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Research Study Report
on
Contributions of the Property and Facility Management Industry in terms of Gross Domestic Products (GDP) to Hong Kong Economy

Undertaken by Prof. Hui Chi Man Eddie
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Any further conjectures of the data or results contained in the booklet are not allowed unless a written approval is obtained from the Hong Kong Polytechnic University.

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Executive Summary

The real estate industry in Hong Kong plays a significant role in its economic performance with a wide variety of businesses and economic activities in the local market. Over the years, the real estate business activities had been generally on an uptrend, both in terms of contract value and GDP share, despite, for instance, a consolidation in 1995, and in 1998 and 1999 as the Asia-Pacific financial turmoil took its toll (C&SD). In terms of value-added as economic contribution to Gross Domestic Product (GDP), the real estate sector contributed HK$118.4 billion (or 6.12%) of Gross Domestic Product (GDP) in 2011, and HK$132.7 billion (or 6.51%) of GDP in 2012, up 12.1% in contribution value as compared with 2011.

As defined in the Hong Kong Standard Industrial Classification published by the Census and Statistics Department (C&SD) of the Hong Kong Special Administrative Region (HKSAR) Government, the Property and Facility Management (PFM) industry is a major part of the Real Estate Maintenance Management sub-sector within the real estate industry sector. It includes a wide range of building management and maintenance services which consist of repairs, cleaning/waste disposal, guarding, gardening/landscaping, club and amenities, building facilities and services management, etc. Unless otherwise specified, all data adopted by the Real Estate Maintenance Management sub-sector would entirely be used as the PFM industry for this study report.

In the real estate sector, the PFM industry activities are dynamic and measurable business activities. The industry performs an array of building management services for occupants' enjoyment of accommodation and living environment, and upgrading the quality of life to prevent the depreciation of property value. This research study focuses on the PFM economic activities by examining its economic contributions to Gross Domestic Product (GDP) of the economy. That will be compared to its counterparts within the real estate sector with respect to operating characteristics and performance as well as business concentration. It is reckoned that GDP is important, not only because it is an income but also has the capacity to add to the whole regional wealth.

Between 2011 and 2012, the PFM industry had generated a total business receipt from HK$28.6 billion to HK$33.5 billion. This resulted in the PFM contributing a value-added as direct GDP contribution of HK$11.3 billion in 2011 and HK$12.1 billion in 2012, or a 7% increase a year.

Comparatively, its average annual direct contribution to GDP within the whole real estate sector (2002 – 2012) was HK$9.3 billion, or 12% of the total, which fetched higher than that of the brokerage/agency (i.e., HK$7.3 billion, or 9% of the total). On the other hand, the development/leasing sub-sector appeared to predominate the whole real estate industry in view of its higher value-added contents and capital intensive nature, which had attained a major share of an overall annual average of HK$65.6 billion, or 79% of the whole real estate sector.

As regards the direct GDP contribution of the PFM industry to the overall GDP in the economy, its average value-added was HK$9.3 billion, or 0.58% of the overall average GDP, from 2002 to 2012. When compared with the so-called 6 emerging industries in 2008/2009, its value-added as

GDP contribution had posted to HK$9.9 billion which was greater than those of the Testing/Certification services and Environmental industries whose value-added outputs were HK$5 billion or 0.26% of the overall GDP and HK$4.2 billion or 0.25% of the overall GDP respectively.

As far as the size and trade business value are concerned, the PFM industry oversaw all types of private building stocks from a total gross floor area of 111.2 million square metres in 2008 increased to 114.4 million square metres in 2012, a hefty rise of 3,170,930 square metres over the last 5 years. In terms of property asset values, the PFM industry had managed total building stocks at an estimated market value of HK$8,987.2 billion in 2008, as compared with HK$15,692.8 billion in 2012; it fetched a strong increase of HK$6,705.6 billion, or a rise of 75% over the last 5 years. Its enormous business involvements in value and building area are quite contributable to the productivity of the local economy.

From the employment perspective, 70,937 persons (FTEs) were employed directly in the PFM industry with payment of salaries and wage of $9,898 million in 2011, and surged to 74,295 persons who earned total incomes of HK$10,964 million in 2012. This represents a substantive annual growth of 4.7% in staff employment and 11% in payment of incomes (C&SD. 2013). Furthermore, upon dividing the labour income by the number of persons who were engaged in the PFM industry, it would arrive at the average salary of HK$148,000 per annum in 2012. This payment of labour income would fall close to a median level of domestic income for an average job in the local market. Hence, the PFM is regarded as a prosperous service industry that affords a progressive growth in employment capacity and income payrolls, amongst others, for its economic contribution to Hong Kong's GDP.

By comparison with other component industries within the real estate sector relating to its economic activities for contribution of GDP in 2012, the PFM industry took a majority share of 63% of the overall FTEs, 49% of the overall labour income, and 41% of overall operating expenses in the whole real estate trade sector. This reflects the PFM industry had played a leading role in employment size, income earning capacity and consumption intensity than its counterparts in the whole sector. It is also known that its economic activities were almost resistant to the adverse effects of seasonal market fluctuations. This is coupled with its on-going business in generating steady income revenue for spending and consumption across different industries in the economy.

The PFM industry characterizes in labour dominated and intensive business activities that yields a great employment size with persistent job creation. Those activities are the main attributes of economic contribution to GDP. The features of the macroeconomic contribution comprises all multiplier and displacement effects in the form of direct, indirect and induced economic impacts, which can be estimated by the mechanism of Input-Output (I-O) analysis. In other words, it concerns production and employment processes to generate spending and consumption that occur first in the PFM industry itself, and subsequently trickle down the chain onto other industries.

It should be noteworthy that the PFM industry accounts for overseeing a sizeable share of future economic contribution to GDP in terms of productivity and gross output. A projected supply of

190,000 private housing units (15,000,000 square metres) proposed by the Long Term Housing Strategy (LTHS) report in 2014 coupled with an estimate of extra 3.5 million square metres of non-domestic building stocks would likely generate an estimated total gross output of HK$37.6 billion for the PFM industry in the foreseeable future.

As for the prevailing and future employment market, the PFM industry is actively involved in taking up more labour forces for oversee the on-going managed buildings, which in turn demands a substantial manpower from the labour market, not only to cope with keeping adequate existing staff strength, but also for future needs upon direct or indirect job creation due to increasing supply of building stocks. It is expected that the expansion of PFM industry through the escalating building stocks would be regarded as a key driver of the future territory's economic growth.

Last but not least, evidence iterates that the PFM industry has brought about enormous significant economic benefits to the Hong Kong economy. The most obvious benefits are the growth of its gross output from surging the managed building stocks; the growth of its labour incomes with enhanced household income from larger employment size; and the growth of labour force accelerating from direct, indirect or induced job creation. Secondly, it lies in maintaining the property value on the improved and upgraded building quality. Thirdly, well managed buildings will not only prolong the building life with less spending on maintenance costs, but also prevent them from depreciation of the capital value. Finally, there are business to business benefits that support the growth of numerous small and medium business developments in the whole economy.

TABLE OF CONTENTS

TABLES IN CONTEXT

CHARTS IN CONTEXT

TABLES OF DATA IN APPENDIX II

1. Introduction

Since the second quarter of 2011, Hong Kong's economic growth moderated progressively due to the external environment prevailed by the re-emergence of the euro zone sovereign debt crisis and weakening demand in the advanced economies, it was recorded that job vacancies surged across many sectors amid the moderate economic growth, thus giving rise to a good employment market in a state of almost full work's opportunities (C&SD, 2011). According to the revised surveys by the Census & Statistics Department of the Hong Kong Special Administration Region Government (C&SD), the Gross Domestic Product (GDP) expanded by 9.0% in real terms in 2011, but a moderate drop to 5.1 % in 2012 (C&SD, 2011).

Service industries, as a significant part of the economic activities of GDP, had been regarded as the mainstay of the Hong Kong economy, accounting for 93% of GDP in 2012 and 88.5% of total employment in the first three quarters of 2012 (C&SD, 2011). It is reckoned the service sectors play an important role, particularly in the deepening integration with the Mainland and strategic development of the nation. As a result, Hong Kong enjoys its competitive advantage over other countries.

The Property and Facility Management (PFM) service sector does not fall within the perimeter of the four traditional pillar services industries which comprise financial services, tourism, trading and logistics, and producer and professional services, and the six emerging services industries which consisted of medical services, education services, environmental industries, testing and certification, innovation and technology, and cultural and creative industries in the services sector (C&SD, 2011). However, taking into account the gross amount of management fees or service charges collected from all managed buildings throughout the whole region, and the huge sum of asset values growth enhanced by the managed buildings over the years, it would more or less be considered same weight to be either a traditional pillar or an emerging services industry. Furthermore, in view of the prevailing government policy that specifically stepped up efforts in increasing land supply for more accommodation units to aim at ensuring a prudent property market condition and maintaining macroeconomic stability, it will eventually cause to accelerate demands for more and diversified management jobs on the PFM services in the foreseeable future. This would definitely increase its significant role in the service trade sector within the local economy.

This research study concerns the productive aspects of PFM services towards both micro-economic and marco-economic development of the Hong Kong economy, including mainly the contribution of PFM economic activities to the Gross Domestic Product (GDP), the local macro-economic market in respect of employment and housing; and the future growth of Hong Kong's domestic productivity.

From this study, it would focus on a number of various types of macro-economic effects as to provide different perspectives on the contribution of PFM business activities to the local economy through using methodologies with commonly employed statistical techniques.

2. Aims and Objectives of Study

This research study aims to provide the three main areas of presentation; firstly, it defines broadly the scopes of PFM activities within the real estate industry sector in the local economic activities, which comprise general management of premises functions, building services and maintenance works as well as club recreational services.

Secondly, it is intended to assess the economic impacts of the PFM industry by means of understanding the concepts and methodology of Gross Domestic Product (GDP) in the local economy, outlining the tangible and intangible economic effects contributed by the PFM industry to other trade sectors in the entire economy, having regard to its measurable effects on the official measure of GDP.

Thirdly, the study attempts to identify the correlation between the PFM industry with employment and housing markets, giving an idea of its playing roles in the Hong Kong's current economic market position, its competitive advantages and scopes for future potential advancement.

In brief, the objectives and main themes of this research project study are as follows:

a) to illustrate the roles played by PFM industry within real estate sector in local economy;
b) to study the economic activities contributed by PFM industry;
c) to measure the economic performance of PFM industry in the GDP contribution;
d) to analyze the economic contributions of PFM industry in terms of GDP;
e) to examine the impacts of PFM industry on the labour and housing markets in local economy; and
f) to identify any future potential professional development of PFM industry as to enhance the growth of its GDP contribution in local economy, supplemented by the relevant data solicited from local firms/organizations of the industry.

3. Methodology of Study

All figures and data are collected from official publications including the Long Term Housing Strategy 2014 (LTHS), survey reports prepared by the Transport and Housing Bureau of the Hong Kong Special Administrative Region Government (THB), Census and Statistics Department of the Hong Kong Special Administrative Region Government (C&SD), Buildings Department of the Hong Kong Special Administrative Region Government (BD), Rating and Valuation Department of the Hong Kong Special Administrative Region Government (R&VD), Food and Health Bureau of the Hong Kong Special Administrative Region Government (F&HB). The data are extracted and compiled to present in the tables and charts for analyses, demonstration and illustration.

The breakdown of statistical data in the PFM industry is to reveal its GDP contribution over the last years from 2002 to 2012. Those data are based on previous information but

useful to unveil what and how the PFM industry had made economic contribution to the local economy as compared to its counterparts within the real estate industry throughout the study period.

The study is supplemented by data and information provided by a number of practicing firms/organizations of the PFM industry through questionnaire survey during the period from June to October, 2014 forming the key contents of the study report. Interviews were also performed, whenever practicable, to gather details of supplementary information or materials for completing the study report.

Since service industry involves a wider variety of trade business activities, it is not possible and practicable to correlate the PFM industry with all other service trades. Hence, the study focuses mainly on the economic activities of the PFM business in comparison with the other two sub-industry sectors within the real estate industry, namely Property Development/Leasing and Property Agency/Brokerage business, as to reflect its trade competitive advantages in terms of GDP contribution to the economy. Apart from the real estate industry, other six emerging industries such as, cultural and creative, medical services, innovation and technology, testing and certification services and environmental industries, as identified by HKSAR will briefly be correlated.

4. Limitations of Study

As there is time elapsed between data collection and presentations, there would be minor discrepancies in the data presentation arising from the time difference in data collection and current statistical data. Nevertheless, the study is based on historical figures and data for the purpose of estimation and analysis, but with attempts to adopt the most updated figures as far as possible and practicable. In the absence of relevant statistics and figures, the use of pro-rata approach is applied to derive the results for analysis purposes.

As defined by C&SD (2009) in the Hong Kong Standard Industrial Classification (HSIC), the Real Estate Maintenance Management (REMM) was designated as a sub-sector within the real estate industry, it consists of establishments engaged in building management including repair, security, cleaning, and gardening etc., combined with maintenance services for the building in good physical conditions and orders for its landlords/tenants on a fee or contract basis. In consideration of its entire business activities having substantial similarities to the scopes of PFM business services, and there are no separate sources of relevant data available at the time of this study, we therefore consider appropriate to adopt the data of the REMM sub-sector as the representative of PFM industry within the real estate industry.

