to dangerous goods, heavy machinery, fork lifters and other industrial materials (Oriental Daily, 2015).

[17] Source: Oriental News, 2015

Meanwhile, the explosion in the garage at a residential neighbourhood in Wong Tai Sin in 2015 has led to more stringent enforcement actions against such ground floor use of domestic buildings. This will ultimately drive garages to move to industrial premises in urban areas and new towns. This makes it all the more important to preserve industrial space in broad areas to cater for such motor repair and maintenance services.

2.2 Government initiatives on industrial buildings

In response to the economic restructuring since the 1990s, the government has formulated policy measures on industrial buildings. In this section, planning and building initiatives, fiscal measures and location-specific measures will be introduced.

2.2.1 Planning and building initiatives

Over the past two decades or so, a number of planning initiatives were launched to address the issue of economic restructuring. These include: introduction of a new building type "Industrial/Office" building in the early 1990s; expansion of user schedule of the "I" zone in 2001; and introduction of the "OU(B)" in 2001 which allows buildings to be used for both industrial and office/commercial purposes.

I. I/O Buildings

In the 1980s, many industrial firms required larger space for both ancillary and non-ancillary uses and extra space for storage of materials and goods as well as for the setting up of workshops/laboratories. However, these uses are considered non-industrial uses and would not be allowed in industrial buildings under the prevailing legislation and regulations.

In 1989, the planning authority explored the feasibility of allowing the development of dual-purpose industrial/office buildings that could meet the following requirements (Town Planning Office, 1989):

1) Every unit in the building should be designed and constructed in such a way that it could meet the requirements of both industrial and office use; and

2) Other than office uses, other commercial uses would not be allowed unless approval has been sought from the relevant authorities, e.g. the Town Planning Board (TPB)[18]

The suggestion of a new building type – "Industrial/Office" is generally considered as an effective measure to allow greater flexibility in the use of industrial floor space for the purpose of optimising the use value of these buildings. However, some industrial owners/operators are not willing to operate in these buildings given that the high occupation cost is a major consideration.

II. Expansion of the User Schedule for "I" Zone

In 2001, the TPB expanded the user schedule of the "I" zone for OZP by incorporating appropriate uses into Column 1 (always permitted uses) and Column 2 (uses that required planning permission from the TPB) of the user schedule. The new Column 1 uses include: information technology and telecommunications industries and industrial-related office use without the requirement for the related industrial operations to be located within the same premise/building, or in the same industrial area. Public entertainment and educational institution uses are incorporated into Column 2 (Town Planning Board, 2001a).

III. Introduction of the Other Specified Use (Business) Zone

The main objective of introducing the "OU(B)" zone in 2001 was to meet the changing needs of the industrial and business sectors under the period of economic restructuring. The proposed "OU(B)" zone is an employment zone intended to accommodate a wide range of economic activities including clean industries, general office and commercial uses (Town Planning Board, 2001b). In accordance with the Area Assessment of Industrial Land exercise conducted by the Planning Department, a considerable amount of industrial land was identified for rezoning to "OU(B)" (165 Ha) and other non-industrial uses (47 Ha). Proposed criteria for identifying appropriate sites for "OU(B)" zone are as follows (Planning Department, 2000):

1) Occupied by clusters of I-O buildings, industrial buildings with approvals for changes to commercial uses, and/or buildings built to resemble office buildings in terms of design to achieve a critical mass
2) Conveniently served by public transport and arterial road and close to rail stations or major public transport interchanges

[18] Conversion or redevelopment of industrial buildings to industrial/office buildings requires planning approval from the TPB under s.16 of the Town Planning Ordinance.

3) The location is not suitable for residential development due to incompatible land uses
4) Areas having some degree of interface problem with adjoining uses
5) Large extent of the existing buildings may have high vacancy or are in poor condition requiring some incentives for change of use.

Apart from the above factors, the cumulative impact of the rezoning exercise on the provision of job opportunities would also be taken into account.

The common objective of the two proposed measures is to expand the user schedule of "I" zones and the creation of the new "OU(B)" zones in the early 2000 is to allow compatible uses to be operated in "I" and "OU(B)" zones according to market trends. However, this objective could hardly be achieved under the prevailing planning mechanism as uses under Column 1 would compete for occupation of premises in those two zones. In most cases, the "winners" would be those uses that could afford higher rents whereas those uses that are less competitive would be replaced.

2.2.2 Fiscal measures

In accordance with the statistics in 2007, the vacancy rate of industrial buildings was 6.7%. To minimize the waste of valuable land resources and to provide sufficient space for suitable land uses for meeting ever-changing economic and social needs, the government launched a number of fiscal measures to revitalise industrial buildings from April 2010. These measures were drawn up to address the following issues regarding the use of industrial buildings (Legislative Council, 2011):

1) The vacancy rate of industrial buildings is high and converting or redeveloping these buildings to other uses cannot keep pace with economic restructuring
2) A large number of non-compliant uses are found in these buildings. Apart from the problem of land use incompatibility, fire safety is a major concern.

Taking into account the above issues, the government initiated four new fiscal measures to optimise the use of industrial buildings. Owners may apply at a nil waiver fee for change in use of the entire existing industrial buildings during the lifetime of the building or until expiry of the current lease, whichever is earlier. The following eligibility criteria will be applicable (Development Bureau, 2010)

(a) Industrial buildings aged 15 years or above and situated in "Industrial", "Commercial" or "OU(B)" zones;
(b) Joint application by all owners of the building;
(c) There should be no increase in the total GFA and no excessive site coverage after the conversion, as well as the building height restriction under the planning regime;
(d) The building cannot be reverted to industrial use during the waiver period;
(e) Full market premium is payable when the buildings are redeveloped in future.

Since many of the industrial buildings are geographically and economically favourable to many types of businesses, those new measures could facilitate the conversion process leading to growth of the economy and creation of more jobs for the local workforce. Up till September 2015, 113 applications have been approved under this initiative. There are two types of applications, namely wholesale conversion and redevelopment. The majority of the approved applications are located at Cheung Sha Wan, Yau Tong, Wong Chuk Hang, Kwun Tong and Kwai Chung.

In 2013, these revitalization measures were further refined in response to the difficulties raised by the applicants. The major refinements are summarized below (Legislative Council, 2013):

1) Measure to encourage wholesale conversion of industrial buildings
2) If conversion of an industrial building leads to a loss in the total gross floor area (GFA), subject to the limit of up to 10 per cent of the total GFA, the owner may recover the amount of GFA loss due to conversion by building outside the existing building frame, on the condition that the building height restrictions and site coverage limits under the relevant regimes are complied with. If lease modification is required for carrying out conversion works, the fees and the building height restriction under the land lease may be waived where appropriate
3) Measure to encourage redevelopment of industrial buildings. If the redevelopment is for hotel use, owners of industrial buildings in non-industrial zones may opt for payment of the premium by annual instalments for up to five years.

The industrial revitalization policy was then extended to 31 March 2016.

This research is informed by the experience of a property owner whose industrial building in Island South has gone through wholesale conversion using the revitalisation policy and reopened as a 240,000 square feet office and retail complex earlier this year. This industrial building, originally built in 1955 as a rubber factory hired more than 400 workers at the time. Due to reduced profits in the 1960s, the rubber factory was closed and the building was redeveloped in 1980 to a 23-

storey industrial building for subletting. Since the 1990s tenants gradually moved out and the rent dropped from $200 to $50-60 per square metre. In 2013, this building's vacancy rate was 54% with remaining tenants in food, furniture and printing industries. After the announcement of the revitalisation policy, the owner decided to convert the building to a commercial building.

Although a short-term waiver fee did not apply in this case, it was not as easy as some outsiders think for wholesale conversion under this government policy measure. It took the owner more than two years to vacate the entire building with monetary compensation paid to some tenants. The renovation cost was about HK$200,000,000 which is considered to be low in the industry. It was estimated that the office space would be rented out at around $150 per square metre and it would take nine years to pay back the investment. However, with the delay of the MTR extension to island south and the supply of office buildings in the area, almost one year after the reopening of this building, 35% of the space is still vacant.

Other market experts have also confirmed that for an industrial building owner to benefit from the revitalisation policy, they will have to be – in almost all cases – the single owner of the building and willing to invest $10,000-20,000 per square metre on renovation for incorporating new lifts, central air conditioning, disabled facilities and other improved facilities to meet the existing requirements.

2.2.3 Location-specific initiatives – Kowloon East (KE)

Figure 2.7: Location Plan of the Kowloon East[19]

[19] This map is provided by the Energizing East Kowloon Office in 2015.

In the 2011-2012 Policy Address, the Chief Executive (CE) announced the transformation of Kowloon East which comprised the new Kai Tak Development Area, Kwun Tong Business Area and Kowloon Bay Business Area (Figure 2.7) into an attractive, alternative CBD to support the economic development of Hong Kong. The main objective of this initiative is "to transform KE as another premier CBD – a place where people would like to work, to do business, to walk, to stay and to play" (Legislative Council, 2012). Under this policy, land use review would be conducted and connectivity and urban design of the area would be improved.

More recently, in the 2014-2015 Policy Address, the CE further suggested that Kowloon East would be a pilot area to explore the feasibility of developing a Smart City. While multiple ownership will be a stumbling block for redevelopment, it is anticipated that with the subsequent implementation of these measures, many industrial buildings may be redeveloped to become office buildings and other non-industrial uses, such as hotels through market forces. This transformation process will be facilitated by infrastructure enhancement and the place making projects implemented in Kowloon East. As a result, existing operators in these industrial buildings such as artists and SMEs that could only survive under a low rent environment will be displaced and driven out of the area.

2.3 Analysis of establishments and uses in industrial buildings

To gain a better understanding of the preferences of owners and operators in industrial buildings, data analysis is conducted on two databases. The first database is a 20% random sample of the Registered Business Establishments (RBE) of the Central Register of Establishments (CRE) maintained by the Census and Statistics Department (C&SD) as at the fourth quarter of 2014. The second database was obtained from the Planning Department (PlanD) established through a survey on business establishments in Kowloon East completed in 2011.

Both sets of databases have its strengths and limitations. Due to data confidentiality, the database obtained from C&SD could only provide limited information about the establishments. This database is deemed as more representative of the sampling frame and involves establishments in the whole territory. For the database on business establishments in Kowloon East, more information could be extracted from the database. This includes the current situation of premises in industrial, office and industrial/office buildings as well as preferences of the operators.

In this section, analysis of the 20% random sample (77,565 records) of the RBE of the CRE obtained at the fourth quarter of 2014 will be presented. Establishments operating in the industrial buildings are identified through matching with this study's list of industrial buildings[20] which reflects the situation in the fourth quarter of 2014. In view of the difference in the address coding system of the above two databases, automatic address matching by text strings has been carried out. This algorithm is supplemented by manual checking to minimise the error of the matching process[21].

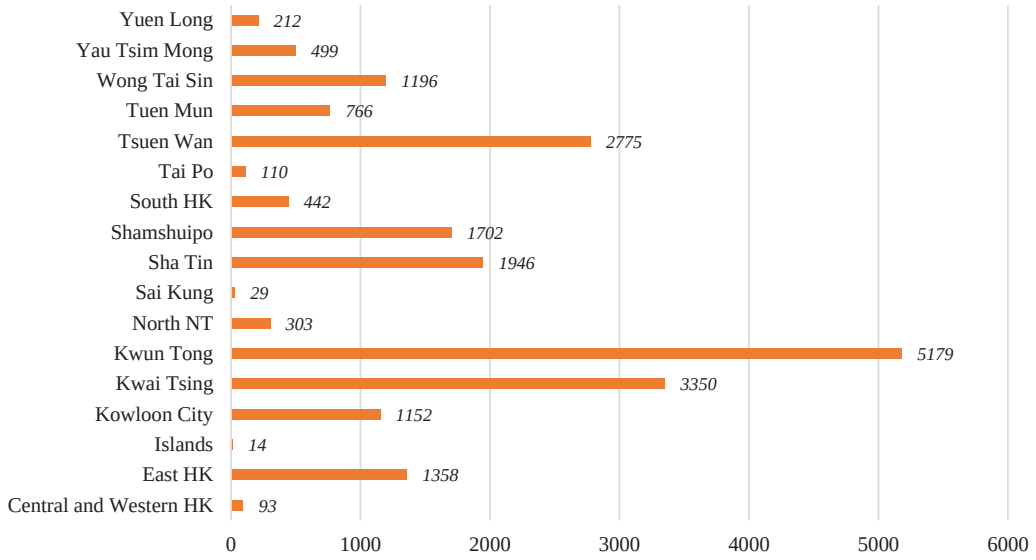


Figure 2.8 Distribution of sampled establishments in industrial buildings by district board

After going through the above processes, 21,126 establishments (27.2% of the sampled establishments of the territory) are found operating in 1,894 industrial buildings. The proportion (more than a quarter) is considered to be high which indicates the important role played by these buildings in accommodating business establishments in Hong Kong.

In terms of distribution, as shown in Figure 2.8, 5,179 and 3,350 of the sampled establishments were located at Kwun Tong (24.5%) and Kwai Tsing (15.9%) respectively, while the remaining firms were situated in Tsuen Wan (13.1%), Sha Tin (9.2%), Sham Shui Po (8.1%) and Hong Kong Island East (6.4%). All these areas were accessible and in proximity to sources of labour supply.

[20] A total of 1,851 records of industrial and industrial/office buildings are obtained from the Buildings Department (BD), 6 industrial buildings operating in the industrial estates of the Housing Authority and 37 industrial/office buildings not recorded in the BD's list.

[21] Manual checking is conducted through screening establishments that cannot be matched by computer with the following key words: industry, industrial, factory, godown, warehouse and storage. All results containing these words will be manually matched with the list of industrial buildings. Almost all establishments containing these key words are in industrial buildings and but due to mistakes in the registered address they cannot be matched by computer in the first place.

Among the 21,126 records, 1252 establishments (5.9%) were manufacturing firms, 784 establishments (3.7%) were logistics firms, 747 establishments (3.5%) were in the CCI sector, the remaining establishments (86.9%) were engaging in office, trading, retailing, wholesaling and other activities (Appendix 3). The results show that most of the establishments in industrial premises in Hong Kong were office and other non-industrial uses in nature. This echoes the findings of the Planning Department's *Report on 2014 area assessments of industrial land in the territory*.

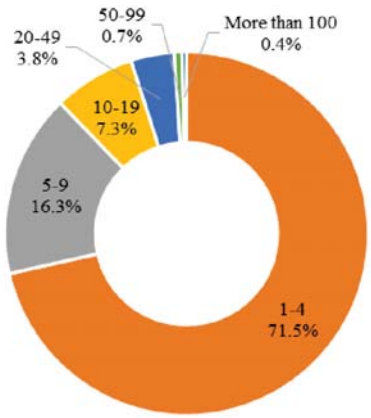


Figure 2.9 Number of employees in sampled establishments in industrial buildings[22]

In terms of employment size, the results show that most of the establishments operating in industrial buildings of the territory were small and medium enterprises (SMEs) and non-labour-intensive employing less than 10 employees (Figure 2.9).

2.4 Conclusion

In view of the diverse opinions on industrial premises, Chapter 2 attempts to conduct an overview of the industrial stock in Hong Kong with a view to clarifying facts surrounding the largest provider of space for economic activities. It is estimated that in 2014 there were 1,894 industrial buildings, of which 75% were built before 1980. Most of the buildings are located in Kwun Tong, Kwai Tsing and Tsuen Wan, the early industrial areas developed during Hong Kong's industrialisation in the 1950s, 60s and 70s.

[22] Data source: 20% random sample of the Registered Business Establishments of the Central Register of Establishments maintained by the Census and Statistics Department

As illustrated in Figure 2.4, movements of prices and rentals of industrial property are a reflection of the economic situation and government policies at the time. Except for the I/O buildings in the mid-1990s when completion recorded was the highest, the vacancy rates of industrial buildings are generally not high over the years. This is mainly due to the infiltration of non-industrial uses as shown in the Planning Department's area assessment of industrial buildings. The use of industrial buildings for non-industrial purposes is facilitated by the relaxation of planning restrictions on industrial zone or rezoning of industrial land. The proliferation of non-conforming uses, some of which attract a large number of outsiders to the buildings is obviously a fire safety concern. The potential impact in case of a fire in such mixed use buildings should not be underestimated.

Apart from relaxation of uses permitted in "I" zone and rezoning of "I" zone to "OU(B)" zone, the government promulgated the revitalization of industrial buildings policy in 2010 to optimise the use of the premises. The incentive is that the government will not levy waiver fees for wholesale conversion of industrial buildings to other uses like hotels and offices. While this has resolved the non-compliant uses common in these buildings, other occupiers like SME and artists are finding it very hard to look for alternative premises to continue with their operation. Based on a 20% sample of the Registered Business Establishments, it is estimated that 27.2% of establishments in Hong Kong are registered in industrial buildings. Among them small firms employing less than four people make up the majority indicating the importance of affordable industrial premises to the SMEs which will be further elaborated in subsequent chapters.

Chapter 3 From Industrial City to Creative City

3.1 Introduction

In the third chapter of this report, *why* complexities surrounding industrial premises developed throughout the years will be discussed. It is argued that the industrial development path has led Hong Kong and its industrial buildings to where they stand today. Therefore it will be obligatory for this research to first review this path. The erection, obsolescence and revitalisation of industrial buildings in Hong Kong will be introduced chronologically, complemented with a review of how Hong Kong has transformed from an industrial city from the 1950s to the early 1980s, to a post-industrial city in the late 1980s to 2000s. Evidence of the formation of a creative city in recent years observed in industrial buildings – the research subject of this study – will be given. The purpose of providing such perspectives is an attempt to find a rationale and explanations for the inherent issues raised in the previous chapter.

3.2 Industrial land use in the industrial Hong Kong

In the first 100 years as a British Colony, Hong Kong was primarily a trading port. Early industry was naturally related to the port development, shipbuilding and ship repairing. Other industries including two sugar refineries, a rope factory and a cement factory were established in the late 19th century. The manufacturing of rattan ware and the knitting of cotton singlets and vests started at the beginning of the 20th century (Szcepanik, 1958). The 100 years since then witnessed the rise and fall of Hong Kong's manufacturing industry as well as, the transformation in height of industrial buildings erected in Hong Kong from low to high. Today, the commonly seen character "Yip" (*implying industry in Chinese*) in the street names within industrial areas is silently reminding people their splendid achievements in the past.

3.2.1 Early industrialisation in the 1950s' Hong Kong

The early industrial development in Hong Kong was outshone by the booming entrepot activities (Szcepanik, 1958). Prior to 1948, manufacturing industries, despite the available market reach to China and South East Asia, as well as advantage of tariff preferences available under the Ottawa Agreements were merely a small and negligible element of the colony's economy by international standards (The Economist Intelligence Unit Limited, 1962).

In the following ten years, the decline of the entrepot trade due to the outbreak of the Korean War[23] and the influx of refugees including Shanghainese industrialists from the newly founded People's Republic China provided an opportunity for the expansion of manufacturing industries and the development of new industrial sectors in Hong Kong. The migrants supplied the city with sufficient labour and investment whereas Hong Kong's position as a well-located free port enabled export of local manufactures. The new industries that sprang up were related to infrastructure development, housing and construction, textile and clothing, food and beverages, as well as education and entertainment (Szcepanik, 1958). By 1958, Hong Kong became a major supplier of light industrial products to the world market (The Economist Intelligence Unit Limited, 1962).

Subsequently, new supplies of industrial land, mainly sold by government auctions, became particularly crucial to support such growth. Industrial clusters in the 1950s, including west, east and south sides of Hong Kong Island, east of the Kowloon peninsula and west of Tsuen Wan, were built-up areas with a high population density enabling a plentiful labour supply. In the 1960s, new industrial land was sold mainly by government auctions in Kwun Tong, Yau Tong Bay and part of the New Territories – areas which were previously considered not easily accessible. Provision was made, although not exactly at the same pace as industrial expansion, for housing workers, improving public transport facilities and providing schools and other amenities at a later stage (The Economist Intelligence Unit Limited, 1962). These areas, in a few decades' time, became the "old industrial areas" with good public transport connections to the city centre and other parts of Hong Kong.

Shortage of land has been a perennial issue in Hong Kong. As stated in a 1962 book *Industry in Hong Kong* that "[to] say that Hong Kong lacks space is to utter a near-platitude…In the central areas, in fact, the price of land has risen until it is amongst the highest anywhere in the world." (The Economist Intelligence Unit Limited, 1962:21). Costly process of reclaiming land from the sea and forming sites from the levelling of hills was inevitable. A fundamental lack of space was bound to haunt Hong Kong's industrial development in decades to come.

3.2.2 Hong Kong as an Asian Dragon

From the 1970s to the Asian Financial Crisis in 1997, four Asian NIEs – Newly Industrialised

[23] As a result of the Korean War, the United States implemented an embargo which forbade any financial transaction with China. This led to a decline in Hong Kong's entrepot trade with its biggest market and forced the city to focus on manufacturing instead (Feng and Gong, 1997).

Economies – enjoyed three decades of high speed export-oriented economic growth and considerable macroeconomic stability (Hsieh, 2011). It is during this period of time that Hong Kong's industrial buildings were built in designated industrial areas of the city as well as the new towns. As shown in Figure 3.1, more than half of all existing private industrial buildings were built from 1961 to 1980[24]. It is the nature of Hong Kong's difficult topography and the shortage of developable land that has led to the development of high-rise industrial premises commonly referred to as "flatted factories".

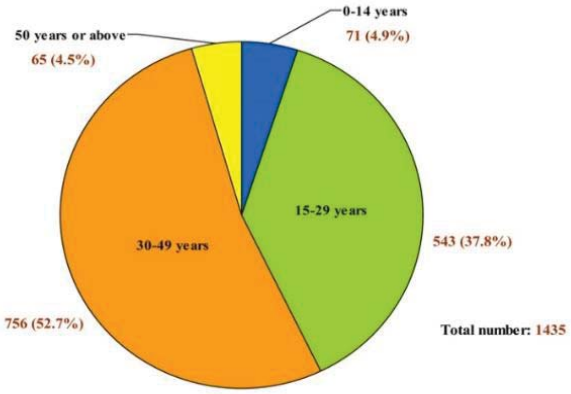


Figure 3.1 Age profile on private industrial buildings in metro and new town areas[25]

Taking advantage of relatively liberal international trade relations and Hong Kong's long-established history as a free port with no control over foreign exchange, local export-oriented manufacturing sectors flourished in the 1960s to 1980s. In the early 1980s, nearly half of the total workforce was employed in the manufacturing industry and the share of GDP was around 20% (HKTDC, 1994). During this period of time, industrial growth was mainly based on the clothing and textile sector and electronics sector. The former, clustered in Tsuen Wan, contributed more than half of total exports in 1961 but gradually dropped to 32% in the mid-1990s. Whereas the latter developed significantly from 2.5% to 27.7% over the same period of time (Tsui-Auch, 1998).

Of the four Asian Dragons, i.e. Hong Kong, Singapore, Taiwan and Republic of Korea, Hong Kong took advantage of an early start of industrialisation in the 1950s – when its regional rivals were still recovering from wars and political uncertainties. Hong Kong's electronics production was the first to begin with subcontracting of radio assembly from Japan in 1959 (*ibid*). Most of these

[24] "Private industrial buildings" include private flatted factories, private industrial/office and godown buildings.
[25] Source: Development Bureau, 2010b.

electronics factories were small with 80% of them employing less than 50 workers producing OEM (Original Equipment Manufacturer) or private label products for well-known international brand names or large chain stores (HKTDC, 1994). Flatted factories provided ideal space to accommodate light and labour-intensive industries operating in a small scale. Industrial areas developed in the 1950s were further expanded and remained close to the labour market. Factory buildings were subsequently built to a high plot ratio in urban areas. They can be up to 20 to 30 floors high with a plot ratio of 15 which totally differentiates Hong Kong's industrial premises from typical industrial parks elsewhere. On each floor these industrial properties have a flexible floor plan that can be divided into units to suit space requirements of small business. Alternatively, they may have a combination of units or the entire floor to accommodate bigger operators.

Meanwhile, the role of the colonial government in Hong Kong's industrial development remained intentionally minimal. Both Executive Council (ExCo) and Legislative Council (LegCo) were dominated until the 1960s by directors of foreign corporations whose financial interests insisted on the maintenance of free trade, low profit tax and a small state (Jao, 1974; Miners, 1987). Therefore proposals from industrialists for subsidies on industrial land in the 1950s and 1960s encountered strong opposition due to its potential of the creation of an activist state and tax increases (Tsui-Auch, 1998).

The same mentality resulted in the colonial government's unwillingness to form a selective industrial policy where the government carefully monitors selected strategic industries in order to achieve technological upgrading and to enhance competitiveness in world markets (Chang, 1994; Lall, 1994). Instead, such technological upgrading which in most cases involved high upfront cost was left to the market to decide.

The dominance of British expatriates in ExCo and LegCo eventually faded and the Chinese enterprises were in the driver's seat of Hong Kong's economy. However they also failed to unite themselves to make any fundamental change. Local industrialists at the time were divided by their ethnicity and class into two camps: the migrant Shanghai manufacturers who owned large factories, greater access to capital and most importantly land or long leases from the government[26], and the native Cantonese manufacturers whose factories and financial capacities were much smaller. Whereas the Shanghainese industrialists preferred to collaborate with fellow magnates and British entrepreneurs, Cantonese industrialists joined the Chinese Manufacturers' Association (CMA) who made persistent demands on cheaper land, subsidised loans and more protection of the

[26] These Shanghainese industrialists fled to Hong Kong in the late 1940s and early 1950s from mainland China, and secured 25-year lease from then (Wong, 1988).

domestic market from the government (Wong, 1988).

Evidently, such demands were ignored. First, as explained above, the colonial government strongly favoured a low tax and "market-friendly" policy, so they had no intention to put resources into any particular industry. In fact, the low tax policy was well received by both small and large firms at the beginning. Second, the small business[27] of native industrialists had little economic weight to influence the colonial government.

In the meantime, the manufacturing industry continued to prosper in the 1960s and early 1970s when regional competition was still lacking. Despite the natural disadvantage of a land shortage, Hong Kong's industrialisation was quicker, more diversified and on a larger scale than the other Dragons in the 1960s. However, the seemingly booming electronics sector was challenged in the mid-1970s due to rising wage and land costs, a low level of technology and a heavy dependence on imported parts and components (HKTDC, 1994; Tsui-Auch, 1998). Similar issues affected other manufacturing sectors – most of which were land and labour intensive. With both small and large companies reluctant to invest in industrial upgrading, it was indeed unsurprising that the other Dragons, all of which benefitted from government-led technological sophistication and process automation in products, outstripped Hong Kong. For instance, Taiwan and the Republic of Korea became the leaders of the electronics industry in Asia.

It should be noted that the *laissez-faire* economic model which was adopted by the colonial government was ultimately responsible for this situation. It was unrealistic to expect the market to guide itself to technological upgrading. Small firms were not able to bear with the high cost, long time-scale and high risk of such investment which would not always guarantee a pay-back. On the other hand, large firms' Shanghainese entrepreneurs preferred to remain foot-loose and managed their risk by diversifying their investments both geographically and sectorally. The mind-set of living in "borrowed place" with "borrowed time" gave them no incentives in such investment. Some of these issues were already addressed with clear evidence in *Report of the advisory committee on diversification 1979*, a report produced by a committee chaired by the financial secretary at the time. Although the involvement of the governments of Singapore, South Korea and Taiwan in industrial development was acknowledged which the committee considered "that this external experience is of relevance to Hong Kong's circumstances" (Advisory Committee on Diversification, 1979:272), it was too little, too late. Neither the government nor market forces managed to drive Hong Kong's manufacturing industry to process automation. It became apparent

[27] For example, average number of workers per company in the 1975 Hong Kong was 22, whereas large companies based on refugee capital from Shanghai employed more than a thousand worker (Hong Kong government, 1993).

towards the mid-1980s that Hong Kong was lagging far behind the other Dragons technologically.

To make matters worse, the increasingly protectionist measures of advanced countries severely affected Hong Kong's export trade. The manufacturing industry was still heavily depending on OEM at this stage rather than OBN (Own Brand Names). These are all reasons why there was not much resistance when it came to de-industrialisation.

3.2.3 The Opening-up of China and exodus of Hong Kong's secondary sector

From the 1980s to late 1990s, Hong Kong lost most of its manufacturing industry which most people, including those in the government and private sectors, considered to be an inevitable shift. In fact the service industry was so prosperous in the 1990s that Hong Kong's transformation was widely thought of as a smooth structural upgrade from the secondary to the tertiary sector without causing widespread unemployment and dereliction of industrial areas.

As market forces continued to dictate Hong Kong's industrial development, industrialists began their exodus to the Pearl River Delta region after China's economic reform in the late 1970s and the beginning of 1980s. At the time land supply north of the border was ample and labour cost was incredibly low. For most Hong Kong subcontracting manufacturers who did not have their own brand names or R&D capacity, keeping the production costs low was the only way to stay competitive in the market.

In the interviews with local industrialists from different sectors, they all described how they fought for survival around this period of time. They pointed out that it became inevitable in the 1990s for most factories to relocate, some of them explored the possibility of high-end manufacturing in Europe and North America. The majority conveniently moved across the border. Employment in the secondary sector dropped significantly. In the 15 years after 1980 when the number of employees in the manufacturing industry reached the peak of 892,140, more than half a million jobs were cut[28]. The once largest sector in Hong Kong's economy employing almost half of the workforce fell to merely 15.3% during these one and a half decades (Hong Kong Government, 1996).

Despite the prosperity and high speed economic development associated with being an Asian Dragon, Hong Kong's manufacturing industry was suffering. With or without the industrialists

[28] The number of workers in 1995 is 386,106 (Hong Kong Government, 1996)

understanding the severity of it at the beginning, government intervention on forming a strategic industrial policy was lacking in Hong Kong when the other three Asian Dragons benefitted from strong government support. Hong Kong missed the opportunity to become the technological core in Asia. By the late 1990s, several decades of success in the manufacturing industry that concreted the foundation of today's Hong Kong all faded away. The 1997 book *Made by Hong Kong* says it all:

> *"Twenty years ago, it would have been rare indeed to find anyone who believed that industry in Hong Kong had no future at all. Today, however, such view is common. In the course of our research we encountered a widespread belief – among government officials, in the universities, in the press, and even in industry itself – that high land and labor costs and the lack of technological investment are making industry in Hong Kong terminally uncompetitive, that the territory's economic future rests entirely with services, and that Hong Kong is indeed already well on its way to becoming a 'post-industrial' society"* (Berger and Lester, 1997:27).

For many relocated industrialists, they retained a base in Hong Kong either for upstream activities like design, or downstream activities such as marketing, or both. The raw materials would be imported through Hong Kong to the Mainland whereas their production in the Mainland would then be exported through Hong Kong to the overseas markets. The Hong Kong office played the role as an import/export company. This remains the case till this day, with their office often remaining in their old factory unit.

3.3 Industrial land use in the post-industrial Hong Kong

The process of economic restructuring known as deindustrialisation was only the beginning of a series of problems in Hong Kong which the city is still entangled with to this day. Purpose built flatted factories and warehouses stayed behind, but they were not as derelict as people perceived. The Rating and Valuation Department's data (2015) for vacancy rate clearly indicates that in the majority of the past 30 years, vacancy rates for both flatted factory and private storage remained under 10% (see Figure 2.3). It is interesting to take note of a case where two floors of a five-storey industrial building in Kwun Tong continued to be used for back up facilities after the production process was relocated to the Mainland. The other three floors were left vacant for 30 years until the next generation of the owner-occupier renovated the premises for media, music and artist

studios[29]. It is indeed quite common for industrialists to keep their premises for headquarters or showroom uses after relocating the production process elsewhere. This kind of underutilisation of space was believed to be quite common in the 1980s and 1990s.

At the same time, market forces have evidently been driving some non-industrial uses to fill up these spaces, be it legal or not. From the HK government's point of view, these industrial premises remain a hot potato that they tried to cope with in the past couple of decades.

3.3.1 Planning for a post-industrial Hong Kong

> *"[The industry land policy is] to remove, where possible, infrastructural and technological constraints on the development of Hong Kong's manufacturing industry, and to maintain the freest possible market in industrial resources"* (Hong Kong government, 1991; cited in Tang and Ho, 2015).

With the manufacturing sector relocating its production line to the Pearl River Delta in the late 1980s and 1990s, obselete industrial buildings became an aporia for planners. On the one hand, land had always been extremely precious in Hong Kong that leaving any space vacant would be a huge waste. On the other hand, there was not and would never be enough industrial activities to fill up these buildings. Forming industrial land policy without any strategic industrial policy was fundamentally flawed and was only accumulating problems for the future. Nevertheless, the planning authorities decided to handle this mission impossible through deregulation.

Several attempts were made in the 1990s and 2000s, notably through planning initiatives and other fiscal measures to essentially rezone surplus industrial land to other uses and enable more non-industrial uses within industrial buildings. In 1989, Industrial/Office (I/O) building was introduced as a new building type aiming to crossbreed industrial building and office building to potentially satisfy either use when necessary. Neither the government nor the landowners knew which direction the secondary sector would go at that juncture, so an I/O building that could meet building requirements for manufacturing activities and office use sounded like an ideal solution. The first I/O building was erected in 1994 and there were in total 43 I/O buildings built in the decade after that.

With the completion of I/O buildings concentrated between the years of 1994 and 1997, vacancy

[29] See Choi, Lam and Wong, 2015:132-147

rates constantly higher than 20% and in one year as high as 60% (see Figure 2.3) were observed. Due to the higher construction cost and the need for premium payment, industrialists were expected to pay more to rent or buy I/O buildings, yet the fast growing service sector found them not as polished as a proper office building. Around the turn of the millennium, it became clear that the manufacturing sectors relocating to mainland China would not return to Hong Kong. Thus the concept of I/O buildings being flexible in accommodating industrial or office uses eventually ended up mostly with office uses. With no further completion of I/O buildings coupled with the shortage of office supply, the vacancy rates have dropped.

The second attempt is the first of a series of deregulation policies of the Hong Kong government. In 2001, uses in "Industrial zone" were expanded with a list of additional uses allowed by the planning authority. Not only Column 1 uses were expanded which allow more uses without application for land use change, there were also additional Column 2 uses which made some applications possible. What needs to be pointed out here is that at this point the vacancy rate in flatted factories was slightly over 10% and was not a cause of too much concern. The truth is, a variety of users not allowed in the lease or statutory plans had already occupied these industrial premises. Due to enforcement policy by the Lands Department[30] and lack of enforcement power from the Town Planning Board, there is widespread flouting of non-industrial uses in industrial buildings. This occurs particularly on the upper floors where businesses do not bother to apply for short-term waiver fees[31].

A similar deregulation initiative in 2001 – on a much bigger scale – is the introduction of "Other Specific Uses (Business)" on statutory plans. Blanket rezoning of the industrial zone made redevelopment of industrial buildings to office and commercial buildings possible. Although as mentioned above, owners of individual units in industrial buildings had been using or renting out spaces for non-industrial uses long before the "OU(B)" zone was introduced and continued to do so without payment of short-term waiver fees. According to the figures published by the Development Bureau (2010b), about 61% of industrial premises in "OU(B)" zone and 35% in Industrial zone were used for non-industrial purposes or left vacant in 2009. However, only about 1% of total industrial stock completed the formal procedure of waiving the land lease requirements

[30] The Lands Department "has put in place inspection programmes covering a small number of target buildings selected generally on the basis of complaints received, the extent of non-conforming uses and safety risks. Otherwise, District Lands Offices will mainly act on complaints against non-compliant uses. Lands Department cannot afford to inspect all existing industrial buildings on a regular basis." in Legislative Council Brief - Optimising the Use of Industrial Buildings to Meet Hong Kong's Changing Economic and Social Needs (Development Bureau, 2009).

[31] As Tang and Ho (2015) suggest through studying planning applications for land-use change on specific floors, the higher the floor, the fewer planning application received. They argue that owners are less eager to secure the development right from the planning authority on the higher floor due to the lower value of higher floor units.

for industrial use (Development Bureau, 2010c). These figures indicate that unauthorised land use changes were very common at the time.

Another uncontemplated but logical situation created as a result of the relaxed planning regulations is the 42.5% of total stock of industrial buildings in Hong Kong built in the 1980s when the manufacturing industry began to relocate to mainland China. This figure should raise some suspicions as even during the most glorious days of Hong Kong's second sector – the 1970s, only 32% of the existing industrial buildings were built (Rating and Valuation Department, 2015b)[32]. Tang and Ho (2015) suggest that some of these industrial buildings in the 1980s were never built for industrial uses. In fact they were encouraged by the relaxed planning regulations to build office building-like industrial buildings and sell them at a price higher than the market price for industrial premises. Once sold, it would be the owners' responsibility to comply with the the lease conditions or to apply for lease modification if necessary.

Tang and Ho suggest that the liberal planning policy led the private market to generate more new industrial supply following this practice. And supporting their argument by examining data from the first quarter of 1978 to the last quarter of 2012 with the construction of normalising co-integrating vectors, they believe in the long run, supply of new industrial buildings responded inversely with industrial price, new office supply, and positively with office price (2015:35). In other words, industrial building supply has a substitution effect on office supply. They point out that more relaxed planning policies have allowed more uses, therefore more possible users in industrial premises. Subsequently property developers were encouraged to inject more resources to redevelop industrial buildings, rather than more office buildings. Even individual owners all managed to settle with the Lands Department, new office spaces would still be compromised as a result of new industrial spaces. Furthermore, because new office space supply is insufficient, only the high-end business and office users can afford it (Tang and Ho, 2015). Relaxation in planning policies has, as an unexpected and unintended market consequence, linked up two markets – the industrial property market and the office property market which were unrelated before.

As Raco and Street (2012:1072) have noted, Hong Kong's planning system "has been made 'more flexible'", but this flexibility is conditional to regulations from government departments before any non-industrial uses can be carried out on industrial land. For the Buildings Department, illegal conversion and structures are their main concerns. For the Lands Department, compliance with the lease conditions and where necessary, short term waiver and lease modifications are under their

[32] These figures only apply to flatted factories and do not include I/O buildings, godown buildings or specialised factories such as those located in industrial estates.

jurisdiction. For the Planning Department, applications to change use will be handled if this new land use is allowed under Column 2 in the Outline Zoning Plan where the industrial building is located. Last but not least the Fire Services Department's concern on fire safety and the Transport Department on parking, loading and unloading requirements of the new uses are effected through the processing of building plan submission, lease modification and/or planning applications. With these authorities involved, proposed land use change becomes very complicated. For instance, office use is allowed in the new "OU(B)" zone as long as the Town Planning Board is concerned, but it is another story for the Lands Department to whom the property owner may need to apply for short term waiver and pay a waiver fee accordingly. In some other industrial property owners' case, the use they want to change to may not be specifically disallowed in the lease, but it is under neither Column 1 nor Column 2 uses according to the Outline Zoning Plan.

In reality, as only 1% of industrial premises has completed waiving land lease requirement as discussed above, most industrial unit or floor owners do not bother with seeking approval from any of the authorities. The risk of being caught by government authorities for illegally using industrial premises is transferred from owners to tenants – exactly the same way it was transferred from "quasi-office" industrial property developers to individual owners. Government authorities by and large act on complaint which apparently did not work too well. As some interviewees have disclosed, logistics companies are legal but unpopular users in industrial premises because they generate too much traffic going up and down the buildings. Office users are preferred tenants because they are quiet and rarely use any loading and unloading areas or facilities.