The analysis of indirect and induced contribution of GDP depends so much on the use of input-output (I-O) table modeling framework with certain limitations. Such I-O framework and derived multipliers need a detailed dissection of intermediate transactions across various affected industries in a whole local economy, which will get involved in the large amount of data required and the complexity of the tasks. Hence, this study report derives

the estimated ratio values of different economic activities to represent the direct, indirect and induced GDP contribution between component industries within the real estate industry.

The study did not specifically cover the work of PFM undertaken by direct employees of the government, due to the prevailing practices that most of the related services are mainly out-sourcing, and carried out by private contractors and sub-contractors who provide services on the individual job-to-job basis. Their outputs were implicitly included as the economic activities of PFM in the overall economy of Hong Kong.

Upon the feedbacks of our recent questionnaires survey from the current trade practitioners, there were 12 practicing firms/organizations out of 70 participated in this study representing 17% of response rate. Hence, the data collected alone might not be able for us to produce a comprehensive picture of the practicing industry which might prevent us to project correctly the future demand of PFM service to certain extent.

As the sample size of our survey is comparatively smaller than those released by the relevant departments of the Hong Kong Special Administrative Region (HKSAR) Government, we would only adopt them as a supplementary reference to those officially released data for projection of future valued-added, gross output, employment, operating expenses, labour income and etc. of the PFM industry.

5. Scopes of Property and Facility Management Business Activities

The core business activities of PFM are of a major integrated component of the management services including property administration, financial management, human resources management, health and safety and contract management, building services and maintenance, club recreational services, and domestic services (such as cleaning and security) as well as utilities supplies (Atkin, 2009).

In the current marketplace, the service providers of the PFM industry are in the form of managing agents, subsidiary of real estate developers, and independent property and facility management companies. In all cases, the choice of service providers has to be based on the individual needs for the following ranges of property and facility management services to the buildings:

5.1 Core Works of Property and Facility Management

The British Institute of Facilities Management (BIFM) defines facilities management as "the practice of coordinating the physical workplace with people and work of an organisation". It is about to provide supports to an organisation's core business, this requires focus on service delivery that provides value for money and customer satisfaction in an environment in which risks abound effective management comes from being able to devise and implement practices which reduce or eliminate the risks and simultaneously add value to the core business (Atkin and Brooks, 2005).

Various options are available to be considered thoroughly if value for money is to be maximised, thus consideration must be given to direct and indirect costs of both in-house and outsourced services provision so to make comparison on a like-for-like basis to enable a decision to be taken on value for money grounds (Rakhorst, 2014).

Supporting services should represent best value on the basis of affordability for the organisation. Evaluation criteria for the sourcing decision must compare all costs with the required quality, roles and skills must be defined from the services to be provided with specialist skills high-lighted (Rakhorst, 2014).

The scope and standard of services required must be established, the priority of the service to be provided should be made clear, so that critical services can be high-lighted and the required level of response is taken into account. A risk assessment should be undertaken for high-priority services, so that the consequence of failures is made clear (O'Donnell and Best, 2010).

When outsourcing services are decided, it then faced with a further decision as to how the outsourcing will be organised and structured. There will be advantages and disadvantages to providing services either in-house or by outsourcing, depending much upon the best value for itself that provides in the long term (Rakhorst, 2014).

5.2 Human Resources Management

The cultural of the organisation and the nature of relationship with internal and external parties will have an impact on the value of support services required; hence productivity of support service and facilities is a major issue.

Productivity in the workplace is a focus of attention for the organisation, in which balance between the demand of work and the well-being of the individual is paramount if productivity is to be maintained or even enhanced (Sturges and Guest, 2004).

Job descriptions are made with responsibility for supporting services, which will dictate the selection of appropriate individuals for positions. Individuals are required interaction with service providers, an understanding of operations, performance issues, strong interpersonal skills and knowledge. All job descriptions should incorporate a means for evaluating the performance of employees, so that employees and management are aware from the outset as to what is expected.

5.3 Legal, Health and Safety Management

In handbook of Dv8 Employee Handbook, 2010 asserts that "providing a safe and healthy place of work and business for employees and customers not only involves compliance with statutory requirements but also safeguards the people using the buildings and facilities". Organisations need to be aware they have responsibility for anybody and anyone who is affected by the action of an employee, and all common

areas of the managed buildings coupled with facilities provided.

It is necessary to identify responsibilities as imposed by legislation at all levels of management and supervision, and not just for those employees who are directly involved in the day-to-day management of buildings and facilities. Organisations will need to assess the risks to the health and safety of employees and anyone else affected by the activities of the organization (e.g., employees, customers, visitors and the general public) and devise means of implementing preventive and protective measures through the assessments by planning, organisation, control, monitoring and reviews (Atkin and Brooks, 2009).

5.4 Operational Services

The provision of operational services would enable the business within the environment to operate efficiently; the PFM not only offers services to the building, but also to the occupants and equipment that made up the business. Park (1994) suggested a typical range of operational sources should include security, cleaning/waste disposal, power and other services supplies, intelligent building services, club/amenity services, and technical supporting services:

5.4.1 Security

There are many physical security systems available to restrict casual access, like digital locks, card entry systems, security screens, and closed-circuited television, etc., to protect both inside and outside.

5.4.2 Cleaning/Waste disposal

General cleaning and janitorial services are one of the routine maintenance items, the routine requirements are straightforward being dictated on a regular basis by the business process and the intensity of working.

The cleaning and collection of rubbish is a support service carried out either by in-house staff or by contracting staff. Whenever a disposal facility is planned, it is necessary to consider of the volume and combustibility of waste; potential by-product energy contribution; volume and disposal of residual material and environmental restrictions.

5.4.3 Power and Other Services Supplies

The availability of adequate power and utilities supplies within the premises is to enable the expected activities to be accomplished. Programmable controls for lighting, heating, ventilation and power are set up at will by a central computer-based programmer. They are useful in buildings that are accessed by key staff at non-regular times of day or night.

The building contains a computer suite that key individual can access 24 hours a day but restricted to outside normal working hours, provided with the programmable lock suiting for physically restrict access, and programmable light and data switching to deny unauthorised access with supplemented intruder systems in detecting security breaches. There are cost-saving and environmental grounds for such programmable controls in the lighting and power that can be shut down on a pre-arranged pattern which does not restrict operations but save energy consumption.

5.4.4 Intelligent Building Services

The growth of communication systems which monitor the performance aspects of a building's functions like its environment of heat, light, and ventilation has created buildings that react to changing circumstances and seek to maintain the designed environment through seasonal, time and occupational variations.

5.4.5 Club/Amenity Services

In order to provide in-house recreational activities to the residents and their visitors for enjoyment of better life style and leisure environment, club facilities include open/indoor swimming pool(s), gymnasium, sport courts, children playground, BBQ strolls, and cinema rooms are offered a series of entertainment.

5.4.6 Technical Supporting Services

Maintenance is an on-going process of balancing services and costs in order to satisfy the occupants (landlord and tenant) and preserve the physical conditions of property while minimising operating expenses and improving the owner's margin of profit. A property may be profitable if kept in top conditions to attract more capital growth, and operated with full tenant services to command premium rental rates.

The management of maintenance, renewal and improvement work to building and their surrounds, and to the services relating to those buildings is commonly referred to as response maintenance and programmed maintenance (Speeding, 1994). This includes the work progress and the IT necessary to ensure that the system is efficient. It can be divided into normal and emergency maintenance which reflect the nature of the response rather than the actual work done.

Programmed or planned maintenance can be categorised by two subgroups, namely preventive maintenance which consists of work carried out at predetermined intervals to minimise the possibility of elements and components falling below the required standards; and cyclical maintenance work which includes periodic work to be carried out at a specific times irrespective of the conditions of the elements or components involved to prevent further deterioration for maximising the optimum life span.

It will be seen that response maintenance and programmed maintenance are complementary. Data from maintenance are valuable for indicating repair trends and

for predicting inspection schedules necessary for assessing the potential programme of work to be carried out.

6. Characteristics of PFM Industry in Real Estate Sector Contributing to Local Economy

The overall real estate business practices mainly include sectors of Property Development/Leasing and Property Agency/Brokerage business and Real Estate Property and Facility Management.

The three sub-industry sectors involve property development which produces accommodation units for sale and leasing; property agency whose business is through buying, selling and renting as well as other relevant activities facilitating and leading to such transactions; and property and facility management provides good quality of living environment in sold and tenanted units. However, amongst the three sub-industry sectors, the real estate property and facility management is regarded as largely underpinning business activities in terms of employment size and volume of managed buildings in the local property market.

6.1 Real Estate Development and Leasing

The real estate sector in Hong Kong was predominated by the real estate development and leasing industry sub-sector in terms of total business receipts; this component industry engaged in the development of land, and/or redevelopment of existing buildings for sale or lease, as well as in letting or sub-letting of properties under the current holdings of the companies concerned.

This component industry sub-sector accounted for 71.1% (HK$133.2 billion) and 81.7% (HK$108.5 billion) of the total receipts and overall value-added respectively of the real estate sector in 2012. In 2012, around 13,243 persons were engaged in this industry sub-sector, representing only 11.2% of the total employment in the overall real estate industry (Table 1 and Chart 1 refer).

6.2 Real Estate Brokerage and Agency

Business receipts of the real estate brokerage and agency industry sub-sector comprise mainly commissions earned from services provided for sales and purchases, as well as leasing of properties, which are usually charged as a certain percentage of the transacted property values (C&SD).

The real estate brokerage and agency sub-sector had a total business receipt of HK$20.5 billion (11.0% of the total receipts) in 2012. Whereas its overall value-added was HK$12.1 billion (9.13% of the total value-added) in 2012. In the same year, around 30,770 persons were engaged in this industry sub-sector, representing 26% of the total employment of the overall real estate sector (Table 1 and Chart 1

refer).

6.3 Real Estate Property and Facility Management

The real estate property and facility management industry sub-sector was the second largest real estate component industry. It has been considered as a relatively labour-domain activity which covers an array of activities such as building services management and repair/maintenance to keep buildings for good physical conditions and order for landlord/tenants, landscaping, facility management, environmental control, cleaning, club/recreational and security. Relatively, a higher number of 74,295 persons were engaged in this industry sub-sector, representing 62.8% of the total employment of the real estate sector in 2012, being the largest employment than the other two sub-sectors, as shown in Table 1 and Chart 1.

The growth of PFM industry sub-sector is tended to be sustained by the progressive increase in housing stocks and the growing demand for quality management and maintenance services. Its business receipts was HK$33.5 billion (17.9% of the total receipts within the real estate sector) in 2012, and the overall value-added in HK$12.1 billion (9.12% of the total value-added within the real estate sector) in 2012 was achieved (Table 1 refers).

Nearly 9% of all establishments in the real estate sector were engaged in property and facility management in 2012, but it has accounted for 63% of the total number of persons engaged in the real estate industry, which was considered as a relatively labour-intensively industry among others. However, the number of persons engaged and value-added of this sub-sector had increased significantly (about 62.8% of the total employment in the overall real estate sector) in 2012, and its corresponding contribution in value-added also amounted to HK$12.1 billion in 2012, representing 9.12% of total value-added economic contribution in the real estate sector (C&SD, 2012).

Property and facility management business brings about significant benefits to the economic activities of the local economy. The most obvious benefit is the incomes generating from job creation as a result of increasing number of completed and occupied buildings. Secondly, it also lies in capital growth from fixed asset investments upon appreciation of property value on improvement and enhancement of building quality. Thirdly, anecdotal evidence suggests that many well managed buildings bring the building life more durable but less spending on maintenance, and depreciating to the capital value significantly, as well as improvement on environmental protection. Lastly, there are business to business benefits that increase the growth of numerous correlated small business developments.

Table 1 reveals the economic activities of each component industry within the whole real estate sector in the local economy in 2012. Apparently, the PFM sub-sector scored a higher shared proportion at 43% for labour income and 63% for employment number (FTEs) that represent its labour-intensity business amongst

others in the whole real estate industry, in comparison with the brokerage/agency and development/leasing sub-sectors (Charts 1 and 1.1 refer).

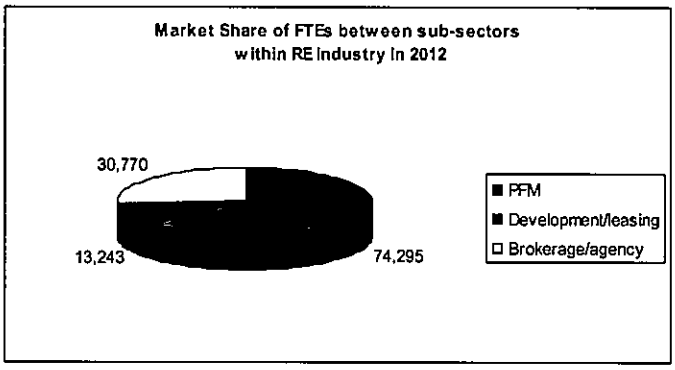
Table 1 : Components of Real Estate Industry in 2012

($ million unless otherwise specified)

RE Industry Segment	Value-added	Labour Income	Employment	Gross Output
RE Property and Facility Management	HK$12,103 (9.12%)	HK$10,964 (43.4%)	74,295 (62.8%)	HK$33,530 (17.9%)
RE Brokerage and Agency	HK$12,120 (9.13%)	HK$10,199 (40.3%)	30,770 (26.0%)	HK$20,528 (11.0%)
RE Development and Leasing	HK$108,465 (81.74%)	HK$4,108 (16.3%)	13,243 (11.2%)	HK$133,227 (71.1%)
Total RE	HK$132,689 (100%)	HK$25,272 (100%)	118,308 (100%)	HK$187,285 (100%)

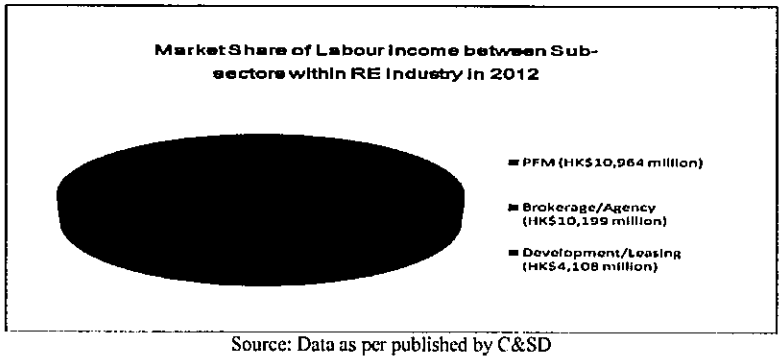
Note: Data are extracted from GDP 2012 of C&SD of the HKSAR Government.
Figures in the bracket denote a percentage share of the total.

Chart 1: Distribution of Direct GDP Contribution by Employment (FTEs) between Sub-sectors within Real Estate Industry in 2012



Source: Data as per published by C&SD

Chart 1.1: Distribution of Direct GDP Contribution by Labour Income between Sub-sectors within Real Estate Industry in 2012



Source: Data as per published by C&SD

7. Understanding of GDP in Local Domestic Economy

Measuring the local domestic economy growing or falling, and the pattern of spending on goods and services in a given period of time can help understand an economy's performance for formulating monetary policy of the government on the macroeconomic basis. GDP is a measure of the total value of production of all resident producing units of an economy in a specific period (typically a year or a quarter), before deducting the consumption of fixed capital (C&SD, 2012).

In a simple term, GDP is the most comprehensive and closely watched economic statistics as an indicator of economic activities for forecasting economic performance that provide the basis for production, investment and employment planning. To fully understand an economy performance, BEA, 2007 has established the following questions: "What the value of economy's output is. How much of the increase in GDP is the result of inflation and how much is an increase in real output? Who is producing the output of the economy? What output are they producing? What income is generated as a result of production? And how is that income used to consume more output, to invest, or to save for future consumption or investment"?

In statistical terms, C&SD defines GDP as measures the value of goods and services produced, (i.e., output of an economy) in a place or country in a given period of time to indicate its economic progress, and analyse its overall economic situation, rather than a measure of well-being. C&SD further defines GDP as "an aggregate measure of the total value of net output of all resident producing units of an economy in a specific period, where the net output is measured by value-added, which is defined as the value of gross output less the value of intermediate consumption (that is the value of goods and services used up in the course of production)". GDP is the most common measure of the value generated by an industry or by the economy as a whole for comparison of economic impacts with other industry sectors. Based on the formulae produced by C&SD, 2012, value-added can be obtained as follows:

(A) = Value of goods and services produced
(B) = Value of goods and services consumed
(C) = Return to labour: "Compensation of employees"
(D) = Return to capital and entrepreneurship: "Gross operating surplus"

$A = B + C + D$
i.e., $A - B = C + D$ = Value-added

Value-added of a certain producing unit = Gross Output - Intermediate consumption
= A - B

Each producing unit works to "value-added". C&SD suggests "summation of the value-added of all resident producing units gives rise to an aggregate measure of GDP of the economy". In summary, GDP is equal to the sum of value-added of respective economic activities plus taxes on products and the discrepancy to arrive at current market prices.

Whereas, value-added at basic prices is defined as output at basic prices less intermediate consumption valued at purchasers' prices. Basic price is the amount receivable by the producer for a unit of goods and service provided which excluded any taxes on products but includes government subsides on products (C&SD, 2012).

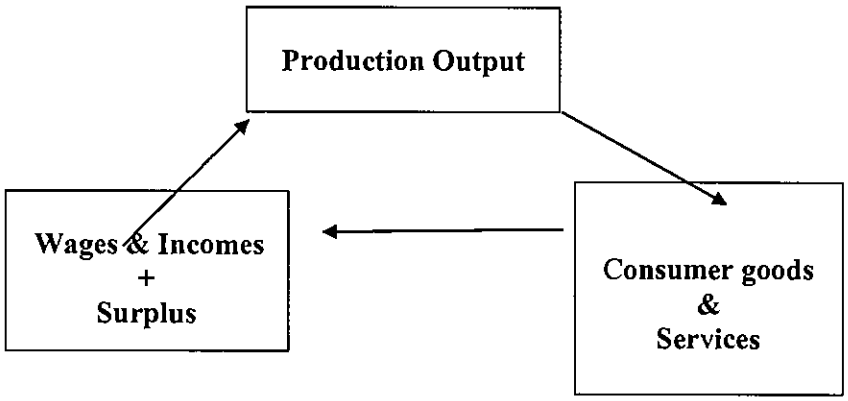
Viewing from the angle of income aspect from C&SD, "GDP, being the value-added of all producing units, is thus equal to the sum of the compensation of employees at the economy-wide level and the gross operating surplus of all resident producers".

8. Economic Contribution to Gross Domestic Product

8.1 Mechanism of Economic Contribution

Economic contribution of an industry to a local economy in terms of Gross Domestic Product (GDP) can be measured expressly in the form of total business receipts, employments, labour income, value-added, and operating expenses. EIAA, 2009 asserts that "value-added and Gross Domestic Product are equivalent measures in theory but are estimated using different methods and data sources" (Chart 2 refers).

Chart 2 : Economic Contribution Process of an Industry



To quantify the economic contribution of an industry to GDP, the following key macroeconomic impacts are to be understood and estimated, which implicitly consist of its value-added (VA), gross output (GO), employment (FTEs), labour income (LI), and operating expenses (OE) respectively:

8.1.1 Value-added (VA)

ECNZ suggests "value-added" is equivalent to the gross output of an industry, less the value of all inputs purchased from other sectors to give rise to the value-added, which is expressed as a dollar amount. It is often described as the Gross Domestic Product (GDP) contribution of an industry, which measures the contribution of labour (through wages

and salaries) and capital (through profits and depreciation) to the output produced by an industry, as well as the taxes that it pays (less subsidies received)". Given its relationship to GDP, the value-added measure can be thought of as the increased contribution to welfare.

8.1.2 Gross Output (GO)

ECNZ reckons that "gross output (or gross revenue or total receipts) is the total value of goods and services provided by the companies operating in the industry based on the collective receipts of all industry participants and expressed as a dollar amount".

8.1.3 Employment (FTEs)

ECNZ, 2012 asserts that "employment or labour input is measured on the basis of full-time equivalent jobs (FTEs); this measure counts part time jobs as a proportion of a full time and accounts for working proprietors and independent contractors". On average, part-time workers works 50% of a full time work week.

8.1.4 Labour Income (LI)

Labour income is considered by ECNZ as "a contribution made by the industry in wage and salary payments (a subset of value-added)".

8.1.5 Operating Expenses (OE)

It includes consumption of sundry supplies; fuels; electricity and water; maintenance services; and miscellaneous operating expenses (C&SD).

8.2 Different Perspectives of Economic Contribution of an Industry

The economic contributions of a creative cluster can be affected by four economic impacts as suggested by the former Research Director of the Canada Council for the Arts, Chartrand[1], as cited by MTI, (2003), namely, Primary Economic Impact; Secondary Economic Impact; Tertiary Economic Impact; and Quaternary Economic Impact. The services industry, however, might respond differently, in terms of economic contributions, to different impacts from those of creative cluster, for example, satisfaction of majority of users. Accordingly, taking into account the characteristics of services industry, like PFM, upon modification, we are able to classify the economic contributions of a service industry into four perspectives:

8.2.1 Direct Contribution

[1] Chartrand, H.H. (undated), Cultural Economics - Economic Impact Assessment, http://www.cultural economics.atfreeweb.com/eia.htm.

It contains their primary and quantifiable contribution to the local economy, which includes how much the industry directly contributes to Gross Domestic Product (GDP) and employment. The direct contributions are generated by business activities and services providers, in which an industry will have spillover effects elsewhere in the economy.

8.2.2 Indirect Contribution

It concerns their secondary but quantifiable contribution to the local economy, which involves the 'multiplier effect' of spending across different business activities. It mainly involves the purchases of materials and services from other businesses as inputs for production purposes.

8.2.3 Tertiary Contribution

It relates to their direct but less tangible contribution to the local economy, this is known as induced contributions relating to employees of the service providers and their suppliers who spend a portion of their income in the local community, thereby stimulating further economic activity.

8.2.4 Quaternary Contribution

It concerns their indirect and non-quantifiable contribution, which constitutes the quality of life, individual identify and pluralism, and satisfaction.

In order to estimate its indirect and induced contribution, the use of Input-Output (IO) multiplier analysis based on input-output table will be adopted. The total economic contributions of an industry equal to the sum of its direct, indirect and induced impacts. Apart from the direct economic impacts, ABS, 2001-1012 suggests that "indirect contribution is a measure of the demand for goods and services produced in other sector of the economy as a result of the direct economic activity of an industry. The size of this flow-on activity is dictated by the extent of linking with other sectors of the economy. Estimation of the indirect contribution is undertaken in an input-output framework in terms of the ratios of coefficients or multipliers between different economic variables".

NCZN, 2012 reckons that "induced impacts inadvertently occur as a result of the wages and salaries paid out by an industry, when the staff is paid, he or she will then spend some of that money on a range of goods and services, thereby stimulating further economic impacts. Induced impacts are linked to activities for consumption that is induced as a result of the wages, salaries, and profits paid by the industry".

Strictly speaking, English *et al* (2009), advocate that "direct effects measure the response for an industry from a given change in final demand for that same industry, then indirect effects represent the response by all local industries from a change in final demand for a specific industry, whilst induced effects represent the response by all local industries caused by increased (decreased) expenditures of new household income and inter-institutional transfers generated (lost) from the direct and indirect effects of the change in final demand for a specific industry. Total effects are the sum of direct, indirect, and induced effects".

It is understood that indirect and induced economic impacts of an industry are represented mainly by the analsysis of I-O multipliers in respect of value-added, employment number (FTEs), gross out, labour income, and operating expenses. Statistically, SCBC, 2012 regards "the I-O multipliers are summary measures used for predicting the total impacts on all industries in an economy of changes in the demand for the output of an industry". A multiplier greater than one implies some indirect and inducted activities, high multipliers indicate relatively large indirect and induced activities are flowing from a given level of direct activity, hence, every dollar that is spent directly in the industry would stimulate or support other types of economic activities, such phenomenon is known as spillover effects.

In current practice, there are three main Input-Output multipliers: gross output, employment, and income multipliers to provide a simple means of working out the flow-on or spillover effects of a change in output in an industry on one or more of imports, income, employment in another individual industries or in total (ABS, 2001-2012). Income and employment multipliers can be classified as Type 1 and Type 2. Type 1 is estimated by a sum of direct and inidrect effects using the open input-output model, and Type 2 multipliers are estimated closing the model to include the household effects in the endogenous matrix (Ruiz-Mercado, A.L, 2006).

Multiplier I = the ratio of direct and indirect income change (or coefficient) to Direct Income/Employment change due to a unit increase in final demand.

Multiplier II = the ratio of the direct, indirect and induced income change (or coefficient) to the Direct Income coefficient due to a unit increase in final demand.

Ruiz-Mercado reckons that "the Multiplier II takes into account the repercussionary effects of secondary rounds of consumer spending in addition to the direct and indirect interindustry effects. Income expansion due to successive rounds of consumer spending is derived by expanding the interindustry matrix by inclusion of the household consumption thereby making the household sector endogenous.

Given that the direct income change will tend to be higher in labour-intensive sectors, whereas capital-intensive industries with strong links with other sectors in the regional economy may

experience greater indirect effects. In the case of income multipliers, service industries tend to have higher direct income effects because a substantial proportion of their costs consists of direct payments to factors of production (wages, rent, etc.), rather than purhcase of materials, but the immediate leakage into imports tends to be much lower for service industries than for manaufacturing.

As for the size of income multipliers, there are two safe generalisations. First, multiplier values vary widely from sector to sector, and the wider range highlights very clearly the importance of the sectoral composition of economic growth in raising regional incomes. Second, income multiplier values tend to be vary directly with scale of industry production".

Using the demand-side model, it is to generate different kinds of input-output multipliers, which are summary measures used to estimate the likely effects of economic change (Abdullah, A.A. 2013).

The first round effect can be measured quite simply by dividing the values (i.e., wages, salaries, gross operating surplus,and taxes, etc.) by the total production of that industry to produce a coefficient (which measures the strength of the backwards linkages).