Understanding the difficulty of dealing with industrial premises with fragmented ownership which account for around two third of all industrial premises in Hong Kong, the Development Bureau took further deregulation action in 2010 by introducing the revitalisation policy.

3.3.2 The revitalisation policy and its impact

Research on Hong Kong's industrial land has quietened down for at least a decade and recent interest on the subject has been focusing on this new policy. This practice of deregulation mentioned above has peaked with the introduction of the revitalisation policy which is causing some concerns in the industrial areas; in particular to tenants in industrial premises. The booming industrial property market since 2010 is partly a result of this new government initiative and partly due to the quantitative easing monetary policy adopted by some countries combined with the corresponding very low interest rates. Although some interview findings have suggested positive and charitable responses from the market, the perception particularly among artists is negative.

According to the Development Bureau's information, the implementation progress at the end of September 2015 is illustrated in Table 3.1 below:

Table 3.1 Applications under the Revitalisation Measure (Position as at the end of September 2015) [33]

	Wholesale conversion	Redevelopment	TOTAL
Application received	**146**	**22**	**168**
Application approved	**95**	**18**	**113**
Executed	66	8	74
Withdrawn by applicants after approval	12	7	19
Terminated after execution	12	0	12
Pending execution	5	3	8
Under processing	**28**	**4**	**32**
Withdrawn by applicants during processing	18	0	18
Rejected due to not meeting the eligibility criteria	5	0	5

Compared to the total number of more than 1,800 industrial buildings, the applications and approval cases comprise only a very small number. However, compared to the number of buildings under single ownership of about 420 (excluding those in industrial estates, those under management of the Housing Authority and specialised factories under non-"I" and "OU(B)" zones), more than a quarter of the industrial buildings have been approved for wholesale conversion or redevelopment.

On the upside, this policy intended to provide incentives to property owners to convert or redevelop their industrial buildings to meet the strong demand for non-industrial space. For those converted and redeveloped buildings, no doubt the policy objective of optimising the use of space for higher value added uses has been achieved. More importantly, the objective of addressing non-compliant uses and thus reducing the potential fire risk has been realised. For the wholesale conversion cases, the facelift of old industrial buildings will also improve the general outlook of the industrial areas concerned. Besides, there would be a reduction of construction waste compared to redevelopment. Indeed, after retrofitting, industrial buildings can be used for many more years.

[33] Data source: Development Bureau, 2015

On the downside, the industrial property market has become highly speculative due to the introduction of this policy, which unfortunately coincides with excessive liquidity and very low interest rates following the global financial crisis of 2008. This is apparently bad news for genuine industrialists or logistics firms who are looking for affordable space. Industrial property owners who went for either the wholesale conversion or redevelopment option under the revitalisation policy naturally did not extend contracts with their tenants. The grievances particularly among artists are rife as indicated from the interviews. An interviewee said that she was very angry when she was told to leave, she had been renting a unit for an art gallery in that building since 2004.

While the policy has been portrayed by some as a collusion between government and landowners, one point that needs to be highlighted is that the costs involved in the wholesale conversion of an old industrial building can be daunting. According to discussions with market experts, it may range from roughly $8000 to over $20,000 per square metre depending on whether new lifts/escalators or new central air-conditioning system are installed. The high costs together with the need to comply with current building design and other requirements inevitably lengthen the process of obtaining approval and have led to some applicants putting off or even abandoning their schemes.

As indicated in the Planning Department's 2009 and 2014 area assessments, the total floor space occupied by storage and manufacturing already exceeded the total stock under "I" zone (also see Table 2.2). It would have been better to exclude "I" zone in the revitalisation policy. On the other hand, for the R(E) and CDA zones drawn up to address the industrial and residential interface problems like air quality and noise, not much progress has been made. Innovative means should be adopted to make this happen.

Genesis at Wong Chuk Hang, one of the first industrial buildings converted under the revitalisation policy opened on the 26 January 2015. Two floors were made available to the Hong Kong Arts Development Council, Federation of Youth Groups and Tung Wah Group of Hospitals at a rate that is significantly below the market rent for six years. While this is unlikely to become a common practice under the revitalisation policy, this is certainly a planning gain worth-replicating in one form or another in future schemes.

Meanwhile, a drama group in San Po Kong revealed in an interview that they recently renewed the contract of a 3,000 square feet unit after two years of paying $20,000 a month. The landlord asked for a staggering 60% increase to $32,000 which they managed to negotiate down to $28,000 – still a 40% increase. This drama group had to spend more than half of the grant they receive from

the Arts Development Council to pay rent. If affordable space is available, the grant would have been more fruitfully used in production-related areas.

3.4 Hong Kong: the creative city?

Since Richard Florida's book *The Rise of the Creative Class* was published, it has become an international phenomenon for local governments to strive to be a "creative city" (see Franke and Verhagan, 2005). Florida (2002) indicates the growing importance of creativity in people's work lives and the emergence of a class of people unified by their engagement in creative work. This research is by no means claiming that Hong Kong is, or in the immediate future will be, a creative city. Upgrading the financial services-based economy to a creative economy is a tendency observed in other developed economies. Such transformation, even at a small scale, will provide Hong Kong diversity and resilience to its economy. The question the Hong Kong government and people should ask themselves is: what kind of city does Hong Kong want to become in years to come? And to what extent will the government like to command, commit and/or compromise to get there?

3.4.1 The creative economy in Hong Kong

> *"Mr Tsang said the global economic crisis had underscored the need for Hong Kong to diversify its economic base in areas that complemented the traditional pillar industries of financial services, tourism, trade and logistics and professionals services"* (HKSAR government, 2009).

In the then Chief Executive Mr. Donald Tsang's Policy Address of 2009-2010, "innovation and technology" and "culture and creative industries" (CCI) are identified by the HKSAR government industries with comparative advantages – to a large extent in response to the global financial crisis. The revitalisation policy was first proposed as measures to facilitate these six industries by making more space available for them. Although what happened next may not exactly fulfil the Chief Executive's intention, this is a step that the HKSAR government has made to address the necessity of developing a diversified economy that is beyond the "four pillars" – and more importantly, the role that the government should play.

It is much easier for the government to agree on the theoretical level that economic diversification makes a more resilient society and productivity upgrading makes a more competitive city. What makes the execution difficult is to determine how and where resources should be channelled and

which type of resources should it be.

Hong Kong has transformed itself from a manufacturing-based to a service-based economy. Would a creative economy be a future direction? As much as the researchers agree that Hong Kong would always maintain, or at least try to maintain its advantageous position as a world financial centre, elements of innovation, culture and art could be sound supplements to offer many more way-outs and possibilities to individuals as well as society. These supplements should not be viewed merely as amenities, in fact they are economically important industries (Grodach *et al*, 2014:2839).

Although the CCI is considered by the current government as one of the six industries with an advantage, there is yet any comprehensive policy to provide solid and specific support. There are indeed resources going into arts and innovation, but the mechanism of developing an art, culture and innovation-driven economy is too complicated to be understood completely, it is place-specific and production-specific to begin with. From a planning perspective, this research can only look into the space-related aspect of supporting a creative economy. But it should be noted that a creative economy needs much more than just space.

Table 3.2 Growth of the CCI in recent years[34]

Year	**2005**	**2009**	**2010**	**2011**	**2012**	**2013**
Value added of the CCI ($million)	52,258	63,266	77,573	89,551	97,837	106,050
% of GDP	3.8%	4.0%	4.5%	4.7%	4.9%	5.1%
Number of persons engaged in the CCI	171,990	188,250	189,430	192,930	200,370	207,490

With a sturdy average annual growth of 9.2% in nominal terms – significantly faster than the average annual growth rate of the nominal GDP of Hong Kong, at 5.4%, and employment of 5.6% of the workforce (see Table 3.2), the CCI is already an important component of Hong Kong's economy.

Case studies in this research have suggested that governments in the UK, Taiwan and Dongguan have all taken some type of space-related actions in favour of the development of a creative

[34] Data source: Census and Statistics Department, 2015a

economy. Needless to say, space is one of the main constraints of developing any type of new economy in Hong Kong, in particular the CCI which in many cases take a long time – if ever – before they become profitable. Local arts development so far faces a dilemma. On one hand, government funding has been injected into the industry since the 1960s whereas grassroots and young artists must explore a route of their own in finding a niche to operate. The "artistification" of industrial premises is probably a good illustration of such development.

3.4.2 The "artistification" of industrial premises in Hong Kong

Among Hong Kong's nicknames that can easily come up to people's mind, "cultural desert" is certainly not the favourite one. The bustling commercial art market in the city may be a statistically convincing counterexample for such stereotype, yet nothing is more visually evident than the grassroots art scene unfolding in the city's industrial areas. Indeed, there is an organic and original art movement taking root in Hong Kong. As a guest speaker of the public seminar "The Matter of Fact-ory is…" held by the research team, former Chief Executive of the Arts Development Council Louis Yu reviewed the art and culture development in the city:

Stage 1: 1960s – 70s
Art policies were first formed in the 1960s with the erection of the Hong Kong City Hall (1962). Initial development of art policy witnessed the rise of the Hong Kong Arts Centre (1977), Hong Kong Arts Festival (1973), Hong Kong International Film Festival (1977) and the formation of professional arts groups including Hong Kong Philharmonic (1974), Hong Kong Repertory Theatre (1977) and Hong Kong Chinese Orchestra (1977). Art policies at the time did not put much of local supply into consideration. Instead, it was anticipated that imported art materials would fill the void.

Stage 2: 1980s
The rapid growth of art venues did not slow down in the 1980s due to increasing local demand. More than ten Leisure and Cultural Services Department (LCSD) venues were built such as Hong Kong Cultural Centre, Shatin Town Hall and Hong Kong Coliseum. Hong Kong Academy for Performing Arts (HKAPA) was founded in 1984 along with more Professional Arts Groups including Zuni (1982) and Chung Ying Theatre (1982).

Stage 3: *1990s*
In the 1990s such development slowed down as the market for venues became sufficient. That is when the government realised that there was not enough content made locally to fill up these

venues. As a result, Arts Development Council (ADC) began to sponsor artists since 1995. Demand for work space from local artists subsequently appeared in the 1990s for studios, storage, office and rehearsal uses, etc. After the financial crisis in 1998, artists began to appear in Fotan, Chai Wan and Kwun Tong. Some of them even purchased their own studios there taking advantage of the relatively low property price at the time.

Stage 4: 2000s

Fostered in cheap, flexible and to a large extent self-regulated environment, local artists became more mature in the new millennium (see Figure 3.2). On the other hand, the government was also pouring more resources into the art industry than ever before: Home Affairs Bureau (HAB) expenditure on arts and culture in year 2001/02 was $2.5bn, of which $2.2bn went for LCSD, $0.18bn for HKAPA and $0.11bn for ADC. The Jockey Club Creative Arts Centre (JCCAC), a government-led conversion providing small to medium size studios to local artists opened in 2008, in the same year West Kowloon Cultural District Authority was established.

Figure 3.2 The very first art studio in Fotan – Room 318 in Block B, Wah Luen Industrial Centre[35]

Stage 5: 2010s

With CCI formally recognised as one of the "six industries with advantage" by the Chief Executive, PMQ opened in 2010 in Central along with ADC's Arts Space Scheme in Wong Chuk Hang (2015) and Tai Po Arts Development Centre (under construction). More venues are to be built such as those in West Kowloon Cultural District. HAB expenditure on arts and culture in year 2014/15 is $3.5bn (LCSD: $2.7bn, HKAPA: $0.29bn, ADC: $0.128bn and major art groups: $0.33bn).

[35] Source: Pak, n.d. Photo was taken in approximately 2003.

The time line summarised by Mr. Yu provides a clear development path of demand for *hardware – software – more hardware*, or in other words, *creation of space – production of art and creativity – demand for more space*. As most art spaces created by the government are for the "output" side of the CCI, i.e. performance, exhibition, etc., especially at the earlier stages, local artists had to take care of the "input" side of the industry themselves. Hong Kong artists, following in the steps of like-minded pioneering artists colonising abandoned factory buildings in major western cities in the 1960s and 70s found potential in vacant industrial premises.

Whereas owning a studio was still a privilege of well established artists in the early 1990s, the first opportunity for young artists to "artistify" an industrial building emerged in 1998. Located near Fortress Hill MTR station – two stops east from Causeway Bay (see Figure 3.3) – the former Government Supply Depot in Oil Street was put on hold from a redevelopment project due to the Asian Financial Crisis in 1997, and was rented out at very affordable price ($2.5/sq.ft.) on short-term leases. John Batten, a Hong Kong based writer and art critic describes this early attempt of "artistification" which he was directly involved in:

> *Word quickly spread around Hong Kong's arts community that these Oil Street spaces were ideal for studio and gallery accommodation. Over a frantic few weeks, established arts groups . . . and new groups . . . took space and started organising their own art exhibitions. Throughout the many Oil Street buildings, other artists . . . also rented spaces, as did other businesses: architecture, photographic and artisan studios. Oil Street was Hong Kong's first arts community. It was vibrant, organic and successful. All of these groups and some artists received HKADC grants, but the crux of its success was space: cheap rent and a flexible use policy e.g. not restricted to only 'clean' uses; artists could paint and make their spaces dirty* (Batten, 2005:148).

The vibrancy only lasted 18 months before the government announced the plan to sell the depot for redevelopment. The evicted artists had to move to the ex-Cattle Depot in To Kwa Wan only to find out that the warehouse remained vacant in the following ten years. Nevertheless, this far-reaching attempt inspired "artistification" of industrial premises in other parts of Hong Kong and many more artist communities.

Two years after the closure of the Oil Street artist village in 2001, eight final year students from the Department of Fine Arts, Chinese University of Hong Kong (CUHK) chose Fotan over Tsuen Wan due to its proximity to the University and spent a few hundred dollars per person per month to rent Room 318 in Block B, Wah Luen Industrial Centre (see Figure 3.2). In the memoir of one

of the students, Lam Tung Pang (2006), the octet were driven by nothing but desire to have more space to develop their career after graduation. As an art administrator has pointed out, it is only artists' nature to gather and showcase their work. This probably explained why they held the first open day of their studio in the same year. Soon fellow students from CUHK were attracted to the same building and since then a cluster gradually formed in the area. A decade and a half later, not only does Fotan remain one of the biggest artist clusters in Hong Kong, their annual open day – rebranded to "Fotanian" – is still a proud tradition that showcases art work and the workspace of hundreds of local artists from more than 70 studios in 20 industrial buildings.

Figure 3.3 Ex-Government Supplies Depot Site in Oil Street, North Point[36]

Organic development of the artist community, or "artistification", in the industrial premises in Hong Kong is not merely a local scene. It is indeed an echo of the world economy taking a "creative" turn. With the decline of manufacturing industries, culture is considered to be a saviour for many advanced economies (Landry, 2000). As the authors have observed in London and Taipei, post-industrial cities offer cheap, and in a lot of cases, decayed industrial premises that are a perfect nurturing ground for the CCI. Artists are almost gifted in locating, occupying and transforming such places. Hong Kong is no exception.

These past few decades witnessed Hong Kong's upgrading from an Asian Dragon to a top-ranking world city. According to the 2015 Global Power City Index, Hong Kong is the 7th most powerful city in the world. In compiling the index, forty of the world's leading cities were selected and their global comprehensive power evaluated according to six main functions representing a city's strength (economy, R and D, cultural interaction, liveability, environment and accessibility) with a total of 70 indicators. Moreover, the cities were assessed and ranked based on viewpoints of four

[36] Source: Google Maps. Image captured in September 2011, accessed 8 June 2015.

global actors (manager, researcher, artist and visitor) and one local actor (resident) thus providing an all-encompassing view of the cities (The Mori Memorial Foundation, 2015). In comparison to other world cities, such as London and New York, and some of Asia's world cities, such as Singapore and Tokyo, Hong Kong's "cultural interaction"[37] (the pink bar in Figure 3.4) is falling far behind. This is summarised by the artists' assessment resulting in Hong Kong ranking last among 40 cities from 2012 to 2014.

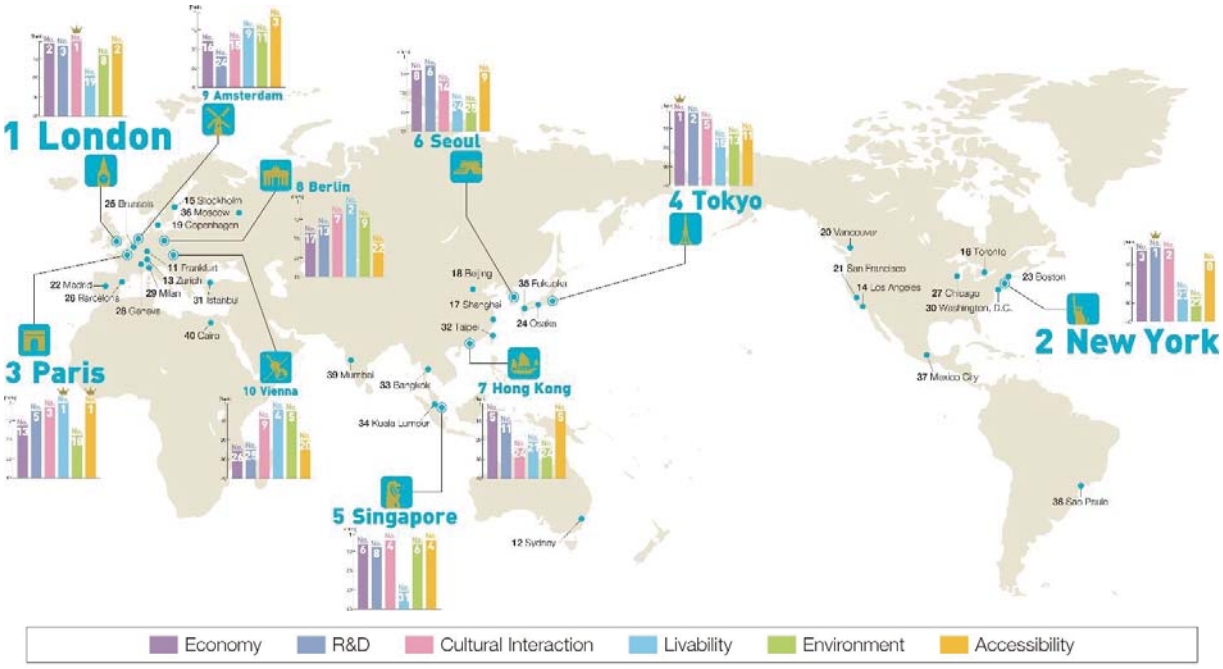


Figure 3.4 Top 10 Global Power Cities[38]

As Hong Kong's comparative advantages such as demographic dividend and the only gateway to China gradually faded in the 1990s to 2000s, it is no coincidence that new forms of economic growth geared with creativity and innovation are being explored. Industrial premises, the typology of real property with the lowest market value is acting as a bearer for such exploration. The "artistification" of industrial premises in this sense discovers these obsolete buildings worth beyond their marketable value.

[37] Cultural interaction includes a number of indicators grouped under trendsetting potential, cultural resources, facilities for visitors, attractiveness to visitors and volume of interaction.

[38] Source: The Mori Memorial Foundation, 2015

3.4.3 Is it too late to “start-up”?

When this research was first proposed, there was not any mention or expectations of Hong Kong’s start-ups. In fact, it was not until east London’s Tech City was examined that the concept of start-ups was first registered in minds of the researchers. Even a visit to Taiwan’s Silicon Valley Hsinchu did not spark any interest to look into local development of such. It was a visit to Shenzhen and Dongguan’s vibrant co-working spaces converted from old factory buildings that eventually prompted the researchers to undertake further work on this subject.