By utilising coefficient data from the input-output tables to derive the multipliers, the realtionship between the total, direct, indirect and induced economic contribution of an industry can be estimated. Howver, a set of input-output tables would normally take two or three years after the reference period to compile, currently, there is no input-output structure and framwork of the economy with the published input-output tables worked out officially by the government departments to report the inputs and outputs of each industry sector of the economy (Leontief, 1986).

9. PFM Industry and Economic Contributions to GDP

In Hong Kong, an array of the PFM business activities comprise daily management services through the provision of security, gardening/landscaping, waste disposal, building services and maintenance, and club house as well as other in-house facilities for the landlords/tenants. Broadly, it is regarded as a professional service subsumed in the Real Estate Maintenance Management (REMM) sub-sector within the real estate industry sector under the definition stipulated in the Hong Kong Standard of Industrial Classification (HSIC) and adopted by C&SD (2009).

Business receipts of the PFM industry mainly come from the source of real estate management fees or service charges; the total revenue of this sub-sector is more closely determined by the volume of fee collections that depends much upon the quantity of accommodation stocks and

quality of services so provided.

Given that GDP is a fundamental measure of the economic quality of life of all walks of people in the country or area, it is interested to know how far the PFM industry's economic activities have made contributions to local economy by means of the ratio or percentage value changes between every preceding and succeeding year, i.e., year on year percentage change (YoY), to reflect its level of macroeconomic effects on the local productivity.

PFM industry is an on-going business, it always brings people living in a comfortable and pleasant environment; to extend the life span of the living premises; and brings up the property value of home in a good quality of accommodation. Actually, its collection of management fees or service charges from all managed buildings and enhancement in property asset values would undoubtedly involve significant economic benefits for the GDP contributions. The most obvious benefit is the spending on engaging a large size of persons who earn steady salaries and wage from the job employments in the PFM industry to improve their household incomes. The other lies in expenditures on the purchases of goods and services from other linked industries in support of the performance of property and facility work. These include computerising, cleaning and waste disposal, landscaping and gardening, and maintenance services, etc.

There are also business to business benefits. Upon contracting out some works, such as security guards, lift service maintenance and other job areas as appropriate, a wide range of different types of potential business agreements are made between parties concerned. Also this would lead to small business development including transport, catering and other work crafting.

Generally speaking, the direct economic contribution of PFM industry to GDP is reflected by the 'internal' spending on all classes of managed buildings for dwelling and business purposes (this study excludes government individual spending - spending by the government on PFM services directly linked to residents, such as public housing and subsidiary housing units) or administration (e.g., government buildings, and hospitals, etc.). It captures the value-added created by labour and capital inputs (labour income, operating expenses and gross surplus) directly employed. In other words, these are the most appropriate measure of its contribution, as equivalent to the gross output of an industry after the value of all inputs purchased from other sectors, and expressed as a dollar amount (Chart 3 refers).

Chart 3 : Flow Chart of Economic Contribution of PFM Industry to GDP

Direct Contribution of PFM Industry		
Commodities	**Industries**	**Sources of Spending**
• Attraction	Garden/landscaping Services	Resident's service charges. Recreational service fees. Government collective spending. Procurements.
• Convenience	Maintenance Services	
• Leisure	Security Services	
• Comfort	Waste Disposal Services	
• Sports	Club Services	

Indirect Contribution of PFM Industry
PFM capital investment spending. Impacts of purchases from supplies. Government collective spending on real estate activities.

Induced Contribution of PFM Industry (Spending of direct and indirect employees)
Clothing
Household goods
Housing
Food and beverages
Recreation and entertainments
Transportation

Total Contribution of PFM Industry
To GDP
To Employment

Table 2 illustrates the direct GDP contribution of PFM industry from 2002 to 2012; its total business receipts scored HK$259.6 billion with annual average HK$23.6 billion over the past eleven years. It also had totals approximately HK$102.2 billion or annual average of HK$9.3 billion in value-added with almost a total gross surplus of HK$15.1 billion generating HK$1.4 billion returned as annual average gross operating surplus. A total of labour income fetched HK$47 billion being paid in wages and salary as labour income are directly employed across the PFM business activities over the past years, annually speaking, 65,700 FTEs workers received with an average HK$4.3 billion. In terms of economic contribution, it brings about its annual average labour productivity of HK$140,000 per worker.

Table 2 : Economic Measures for Direct GDP Contribution of PFM Industry from 2002 to 2012

Year	Gross Output (HK$ million)	Employment (FTEs)	Labour Income (HK$ million)	Operating Expenses (HK$ million)	Gross Surplus (HK$ million)	Value-added (HK$ million)	VA/Worker (HK$)
2002	20,592	55,678	1,768	12,884	991	7,665	137,667
2003	20,387	58,258	1,978	12,695	1,056	7,734	132,754
2004	20,384	62,186	1,868	12,570	990	7,775	125,028
2005	21,270	68,126	1,810	12,776	1,024	8,427	123,697
2006	20,439	67,523	2,262	11,963	1,504	8,393	124,298
2007	21,587	67,885	2,165	12,735	1,346	8,748	128,865
2008	25,306	58,587	2,900	15,807	2,117	9,856	168,228
2009	23,634	68,713	3,350	13,838	1,341	9,777	142,287
2010	24,824	70,535	8,743	14,273	1,807	10,430	147,870
2011	28,583	70,937	9,898	17,227	1,458	11,257	158,690
2012	33,530	74,295	10,964	21,140	1,426	12,103	162,905
Average	**23,685**	**65,702**	**4,337**	**13,677**	**1,369**	**9,288**	**138,919**
Total	**259,536**	**722,723**	**47,706**	**157,908**	**15,060**	**102,165**	**N/A**

Source: Figures are extracted from the C&SD.

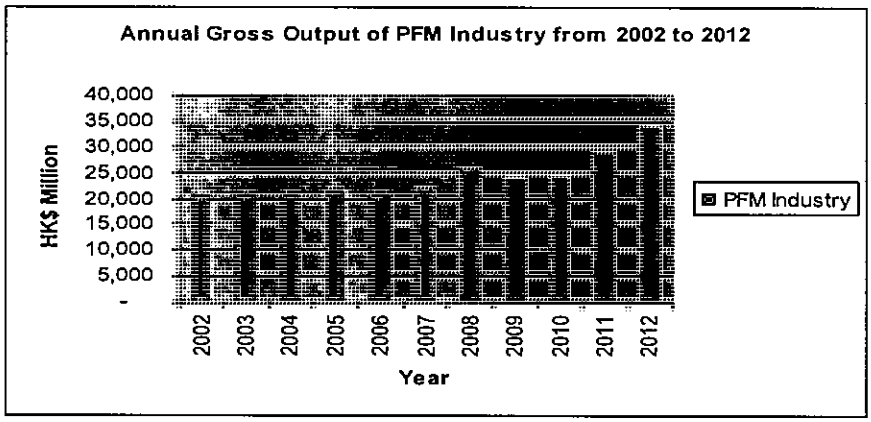
10. Economic Contribution of Gross Output to GDP

10.1 Gross Output of PFM Industry for Direct GDP Contribution

The Gross Output (GO) is an economic measure for the total value of sales and receipts of an industry from the production of output. The measure of gross output is used to arrive at the value-added which refers to the net margin (consisting of payments of salary and wages and gross operating surplus) after deduction of overall operating expenses from the gross output. Since the value-added has been regarded as an equivalent value of productivity of an industry, gross output has a close interrelation with value-added to represent the extent of its economic contribution to the overall productivity in the local economy.

Chart 4 reflects the annual productivity in terms of GO of PFM industry appeared to have fluctuated mildly from 2002 to 2012, particularly between 2006 and 2009, probably the global financial crisis had brought about some insignificant impacts on the demand for property and facility management services during this period and afterwards (Refer to Table A1 in Appendix II for details).

Chart 4 : Performance of Annual Gross Output of PFM Industry from 2002 to 2012



Source: C&SD of HKSAR Government.

In consideration of its annual productivity in terms of GO or business receipts collected from the managed buildings, this would greatly involve a substantial sum of dollar values. It is known that the payment scale of management fees or service charges for managing buildings paid by the landlords is stipulated in the Deed of Mutual Covenants (DMC) on the basis of the undivided shares upon apportioned to the owners of every unit or the management units allocated to each unit within the building, and their charging rates are in the form of dollars per square feet or square metre.

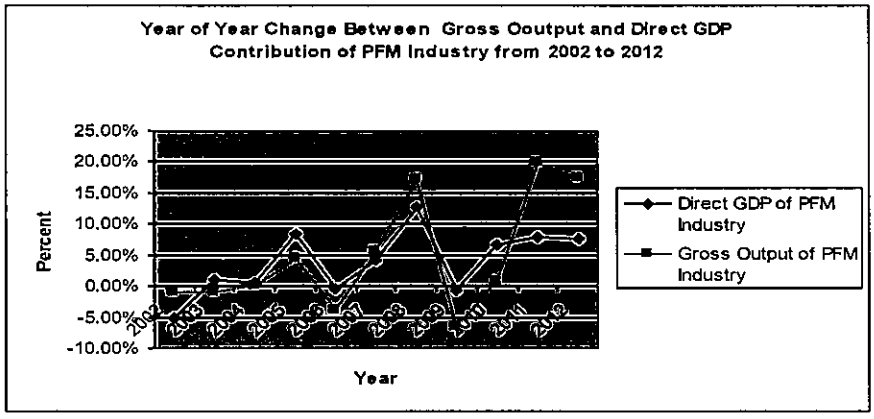
The management fees were collected by the PFM trade practitioners who are acting as managing agents for the landlords. The management fees are collective payments from the landlords to pay out the expenses on the purchase of goods and services to support all management activities for the landlords, such as the hiring of security services; cleaning services; utilities consumption for common areas of the managed buildings; the outsourcing of maintenance/repairs; landscaping/gardening and club/amenities services, as well as the payment of so-called manager's remunerations which are fixed at the agreed percentage of the collected management fees for the PFM services. Overall, the GO of the PFM business services would bring about block spending that would definitely be attributable to direct, indirect and induced contribution of GDP by many sectors of the local economy.

Chart 5 displays the gross output of the PFM industry and GDP contribution had similar upturns and downturns pattern for the yearly performance from 2002 to 2012. In 2007, an increase of growth in its productivity at 5.6% caused its direct GDP contribution to reach at 4.2%. In 2008 the PFM industry's output had a year-on-year growth of 17.2% when compared with that of 13% in its direct GDP contribution. In the following year, its productivity had dropped to a negative of -6.6% in 2009 during the post global financial crisis period, which also resulted in lowering its direct GDP contribution to a negative of -0.8% (Refer to Table A1 in Appendix II for details).

Having regard to the annual performance in the production of outputs from 2002 to 2012, the PFM industry had scored an overall annual average growth of its GO at 4.75%, whilst it had achieved 3.9% for its annual average growth of the direct GDP contribution. This would reveal that the productivity of PFM industry had closely related to its economic contribution in terms of

GDP to the local economy.

Chart 5 : Movement of YoY Percentage Change between Gross Output and Direct GDP Contribution of PFM Industry from 2002 to 2012



Source: C&SD of HKSAR Government.

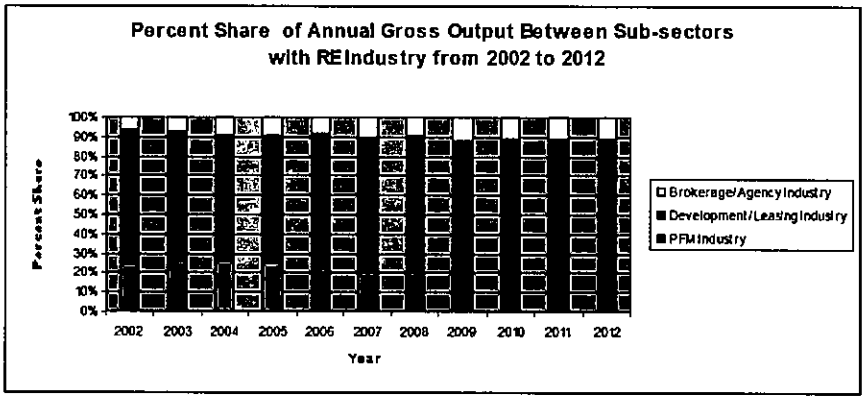
10.2 Gross Output for Direct GDP Contribution between Sub-sectors within Real Estate Industry from 2002 to 2012

Further to the relationship between GO and direct GDP contribution of the PFM sub-sector in the preceding section, it is also vital to know its shared portion of the total GO with other counterparts within the real estate industry before coming to understand how far each shares of the GO would affect its GDP contribution in the local economy.

Chart 6 show the PFM industry had a gradual fall of percent share in the proportion of the total output ranging from 24.1% in 2002 to 17% in 2012, whilst the brokerage/agency sub-sector maintained a constant rising share from 6.1% in 2002 to 11% in 2012, and there was a ripple of upturn and downturn portions of share between 64.2% to 72.5% of the total receipts and revenue in the development/ leasing sub-sector, which is regarded as the highest proportion of share than other two sub-sectors within the real estate industry (Refer to A2 in Appendix II for details).