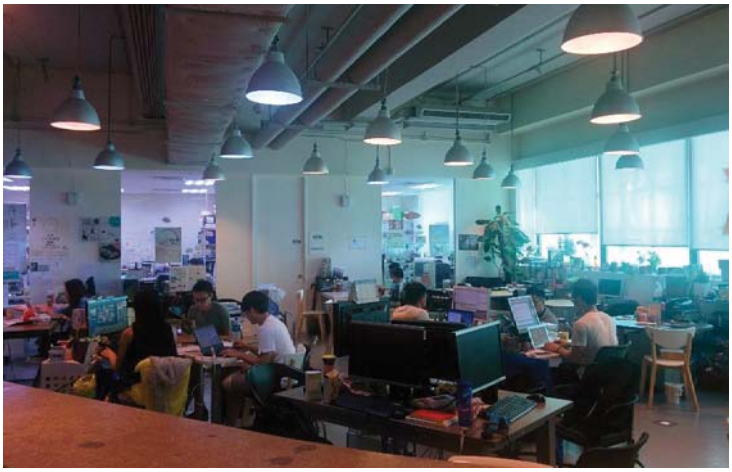


Figure 3.5 Start-ups are busy working during the day at the Good Lab

Creativity concerns about generating new ideas to produce innovation which may or may not involve the application of technology. Places where innovative ideas are developed are commonly known as innovation hubs. Depending on their stage of development of ideas, they may be categorised as incubators, accelerators, co-working spaces and makers’ spaces. In reality, such space is not neatly defined and there is usually a mixture co-existing in a single venue. One of the innovation hubs the researchers visited is primarily concerned with social innovations whereas most are related to product and service innovation with the application of ICT. The start-ups are part and parcel of the creative economy. As observed in the Tech City in East London, there is much synergy between CCI and technology start-ups with the former supporting the latter in coming up with better design and innovative way of promoting their products or services.

The start-up scene in Hong Kong is quickly unfolding with almost daily media coverage. In the interview with an incubator of start-ups, the operator has suggested that it has been merely two to three years since it became something serious locally. Exactly when co-working space became

popular and seemingly everywhere happened all of a sudden. Hong Kong's advantage is obvious with world class infrastructure, excellent higher education and ample investment waiting for the next million dollar idea. However, other cities – as far as London and as close as Shenzhen and Dongguan – have been working on supporting this new development for several years. As the researchers have elaborated before, Hong Kong was left behind in terms of its technological upgrading back in its Asian Dragon era, yet the gap does not seem to be getting any smaller – is it too late for local entrepreneurs to "start-up"?

The Hong Kong government is indeed nurturing start-ups. In 2013, Invest Hong Kong started an initiative *StartmeupHK* to provide a one-stop service platform to global start-ups with a view to promoting Hong Kong as a leading hub for entrepreneurship and encouraging innovative start-ups to use Hong Kong as a launch pad to grow their business. In 2014, *Invest Hong Kong* assisted 62 start-ups to set up business. The Hong Kong Productivity Council – a statutory body that not many people know well about has an extensive SMEs programme and its own R&D capacity. Furthermore, the Hong Kong Cyberport that is often mistakenly regarded as a real estate project has its own incubator programme that fostered *GoGoVan*, a platform connecting drivers and users to provide a more convenient and efficient freight service. Hong Kong Science Park is another government-owned incubation provider which incubated Insights Robotics, Entrepreneur of the Year at IBM SmartCamp Global Finals in 2014. Using thermal imaging sensors and advanced artificial intelligence vision technology, the company develops fire-detecting robots that can spot fire in areas as small as two metres by one metre and within a five-kilometre radius. In addition, the Hong Kong Trade Development Council (HKTDC) hosted an "Entrepreneur Day" in May this year hoping to facilitate this upward momentum.

But is it too little, too late after all? The exodus *to* mainland China has now turned into the exodus *from* mainland China to cheaper Southeast and South Asian countries, but something more promising is emerging. With the production line and technology talent readily available, the ICT and other technology and innovation-driven start-ups are generating cutting-edge ideas, some of which are transitioning to businesses worth millions of dollars. It is surprising that Frank Wang's success did not make much of a stir in Hong Kong. The HKUST graduate in Engineering left Hong Kong for Shenzhen in 2006 where he continued to pursue his interest in miniature helicopters. Having worked out the formula to commercialise technology in drone production in a cheap and old residential unit that he rented as his workshop in Shenzhen, Wang was discovered in a technology competition held by the local government in 2010. Today his company DJI is the biggest drone producer in the world with an estimated 70 percent of the commercial market share worldwide and a larger portion of the consumer market (Morgan, 2015).

Hong Kong undoubtedly possesses some world class educational institutions and talent. With neighbouring cities promoting their incubators, such as the one in Qianhai equipped with facilities to make Hong Kong talent feel at home, the Hong Kong government will have to be more proactive in this competition of human capital. A representative from Shenzhen's Nanshan local authority has made the announcement during HKTDC's Entrepreneur Day that "All good ideas and talent-from Hong Kong are welcome - what we are least lack of is land". Before any land use policy for such development is called for, this research appeals for selective policies on start-ups as well as the CCI discussed in the previous section. Such policies should be formulated on a good understanding of the ecosystem in which entrepreneurs and artists can network and collaborate. After all, Hong Kong cannot afford to lose its innovators the way it lost its manufacturers.

3.5 Conclusion

> *"A new generation of artistic talent is finding inspiration in Hong Kong's industrial past as a manufacturing hub . . . the districts of Kwun Tong and Kwai Tsing . . . serve as perfect examples of how the city's industrial heritage is being reinvented by a new, creative generation."*
>
> -- Discoverhongkong.com (2015)

The Hong Kong Tourism Board has listed industrial heritage under "Insider's Guide" of "Things to do" in Hong Kong. This is a promising sign that the social and cultural value of these industrial premises along with Hong Kong's glorious industrial past are proudly showcased to its visitors. There are so many creative possibilities under the high ceilings and within the four solid concrete walls of industrial buildings that estimating the social significance is beyond calculation.

The potential for industrial premises if measured in pecuniary terms, is far from being fully realised. However, this study suggests that there are alternative ways to approach this issue. Besides economic value, these obsolete buildings have great social value which has already been partially discovered in a bottom-up way. In fact there will be a long term economic return which, if not seen by this generation, will most definitely benefit the next and beyond.

Indeed, industrial premises have long been considered a pool of brownfield sites that as long as the multiple ownership issue can be conquered, they will become a gold mine. Ironically, it is the fragmentation of ownership that enabled a variety of new economies and developments, such as

the organic growth of arts at Fotan. The value of industrial buildings has been for a long time under-estimated and their prices in recent years have over-inflated. Hong Kong is not a “borrowed place” living on “borrowed time” anymore, thus more decisive, visionary policies are called for.

In the next chapter, four industries, namely manufacturing, logistics, the cultural and creative industry and innovation-driven start-ups will be examined in relation to Hong Kong’s industrial premises. The authors will verify the key message of this research “*industrial stock matters*” through analysis on the importance of these four industries as current users of industrial spaces. The importance of industrial premises to these four industries, the importance of prioritising them when it comes to using industrial spaces and the importance of having effective government initiatives in place to guarantee so will be considered.

Chapter 4 Why Does Industrial Stock Matter?

4.1 Introduction

In the previous chapter Hong Kong's pre-industrial, industrial and post-industrial eras were reviewed with Hong Kong's creative economy previewed. This chapter will go into more details on the issues discussed above – the sectoral level. The justification of "*industrial stock matters*" is made this way: first, industrial land users matters for Hong Kong economically and socially; second, these users have to operate in industrial premises as they have nowhere else to go; third, therefore preserving industrial stock for these users is much needed; fourth, however, past and current initiatives of the Hong Kong government left the industrial property market with decreasing supply; and fifth, in the light of what have been described in Chapter 2 and 3, the researchers argue that government intervention is inevitable in this case and will definitely benefit the city in the long term.

4.2 Importance of industrial land users

The government follows the economic policies of free enterprise and free trade. Its main role is to provide a suitable and stable framework for commerce and industry to function efficiently. However, to assist Hong Kong enterprises in enhancing their competitiveness in the Mainland and to help SMEs, a number of funds have been set up to support them. In 2013, the Chief Executive set up the Economic Development Commission, under which there is a Working Group on Manufacturing Industries, Innovation Technology and Cultural and Creative Industries. The Working Group's ambit is to consider industries that Hong Kong has a competitive advantage and the support required from the Government as well as to how to further promote Hong Kong's design industry and strengthen Hong Kong's role in the art trade. In the past two years, specific recommendations on the policy have been made to promote the CCI by offering overseas internship opportunities to talents in the design sector, supporting the post-production sector of the film industry, and supporting the sustainable development of the fashion industry. However, it seems that there is no comprehensive industrial strategy as such initiated by the government.

As discussed in Chapter 1, this study initially selected three prominent sectors who are users of industrial buildings. The logistics industry was selected since it is the biggest and legitimate user, the manufacturing industry is selected on the basis of being the intended user and the CCI

represents new users. These three sectors can be considered three case studies, as many other innovative uses in industrial premises will not all be covered in such detail by this research.

4.2.1 Logistics

The logistic industry, as part of the "trade and logistics" sector, has always been a pillar industry of Hong Kong's economy – even before Hong Kong's industrialisation. Hong Kong is not only a southeast coastal Chinese city at the mouth of the Pearl River Delta, it is also the only modern, fully developed deep water harbour between Singapore and Shanghai. It is at the centre of the Asia-Pacific Rim surrounded by some of the most populous countries and biggest markets in the world (Marine Department, 2014). Despite increasing regional competition, the port of Hong Kong remains one of the busiest in the world.

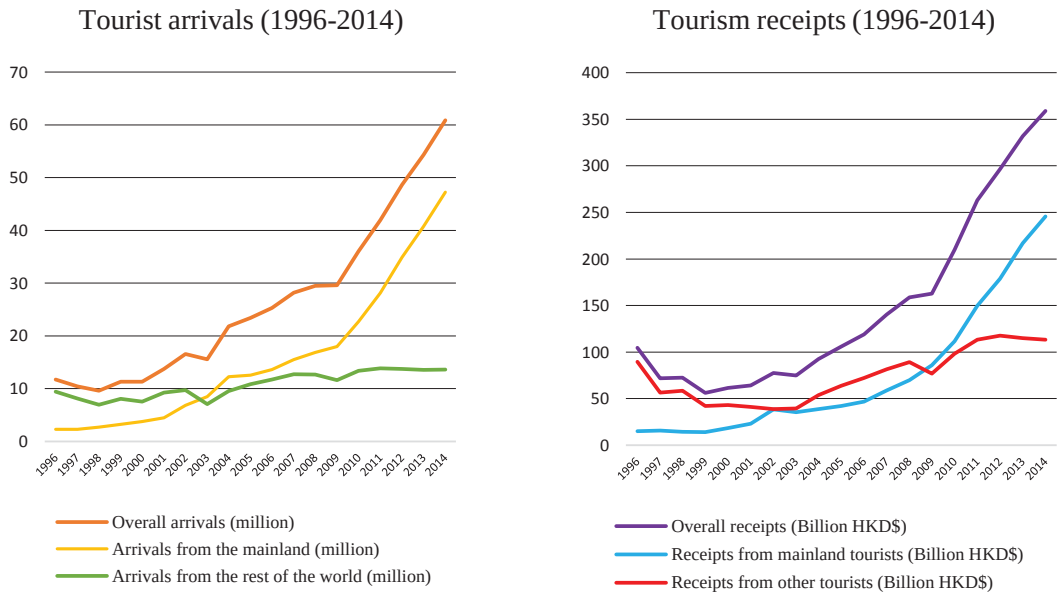


Figure 4.1 Arrivals and receipts of Hong Kong's tourism industry (1996-2014)[39]

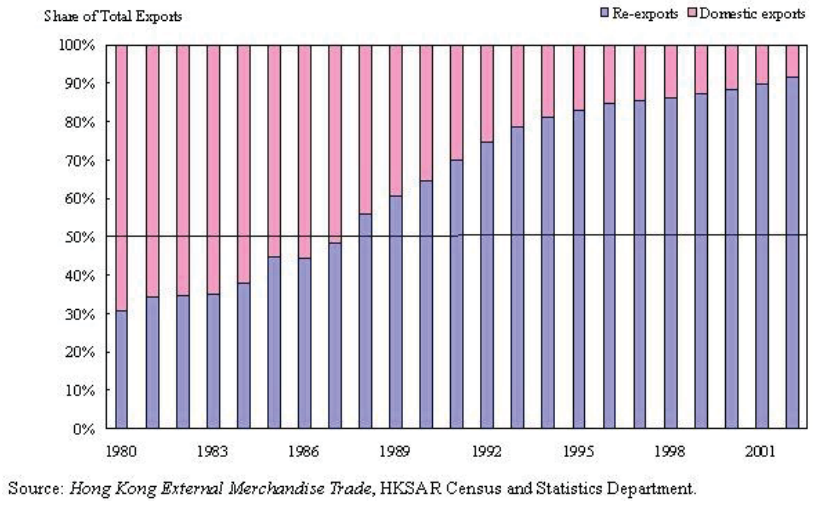
However in the past decade or so, the prosperity of the logistics industry is driven by a different force. According to Hong Kong's logistics industry and land supply – An opinion survey (Huang and Wong, 2014a), cross-boundary road transport volume has reduced by about a third from 2003 to 2012, reflecting the fact that Mainland China's ports are taking an increasing share of import and export in the region. With the introduction of the Individual Visit Scheme (IVS) – a

[39] Data source: Tourism Board, 1997-2015.

liberalisation measure under CEPA, both tourism arrivals and tourist receipts have dramatically increased since 2003 (see Figure 4.1). The percentage of Mainland tourists in all visitors to Hong Kong has increased from 19.7% in 1996 to 77.7% in 2014, and Mainland tourists are known for their spending. Overnight Mainland tourists allocate 61.7% of their overall spending for shopping, whereas same-day visitors spend as much as 92% on shopping in 2014. The main shopping categories include: cosmetics and skin care/perfume; foodstuffs, alcohol and tobacco; garments/fabrics; jewellery and watch and leather/synthetic goods (Tourism Board, 2015).

Consequently, there has been an increasing demand for logistics services for the retail sector. Several interviewees in the trade have pointed out that Hong Kong's logistics industry is now consumption-led, not just for luxury goods, but also day-to-day necessities. Export-oriented logistics is transforming to retail-oriented logistics driven by rising tourist volume, although e-commerce is not yet a big demand. This is obviously a result of allowing more tourists from the Mainland to Hong Kong under the Individual Travel Scheme since 2003.

Tourism is recognised as one of the four pillar industries in Hong Kong, yet the logistics industry is not always considered part of the elementary support for the tourism industry when evaluating its economic significance. In fact, from the moment a luxury good is made in Italy to the moment it is purchased in a store in Hong Kong by a tourist, there are logistics services needed in every single step of shipping, sorting, packing, labelling, storing, delivering, etc., all of which require labour as well as space of a certain kind.



Source: *Hong Kong External Merchandise Trade*, HKSAR Census and Statistics Department.

Figure 4.2 Components of Hong Kong's total exports in 1980-2002 (HKTDC, 2003)

Although one interviewee did not hesitate to suggest that in terms of labour, logistics workers are at the bottom of society, this industry provides plenty of low-skilled job opportunities such as driver, porter and distribution centre jobs. There is no denying that while Hong Kong's economy has been upgraded to the top tier in the world there is still quite a significant portion of residents with little school education or professional training. There will still be demand for low-skilled jobs and the logistics industry is particularly relevant in terms of enhancing Hong Kong's social sustainability.

Besides the booming traditional logistics sector, this industry is also reinventing itself and innovating to find new ways of providing services. For instance, mini-storage is a popular new form of logistics commonly seen in industrial premises in recent years. Not only is storage space available for rent in flexible terms at affordable prices, some companies even offer delivery and pick-up service to give customers access to their belongings at home. Innovative technology elements also give the old delivery vans a new life. The success of *GoGoVan* shows how much value ICT can add to existing logistics services. Furthermore, the rise of e-commerce, although still a relatively small demand in Hong Kong at the moment, has great potential for the future development of the industry as seen in the mainland of China and elsewhere.

Figure 4.3 Inside Kerry Logistics, a leading firm in Hong Kong's logistics industry

Examining international trend of the logistics industry, it can be found that technological upgrading and innovation have become particularly important for the logistics industry. According to *Logistics Insight Asia* (2015): "One way of staying ahead in the race is to leverage on technological expertise to boost supply chain efficiency. The reliable and effective reading of barcodes for track

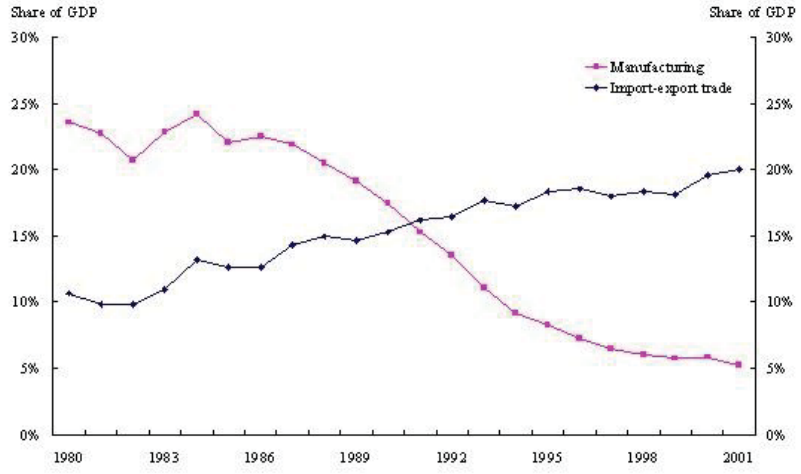
& trace can make a big difference in product distribution." Autonomous logistics innovations are flourishing such as drone deliveries and self-driving vehicles which are still adopted in Hong Kong. Automation systems particularly in the e-commerce market is considered a solution to rising wages and a shortage of labour and work skills. In addition, ramping up the provision of multi-tier warehouses is one of the key factors for Singapore's excellent growth in this sector, Hong Kong's major competitor in the region for high-end logistics services. The city state has made great achievements in developing its intelligent storage systems.

As mentioned before, regional competition is fierce in the logistics industry. Interviewees believe that Hong Kong's edge is the high quality and highly flexible service. Given the high labour cost in Hong Kong, value-adding services will be the industry's future which will need to be backed up by cutting-edge technologies and innovations. A leading logistics company in Asia showcased their comprehensive services on top of warehousing and distribution including supply chain solutions in fashion and lifestyle, electronics and technology, food and beverage, fast-moving consumer goods (FMCG), industrial and material science, automotive, and pharmaceutical and healthcare industries. With more and more companies outsourcing their demand for logistics rather than having an in-house service in Hong Kong there are great opportunities for this industry to develop further. As *Sustainable Development Study For The Hong Kong Logistics Industry*, a study initiated by *SD Advocates* has argued:

> *"*[T]*he logistics industry of Hong Kong will continue to be an important pillar of the territory's economy, as long as the industry is given the opportunity to capitalize on its unique strengths and position"* (CUHK, SD Advocates and BMT Asia Pacific, 2015).

4.2.2 Manufacturing

As discussed in the previous chapter, it is believed that the manufacturing industry has become less and less significant in terms of its contribution to Hong Kong's GDP in the last few decades (see Figure 4.4) with the latest figure of 2013 being 1.4% (Census and Statistics Department, 2015b). Yet this figure may be underestimated, the real GDP contribution of the manufacturing industry can possibly be more than double. According to the Census and Statistics Department, this 1.4% is calculated from manufacturing firms' value added in 2013 (HK$35.4 billion). It does not include trading firms with manufacturing related activities in the Mainland that accounted for HK$84.8 billion of value which is statistically categorised under trading in GDP.



Source: *Gross Domestic Product 2002*, HKSAR Census and Statistics Department.