Obviously, the development/leasing component industry sub-sector always involved in a higher sum of sales value in respect of its development projects and leasing business activities, whilst the revenue of both PFM and brokerage/agency sub-sectors were on a basis of a low and fixed charge of the total incomes as their income source of production.

Chart 6 : Percent Share of Annual Gross Output between Sub-sectors within Real Estate Industry from 2002 to 2012



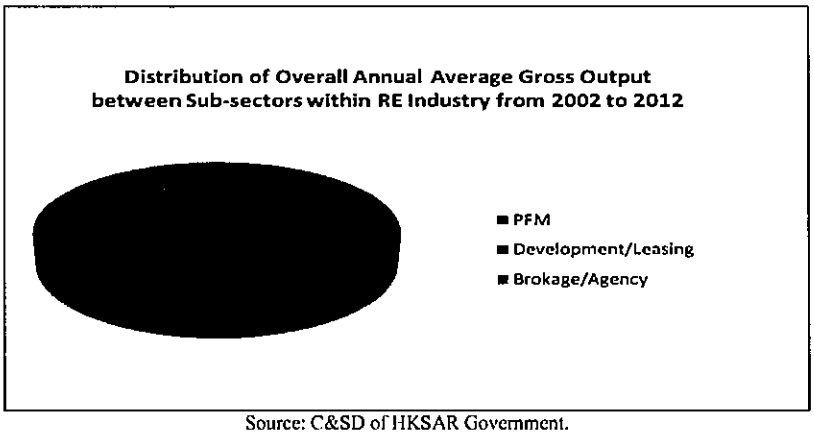
Source: C&SD of HKSAR Government.

When compared with the business activity nature of each sub-sector within the real estate industry, the PFM industry was the most labour dominated and intensive business as well as on-going activities than the development/leasing and brokerage/agency sub-sectors. Whenever there are completed buildings for accommodation, demands for a series of PFM services are needed for providing better quality of buildings and living environment. As such, demand for the PFM services always co-exists with the life of managed buildings, which resulted in developing a continued and constant business activity supported with intensive employment needs, as well as providing a steady source of income revenue.

It appeared that the PFM sub-sector had a persistent level of income revenue which is more stable than the brokerage/agency and development/leasing sub-sectors as their revenues are affected by seasonal market conditions. Comparatively, the productivity of PFM services for direct GDP contribution is not too volatile to any unforeseeable economic fluctuations, but more dependent on the availability of labour force.

On average, the PFM industry sub-sector has a shared portion of GO at an overall annual average of 21.0%, which exceeded above the brokerage/agency sub-sector at 9.6% but remarkably less than the development/leasing sub-sector at 69.3% within the real estate industry over the past ten years as shown by Chart 7 (Refer to Table A2 in Appendix II for details).

Chart 7 : Distribution of Overall Annual Average Gross Output between Sub-sectors within Real Estate Industry from 2002 to 2012



Source: C&SD of HKSAR Government.

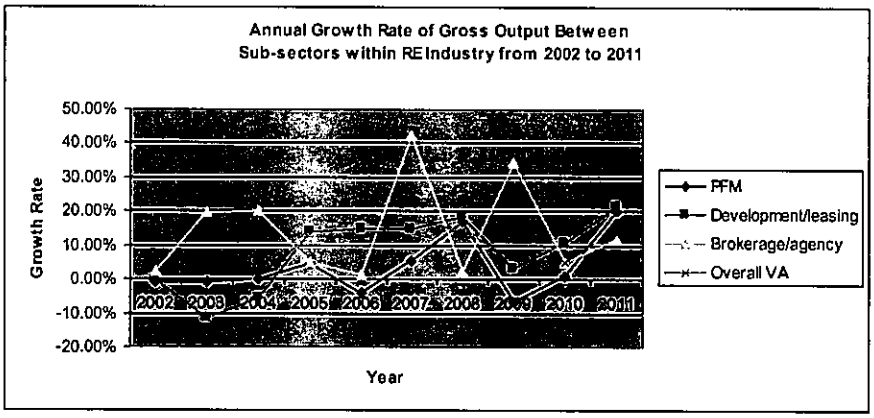
Since the distribution of overall output amongst each sub-sector within the real estate industry are measured, understanding of their year on year change would reveal their GDP contribution performance in relation to the whole sector's total direct GDP contribution.

Chart 8 illustrate that during the period of consolidation of the property market between 2002 and 2004, the PFM industry experienced a stable productivity with small down trend within a region of -1%, but posted a higher growth of 17% in 2007 and 20% in 2011, giving rise to an overall average growth of 5% (Refer to Table A2 in Appendix II for details).

On the other hand, the GO of development and leasing sub-sector generally recorded a noticeable decline of annual growth at -0.4% in 2002 and -11.6% in 2004 during the outbreak of SARS in 2003 that had caused certain adverse impacts, but there was a big jump to 18% in 2008 and 21% in 2011 due to economic recovery after the global financial crisis. Its overall annual average growth accounted for 8%. The brokerage and agency business activities showed a mild growth for 2.4% in 2002 and moderately at 20% in 2004, with a sharp increase to 42% in 2007 and 34% in 2009. It had an overall annual average growth of 14%.

From 2005 to 2009, there were sharp movements within these three sub-sectors, the PFM industry had scored a substantial growth of its direct GDP contribution from 5.6% in 2007 to 17.2% in 2008, more than triple increased, but suffered a sliding fall to a negative of -6.6% in 2009. Whilst the development/leasing industry sustained gentle upturns ranging from 14.1% to 18% between 2005 to 2008, and followed by a big drop to 3.3% in 2009; the brokerage/agency industry, it had experienced a plunge from 42.3% in 2007 to 2.3% in 2008 representing a severe drop of more than 17 times, but regained an increase to 34% in 2009. These phenomena indicated the PFM industry tended to be less volatile to the seasonal market fluctuations than its counterparts within the real estate sector, and kept a steady economic contribution to the economy.

Chart 8 : Annual Growth Performance of Gross Output between Sub-sectors within Real Estate Industry from 2002 to 2011



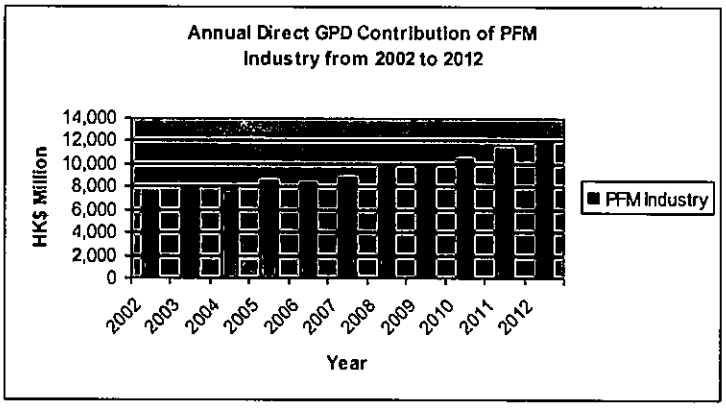
Source: C&SD of HKSAR Government.

10.3 Value-added of PFM Industry as Direct GDP Contribution

The direct economic contribution captures the total value-added created by labour and capital inputs within an industry. Value-added (output after deducting the value of intermediate inputs) is the most appropriate measure of an industry's economic contribution to GDP. An industry's value-added can be calculated directly by summing the returns to the primary factors of production; labour and capital; as well as production taxes less subsidies.

Value-added (VA) is expressed in dollar value of an industry to represent the GDP contribution in local economy. Chart 9 shows the PFM industry achieved a stable progressive growth in its VA as direct GDP contribution over the years from 2002 to 2012, particularly from 2009 to 2012 (Refer to Table A3 in Appendix II for details).

Chart 9 : Performance of Annual Direct GDP Contribution of PFM Industry from 2002 to 2012



Source: C&SD of HKSAR Government.

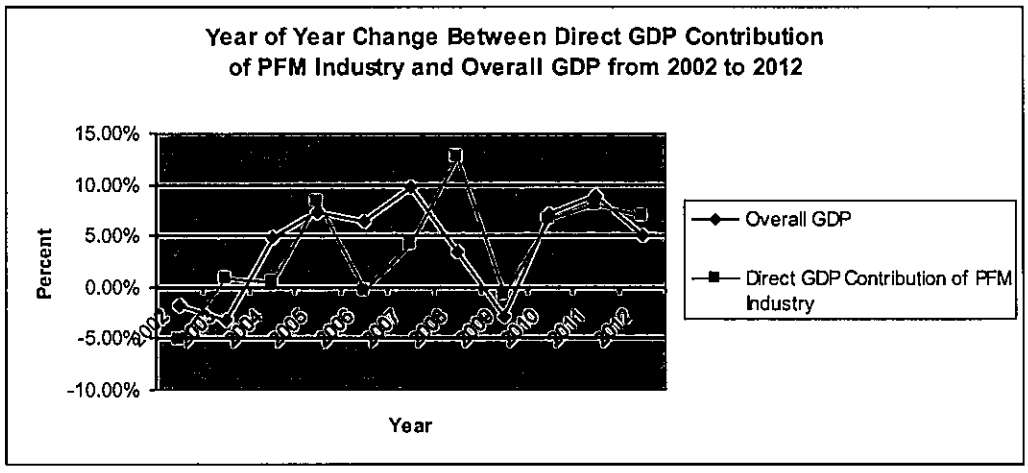
Chart 10 also reveals that the PFM industry in 2003 still sustained a mild positive performance with a slight growth of 0.9% in its direct GDP contribution. Whilst the overall local GDP showed

a negative growth of -3.14 %, thus indicating there was a significant fall of overall productivity in the local economy due to the outbreak of SARS, however the PFM industry seemed to have suffered less direct influence from the unexpected disease.

Between 2007 and 2009, there was a wider gap in the growth of productivity between PFM industry and whole economy, an optimistic investment-wide market in 2007 had caused to a higher total GDP growth rate of 9.8% that noticeably exceeded the PFM industry which was at 4.2%. During the global financial crisis in 2008, the overall local GDP began to abruptly fall down to 3.5% and continued to sink to -2.8% in 2009, whilst, the PFM industry kept rising from 4.23% in 2007 to the highest rate of 12.7% in 2008, until 2009 it sustained a mild downturn drop to a negative growth of -0.8% in its GDP contribution (Chart 10 refers). From 2010 onwards, both the PFM industry and overall GDP had achieved progressive growth in the economic activities.

From 2002 to 2012, the overall annual average of the total GDP achieved a growth of 4.1%, whereas, the PFM industry scored 3.8% per annum which represents its overall average growth performance was similar to the whole productivity in the local economy during the last eleven years.

Chart 10 : Movement of YoY Percentage Change between Direct GDP Contribution of PFM Industry and Overall GDP from 2002 to 2012



Source: C&SD of HKSAR Government.

Given that the average annual growth of GDP contribution by the PFM industry had fetched at 3.8%, the growth is considered quite mild. In percentage terms, the industry contributed 0.53% to 6.6% to overall GDP from 2002 to 2012, or an average of 0.58% (or HK$9.3 billion). Relatively, it achieved a lower share of GDP contribution in terms of VA value (See Table A3 in Appendix II for details).

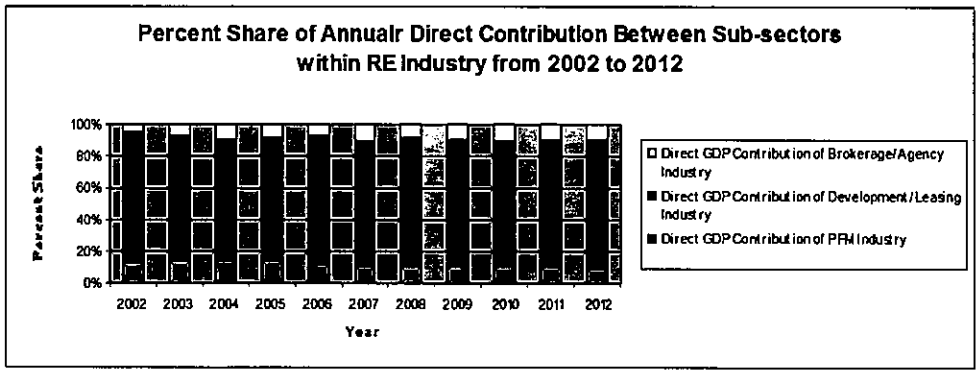
10.4 Value-added as Direct GDP Contribution between Sub-sectors within Real Estate Industry from 2002 to 2012

Firstly, it is to identify the fraction for direct GDP contribution of each component industry shared with each other within the whole real estate industry in the economy in order to measure the level of their economic impacts between counterparts. Table A4 in Appendix II shows the percentage share of VA as direct GDP contribution for each component industry from 2002 to 2012.

Apparently, the PFM sub-sector is considered not as the lowest portion of market share within the real estate sector in performing its direct GDP contribution over the past eleven years from 2002 to 2012. It had achieved its shared portion ranging from 9.1% to 14.5% of the whole real estate industry as an annual direct contribution to GDP, which accounted for an overall annual average of HK$9.3 billion or 11.3% of the total.