Figure 4.4 The share of industry and trade in Hong Kong's economic activities (HKTDC, 2003)

Although the Census and Statistics Department has rightly suggested that these trading firms with manufacturing related activities might also be engaged in conventional import and export activities which do not involve SPAC (Sub-contract Processing Arrangement in the mainland of China) and in that case, their contributions in relation to manufacturing related activities might have been overstated (Census and Statistics Department, 2015c), it still demonstrates that manufacturing activities contribute more than 1.4% of Hong Kong's GDP.

Increasingly, manufacturing and services are considered two sides of a coin. It is therefore not a matter of choosing one over the other. It is estimated that 40% of the jobs in the European manufacturing sector are service-related. Today, manufacturing accounts for 12% of GDP in the US and 22% in Germany (World Bank, 2015)[40]. Singapore, a more comparable case to Hong Kong, has an 18.8% GDP contribution from manufacturing in 2013 (Singapore Department of Statistics, 2014). This research believes that manufacturing has made Hong Kong the city it is today and has good potential to play an important role in its future.

McKinsey Global Institute's *Manufacturing the future: The next era of global growth and innovation* explains how manufacturing is still very much relevant in an advanced economy:

> *As economies mature, manufacturing becomes more important for other attributes, such as its ability to drive productivity growth, innovation, and trade. Manufacturing also plays a*

[40] Manufacturing refers to industries belonging to divisions 15-37 in the International Standard Industrial Classification of All Economic Activities Rev. 3 (United Nations Statistics Division, 2015).

critical role in tackling societal challenges, such as reducing energy and resource consumption and limiting greenhouse gas emission (2012:3).

Germany is one the most active countries in the manufacturing industry in the world. In early 2012, the "Industry 4.0" scheme was proposed by the German government which they believe will put Germany in the leading position to "actively shape the fourth industrial revolution". Coordinated by the Federal Ministry of Education and Research (BMBF) and Federal Ministry of Economics and Technology (BMWi), and including the participation of the Federal Ministry of the Interior (BMI), €200 million of government funds have been made available for the "Industry 4.0" project in future financial plans (Federal Ministry of Education and Research, n.d.). Besides Germany, China, Japan, South Korea and the USA are also active in creating global standards and systems that will contribute to "smart production".

A question must be posited here: is the manufacturing industry still relevant in Hong Kong? Is there any further benefit– economically and socially – to be made from this sector?

Notwithstanding the overheated industrial property market, a food manufacturer bought a factory premises in Tsuen Wan West for food production and packaging last year after operating in the Mainland for over 20 years. The reason being the label "Made in Hong Kong" at the back of the box – instead of the blue "QS" icon which represents quality safety verification in China – instantly adds value to his product. Food safety concerns in the Mainland is attracting Mainland customers to Hong Kong not only for imported foreign goods but also locally manufactured products. The local food industry, as well as the pharmaceutical industry[41] will definitely benefit from this trend.

In addition, the government's air quality improvement measures providing grants to phase out all pre-Euro IV diesel commercial vehicles have led to a demand for assembly of commercial vehicles to suit the local market requirements. However, as the interviewees have disclosed, car manufacturing and assembly plants find it hard to compete with pharmaceutical companies or data centres in bidding for sites in industrial estates in terms of their upfront investment in new machineries and equipment. Their current production capacity is limited mainly due to space restrictions.

[41] From interviews of stakeholders, one of the problems faced by the pharmaceutical industry is lengthy drug regulation procedures. This is an obstacle that needs to be addressed by government. Also see Tsang (2015).

Figure 4.5 A coach assembled by hand in Hong Kong

Furthermore, there are other "China factors" that could influence the decision-making of manufacturers who relocated to the PRD and beyond in the 1980s and 1990s. They are rediscovering Hong Kong due to the changing business environment in the Mainland. The Yuan is appreciating and labour cost - including soaring salaries and more stringent requirements on workers' welfare – are now concerns. At a seminar hosted at HKTDC's Entrepreneur Day 2015, a Hong Kong businessman who owns catering companies in the Mainland did the calculation for the audience: "You think their salary is 5000 Yuan a month, but that will be 8000 Yuan including social security and other expenses. This is the equivalent of almost 10,000 Hong Kong Dollars".

One example is the mould and die industry which is pondering whether to move back to Hong Kong as interviewees have disclosed. Heavily automated and non-labour or land intensive, the industry requires vibration-free spaces with high ceilings. The ground floor of industrial buildings is preferred. Besides, a long lease is also needed to cover the upfront installation costs. Several companies in this industry currently operating in the PRD are weighing up the pros and cons of relocation to Hong Kong. Engineers, especially those with experience, skills and a working knowledge of English are becoming expensive. Some manufacturers interviewed agreed that if they move their operation back to Hong Kong, they can benefit from local employees who are more loyal and less likely to change jobs once trained. "At least you do not need to cover their meals and accommodation!" joked one interviewee who obviously feels the pressure of labour cost and is indeed considering moving back.

Signs of re-industrialisation in Hong Kong were found in the interviews and confirmed from

various sources in the news (e.g. Yau, 2015). This is a result of several factors discussed above, but more importantly, it is the pragmatic attitude of sensible Hong Kong manufacturers identifying and affirming the profitability of manufacturing. Some have already taken the plunge to capitalise from it, while others adopt a wait and see attitude. Given the space and labour constraints in Hong Kong, the non-labour intensive, technology-based and high value-added industries are most likely to find success upon their return.

This study also wants to highlight the social significance of the manufacturing industry beyond a profit-making practice. The modern manufacturing industry is providing employment opportunities to both high-skilled and low-skilled workers. The aforementioned food producer chose to buy industrial premises in Tsuen Wan West due to its proximity to Tin Shui Wai where he could easily recruit housewives to do the packaging work whenever the need arises. An academic interviewed also claimed to be a firm supporter of re-industrialisation. He suggests that it is not only for economic benefit, more importantly, it is for social stability as low-skilled people will be able to find a job and live on their earnings rather than government benefits. He believes that the government should invest more in re-industrialisation.

4.2.3 Cultural and Creative Industry

> *"Initiatives such as these are increasingly becoming vital to keep London alive. Artists are capable of steering a city away from becoming a ghetto for purely financial gain. They need spaces to lead a meaningful life in an otherwise meaningless city"* (Bevan, 2015).

When the Director of Tate Modern Chris Dercon made the above comment on the new initiative in London where a multi-storey car park is proposed to be converted into 800 affordable artist studios, he rightly pointed out the importance of art to a city. However, the Southwark Council has subsequently rejected the proposal and instead opted for a development with only 50 artists' studios alongside with multi-use event spaces, retail and café/bar (Ellis-Peterson, 2015). As researchers have witnessed in London where art development is thriving, artist studios, a lot of which found in industrial premises, are actually under great pressure of being redeveloped into higher value-added uses such as residential use. The extensive construction surrounding the Old Street roundabout and the warehouse in Hackney Wicks which is rented to a co-working space provider on the basis that redevelopment is going to take place in a couple of years' time are both examples.

In the previous chapter art development in Hong Kong was reviewed which is such an achievement for the city in merely a few decades. Nevertheless there is still a long way for Hong Kong to go to

become one of the world capitals of art. It took London and New York centuries to develop their galleries and theatres, build up their collections, foster their artists and art workers, form art clusters, educate their public about art and promote their brands.

In 2012, 1.3% of New York's GDP is from "arts, entertainment, and recreation" and 0.57% of London's gross value-added (GVA) is from the "arts and culture industry" (Cebr, 2013). Nowadays the art industry has become a business that makes billions of dollars every year which Hong Kong has every reason to be a part of. Hosting Art Basel in Hong Kong in 2015 is a move in the right direction to pin Hong Kong down on the world map.

Yet, the CCI is an even bigger market with the art industry being only a small portion of it[42]. While this study only covers a few domains of the CCI, the interviewees selected have represented a variety of artists who can provide a glimpse of how diversified employment in this industry can be. With the CCI already identified by the HKSAR government as one of the six industries that Hong Kong enjoys clear advantages for medium to long term development, this study also wants to highlight the importance of artists and art-related professionals. Not only can the CCIs create employment opportunities which in Hong Kong was 5.6% in 2013 (Census and Statistics Department, 2015c), these opportunities are also diversified requiring different training and skills. By nurturing local artists and art development, the current and next generations will have a much wider range of career choices.

In addition, this research believes that art serves as an essential element to create a better quality of life and more attractive places. A local art gallery owner with business interests across Asia was so impressed by Bangkok University Gallery that she felt embarrassed about galleries in Hong Kong. Having easy and affordable access to art and culture should not be a privilege, it should be a lifestyle that the general public can choose.

North of the boundary to Hong Kong, Shenzhen and Dongguan have been taking radical steps to foster their local CCI industry. Shenzhen's OCT-LOFT is now host to artists, fashion and interior designers, architects, photographers and other types of professionals in the CCI. Developed by a state owned enterprise which owns the formerly industrial land and factories to become the biggest complex of its kind in Shenzhen, this vibrant cultural and creative park also attracts outsiders with its commercial elements: cafes, restaurants, shops and galleries. It is now the *Lonely Planet*'s top

[42] According to the HKSAR government's definition, CCIs comprise 11 component domains as follows art, antiques and crafts; cultural education and library, archive and museum services; performing arts; film, video and music; television and radio; publishing; software, computer games and interactive media; design; architecture; advertising; and amusement service (Census and Statistics Department, 2015)

pick for sightseeing in Shenzhen (Lonely Planet, 2015).

Figure 4.6 (left) The "artistified" industrial buildings in Shenzhen's OCT-LOFT
Figure 4.7 (right) Dongguan's Gongnong Loft 8 provides spacious workspaces for artists

Dongguan, a city that reminds people of Shenzhen two decades ago and even a little bit of Hong Kong three to four decades ago, has also been active in transforming under-utilised industrial premises for the CCI. The city, while sticking to its manufacturing roots, is also building a profile of cultural and creative parks driven by a combined force of government initiatives and property developers' investment. The riverside Gongnong Loft 8 (see Figure 4.7) is converted from a collection of warehouses. When the researchers visited the site that was still under renovation, an artist from Taipei was discussing with his contractor the interior design of an old warehouse he recently rented. High ceilings and ample natural lighting are generally considered to be ideal workspaces for the CCI.

These two cities visited by the researchers have good reason to develop its CCI. Not only is there ample supply of cheap industrial spaces after low-end manufacturing moved out of the area, there is also a growth in the CCI and subsequently genuine demand for space. After similar developments in Beijing and Shanghai found success in the 2000s, local governments in both cities are keen to encourage such transformation.

4.2.4 Start-ups and innovation-driven industries

The research team visited London's Tech City aiming at investigating the formation of a post-industrial cluster of IT companies but ended up discovering how an industrial area was transformed to an artists' zone, then a cluster for technology start-up companies before the invasion of

residential development in recent years[43]. In 2010, the UK Prime Minister David Cameron officially referred to the area surrounding Old Street and Shoreditch in east London as the "Tech City" and Tech City UK was established to promote the brand to the world. It was reported that "since 2010, London has experienced a 75% increase in the number of ICT companies investing in London from overseas" and "in all £1.4 billion was invested in London tech firms in 2014, which was twice the amount of 2013 and 20 times that of five years earlier." (Smith and Mather, 2015)

Within the Asian-Pacific region, Taiwan has gone down a completely different route from Hong Kong and now 90% of the laptops sold worldwide are made by Taiwanese manufacturers. Taiwan has been ambitious and competitive in the ICT industry with both private and public funds going into the R&D of ICT. One privately owned industrial park visited by the researchers in Hsinchu - Taiwan's Silicon Valley, is Taiyuen Hi-Tech Industrial Park. Transformed from a textile factory and located near Hsinchu Science and Industrial Park, Taiyuen has built its reputation as the place to be for ICT start-ups and more mature companies.

Figure 4.8 (left) One of the office buildings in Taiyuen Hi-tech Industrial Park
Figure 4.9 (right) New invention showcased in Hsinchu Industrial Park

Indeed technology-intensive, innovation-driven start-up companies are more popular than ever and is becoming a new engine of economic growth worldwide. For Hong Kong to remain competitive regionally and internationally, it is crucial to enhance local innovation and productivity. According to the World Economic Forum, Hong Kong's competitiveness will benefit from improvements in its innovation, which merely ranked 23rd in the world – far behind Hong Kong's overall ranking

[43] The London Borough of Hackney where IT firms are concentrated has successfully obtained exemption to the UK Government's policy of allowing change of use from office to residential without the need for planning permission on account of loss of a nationally significant area of economic activity.

of 7th (World Economic Forum, 2014).

Although in 2010 the term "start-ups" was a rather unknown concept to many in Hong Kong – and many may struggle to name it in Chinese to this day – the concept has developed quickly in recent years. With Hong Kong's world class higher education and research capacity at its top ranking universities, it is not a surprise that some ideas and technologies are being commercialised. In addition to human resources, Hong Kong's world class infrastructure, intellectual property rights and capital available for investment are all good conditions for start-ups to succeed. According to the Global Startup Ecosystem Ranking 2015 study:

> *"Hong Kong's startup community has grown rapidly in the last two years, with an estimated number of some 2,000 early-to late-stage tech startups. It now solidly ranks among the top-25 startup ecosystems in the world with a Market Reach score that would rank among the top 10 due to its proximity to the Chinese Mainland with its large market, and its history of open markets and deep international trading expertise. This makes Hong Kong an attractive launchpad for startups to scale globally"* (Compass, 2015:132).

Figure 4.10 The lounge of Cyberport's co-working space

The government are already aware of the importance of innovation and technology in Hong Kong's future as well as the important role the government can play in such development. It has been pointed out in the Commerce and Economic Development Bureau's policy initiative that *"innovation and technology can also upgrade our quality of life and enhance the efficiency of our community. The Government attaches great importance to fostering the innovation and technology industries. We have given software and hardware support to enterprises and start-ups, provided financial assistance for universities and research institutions, and helped in the commercialisation*

of research and development results achieved by the industries" (Legislative Council, 2015). Through the detailed initiatives, public funding has been made available to the innovation and technology sector (Legislative Council, 2014). Drawing upon experience from the development of Hong Kong's CCI, it is particularly important to – on top of having relevant funding in place – make sure space is available for this sector at an affordable price and with suitable physical and environmental specifications, such as location, size and flexibility.

4.3 Importance of maintaining industrial stock

In this section the four industries mentioned above will be put in two categories: the traditional industries that are land-intensive, legitimate in industrial premises and employ mainly low-skilled workers and new industries that are innovation and creativity-intensive, mostly illegal in industrial premises and operate mainly by self-employed educated individuals.

4.3.1 Why does industrial stock matter to the logistic and manufacturing industries?

With all the discussions on how to make "optimal" use of Hong Kong's large industrial stock, one thing that could be easily forgotten is that industrial buildings were purposely built for the logistics and/or the manufacturing industry. This research suggests that industrial stock is particularly important for these two industries for the following reasons:

i) Industrial premises were designed and built for these two industries whose operations have very specific requirements for space and can only be accommodated in industrial buildings. For instance, ceiling height and floor loading are much more generous in industrial premises; air ventilation, loading and unloading area and parking facilities and ramp are all given detailed consideration and design. It also provides 24-hour access for around-the-clock operation. It would certainly be a waste to demolish these buildings while they are still in a good shape to accommodate logistics and manufacturing activities.

ii) Logistics land in particular has an increasing demand and decreasing supply – only four sites being sold in the past 10 years despite many warehouses and industrial buildings were demolished or converted to other uses during this period of time. Negative supply has reduce the vacancy rate to a staggeringly low level of less than 1 % for private storage according to CBRE whereas the Rating and Valuation Department's figure is under 5% in recent years. When vacancy rate of storage is too low, the whole industry will be affected by high rent and low availability of space

for expansion and development.

iii) Besides the almost fully occupied industrial stock for logistics uses, modern logistics also requires major improvements and upgrading in terms of facilities that may not be achieved by renovating existing industrial premises. For instance, distribution centres with ramps to individual floors significantly increases efficiency of the service which can only be built in large, regular-shaped sites. In fact there is an estimation of at least 7 ha of land recommended for logistics use in Hong Kong in the short to medium term. According to the survey in Kowloon East, "availability to suitable premises/capacity to meet floor space requirement" for the logistics sector is almost as important as "low occupancy/operational cost" (see Appendix 4). Land supply will become the bottleneck problem of this industry. Until more modern facilities are built, the current industrial stock plays a significant role in meeting the needs of the sector.

Moreover, logistics professionals prefer to locate their operations around airport, seaport, and land gateways to reduce traffic congestion as well as to enable workers at different parts of Hong Kong to go to work at nearby logistic centres (Huang and Wong, 2014a). Land at desirable size and location must be made available solely for the logistics sector if Hong Kong is to compete with cities in the region.

iv) Work environment upgrading is a key element of attracting young talent to these industries, the negative image the general public in Hong Kong have of manufacturing and logistics industries is generally because of the poor working conditions in the case of many businesses. It was mentioned in one of the interviews that many small logistics operators in Kwun Tong who survive on existing business connections are operating with very outdated facilities. The interviewees did not hesitate to point out that a lot of these firms are highly uncompetitive and will sooner or later be eliminated from the market.

However, business owners will only make such investment on interior upgrading if they can secure a long lease or own the property. According to the Planning Department's survey of businesses in Kowloon East, more than half of manufacturing firms are renting in industrial buildings and only one in six logistics firms own their premises (see Figure 4.11). Having sufficient industrial stock designated for industrial uses will make space more affordable and work environment improvement more likely.

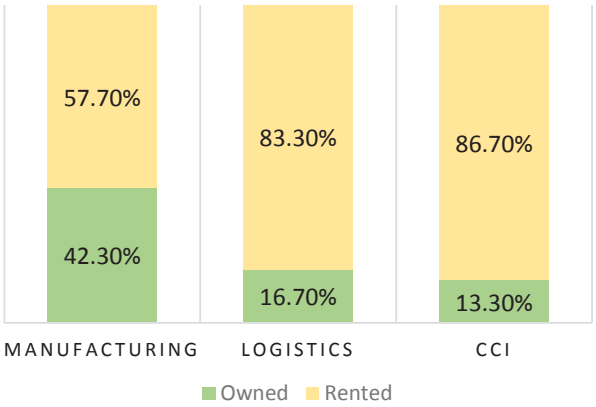


Figure 4.11 Ownership of industrial premises in three selected sectors in Kowloon East[44]

v) Despite all the discussion on the value of the "Made in Hong Kong" brand, its ultimate fate depends heavily on how available and affordable flatted factory and industrial estates are. Given the high labour cost in Hong Kong, there is a limit for the rent and price of industrial properties above which no business plan for "Made in Hong Kong" products will be financially viable. Therefore, either the flatted factories remain available for local industrialists at a reasonable price, or alternatively their operations can be accommodated in industrial estates where land is provided at a lower than the market rate.

vi) Furthermore, this study believes that industrial estates will become the most important source of industrial premises for Hong Kong in the future. Currently two industrial estates are virtually full and the third one barely has any availability, albeit some space within factories that may not be fully utilised. With benefits of operating in a government-owned industrial estate rather obvious to interviewees who operate their business there – low rent, long lease, ample space to build their own factory to meet their sector-specific requirement – the few factories the research team visited are vibrant and most definitely profit making. However, if industrial estates are to accommodate more manufacturers particularly smaller ones in the future, not only generic factory buildings may need to be built, existing but underutilised buildings in industrial estates may also need to be re-introduced to the market through the Hong Kong Science & Technology Parks Corporation (HKSTP). New industrial land for a fourth industrial estate may also need to be considered.

In terms of admitting new manufacturers to the industrial estates, current selection criteria should be reviewed. As discussed before, the manufacturing industry is not only economically but also

[44] Data source: Planning Department, 2009

socially significant to Hong Kong society and its upstream and downstream sectors can be innovation-driven, productivity-enhancing and high value-adding. These attributes should be reflected in the selection criteria. In Appendix 5 a list of selection criteria in Taiwan for its export processing zone is provided. In the list 100 points are given to 11 categories ranging from employment to investment, environmental impact to electricity and water consumption. Given how precious land is in the industrial estates, future applications should be reviewed more comprehensively to maximise their benefits to society.

In addition, length of contract should also be re-considered. The manufacturing industry has evolved so much throughout the years that it is safe to say some companies and/or sectors currently operating in the industrial estates may not even have any business in a couple of decades time. Therefore a shorter term – rather than the current 50 years – should be introduced to provide more flexibility to the operators and more importantly enhance efficiency of land use in the industrial estates. Those specialised factories that are vacant or under-utilised should be returned to the government.

4.3.2 Why does industrial stock matter to the CCI and start-ups?

i) CCI and start-ups have a lot in common in terms of their demand for space. These new industries are still in the process of exploring new concepts and products and may not be profit-making for a period of time at the beginning – some sectors may take years to attract, educate and foster customers/audiences. For start-ups, the failure rate can be as high as over 90%. Their rent affordability is not high and is unlikely to survive sharp rent increases. Industrial premises were discovered in the early 2000s as a possible work space by groups of artists and have remained the cheapest space to rent for new industries. These users typically do not mind poor building condition but give low rent the most weight when making the decision of where to locate their workshop/studio. According to the survey in Kowloon East, 56.5% of surveyed CCI firms consider "low occupancy/operational cost" the most important reason for choosing their current location (see Appendix 4). On the other hand, industrial premises are also suitable to be converted into co-working space which also suits Hong Kong's space restriction, and at the same time facilitate networking and collaboration of start-ups that do not require much space at an early stage.

ii) Although the CCI only takes a very small portion of industrial space, industrial buildings are valuable for them. According to the Hong Kong Arts Development Council's "Survey on the Current Status of Industrial Buildings for Arts Activities and Future Demand":

> *"[M]ost of the artists housing in industrial buildings were younger generation in terms of age and year of experience. The maximum affordable amount of monthly rental was one-third of the non-industrial buildings users. For organizations in industrial buildings, the majority of them was small organizations/groups and the maximum affordable amount of monthly rental was a one-fourth of those in non-industrial buildings"* (HKADC, 2010:2).

That is to say that without affordable industrial space for these artists and art groups, it will be almost impossible for them to survive in non-industrial buildings. As mentioned in Chapter 3, with the development of art in Hong Kong, demand for space beyond performing and exhibition purposes emerged in the early 2000s which cannot be satisfied by existing venues provided by the government. Affordable industrial buildings soon became an ideal choice especially for rehearsal and storage uses. According to an insider of the drama scene in Hong Kong, there are 300 to 400 dramas produced each year. A two-hour show requires 100 to 200 hours of rehearsal. These shows will require in total 30,000 to 80,000 hours a year for rehearsal. The space normally required for rehearsal is a minimum of 70 square metres. Given the affordability of drama groups, it is only possible to meet the demand of these uses in industrial buildings at the moment.

After all, only a very small number of artists in Hong Kong are successful and wealthy enough to be comfortably self-sustained. This is confirmed by the low ownership (13.3%, see Figure 4.11) of industrial space users in the CCI in Kowloon East (Planning Department, 2011). In the HKSAR government's 2015 Policy Address, there is "*a $300 million Youth Development Fund to support innovative youth development activities, including assisting young people starting their own business*". By making affordable industrial space available for young people in the CCI and start-ups, this fund will go much further and benefit more young people.

iii) In terms of the physical environment of an industrial building, common features such as high ceilings, good lighting, generous space and open floor plans are particularly suitable for many artists and entrepreneurs who found the space flexible and creativity provoking. This high level of freedom – in a way almost like a type of autonomy – is exactly what attracts creative minds. An art administrator explained that heritage buildings can be very restrictive for internal modification that even an extra nail on the wall may need an application. In contrast, industrial buildings are most carefree, two co-working space founders revealed in an interview that some co-working space owners had deliberately created the "wear and tear" effect in a newly renovated building to give customers the "industrial vibe". For those artists or start-ups whose work involves machinery or handicraft, industrial buildings will also be a much more suitable space than office buildings.

iv) Some industrial areas are well connected by public transport which is a priority for business and is also proven to be a preference by artists. This is why currently the organically formed clusters of artists are in the few urban industrial areas such as Kwun Tong, San Po Kong and Fo Tan. It was disclosed in one of the interviews that some artists have concerns on an ongoing project of converting a closed secondary school in Tai Po through ADC funding for performing art studios because of its remote location. For start-ups, good accessibility is also an advantage. For instance, a new co-working space provider *TusPark* has several sites in Central, Causeway Bay and Tsim Sha Tsui with their headquarters located in Kwun Tong.

v) It can also be observed that some artists live in the studio in industrial buildings they own or rent as their prime location of residence. Some of them are well aware of the danger of exposing themselves to higher fire risk. It is the fact that price and rental of residential buildings, including subdivided flats have become so unaffordable to many that they choose to take the risk. Some creative minds are also more active late at night and enjoy a buzzy atmosphere where they can network with one another. Exploration needs to be made to find a way to accommodate young people who work in industrial buildings without compromising their safety. It is also crucial to keep the accommodation affordable possibly at the cost of personal space.

4.4 Preserving industrial stock for Hong Kong's future

As highlighted above, the four selected industries matter to Hong Kong's future, and Hong Kong's industrial stock matter to them – therefore preserving industrial stock today is indeed preserving Hong Kong's future. However, difficulties current industrial users face in the four industries are not going to be resolved by the market. Linking these difficulties to the issues analysed in Chapter 2 and 3, it has become clear that the time has come for the HKSAR government to be less, rather than more, relaxed in its planning regulations on industrial premises. Detailed and further recommendations will be made in the next chapter.

4.4.1 Industrial stock matters!

During the research team's field trip to Taiwan, the Taiwanese government's determination to preserve industrial stock, especially the existing industrial parks with planned supporting facilities, was impressive. The government official interviewed showed a deep understanding of the importance of industrial stock. Given that land by and large is privately owned in Taiwan, government regulations become the last defence for preserving industrial land and properties.

A similar story was re-told in the PRD where residential and commercial development is swallowing up industrial land. Industrial upgrading in Dongguan has created new industries which challenge the boundary between the secondary and tertiary industries, but discouraging high value-adding upstream and downstream industries of the traditional manufacturing industry is not an option. Facing this dilemma, the local planning authority has decided to be flexible as long as the industrial stock is preserved. To quote a local planning official's remark on possibly illegal use of industrial buildings by the ICT and art sectors: "We will let them be. They can use these old industrial buildings – as long as they do not turn it into a real estate project. That, is my bottom line."

Meanwhile, industrial stock is dwindling in Hong Kong, some are demolished and rebuilt and others are converted to other uses. Due to land shortage, land is sold at a premium and construction cost is high. Landowners and developers will always try to maximise the value of their properties which is the way the property market operates. Property costs in Hong Kong are among the highest in the region and the repeating of this development process will result in dislocation for many SMEs in different sectors. Existing industrial premises are the only relatively affordable space left for these intended and unintended uses. Old industrial premises are where several generations are involved in running an old industry, the younger generation realises their dreams and housewives rediscover their "self" identity by setting up an NGO to manufacture soap with used cooking oil.[45]

One of the key arguments of this study which cannot be emphasised any more strongly is that *industrial buildings are a valuable asset of Hong Kong as they are*. They should not be considered simply as brownfield opportunities to add to the land supply, their social and in the long term economic significance has not been fully recognised. There are more than 1000 industrial buildings left in Hong Kong due to fragmented ownership. Before they reach the stage of inevitable demolition, the remaining value of these buildings should be maximised for the interest of society.

4.4.2 Legitimacy of certain users

While the government has taken several steps throughout the years to relax users in industrial premises, there are different uses, many of which are non-compliant with the lease or statutory town plan or both. They include recreational activity centres for indoor soccer, skiing, F-1 racing simulators, as well as farming, including hydroponics and leisure farming at rooftop or podium

[45] See Choi, Lam and Wong (2015). Interviews were conducted with different operators in industrial premises. It shows that industrial premises is significant economically and socially.

level of industrial buildings. Legitimacy is an issue that has been bothering certain users. Artists, for instance, are particularly vocal about it. Incompatible uses in industrial buildings can be a potential health and fire safety hazard and this study does not recommend the government taking a passive stance on this matter. There are many very detailed, technical issues that need to be addressed in order to provide a safe and secure environment for users in industrial buildings. Therefore this study would like to establish the necessity of government initiatives to legitimise some of these uses in this chapter before providing recommendations in the next chapter.

It has been argued in the previous chapter that the deregulation and relaxations of land use control have gone too far. Industrial zoning, a planning control that aimed to protect industrial land stock in the first place needs to be reconsidered. On one hand, the reinforcement of charging a short term waiver fee seems technically difficult that non-compliant uses are rife in industrial buildings. On the other hand, the definition of "manufacturing" is so complex and diverse now that the current law and statistics seem to struggle to capture the scale and scope of the changes (Pike, Dawley and Tomaney, 2013).

The HKSAR policy makers are in the best position to legitimise certain users in industrial buildings. This may include measures to eliminate or minimise incompatible uses that may cause concerns surrounding fire safety, to reinforce payment of short term waiver fees and waive such charges for users in a few carefully identified sectors under certain conditions. By legitimising these users, regulations are reintroduced to industrial land use and most importantly, the use of industrial land and buildings are truly optimised for the best interest of Hong Kong.

4.5 Conclusion

> *"Government support is much needed, not only in funding but more importantly in space allocation. The scarcity of space is a hindrance for the growth of Hong Kong's art scene. In Singapore the government has designated special districts for the arts. Artists have a steady studio space with reasonable rental in Singapore as opposed to Hong Kong, where artists are always on the run . . . I think the government can be more determinate on whether or not it wants to genuinely support the development of arts in Hong Kong. Resoluteness in decision making is also an important type of support we need from the government."*
>
> -- Agnes Lin[46]

[46] Agnes Lin, director of Osage Gallery made above comments during an interview with Art Radar (2013).

As discussed in the previous chapter, Hong Kong missed the opportunity of becoming the technological centre of Asia due to its failure in technology upgrading. Regrettably, this is the history that the city will never be able to re-write. Productivity and innovation are at the heart of the competitiveness of world cities which is something the HKSAR government is keen to further develop. In fact the line between traditional industries and new industries have become more and more blurry that an artist can also be a craftsman and a start-up company is indeed doing logistics business. Hong Kong's industrial premises have created so many possibilities and opportunities that will not survive outside those old and shabby but also affordable, flexible and accessible buildings. Therefore this study believes that preserving industrial buildings is preserving the perfect nurturing ground for a new generation of talent, a more equitable society, a more diversified and resilient economy, and overall a more competitive Hong Kong for years to come.

Chapter 5 Conclusions and Recommendations

"Property-led economic development hews closely to the philosophy that any given parcel of land should be put to its highest and best use, but this principle, applied repeatedly, can create diseconomies for a city as a whole in the long term."

– Laura Wolf-Powers (2005:381)

5.1 Introduction

To many academics and researchers, a study on industrial premises is not exactly an exciting proposition. Contribution of the logistics and manufacturing industries in terms of GDP and employment are modest compared to the service sector. Industrial buildings, the largest floor space provider, are generally old and shabby and often considered to be obsolete awaiting redevelopment. On the other hand, statistics show that the vacancy rate for industrial premises has not been high over the years and a visit to the industrial areas indicate that they are actually very vibrant and full of life. It is these contrasting images of industrial premises that prompted this research. The study aims to achieve a better understanding of industrial premises in the light of economic restructuring and recommend how best they should be used in the overall interest of Hong Kong.

In Chapter 2, the researchers have described what has been happening in the large stock of industrial buildings in Hong Kong based on surveys conducted and information compiled by government departments and other agencies. Changes in land uses and prices/rents over the years in response to market forces and government policies have been reviewed. The number of establishments registered in industrial premises is estimated to be 27.2%, which is considered to be high. With the mixing of industrial activities, dangerous goods storage and incompatible uses that attract a lot of outsiders to industrial buildings, the impacts of a fire outbreak should not be underestimated.

Chapter 3 illustrates how the use of industrial premises has changed in tandem with the city's development trajectory from industrialisation to de-industrialisation and more recently the development of a digitally-led creative economy. The use of industrial premises for non-industrial uses is facilitated by de-regulation of uses by the planning authority. At the same time, "artistification" of industrial premises gathered pace organically around the turn of the century and was followed by an infiltration of innovation-driven start-ups in the last couple of years. Industrial

premises thus have great social value and in the longer term economic returns that will benefit the future generations.

In Chapter 4, the need for space of the four sectors, namely logistics, manufacturing industries, CCI and innovation-driven start-ups are examined. The former two industries are the intended users of industrial buildings. The shortage of space for the present retail-oriented logistics sector is particularly acute and modern facilities with ramps for trucks to go up to individual floors are in high demand. In the light of the value of the "Made in Hong Kong" brand and signs of re-industrialisation, more industrial space is needed probably in the form of industrial estates. This is confirmed in interviews with industrialists operating inside or outside of industrial estates. The latter uses, CCI and start-ups represent new uses in industrial buildings. The researchers firmly believe that industrial premises are a valuable asset as they are because they provide space that is affordable, flexible and accessible for these traditional and new industries. In gist, the industrial stock still matters in Hong Kong.

In this final Chapter, the main conclusions of the research will be summarized and policy recommendations proposed. Needless to say, if government considers the recommendations worth-pursuing, refinements and consultation with major stakeholders will be required.

5.2 Conclusions

Hong Kong's industrial areas are unique as they are characterised by high-density and high-rise factory buildings, many of which are under multiple ownership. The researchers visited London, Taipei, Shenzhen and Dongguan to study the use of industrial premises in the light of their economic restructuring. In contrast, industrial premises in these cities are usually low-rise and under single ownership. This facilitates their conversion into cultural and creative parks or science and technology parks.

At present, half of the industrial stock in Hong Kong is occupied by the intended uses – the logistics and manufacturing industries, and half by non-industrial uses, legally or illegally. It is not feasible to cover all the uses occupying industrial space in detail during the course of this 15-month study. Below are the main conclusions on the findings of this study.

5.2.1 Existing industrial premises still matter to Hong Kong economically and socially

Industrial premises have accommodated the four sectors selected for this study as well as many other sectors that are not covered in this study. These sectors are considered economically and socially significant for Hong Kong. According to the Census and Statistics Department, transportation and storage contributed 5.7% of the territory's GDP in 2013[47]. As discussed in Chapter 4, manufacturing industries contribute more than the official 1.4% of GDP, to the extent of possibly twice as much. Economic contributions aside, the logistics sector together with manufacturing industries also provide many low-skilled jobs for the less educated.

Industrial buildings are purpose-built premises for the manufacturing and logistics industries whose operations depend on the availability of these buildings. These premises are also attractive to other sectors due to their affordability, flexibility and accessibility. Industrial space has enabled some old industries to continue, artists and musicians to flourish and others to realise their dreams. Published case studies of the CCI use in industrial buildings and researchers' observations on Fotan, San Po Kong and other industrial areas show that each high-rise industrial building with the CCI is in fact an art village in its own right. The high-rise setting has fostered agglomeration of art studios and facilitated sharing, networking and collaboration among artists. The social significance of industrial premises should be recognised and the existing industrial stock zoned for industrial use should be preserved and carefully managed so that the intended and legitimate uses will not be compromised, while other innovative uses can be tried out.

5.2.2 Importance of providing land for future demand of the logistics and manufacturing industries

The 21st century logistics and manufacturing industries encompass a wide range of activities that create value and benefits for the wider community. Evidence from other countries and cities show that modern industries are offering many service-oriented jobs and contributing to a more diversified and resilient economy.

As argued in Chapter 4, there are social and economic benefits to be reaped from the logistics and manufacturing sectors. Hong Kong's advantage in the logistics industry as a pillar sector is to be strengthened by modernised facilities. The "Made in Hong Kong" brand will be beneficial to a number of industries like food and pharmaceutical. The potential spin-off from government's subsidies to phase out pre-Euro IV commercial vehicles has not been fully captured in the local

[47] Census and Statistics Department, Gross Domestic Product (GDP) by economic activity – percentage contribution to GDP at basic prices.

economy. These are only a few examples to demonstrate the need for a more proactive industrial policy which is crucial for the formulation of an industrial land policy.

It has also been pointed out that re-industrialisation is not about bringing back old industries. Hong Kong has the potential to develop innovative technology industries with the talent, the investors, the infrastructure, access to global markets and government support. The innovative technology industries should therefore be part and parcel of any plan for re-industrialisation.

All these new developments will have to take place on industrial land which at the moment is already tight to meet the current demand. If Hong Kong is to diversify its economy and modernise its traditional industries, new provision of land will have to be made available in an accelerated time frame.

5.2.3 Hong Kong's innovation and creativity sectors need more affordable space

Innovation and creativity are a primary source of competitive advantage and Hong Kong has entered into a new digitally-led creative economy. However, innovation is an area that Hong Kong does not perform well in the World Economic Forum's competitiveness index compared to other attributes like infrastructure and financial market development – both first in the world (World Economic Forum, 2014). The development of technology start-ups will require appropriate policies by government. It is vital to understand the ecosystem of these sectors so that effective policies can be formulated.

The CCI is not only an economic sector, more importantly they imbue a city with characters and uniqueness and its people a sense of identity and belonging. The Hong Kong government has since 1970s provided plenty of resources to the CCI, such as performance and exhibition spaces. The situation will be further improved with the completion of West Kowloon Cultural District. However, the research has highlighted the shortage of production, rehearsal and storage space for CCI. As a result, industrial premises have been utilised as art studios, live houses and hobby classes. Artist clusters have been formed in Kwun Tong, San Po Kong, Fotan, Wong Chuk Hang and Chai Wan. As argued in industrial premises suit the needs of most artists.

The space requirements of these two sectors are not particularly catered for in the current planning system. As the other world cities are moving forward to an era of "creative economy", Hong Kong will have to preserve its affordable industrial buildings as a nurturing ground for creativity and innovation.

5.2.4 Two unresolved issues of industrial premises – non-conforming uses and fire safety

Even if existing industrial premises can be preserved, two related issues – non-conforming uses and fire safety concerns will need to be tackled. On one hand, planning regulations have changed in response to economic restructuring by the creation of the I/O buildings, expansion of uses permitted in industrial buildings and the rezoning of "I" to "OU(B)" zones. This is to recognise the fact that while production activities have relocated elsewhere, some upstream and downstream functions like R&D, quality control, marketing remain in Hong Kong. On the other hand, such uses, together with many other non-industrial uses, are in most cases not in compliant with the leases. For non-conforming uses, applications should be made to the land authority, and if approved, a short-term waiver fee will have to be levied. This is to protect genuine, intended users of industrial premises as they cannot compete with other higher value-added uses.

More importantly, there is potential fire hazard in the juxtaposition of industrial and non-industrial uses, particularly if a large number of outsiders are attracted to industrial buildings where dangerous goods are stored or active industrial processes are still carried out. A review should be conducted to identify uses which are not acceptable in industrial buildings and uses that can be tolerated from the fire safety point of view. Appropriate enforcement actions should be considered with priority given to old industrial buildings without the installation of automatic sprinkler systems. Fire safety is not something that should be compromised.

5.2.5 The shortage of developable land is the bottleneck of current and future development

The research project reaffirms what is trite, that there is not enough space, virtually for all types of uses in Hong Kong. This is evident in the high property prices and rentals which are among the highest in the world. Interviews with the various sectors covered in the study indicate the enormous difficulties involved in finding affordable space.

In the view of the shortage of developable land, industrial buildings are often conjured up as surplus stock and a source of brownfield land supply. While it may have been an appropriate policy in the past, it is certainly not the case now because the "I" zone has been reducing over the years. At present, space occupied by the logistics and manufacturing industries has already exceeded the total stock of "I" zone.