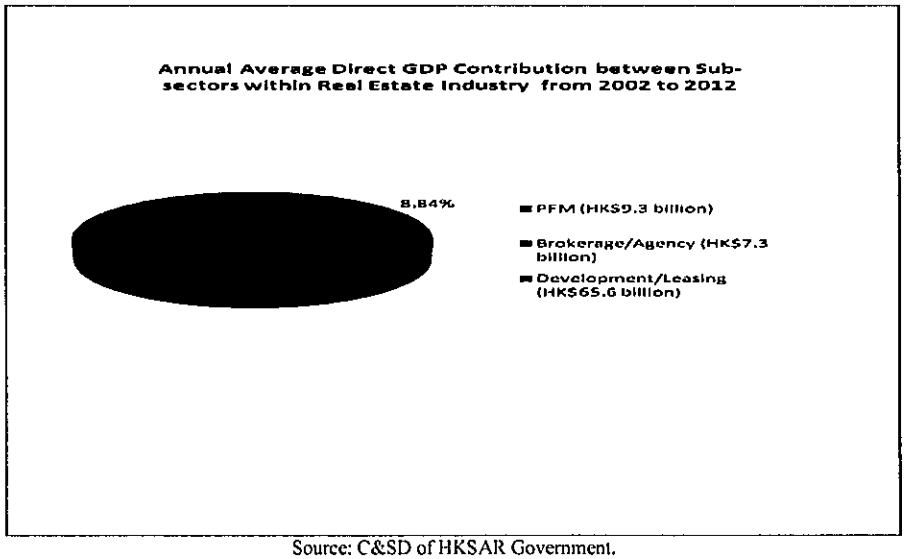
Comparatively, it fetched higher than the brokerage/agency sub-sector. The latter posted its annual direct GDP contribution between 5.1% to 10.4% of the total, with an overall annual average of HK$7.3 billion or 8.84% of the total, being as the weakest performer of the GDP contribution in the whole real estate sector. Whereas, the development/leasing sub-sector appeared to predominate the whole real estate industry in view of its higher VA contents and capital intensive business activities, which had attained a major share from 76% to 82% with an overall annual average of HK$65.6 billion or 79.86% of the real estate industry (Charts 11 and 12 refer).

Chart 11 : Percent Share of Annual Direct GDP Contribution between Sub-sectors within Real Estate Industry from 2002 to 2012



Source: C&SD of HKSAR Government.

Chart 12 : Distribution of Annual Average Direct GDP Contribution between Sub-sectors within Real Estate Industry from 2002 to 2012



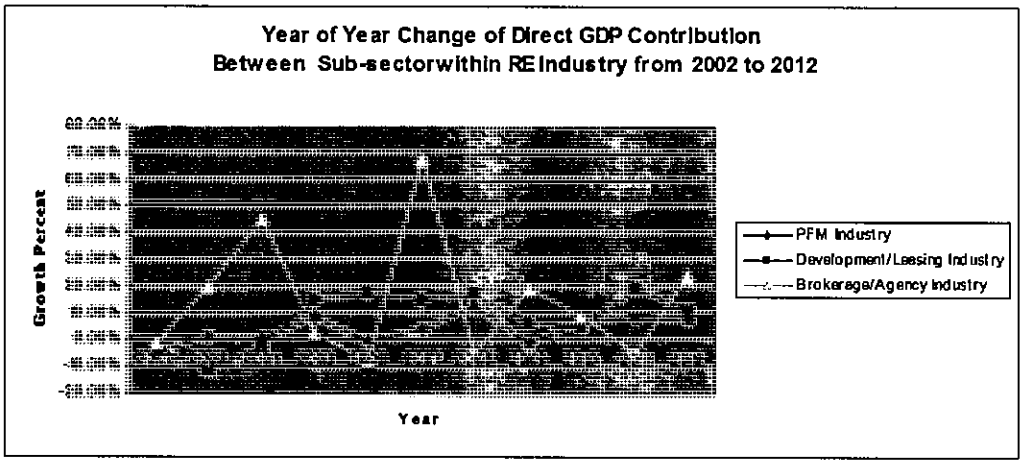
Source: C&SD of HKSAR Government.

Apart from the market share of the GDP contribution between each sub-sector within the real estate industry, Table A4 in Appendix II represents a further analysis of the GDP contribution by way of yearly changes over each preceding year from 2002 to 2012. It shows the respective GDP contribution of the three different sub-sectors with the real estate industry.

With reference to Chart 13, in 2003 the PFM industry appeared to have a slim growth of 0.9% during the SARS outbreak and 0.53% in the following year, it performed a bit better than the development/leasing industry sub-sector, probably its business activities were not so vulnerable to the prevailing market fluctuation.

A favourable and active economic atmosphere in 2007 had led the PFM's direct GDP contribution to robust to 13% in the following year, despite the incident of global financial crisis that only had caused to a slight drop to a negative growth -0.8% in 2009. This phenomenon reflected the PFM industry could afford to generate a progressive and moderate direct GDP contribution to the whole economy in view of its employment intensity and on-going business activity, regardless of its lowest VA content in production. Over the past eleven years, the industry appeared to have a mild ripple growth through slight upturns and downturns in a range from -04% to 12.7% with an overall annual average growth of 3.5% for its direct GDP contribution.

Chart 13 : Year on Year Change of Value-added Contribution between Sub-sectors within Real Estate Industry from 2002 to 2012



Source: C&SD of HKSAR Government.

Based on the year on year change (YoY) by way of spreading performance, the development/leasing industry sub-sector experienced a noticeable negative growth of -12.2% in 2003, because the outbreak of SARS tragedy had led the developers to suspend most development projects with a series of leasing activities due to foreseeable and expected adverse business environment, so it would result in a remarkable reduction in its direct GDP contribution between 2003 and 2004. In 2008, there was also an obvious fall of growth from 17% to 6% in 2009, as a result of most development/leasing business activities that being suffered from poor business activities arising from the global financial crisis in the year and followed by consequential effects in 2009.

Subsequent to the incident of SARS in 2003/04, the brokerage/agency sub-sector had sustained a higher direct GDP contribution than the other two sub-sectors within the real estate industry in 2004. It had a sharp rise of growth from 19.52% in 2003 to 45.29% in 2004, accounting for an increase of almost 26% in a year's time, probably the sale and purchase transactions became very active from 2003 to 2004 due to a higher volume of selling and buying activities as more people who sold properties for their pessimistic expectation to the property market and who bought them for lower prices in time of adverse market conditions amid and after 2003 for future profit makings. Furthermore, the brokerage/agency sub-sector had achieved a strong growth of 67.86% in 2007 in time of pre-global financial crisis as there was a sign of optimistic economic atmosphere, until it dropped down remarkably to a negative growth of -4.46% in 2008 during the world-wide financial turmoil.

Overwhelmingly, the PFM industry behaved to have a stable growth and progressive performance in its GDP contribution over the past eleven years, despite unexpected occurrence of natural disaster or adverse worldwide economic climate. By nature of its labour-oriented and intensity, it could afford to uphold constantly its direct GDP contribution in the economy.

10.5 Comparison of PFM Industry to Other Emerging Industries in terms of Value-added as Direct GDP Contribution in 2008 and 2009

In view of limited resource, it is not practical to compare the GDP contribution of the Hong Kong PFM industry with that of other countries. However, it was reported in the preceding section that the GDP contribution of the PFM industry lies at between the lowest (Brokerage/Agent sub-sector) and the highest (Development/Leasing sub-sector) within the real estate sector, it also brings out that the PFM industry had achieved better than the two of the so-called 6 emerging industries in the local economy upon direct comparison of their respective GDP contributions amid every sector of overall economy (Chart 14 refers).

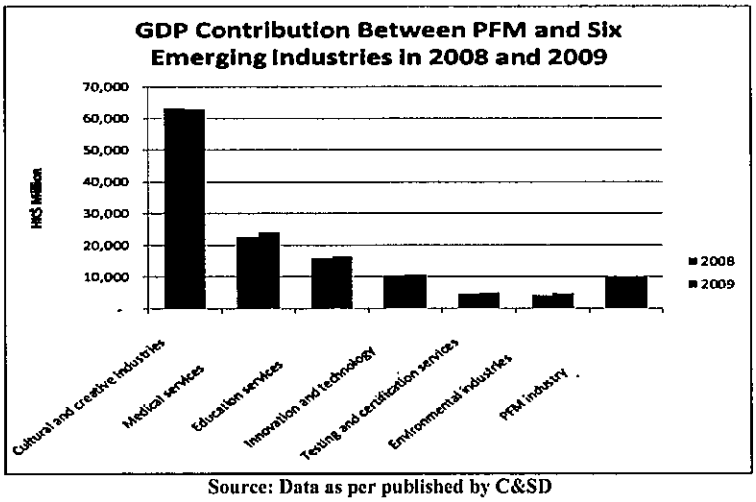
Table 3 reveals the GDP contribution of PFM industry with a VA of HK$9.9 billion or 0.58% of the total GDP in 2008. It is comparatively greater than that of Testing/Certification services and Environmental industry. The VAs for the former and latter had achieved HK$5.0 billion or 0.26% and HK$4.2 billion or 0.25% of the total GDP respectively in the same year.

Table 3 : Value-added of Six Emerging Industries and PFM Industry in 2008 and 2009

Sector	2008 (HK$M)	% Share	2009 (HK$M)	% Share
Cultural and Creative Industries	63,080	3.69	62,935	3.79
Medical Services	22,444	1.31	24,077	1.45
Education Services	15,809	0.93	16,386	0.99
Innovation and Technology	10,283	0.60	10,733	0.65
Testing and Certification Services	4,499	0.26	5,090	0.31
Environmental Industries	4,178	0.25	4,697	0.28
PFM Industry	9,856	0.58	9,777	0.59
Overall GDP	1,707,484		1,659,245	

Sources : Annual Survey of Economic Activities, Survey of Innovation Activities, 2009 (C&SD, 2011).
Survey of Testing and Certification Activities, Hong Kong's Domestic Health Accounts, the Food and Health Bureau, HKSAR Government (FHB, 2009).

Chart 14 : GDP Contribution of PFM and Six Emerging Industry in 2008 and 2009



Source: Data as per published by C&SD

11. Economic Contribution of Employment to GDP

11.1 Employment of PFM Industry for Direct GDP Contribution

It is reckoned that human resource plays a very essential and significant role in the productivity of the overall economy. A wide array of economic activities is performed by persons who engaged across different industries, because they are earning incomes to act as catalyst for generating a series of direct, indirect and induced spending activities which eventually established on-going economic processes to the whole economy.

According to the analysis from our recent questionnaire survey with current trade practitioners, three key job areas, namely security, building services management and cleaning/waste disposal, would take a higher portion of manpower deployment to ensure the quality of service standard so provided to the managed buildings as exhibited in Chart 15.

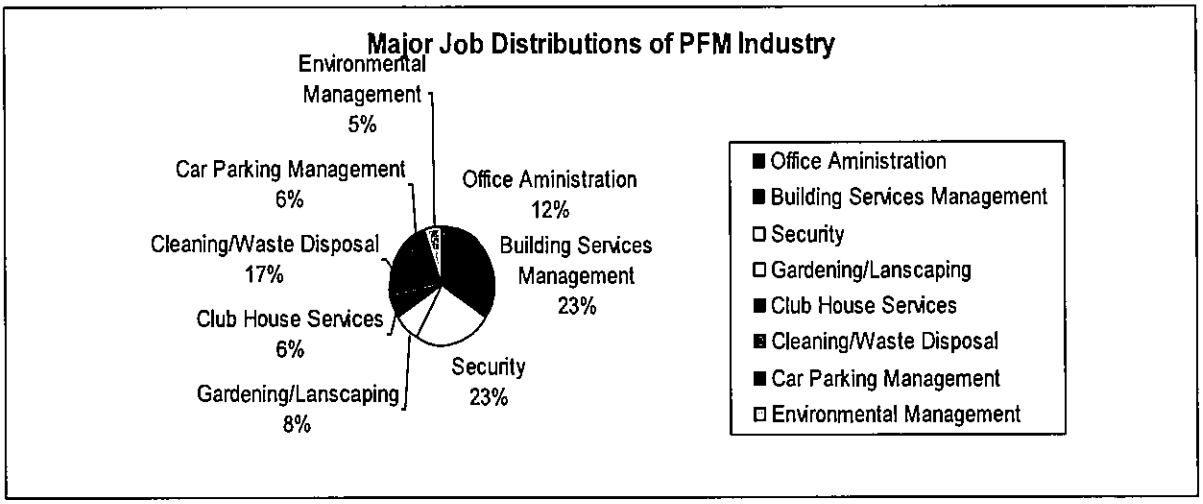
Security is the top priority to all residents in every type of buildings. The security service must always be maintained adequately in the number and standard quality of staff to perform a variety of daily security works. Chart 15 shows that, on average, security takes 23% of job distribution in the overall PFM service activities, thus indicating it would demand more persons to be engaged in security duties than other job areas in the PFM services.

In order to keep a standard level of building services, such as reliable electricity supply, efficient and safe lift and escalator provisions, and other related facilities, this would require plenty of time and labour force to carry out maintenance, repairs, and replacements of electrical or mechanical equipment to ensure their working conditions. Accordingly, building services maintenance works would assume, like security, 23% of the overall job distributions in the PFM business activities.