Due to multiple ownership, industrial buildings on the "OU(B)" zone may not be redeveloped to

other non-industrial uses anytime soon. However, the shortage of office space has already led to a faster pace of redevelopment in industrial areas like Kowloon Bay and Kwun Tong. Many SMEs operating in these industrial buildings have been adversely affected. After 15 years of rezoning of industrial land, the time has come to avoid further blanket rezoning of industrial areas to other uses at least until modern logistics facilities and new industrial estate are supplied to the market.

At the moment, the government has been focusing its land supply in the residential market. Given the severe shortage of land in other categories, a more balanced land supply strategy is called for. In the industrial land category, there is strong demand for modern logistics facilities and a fourth industrial estate.

It has been demonstrated in Chapter 3 that industrial premises have a substitution effect on office supply (see page 46). It is therefore necessary to maintain a steady supply of land for different uses so that lower value added uses in industrial premises will not be driven out by higher value uses due to shortage of office, hotel or retail spaces.

With only about 1,100 sq. km in land area and much of it dominated by difficult topography, Hong Kong has to accommodate some 7.2 million people and its social and economic development needs. Currently they are all crammed within less than 300 square kilometres in the built-up areas. The bottleneck for Hong Kong's future development – lack of developable land – is to be tackled as a matter of priority. In the medium to long term, it is understood that the government is keen to set up a land bank so that land can be supplied when required.

5.3 Policy Recommendations

In the light of the conclusions outlined above, policy recommendations are proposed. A peer review of the proposed recommendations was conducted with input from experts in the economics, construction and property market fields. The researchers consider the recommendations drawn up to tackle the major issues faced by the four sectors should be implementable. If implemented, it will help meet the needs of the four sectors and contribute to a more diversified and resilient economy. The policy recommendations and a broad assessment of each of them is outlined below.

5.3.1 Revitalisation of Old Industrial Buildings 3.0

The policy of revitalisation of old industrial buildings was introduced on 1 April, 2010 with a view

to utilising industrial premises optimally. The policy was subject to an interim review in 2012 leading to the current policy, which will lapse on 31 March 2016. Some have criticised the policy as measures benefitting landowners. But as explained in Chapter 3, the cost for conversion can be very high and the lead time for gaining permission is long. The revitalisation policy has the benefits of extending the life span of buildings and resolving the fire safety risk by removing incompatible uses within a building. A revised version of the revitalisation of old industrial buildings policy is therefore suggested under which applicants are required to provide a portion of the building rent-free to government which will allocate space to compatible uses. To provide incentives to the landowners, loading/unloading spaces and parking space or additional floor space may be converted or built respectively provided that the overall gross floor area would not exceed that stipulated under the statutory plans, leases and the Buildings Ordinance.

Recommendation on the new version of revitalisation of old buildings policy:

Policy Measure 1: *Revitalization of old industrial buildings Version 3.0*

Objective of measures	To continue with the existing revitalisation policy but restricted to non – "I" zone only (i.e. for "OU(B)", CDA, R(E) zones), successful applicants would be required to dedicate a portion of the space free of charge to government. The dedication is only restricted to the life of the existing building. Upon redevelopment, the premises will be returned to the landowner unconditionally.
Implications on users	The space dedicated to public use will be allocated to artists and start-ups at market or subsidised rental. They would welcome such a move.
Implications on landowners	Landowners may complain about the requirement to give up space. To provide incentive to landowners to do so, loading/unloading and parking spaces surplus to requirements may be used for other purposes provided the total GFA will not exceed the statutory maximum under the Buildings Ordinance or the concerned statutory town plan.
Implications on the government	Applications for wholesale conversion will follow the current procedure of submission to the Lands Department. Details will have to carefully work out on the percentage of space dedicated for use by government. Government will

	continue to forgo short-term waiver fees for wholesale conversion of industrial buildings.
Implications on the public	Public is expected to welcome the policy as this would be an improvement of the existing one which has been criticised by some as favouring the landowners.
Remarks	It is expected that the number of applications will not be large as straight-forward ones would have already been approved or implemented in the past five years or so. However, there may still be interest in the private sector to do so in the future. Dedication of space to government can also be off-site to enhance flexibility. Many sites which have been zoned R(E) or "CDA" aiming to address the industrial and residential interface problems are not yet redeveloped because residential development is restricted to a lower plot ratio compared to that of the existing building. Subject to further study on the legislative framework, it is suggested that industrial buildings falling into these categories may be converted to mixed-use building for residential and other compatible uses. However, selling of individual domestic units will not be permitted during the life span of the converted buildings. For R(E) zone, amendment to the Notes of OZP is required.

5.3.2 Logistics sector

According to the survey conducted by the Planning Department (Planning Department, 2015), 54.1% of space in industrial zones are taken up by the logistics sector as storage and warehouses. Even for industrial buildings under "OU(B)" zones, some 33.3% of the space is used for such purpose.

From the Survey on Business Establishments in Kowloon East, both location and cost are considered as most important considerations with almost equal weighting by the logistics operators. Logistics facilities near the airport, container port and major road network are preferred (Planning Department and Mercado Solutions Associates Ltd., 2011). Recent studies on the logistics sector indicate that there is a severe shortage of space (CBRE, 2014; Huang and Wong, 2014a&b; CUHK, SD Advocates Ltd and BMT Asia Pacific, 2015). Urgent actions are therefore required to tackle the shortage of space.

Recommendations on preserving and increasing warehouse/storage facilities:

Policy Measure 2: *To preserve warehouses and cold storage particularly those located near the port, airport and major transport infrastructure linking Hong Kong with the Mainland. Any application for rezoning or redevelopment of purpose-built facilities to other uses should be treated cautiously.*

Objective of measures	In view of the current demand and supply situation, existing logistics facilities should be preserved as far as possible. This will help maintain competitiveness of the sector.
Implications on users	Existing logistics operators would support such policy because the loss of logistics space will drive up prices and rents.
Implications on landowners	Landowners may like to have flexibility to develop their sites to higher value uses. There is however no strong ground for them to object if the sites were sold for such purpose.
Implications on the government	Government is aware of the shortage of logistics space and that rising rentals will hurt HK's competitiveness. The policy measure is to be implemented when considering rezoning and planning applications for change of use by the Town Planning Board.
Implications on the public	Public may not have strong views on this policy but would generally welcome government to keep logistics costs down.
Remarks	Blanket rezoning of "I" in an industrial area without considering whether buildings involved are purpose-built logistics facilities should be avoided.

Policy Measure 3: *To dispose sites with regular shape and sufficiently large floor plate for modern logistics facilities as early as possible.*

Objective of measures	To cater for modern day needs of the sector, new sites which can accommodate ramps for trucks to access individual floors of the buildings should be released early for development.

Implications on users	Logistics users will support such policy measures as increased supply will help stabilise prices and rentals.
Implications on landowners	Logistics space providers will welcome more investment opportunities. Existing owners of such facilities may not object to this policy as it will enhance the overall competitiveness of Hong Kong by keeping rental at reasonable levels.
Implications on the government	Planning for sites for logistics uses will need to take into account the requirements of the sector. Sale sites will have to be specified for logistic use. More importantly, government will have to step up its efforts in making sites available early as regional competition is keen.
Implications on the public	Public will generally be supportive of this policy as it would help to keep logistics costs down.
Remarks	There may be local objections against new logistics sites on traffic and environmental grounds. Community engagement should be initiated early so that the projects will not be delayed. Modern logistics facilities will be complete with ramps for container trucks going up to individual floor for loading and unloading activities. While the ramps are usually not considered as gross floor area for the purpose of calculating the plot ratio, the building bulk will be significant. As traffic generated by logistics use is likely to be very high, it may not be possible to build up to a plot ratio of 9.5 (non-domestic plot ratio for new towns), not to mention the maximum of 15 in the urban areas permitted under the Building (Planning) Regulation. Appropriate plot ratio should be imposed for new sale sites. To encourage private sector initiatives, the policy "pay as you build" under the revitalisation policy should be adopted for premium calculation for logistics sites.

5.3.3 Manufacturing industries

With growing concern on food safety in the region, the "Made in Hong Kong" brand certainly has its appeal and Hong Kong should capitalise on the branding in the food and pharmaceutical

industries. The mould and die industry has indicated that due to changing business environment in the PRD, some industrialists in this sector are contemplating to relocate part of their operations back to Hong Kong. It has also been reported that garment makers and other innovative, high-value-added manufacturing industries may come back to Hong Kong and a few have already done so (Yau, 2015). There is an opportunity for Hong Kong to develop as a base for prototype and bespoke production, while large-scale production may be carried out in cheaper locations elsewhere.

Technology-driven industries should also be included if Hong Kong is to join other developed economies such as Germany and the U.S. where re-industrialisation is taking place. Industrial premises will need to be made available for this new type of industry whose requirement for space can be different from the traditional industries. The three existing industrial estates are virtually full, although some premises may be underutilised. Actions are needed to rationalise the use of existing space and at the same time identify suitable sites for a fourth industrial estate.

Recommendations to preserve "I" zone and increase the supply of floor space for industrial estates are as follows:

Policy Measure 4: *To adopt a prudent approach in rezoning of "I" zone and change of use particularly for ground floor space in industrial buildings on "I" zone.*

Objective of measures	To preserve existing industrial buildings on "I" zone for their intended uses in the light of strong demand for logistics space, signs of re-industrialisation and the industrial space currently occupied by storage and manufacturing industries already exceeded the total stock under "I" zone.
Implications on users	Industrial and logistic operators in existing industrial buildings will welcome such a move as they will not need to compete with other users for industrial space. However, the present non-conforming users will object to enforcement actions.
Implications on landowners	Most owners may prefer their land up-zoned for higher value uses as this may boost up the value and rental of their properties. That said, there should not be complaints as there is no down zoning of their properties.

Implications on the government	Co-ordinated efforts of concerned government departments to ensure compatible uses are sited in "I" zone. Uses that may attract a lot of outsiders like art studios providing courses to students, places of public entertainment will be particularly vulnerable in case a fire breaks out. A sensible approach to deal with non-conforming uses is required (through levying short-term waiver fees if this is not already done or lease enforcement) to resolve incompatible uses over the longer term. Priority may be given to enforce non-conforming uses in old industrial buildings without the provision of sprinkler system or in buildings with dangerous goods storage.
Implications on the public	Members of the public will generally have no adverse views on this policy recommendation except those living near industrial areas for fear of adverse environmental problems to continue.
Remarks	This policy measure is to be effected through the rezoning and planning application system. Any rezoning or change of use applications should take into account building design in terms of ceiling height, floor loading, parking, loading and unloading facilities. Ground floor spaces needed by industries with heavy machineries should be preserved. Commercial uses such as supply of materials and canteens may still be allowed under the planning application system. It is noted that the Planning Department has recently announced not to further rezone "I" zone following the release of the 2014 area assessment of "I" and "OU(B)" zones.

Policy Measure 5: *To encourage high-tech industries to be set up in Hong Kong, new sites should be made available for industrial estate development.*

Objective of measures	The three existing industrial estates are virtually full. To cater for technology intensive industries and industries that cannot be operated in high-rise flatted factories, new sites should be identified for development. Broadening the industrial base will help create jobs, diversify and enhance the resilience of the economy.

Implications on users	Industrialists who have not been able to bid for land in industrial estates and existing operators who wish to expand their operation would welcome supply of new sites.
Implications on landowners	HKSTP will need to step up the effort in conjunction with the government to identify suitable sites for development as the development process is lengthy.
Implications on the government	Need to map out an industrial policy to support new technology intensive industries which can help diversify and enhance the resilience of Hong Kong's economy.
Implications on the public	Members of the public may not have strong views on this measure. However, new industrial sites may be objected by the local community on traffic and environmental grounds.
Remarks	From interviews with operators in the industrial estates and industrialists who have failed to obtain sites there, there seems to be a strong demand for space. The Lok Ma Chau Loop has been identified as a suitable site for high tech development. Subject to feasibility study, the Sunny Bay Reclamation may also be an option. Site search exercise and detailed feasibility study as the case may be should be expedited.

Policy Measure 6: *To build generic factory for leasing in more flexible terms to industries which are considered suitable for establishing in an industrial estate but do not require a whole site.*

Objective of measures	To optimise the use of valuable land resources within industrial estates and to cater for smaller operators which contribute to the development of high tech industries, factory units should be made available for applications.
Implications on users	Policy measure would generally be supported by potential operators who do not need a whole site nor have the financial capability of acquiring and developing one.

Implications on landowners	Provided that infrastructures are able to accommodate additional users, existing operators in industrial estates would not have strong grounds to object.
Implications on the government	Government would have to work out details with HKSTP on designing, developing and managing such generic factory buildings.
Implications on the public	Unlikely to attract much attention of members of public.
Remarks	The tenancy of generic buildings can be more flexible to cater for different industries and firms. In order to develop a generic factory earlier, consideration may be given to build over bus concourses in existing industrial estates. Consultation with existing operators and workers are essential to minimise objection to such schemes.

Policy Measure 7: *To lease back underutilised premises in industrial estates for re-allocation.*

Objective of measures	To address the shortage of space in industrial estates, underutilized space should be returned for reallocation to other industries. This will ensure optimal use of scarce land resources.
Implications on users	Generally welcome by potential bidders of industrial estates
Implications on landowners	As the rules on resale of land in industrial estates have been tightened up by HKSTP, a new way of acquiring underutilised space would be welcome.
Implications on the government	Details would need to be discussed between the government and the HKSTP particularly on lease back arrangements.

Implications on the public	The public would generally support such optimisation of space in the industrial estates.
Remarks	Care should be exercised in coming up with lease back arrangements. On one hand, incentives should be given to operators relinquishing part or whole of their industrial premises. On the other hand, HKSTP should not be accused of being too generous in providing such incentives.

Policy Measure 8: *To review the admission criteria for industrial estate to encompass other considerations such as the future prospect of the industry, multiplier effect on the economy, the number and type of jobs to be created and the amount of R&D investment.*

Objective of measures	At present it is understood that the main admission criterion is related to upfront investment. It is suggested to take a broader view to encompass other criteria such as future prospect of the industry, multiplier effect on the economy, number and type of jobs to be created, and the amount of R&D investment.
Implications on users	Potential users particularly those who failed to obtain sites in industrial estate would generally support such policy.
Implications on landowners	Existing landowners (operators) in industrial estates would unlikely object to such policy but some may be concerned if they can apply successfully for additional sites under the revised admission criteria.
Implications on the government	The HKSTP should examine the criteria on the revision of admission criteria in consultation with the government.
Implications on the public	The public may not have strong views on this policy.
Remarks	As a reference, a score sheet comprising 11 criteria for admission to the land applications in the export-processing zones in Taiwan (see Appendix 5).

Policy Measure 9: *To revise future leases of industrial estates to 30 years certain with an option to renew for another 20 years subject to mutual consent.*

Objective of measures	To address the issue that an industry's requirements may change over time, a shorter tenure will provide flexibility so that underutilised space can be returned to HKSTP for allocation.
Implications on users	Generally welcome by potential bidders of industrial estates if the corresponding land price will be reduced proportionally and that the premium for extending the lease reasonable.
Implications on landowners	Existing operators in the industrial estates on 50-year lease will not be affected.
Implications on the government	Details would need to be discussed between the government and the HKSTP particularly on premium and the mechanism and considerations for renewal of leases.
Implications on the public	Members of the public would unlikely be concerned with such details.
Remarks	At present, leases are for 50 years in the industrial estates in HK. Singapore has since 2012 halved the maximum tenure of 60 years to 30 years to make industrial property more affordable and also enhance the government's flexibility for land redevelopment since the sites will be reverted to the state sooner. In Taiwan's export processing zone, the tenure is 20 years renewable. As industries may change over time, a 30-year lease will cater for changed circumstances and also reduce the upfront costs for operators.

5.3.4 Co-working and co-living Spaces

In the last few years, innovation-driven start-ups have grown very quickly. Apart from incubator and accelerator programmes provided by the Science Park and Cyberport, privately run co-

working spaces are found in office premises, commercial portion of composite commercial/residential buildings and industrial buildings. Some start-ups involve the design of new products while others deal with software applications. From interviews with co-working space providers and start-up businesses, the biggest obstacle to starting a business in Hong Kong is the lack of affordable space and the high cost of living. Housing costs in particular have been pointed out by some interviewees as being too high. This has put off many young local graduates in starting up a business and expatriates often have to cut back their stay in Hong Kong.

Recommendation on co-working and co-living spaces:

Policy Measure 10: *To permit a certain portion of a building for co-living spaces in industrial buildings converted purely for co-working spaces and CCI uses in non-"I" zones.*

Objective of measures	Apart from art studios, there is growing popularity for start-up hubs including incubators, accelerators, co-working spaces, makers' spaces to be established in industrial premises. The provision of affordable co-working and co-living spaces close to one another will help make HK more attractive to start-up business.
Implications on users	People in innovation-driven start-ups and CCI will welcome affordable living accommodation close to where they work. Many of them only require very basic accommodation.
Implications on landowners	Landowners with industrial buildings would support as it would help to attract talent and entrepreneurs.
Implications on the government	The government needs to revisit whether the revitalisation policy should be modified and continued. The co-living space will be restricted to those working in the industrial buildings concerned but not open up to outsiders. The government would need to consider the planning, lease and building legislation aspects for co-living space in a composite building.
Implications on the public	With sufficient information and explanation, members of the public may not consider this as collusion between the government and landowners.

Remarks	As failure rate for start-ups is high, entrepreneurs are very cost conscious in the running of the business, particularly in the initial years. The provision of affordable accommodation will go a long way to address a major obstacle in start-up business in HK. Most of the industrial buildings are zoned "OU(B)", under which residential use is not permitted as of right or on application to the Town Planning Board. To allow co-living space in a converted industrial building, it would require amendments to the Notes of OZP. Alternatively, given the small scale of co-living space, it may be considered as an ancillary use which is always permitted under statutory town plans. The planning authority would need to carefully consider these options. With the incorporation of co-living space, it is also suggested to impose a restriction on selling individual units during the life-span of the converted building.

5.3.5 Cultural and creative industry

The CCI has become a new growth point for many advanced economies in the world. Many tourists come specifically for art and film festivals, as well as, live house concerts in Hong Kong. The CCI has developed quickly in recent years. The Fotanian Open Studio has been an annual event since 2000. Art Basel, an international art show for modern and contemporary art, hosts its annual exhibition in Basel, Hong Kong and Miami Beach. The inaugural event in Hong Kong was held in 2013. More than 200 galleries participated and around 60,000 visitors attended the 2015 Art Basel in Hong Kong. Additional events like South Island Art Night and Chai Wan Mei Arts and Design Festivals capitalise on Art Basel which have become highlights in the local art scene.

What the government is providing at the moment space-wise cannot meet all the requirements of the artists'. Generally they find industrial premises with high ceiling, 24-hour access to buildings, independent air-conditioning system, proximity to supply of materials and more importantly affordable rentals very attractive. Some studios involving the sale of art pieces and/or teaching activities are considered not appropriate to be accommodated in industrial buildings as it would attract a large number of people who could be exposed to risks they might not be aware of. Alternatively, artists may not be able to pay for shop or office space. In view of the above, a multi-pronged approach is recommended to increase space for the cultural and creative industries:

Policy Measure 11: *To adopt a reverse BOT model for government to secure a long lease of an industrial building and convert it under the revitalisation policy for the CCI and other related uses*[48]*. Under this model, government would lease an old industrial building, renovate it and grant it to the HKADC or other agents for allocation and management of the space at subsidised or market rents. This is the most preferred way to address the shortage of affordable space for artists.*

Objective of measures	To provide more production, rehearsal, storage and teaching spaces for different types of artists.
Implications on users	Artists will support such policy.
Implications on landowners	Industrial building owners may be willing to let out a building to the government on a long lease at reasonable rent without having to incur cost for renovating the building. Some owners may be willing to do this on a charitable basis.
Implications on the government	Under the reverse BOT model, the government would lease an old industrial building, renovate it and grant it to the HKADC or other agents for allocation and management of the space at subsidised or market rents. This will mean extra expenditure but this policy will be welcome by artists who have been most critical of government policies on industrial buildings.
Implications on the public	Public would unlikely object to this as the building can be attractive place and would be open to them at least for a certain period of time. Younger generations involved in the CCI may appreciate the government's policy to help them.
Remarks	This is a preferred way to address the shortage of affordable space for artists as it has the benefit of accommodating them in one building to facilitate networking and collaboration. Another policy option is for the government to purchase an old industrial building for such purpose but the upfront cost will be much higher.

[48] BOT refers to "Build, Operate and Transfer" which is public private partnership model commonly adopted in infrastructure development.

Policy Measure 12: *To develop the "C" site at Lei Yue Mun road/Cha Kwo Ling Road/King Yip Lane at Kwun Tong for CCI and related uses (see Appendix 6). This will help to provide space for artists displaced by the redevelopment of industrial buildings to office buildings in Kwun Tong and Kowloon Bay under the CBD² initiative.*

Objective of measures	To address difficulties faced by the CCI operators who are affected by the CBD² initiative by providing a purpose-built development in Kwun Tong.
Implications on users	This should be welcome by artists especially those in the Kwun Tong area although they would be concerned about rental levels.
Implications on landowners	The government can grant the site to the HKADC or other agents for development of the site and subsequent management of the building.
Implications on the government	By giving up a "C" site, the government would address the space problem for the CCI in the district. The project can be supported by the Lottery Fund and a committee can be set up to oversee the development and management of the project.
Implications on the public	The public would unlikely object to this as the building would be an attractive place and open to them.
Remarks	The CCI in the district may appreciate the government's policy to help them. The site is about 5,950 sq. m. Subject to further feasibility study, it may be possible to incorporate other uses such as start-up hubs to provide synergy between start-ups and the CCI. There is a strong demand for studio cum teaching venues for different activities like dancing and pottery making. Besides, a purpose-built structure for the CCI production studios and venue for small concert, drama, dancing, exhibition and gallery for different arts and possibly co-living space, etc. would go some way to satisfy the demand. The site, located within walking distance of Kwun Tong MTR station and Kwun Tong town centre is considered suitable for such purposes.

5.4 Effectiveness of the project

The effectiveness of the project is demonstrated by comparing the project results against its original objectives (listed in Chapter 1) and targets as set out in the project proposal.

The current state of play of manufacturing and logistics industries as well as the non-industrial uses (CCI and start-ups) in industrial buildings are assessed in Chapter 2 and Chapter 4. In Section 2.1.6 space occupied by these four sectors and the distribution among five different zones have been listed and compared. In Section 4.2 recent development of these uses in industrial premises have also been examined.

In Chapter 2 and 3, government policies on industrial land and buildings have been reviewed including the government initiatives on the introduction of I/O buildings, expansion of the user schedule for "I" zone and introduction of the Other Specified Use (Business) zone; the revitalisation policy as fiscal measures and the location-specific initiatives in Kowloon East. In terms of policies on industries, a number of funds have been set up to support Hong Kong enterprises. However, it seems that there is no comprehensive industrial strategy as such initiated by the government.

The third objective is achieved by analysing the social and economic significance of the four sectors in Sections 4.2 and 4.3. The new trends and potential of these sectors are examined and importance of these four sectors to Hong Kong society is highlighted. It has also been justified the importance of industrial premises in terms of providing affordable, flexible and accessible spaces to these sectors.

Also in Chapter 4, experiences of other cities including London, Taipei, Shenzhen and Dongguan in re-using industrial premises and developing new forms of industrial spaces in the wake of economic restructuring have been reviewed through both site visits and desktop research. Lessons from these case studies have been drawn and are reflected in some of the recommendations in Chapter 5.

The fifth and last objective on policy recommendations is the ultimate goal of this research. 12 policy measures are proposed in Chapter 5 in response to issues raised in the Chapter 2, 3 and 4. Each measure includes elaboration of its objective, implications on different stakeholders and remarks.

5.5 Epilogue

As the researchers wrap up this study, a question that is beyond the scope and the capacity of this project remains for the government and the community to answer: *what kind of city does Hong Kong really want to become?* Industrial buildings, along with other types of properties, should be serving this ultimate goal and planning is one of the many tools needed to achieve it.

Market forces have taken Hong Kong far enough that a fishing village was developed into a top-tier metropolis. Yet the market cannot solve all the city's problems. The matter of fact-ory is, what happened in industrial buildings is only one example of how overpowering, short-term profit oriented market forces aided by unintended policy consequences can do to marginalise sectors and users.

Towards the end of this 15-month research project, it was revealed that tourism and retail industry's performance was rather disappointing in the recent National Day holiday. The logistics industry's prosperity and the changes in its space demand almost immediately came up to the researchers' mind – and possibly many others. However, taking a step back and rethinking the development of Hong Kong's logistics industry – and any other industries – it can be observed that a macro, comprehensive industrial development strategy has barely been there. In the absence of such strategy, the industrial land policy has somewhat been reduced to adjusting to market demand and supply. However, it is virtually impossible to revert premises from high value-added uses to low value-added uses, should the tide change. It cannot be emphasised any stronger in this report that land use planning is only one key tool – out of many – in sculpting Hong Kong's future. As far as a competitive, diversified and resilient Hong Kong is concerned, plenty more need to be done.

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Appendices

Appendix 1: List of interviewees (local)

	Date	Interviewee's title	Sector
1	31/7/ 2014	Executive Director,	Property Consultant
2	8/8/ 2014	Head of Research	Property Consultant
		Executive Director	
3	8/8/ 2014	Director	Trading and Industry
4	12/8/ 2014	Head	Government Department
		Assistant Head	
5	13/8/ 2014	Associate Professor	University
6	27/8/ 2014	Research Fellow	University
7	28/8/ 2014	Visual Artist	Freelancer
8	28/8/ 2014	Visual Artist	Freelancer
9	3/9/ 2014	Chair Professor	University
10	22/9/ 2014	Playwright	Freelancer
11	23/9/ 2014	President	Performing Art
12	25/9/ 2014	Managing director	Industry
13	26/9/ 2014	Creative director	Performing Art
14	8/10/ 2014	Assistant Professor	University

15	8/10/ 2014	Owner	Urban Farming
16	9/10/ 2014	Managing director	Industry
17	15/10 /2014	Head	Government Department
		Senior Professional	
18	15/10 2014	Director	Gallery Operator
19	15/10 2014	Managing Director	Developer
20	17/10 2014	Professor and head of department	University
21	30/10 2014	Senior Development Manager	Statutory Body
22	31/10 2014	Chairman	Industrial Organisation
		Managing director	Industry
23	3/11/ 2014	President	Industry
24	5/11/ 2014	Director	Logistics Space Provider
		Assistant Manager	
25	6/11/ 2014	Executive Director	Statutory Body
26	20/11 2014	Group Technical Director	Logistics Services
		Assistant Manager, Property Division	
27	24/11 2014	Managing Director	Industry
		Vice President	Industrial Organisation
28	25/11 2014	Chief Executive Officer	Industry

29	26/11 2014	Director of Planning & Development	Statutory Body
		Manager, Planning & Research	
30	27/11 2014	Designer and Director	Fashion Design
31	5/12/ 2014	Director	Property Consultant
32	11/12 2014	Executive Director	Statutory Body
33	17/12 2014	Senior Consultant	Logistics Service
34	31/12 2014	Executive Director	Logistics Service
		Head of Corporate Communications.	
35	9/1/ 2015	Former Chairman	Industrial Organisation
		Executive Director	Industry
		Vice Chairman	Industrial Organisation
		Executive Director	Industry
36	12/1/ 2015	Director of Research	Statutory Body
37	12/2/ 2015	Professor and Director	University
		Project manager	
38	6/3/ 2015	Chief Executive Officer	Statutory Body
39	24/3/ 2015	Head	Government Department
		Senior Professional	
40	27/4/ 2015	Community Developer	Co-working Space
41	11/5/ 2015	Managing Director	Developer

42	12/5/ 2015	Business Development	Co-working Space Provider
		Project Leader	
43	14/5/ 2015	Market Manager	Statutory Body
44	1/6/ 2015	Deputy Managing Director	Industry
45	1/6/ 2015	Senior Manager	Industry
46	2/6/ 2015	Director	Industry
47	2/6/ 2015	Plant Manager	Industry
48	15/6/ 2015	Senior Official	Government Department
		Official	
49	6/8/ 2015	Deputy Head	Government Department
		Senior Professional	
50	10/8/ 2015	Section Head	Government Department
51	14/8 2015	Managing Director	Co-working Space Provider
52	18/8/ 2015	Convener and Director	Co-working Space Provider
53	4/9/ 2015	Managing Director	Co-working Space Provider
		Executive Officer	Start-up firm
54	19/10 /2015	Head of Research	Property Consultant

List of interviewees (Mainland China and Overseas)

	Date	Location	Interviewee's title	Company
1	20/10/2014	London	PhD candidate	University
2	21/10/2014	London	Researcher on the Tech City	University
3	23/10/2014	London	Senior Planner and Urban Designer	Government
4	23/10/2014	London	Director	Co-working Space Provider
5	24/10/2014	London	Division Head	Government Appointed Agency
6	18/12/2014	Taipei	Dean and Professor	University
7	19/12/2014	Taipei	Professor	University
8	19/12/2014	Taipei	Counsellor	Government Ministry
9	13/1/2015	Shenzhen	Deputy Director	Planning and Design Institute
		Shenzhen	Deputy Director	
		Shenzhen	Research Fellow	
10	14/1/2015	Dongguan	Deputy Director	Government
		Dongguan	Deputy Section Chief	
11	15/1/2015	Shenzhen	Chief Engineer	Research Centre
		Shenzhen	Head of Research Centre	

Appendix 2: Interview questions

Questions on the development of the industrial sector

What is the current state of play in the (logistics/manufacturing/cultural and creative/technology-driven start-ups) sector in Hong Kong?

How does the current situation compared to the past particularly in terms of space, location and other requirements?

Given the fact that Hong Kong is a very compact city, what are the more important considerations in locating facilities for the sector?

Questions on the company/organisation

Please tell us briefly the development history of your company (or organization).

How does it evolve in tandem with the changes in the sector and the prevailing economic situation of Hong Kong?

Questions on the future prospect of the sector

What do you think are the major strengths and weaknesses of the (logistics/ manufacturing/cultural and creative/technology-driven start-ups) sector in Hong Kong?

What are the major operational difficulties faced by the operators and how best to overcome such difficulties?

What are the opportunities available for the sector and how to make the best use of such opportunities?

Overall, what do you think of the prospect of the sector in Hong Kong, say in the next 5, 10 and 20 years?

Do you think if there is a role for government to play in the future development of this sector? If yes, please elaborate.

Are there any additional comments you would like to make on this research project?

Appendix 3: Industrial types of sampled establishments in industrial buildings

Industrial type	***Number of establishments***	***Percentage***
Manufacturing	1252	5.9
Construction	1887	8.9
Import/export trades/wholesale	11461	54.3
Retail	1048	5.0
Restaurant & hotels	226	1.1
Transportation/storage/logistics	784	3.7
Telecommunications services	13	0.1
Information technology services	336	1.6
Finance services	210	1.0
Insurance	115	0.5
Professional & business services	1752	8.3
Real estate	498	2.4
Education	259	1.2
Personal services	477	2.3
Healthcare services and R&D	61	0.3
Cultural and creative industry	747	3.5
TOTAL	**22126**	**100.0**

Appendix 4 Reasons for choosing the present location for operation (Kowloon East)

		Reason for Choosing the Present Location														Total
		1	2	3	4	5	6	7	8	9	11	14	17	24	25	
Manufacturing	Count	376	350	9	119	52	59	2	9	4	0	8	0	1	1	990
	%	38.0%	35.4%	.9%	12.0%	5.3%	6.0%	.2%	.9%	.4%	0.0%	.8%	0.0%	.1%	.1%	100.0%
Construction	Count	157	117	2	41	8	7	2	0	0	3	1	1	0	0	339
	%	46.3%	34.5%	.6%	12.1%	2.4%	2.1%	.6%	0.0%	0.0%	.9%	.3%	.3%	0.0%	0.0%	100.0%
Import /export trades and wholesale	Count	549	446	15	151	31	52	4	10	20	2	6	1	0	0	1287
	%	42.7%	34.7%	1.2%	11.7%	2.4%	4.0%	.3%	.8%	1.6%	.2%	.5%	.1%	0.0%	0.0%	100.0%
Retail	Count	44	40	3	16	6	8	1	0	0	0	0	0	0	0	118
	%	37.3%	33.9%	2.5%	13.6%	5.1%	6.8%	.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Restaurants & hotels	Count	26	18	0	3	3	1	0	1	0	0	1	0	0	0	53
	%	49.1%	34.0%	0.0%	5.7%	5.7%	1.9%	0.0%	1.9%	0.0%	0.0%	1.9%	0.0%	0.0%	0.0%	100.0%
Transportation / storage / logistics	Count	168	159	13	51	10	8	2	1	0	1	2	0	0	0	415
	%	40.5%	38.3%	3.1%	12.3%	2.4%	1.9%	.5%	.2%	0.0%	.2%	.5%	0.0%	0.0%	0.0%	100.0%
Telecommunications services	Count	6	7	0	1	1	1	0	0	0	0	0	0	0	0	16
	%	37.5%	43.8%	0.0%	6.3%	6.3%	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Information technology services	Count	69	35	1	18	4	6	1	1	0	0	0	0	0	0	135
	%	51.1%	25.9%	.7%	13.3%	3.0%	4.4%	.7%	.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Financial services	Count	33	14	0	5	1	9	0	0	0	1	0	0	0	0	63
	%	52.4%	22.2%	0.0%	7.9%	1.6%	14.3%	0.0%	0.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	100.0%
Insurance	Count	16	6	1	1	0	2	0	0	0	0	0	0	0	0	26
	%	61.5%	23.1%	3.8%	3.8%	0.0%	7.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Professional & business services	Count	52	34	0	12	5	2	1	1	1	0	0	0	0	0	108
	%	48.1%	31.5%	0.0%	11.1%	4.6%	1.9%	.9%	.9%	.9%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Real estate	Count	57	32	0	17	5	13	1	1	1	1	0	0	0	0	128
	%	44.5%	25.0%	0.0%	13.3%	3.9%	10.2%	.8%	.8%	.8%	.8%	0.0%	0.0%	0.0%	0.0%	100.0%
Education	Count	37	9	0	1	1	0	1	0	1	0	0	0	0	0	50
	%	74.0%	18.0%	0.0%	2.0%	2.0%	0.0%	2.0%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Personal services	Count	66	30	0	9	2	5	0	1	2	0	1	0	0	0	116
	%	56.9%	25.9%	0.0%	7.8%	1.7%	4.3%	0.0%	.9%	1.7%	0.0%	.9%	0.0%	0.0%	0.0%	100.0%
Healthcare services and R&D	Count	10	4	0	3	0	1	0	0	1	0	0	0	0	0	19
	%	52.6%	21.1%	0.0%	15.8%	0.0%	5.3%	0.0%	0.0%	5.3%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
CCI	Count	104	52	1	17	3	4	0	3	0	0	0	0	0	0	184
	%	56.5%	28.3%	.5%	9.2%	1.6%	2.2%	0.0%	1.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Total	Count	1770	1353	45	465	132	178	15	28	30	8	19	2	1	1	4047
	%	43.7%	33.4%	1.1%	11.5%	3.3%	4.4%	.4%	.7%	.7%	.2%	.5%	.0%	.0%	.0%	100.0%

1. Low Occupancy/ operational cost;
2. Availability of suitable premises;
3. Good accessibility to the Airport/cross-boundary transport services;
4. Good accessibility to local public transport;
5. Proximity to regular contacts;
6. Proximity to like business;
7. Sufficient business supporting services;
8. Good environmental quality;
9. Prestige location;
10. Good building quality;
11. Close to employees' residences;
12. Expected for appreciation of property value;
13. Easy to recruit employees;
14. Good in Fung Shui

Appendix 5: A list of selection criteria for the export processing zone in Taiwan

加工出口區產業用地租用評　說明

104/7/16

一、前言

加工出口區土地主要作為產業生產用，土地只租不售，為有效利用園區土地，乃採公告評選方式，選取最適合之投資人，以達促進產業發展之目的。

二、投資人資格

（一）依公司法成立之公司。

（二）公司最低實收資本額

1.製造業新臺幣 2,000 萬元。

2.倉儲業新臺幣 8,000 萬元。

3.運輸業新臺幣 5,000 萬元。

（三）製造業准許進駐產業

1.電腦、電子產品及光學製品製造業。

2.電力設備製造業。

3.電子零組件製造業。

4.金屬製品製造業。

5.機械設備製造業。

6.化學材料及製品製造業。

7.紡織、成衣及服飾品製造業。

8.食品及飲料製造業。

9.汽車及其零件製造業。

10.其他運輸工具製造業。

11.其他製造業。

12.其他具有高科技、資本密集、高品質、高附加價值條件之一，或符合加工出口區設立意旨，而經核准設立者。

三、投資審查機制

申請案邀請專家學者參與評選會議，由各評選委員依評選項目、配分（如附件），評定優勝廠商，再提「加工出口區區內事業申請設立審查小組會議」審查核定。

附件

經濟部加工出口區管理處產業用地
廠商評分表

項　　目	配分	類 別（分數級距）	參　與　評　　廠　商		
			廠商名稱：		
			分數級距	備註	得分
一、產業前景	8	—	—	參考以下項目評核後給分： 1. 是否為國內極需建立基礎之產業。 2. 是否為國內所需之關鍵技術。 3. 產品之全球與國內市場供需情形。 4. 技術或產品未來是否容易被取代。 5. 是否具研發能力（研發支出占比高）或專利。	
二、實收資本額	6	6 億以上 4~5 億 3~4 億 2~3 億 1~2 億 1 億以下	6 5 4 3 2 1	1. 實收資本額愈高者，分　愈高。 2. 介於各值中間者，以比例計算之。	
三、投資額	6	9 億以上 6~9 億 3~6 億 1~3 億 1 億以下~	6 5 4 3 0~2	1. 投資額愈高者，分數愈高。 2. 介於各值中間者，以比例計算之。	
四、投資型態	10	總公司 分公司	3~5 1~2	以總公司型態入區者分　較高。	
五、近 3 年平均營業額	12	15 億以上 12~15 億 9~12 億 6~9 億 3~6 億 1~3 億 1 億以下	12 10~12 8~10 6~8 4~6 2~4 0~2	1. 營業額愈高者，分數愈高。 2. 介於各值中間者，以比例計算之。	
六、容積率	13	400%及以上 330%~390% 270%~330%	13 9~12 6~8 5 0	容積率 250%以下者，則不同意入區投資興建。 容積率 250%者，為 5 分。容積率以 20%為級距，每增加 20%者，增加 1	

		250% 250%以下		分。增加額度不足 20% 者，以比例計算之。	
七、用水用電	8	A≧120% 或 B≧120% 100%≦A<120%或 100%≦B<120% 80%≦A<100%或 80%≦B<100% A＜80% 或 B＜80%	4 3 2 1	1.單位用水、電營業額＝預估營業額/預估度數（水、電）。 2.A=單位用水營業額（園區平均值） B=單位用電營業額（園區平均值）。 3.分別評核用水、用電分數（單項最高為 4 分），再加總分數。	
八、現有員工人	5	200 人以上 51 人~200 人 50 人以下	4~5 2~3 0~1	現有員工人數愈多者，分數愈高。	
九、新增就業人	5	50 人以上 11 人~50 人 10 人以下	4~5 2~3 0~1	新增就業人數愈多者，分數愈高。	
十、環保事　項	1 2	－	－	參酌製程、產品污染性、防治污染方法、廢水回收計畫等環保事項評分。	
十一、整體效益	1 5	－	－	就經濟效益、促進園區廠商及地方產業發展效益等綜合評核。	
得分加總		100			

Appendix 6: Location of proposed "C" site for the CCI and related uses