The survey also indicated cleaning/waste disposal works at 17% of the overall activities, being as one of the major PFM services so provided to the residents/workers of all types of buildings for better living/working environment, hygienic conditions, comfortable and healthy places of home/works, etc.

As far as those major job areas are concerned, intensive labour force is sustained at a higher level in the PFM industry to meet the increasing demands for better and even premium services. The growing labour incomes of those persons engaged in the PFM industry would be the direct attribute for the GDP contribution, whilst the purchase of products and services from other linked trades within the PFM industry to facilitate the work process would constitute as indirect and induced economic activities the contribution of GDP.

Chart 15 : Major Job Distributions of PFM Industry

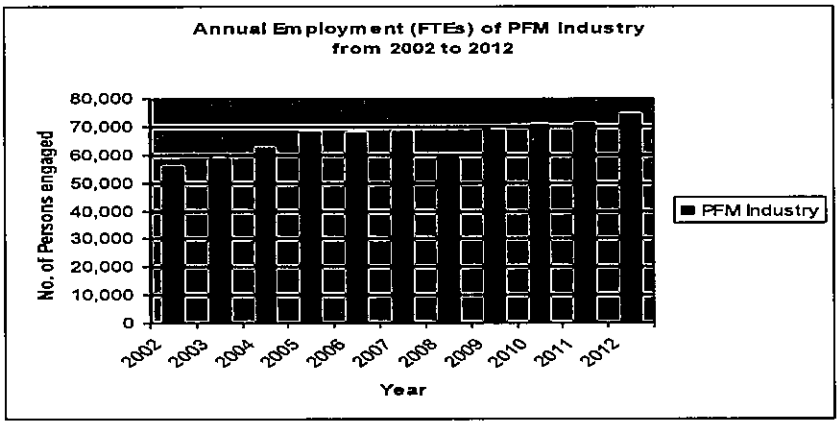


Source: From questionnaire survey

Whenever there is an increasing demand for persons to be employed, more people would have incomes to spend across different economic activities within the whole economy. This would subsequently cause every industry to raise its productivity (or value-added). Such spillover effects in turn led to an increase in the GDP contribution. Hence, employment number (FTEs), has been regarded as one of the key economic measures to quantify the contribution of an industry to the whole economy.

Chart 16 represents the yearly labour force level of the PFM industry from 2002 to 2012. Apparently, its employment level performed on the rise to reflect an increasing demand for more PFM services from time to time (Refer to Table A1 in Appendix II for details).

Chart 16 : Performance of Annual Employment (FTEs) of PFM Industry from 2002 to 2012



Source: C&SD of HKSAR Government.

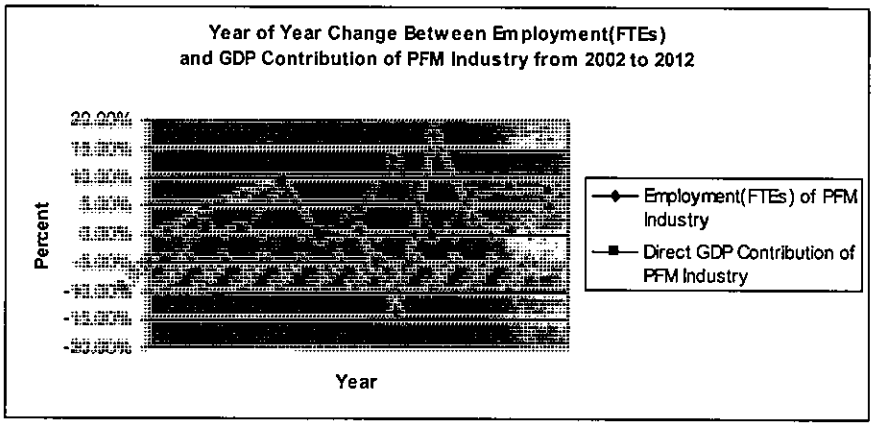
It seemed that the outbreak of the SARs disease had not brought about severe effects on the PFM services as the employment number appeared to rise slightly from 2002 to 2006, this would

probably be due to its on-going business activities for the existing managed premises. After a mild drop of employment level during the global financial crisis in 2008, the PFM industry had regained a growth momentum in the employment level from 2009 onwards.

Chart 17 demonstrates the PFM industry sustained different annual growth rates in its employment number (FTEs) and GDP contribution throughout 2002 to 2012. The outbreak of SARS disaster in 2003 had not led the PFM industry to curtail its employment requirement. To the contrary, there was a mild increase of 4.63% in employment number, with a slim growth of 0.9% in its GDP contribution. From 2007 onwards, there is much wider gap between the employment number and GDP contribution, particularly during the global financial turmoil in 2008, the PFM industry had dropped to a negative 14% in employment (FTEs), but it posted a surge at 13% of direct GDP contribution, probably due to the constant inflow of revenue from the existing income sources, and most employers had maximized the existing resource to uphold the business productivity by automation facilities to replace the number of the employees to be required during the financial turmoil (Refer to Table A5 in Appendix II for details).

Overall, the PFM industry could keep its annual average growth rare within a range of 3% to 3.8% both in the employment number (FTEs) and GDP contribution over the past years from 2002 to 2012.

Chart 17 : Year-on-Year Change between Employment (FTEs) and Direct GDP Contribution of PFM Industry from 2002 to 2012



Source: C&SD of HKSAR Government.

11.2 Employment Contribution to GDP between Sub-sectors within Real Estate Industry from 2002 to 2012

In view of having differentiation in the business activities between one and other within the real estate sector, their respective job nature had led to the employment number differed from each other. It appears the PFM industry would keep its steady employment number (FTEs) at around 63% to 73% of the total real estate employment from 2002 to 2012, which was quite

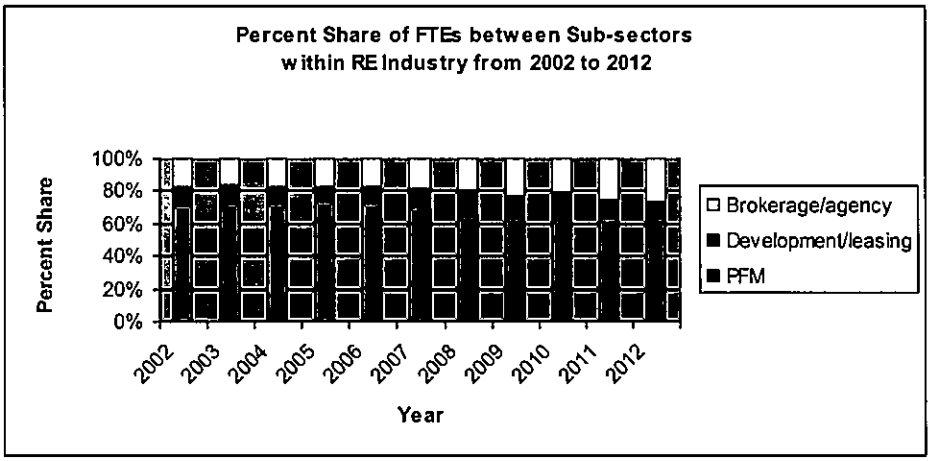
substantially higher than its counterparts as shown in Table A6 in Appendix II, mainly because it is an on-going and labour intensive business activity as more people are needed upon job creation arising from persistently increased number of the managed buildings over times.

Comparatively, the brokerage/agency sub-sector accounted for only 17% to 26% of the total over the same period. Its employment intensity is lower than that of PFM, probably a small number of people can handle substantial volumes of selling and buying transaction activities and its employment capacity are mostly determined by the business activities that are more volatile to the seasonal market fluctuation.

It is also known that most architectural, engineering works and marketing jobs of the development/leasing business activity are outsourced or on contracting basis. Hence it fetched an even lower proportion of in-house employment number ranging from 11% to 17% of the overall employment number in the total real estate industry.

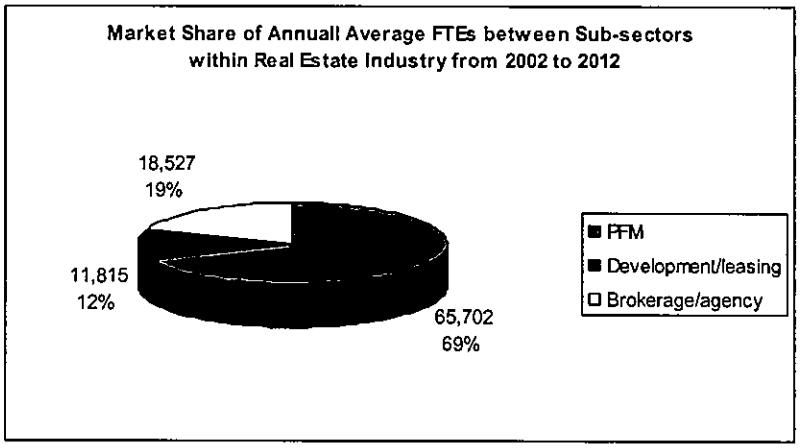
Overall, the PFM sub-sector took a major proportional share at an annual average of 69% of the total real estate employment number (FTEs), being the highest proportion of share within the real estate industry, whilst the development/leasing and brokerage/agency sub-sectors achieved 12% and 19% of the overall employment respectively as shown by Charts 18 and 19 (Refer to Table A6 in Appendix II for details).

Chart 18 : Percent Share of Annual Employment (FTEs) between Sub-sectors within Real Estate Industry from 2002 to 2012



Source: C&SD of HKSAR Government.

Chart 19 : Distribution of Overall Annual Average of Employment (FTEs) between Sub-sectors within Real Estate Industry from 2002 to 2012



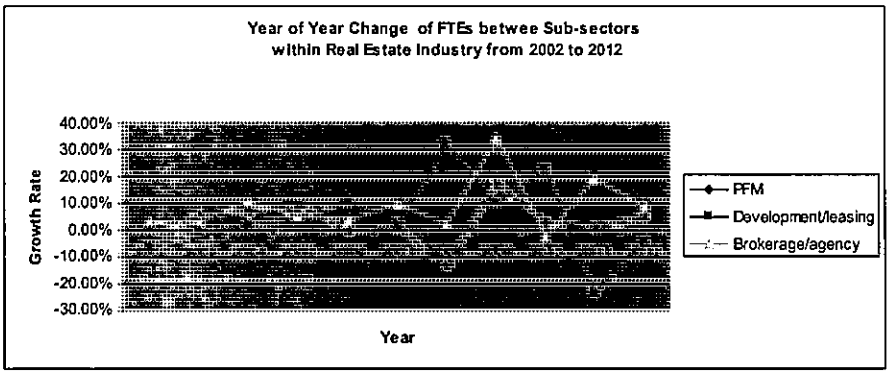
Source: C&SD of HKSAR Government.

By nature of its labour domain, the PFM industry affords higher employment numbers (FTEs) as a key economic input to the total GDP contribution through direct and indirect as well induced effects via an array of employment activities across other industries in the regional economy. In this respect, the mechanism of the year on year change reflects its existing employment number not seriously affected by seasonal economic fluctuation, and even improved by job creation due to the increasing demands to cope with the upsurge number of the managed buildings.

Table A6 in Appendix II also illustrates each sector's yearly change of employment number (FTEs) to reflect their characteristics within the real estate business activities over the past 11 years. The PFM sub-sector experienced its annual growth rate ranging between 4% and 10%. There was a severe drop of -13.7% in 2008 but a rebound to 17.3% in 2009. Whilst the development/leasing sub-sector had soared to a higher growth of 32% in 2008, but a big fall to -25% in 2011. The brokerage/agency sub-sector had achieved positive growth of employment number in a range from 2.2% to 35%, with a sharp rise of 34.7% in 2009 but a big fall to -3% in 2010.

Chart 20 shows that the performance in the year on year (YoY) change of the PFM industry fell within a narrow range gap, indicating its established labour force over the years had endured only mild downturns and upturns, regardless of economic turmoil resulting from natural disaster and global financial tsunami. When compared with its other two counterparts, the development/leasing and brokerage/agency industries are more seasonally fluctuated and apparently adjusted according to the market sentiment and movements, these two industry sub-sectors are highly vulnerable to the macroeconomic turbulence of the regional and global economy in any respect.

Chart 20 : Movement of YoY Percentage Change in Annual Employment (FTEs) between Sub-sectors within Real Estate Industry from 2002 to 2012



Source: C&SD of HKSAR Government.

From Chart 20, each component industry within the real estate sector appeared to have diversified growth and decline rates throughout 2002 to 2007. The PFM industry had sustained a mild fall of FTEs at -13.7% in 2008 as a result of freezing the intake of more people from PFM industry in time of global financial crisis, but then resurged to positive growth at 17.3% in 2009, and afterwards.

Whereas the brokerage/agency industry experienced a weak growth movement from 10% in 2007 down to 2.2% in 2008, but it had robust to a higher growth rate of 34.7% after the global financial crisis in 2009, probably due to more people were engaged in the sale and purchase business activities as a result of the improved economic situations for property market.

It seemed that development/leasing industry had achieved a strong growth of FTEs at 32% in 2008, despite a global financial tsunami in the same year because most development projects or leasing business are planned and scheduled during an optimistic economic atmosphere in or before 2007. However, it suffered a significant drop from 32% to 9.5% in 2009, and the years after.

By comparison to the yearly changes of FTEs between each other in the real estate sector, it is reckoned that the PFM industry is found less vulnerable to seasonal economic market movements than its counterparts, most probably due to its on-going business activities, so its characteristics in the employment capacity would be considered as one of the best economic performers in the GDP contribution to the local economy.

Furthermore, in comparison with six emerging industries, the economic contribution of PFM industry has reflected by the annual growth rate of the employment equivalent (FTEs) at an average annual growth of 6.3% which had outperformed four of the six emerging industries as illustrated in Table 4. This indicates the economic performance of PFM industry is comparable to the top performers of the six emerging industries in terms of employment number and labour income in the labour market of the local economy (Table 4 refers).

Table 4 : Comparison of Annual Growth of Employment Number (FTEs) between PFM and Six Emerging Industries from 2009 to 2012

Industry/Year	2009	2010	2011	2012	Average
PFM	68,713	70,535	70,937	74,295	
YoY (%)	17.28%	2.65%	0.57%	4.73%	6.31%
Cultural & Creative	188,250	187,844	193,293	201,141	
YoY(%)	-1.57%	-0.22%	2.90%	4.06%	1.29%
Medical Services	71,990	73,051	75,170	80,456	
YoY(%)	2.20%	1.47%	2.90%	7.03%	3.40%
Education Services	62,240	66,093	71,590	73,142	
YoY(%)	9.50%	6.19%	8.32%	2.17%	6.54%
Innovation Technology	27,470	27,829	28,636	29,257	
YoY(%)	5.29%	1.31%	2.90%	2.17%	2.92%
Testing Certification	12,610	13,914	14,318	10,971	
YoY (%)	1.53%	10.34%	2.90%	-23.37%	-2.15%
Environmental	32,410	34,786	39,375	40,228	
YoY(%)	3.65%	7.33%	13.19%	2.17%	6.58%

Source: C&SD (2013).

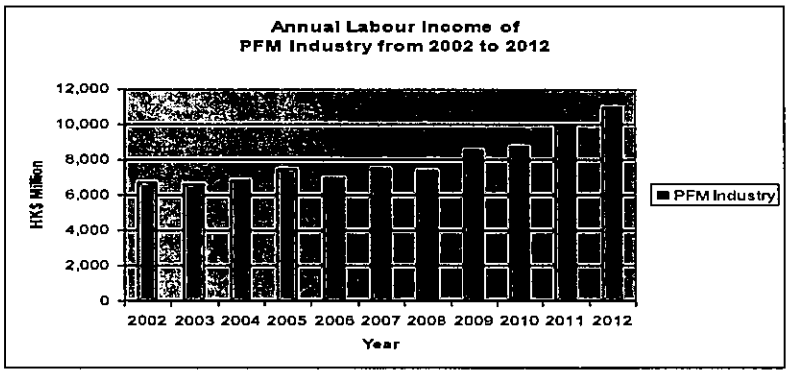
11.3 Labour Income for Employment Contribution to GDP

Labour income (LI) is a common term to quantify the payments of salary and wages as an input for the production of an industry. Strictly speaking, it is also one of the main attributes to the VA as a measure of GDP contribution of an industry to the whole economy.

Calculating the macroeconomic impacts of an industry demands a detailed and multifaceted approach because of the multiplier effects involved. Demand for staff can lead to generate jobs. Increased demand for staff, in turn, accelerates more jobs which employ people and pay wages. Then, employees spend their wages to cause a further ripple effect through earning different wages and different spending patterns in the economy.

Chart 21 shows the income level of the persons engaged in the PFM industry had raised from 2010 to 2012, as a result of increasing demands of higher quality of management services for better enjoyment of living environment and upgraded standard of accommodation (Refer to A7 in Appendix II for details).

Chart 21 : Performance of Annual Labour Income of PFM Industry from 2002 to 2012

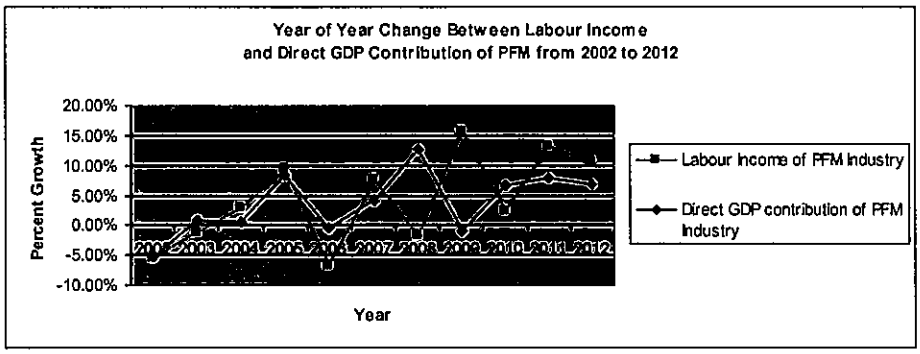


Source: C&SD of HKSAR Government.

Chart 22 highlights the annual performance of LI and GDP contribution of the PFM industry. Initially, from 2002 to 2005 both moved in the same direction within a narrow range, except there was a slight negative growth of -1.2 % in the LI with a soft growth of 0.9% for its GDP contribution in the event of SARS disease in 2003. Thereafter, it had achieved its LI growth of 9.5% in 2005 which was close to its direct GDP contribution (i.e., 8.4%). The increase in persons engaged in the industry was attributed to the surge in the payments of salary and wages coupled with pushing up the spending across different industries in the whole economy (Refer to Table A7 in Appendix II for details).

From 2007 to 2009, there was a significant change of the growth direction between LI and direct GDP contribution of the PFM sub-sector. This represents that the global financial crisis in 2008 had caused to a decline of LI resulting from a fall of employment growth as most manual jobs had been replaced by automation of equipments and systems to uphold the productivity. Whilst, the purchases of these automatic effects formed as indirect and induced inputs for its contribution to GDP in the whole economy, thus posting to a rise of 13% growth in its GDP contribution, regardless of the LI accounted for a negative growth of -1.7%.

Chart 22 : Movement of YoY Percentage Change between Labour Income and Direct GDP Contribution of PFM industry from 2002 to 2012



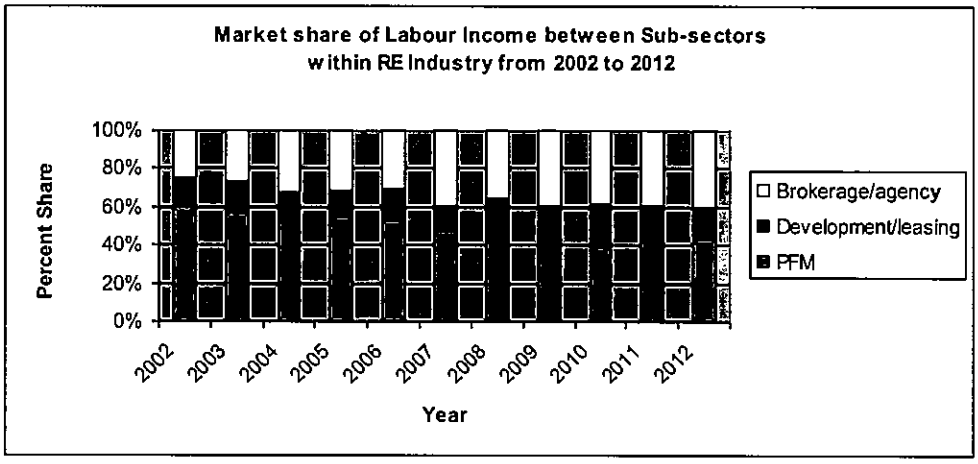
Source: C&SD of HKSAR Government.

11.4 Labour Income for Employment Contribution to GDP between Sub-sectors within Real Estate Industry from 2002 to 2012

As aforementioned, the PFM sub-sector involves labour intensive business activities. It would consist of great spending on payments of salary and wages to a larger number of persons engaged, thus giving rise to a major shared portion of LI in the whole real estate industry. Unlike the development/leasing sub-sector in which most development project and leasing job were outsourced to contractors with a scarcity of in-house staff employed; whereas the brokerage/agency business had unstable job continuity and insecure LI due to the seasonal market fluctuation, its overall income revenue for the job undertakers might vary from time to time.

Chart 23 illustrates the PFM industry holds a majority share of ranging from 40% to 60% of the overall LI given its largest employment numbers as discussed in the preceding section. By contrast, the brokerage/agency sub-sector keeps a second largest share within a range from 24% to 39%, which is well above the development/leasing sub-sector in a region from 13% to 22%. This indicated that the PFM industry with greatest LI corresponding to highest employment numbers (FTEs) would afford to more GDP contribution through the spillover or multiple effects from the spending across various industries in the region (Refer to Table A8 in Appendix II for details).

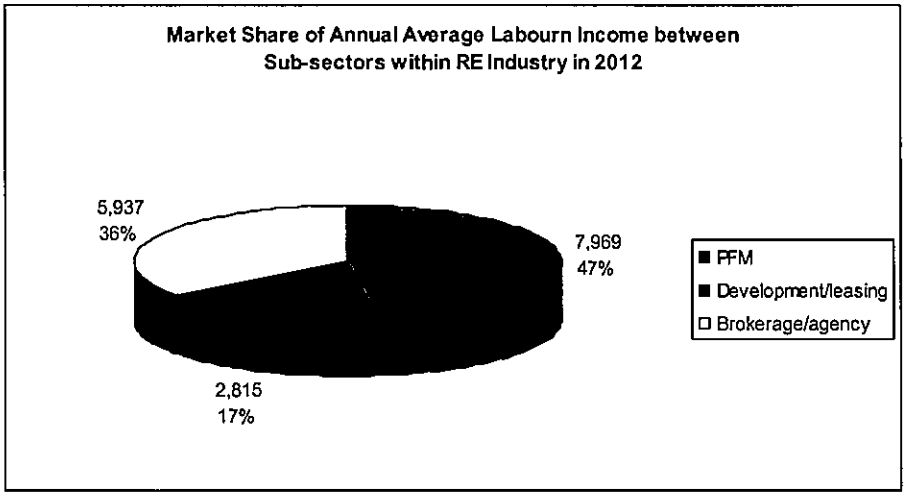
Chart 23 : Share of Annual Labour Income between Sub-sectors within Real Estate Industry from 2002 to 2012



Source: C&SD of HKSAR Government.

Accordingly, the PFM sub-sector held a larger share of 47% in the overall annual average of LI within the real estate industry, which exceeded noticeably the brokerage/agency sub-sector at 36%, and far above the development/leasing sub-sector at 17% as displayed in Chart 24.

Chart 24 : Distribution of Annual Average Labour Income between Sub-sectors within Real Estate Industry in 2012



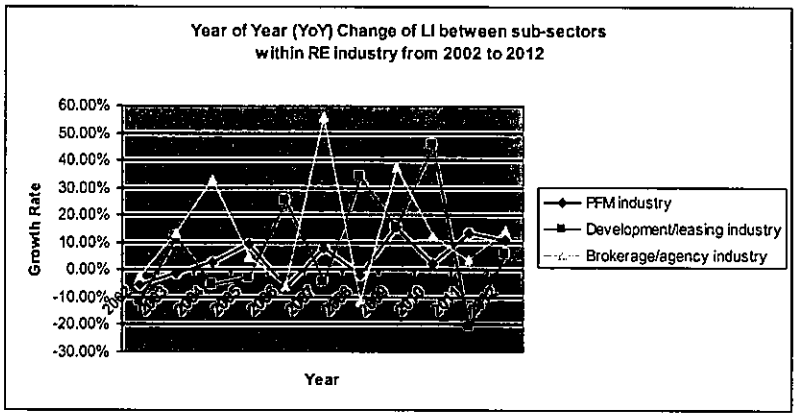
Source: C&SD of HKSAR Government.

Chart 25 demonstrated the growth performance by year on year change in the LI between each sub-sector within the real estate industry throughout a period from 2002 to 2012.

As revealed from Table A8 in Appendix II, the PFM industry posted a soft growth in its LI ranging from 2.8% to 16%, inclusive of several weak negative growth in 2003, 2006 and 2008, whilst the development/leasing industry scored repeated strong growths with a substantial fall in 2011, compared with the brokerage/agency industry which attained a sharp rise of LI at 33% in 2004, 56% in 2007, and 37% in 2009, but with several minor falls during these periods. It is thought the PFM industry, which had suffered from minor yearly change in its LI than the other two sub-sectors, would take the benefit of lower volatility to income earnings and employment mobility to the seasonal market movements, resulting in a steady GDP contribution.

Chart 25 illustrates the moving range of LI of the PFM industry in relation to the other two sub-sectors within the real estate industry over the years from 2002 to 2012. During the period of post-SARS in 2004, the sale and purchase activities were boosted by large number of buyers for reduced property prices and sellers for pessimistic property market, which resulted in soaring more income source to those persons engaged in the brokerage/agency business, so it had a higher growth of LI to 33% in 2004. Whilst the PFM business activity sustained a mild positive growth of 2.8% in 2004, and the development/leasing experienced a noticeable drop of growth from 12% to -5.6% amid the same periods.

Chart 25 : Year-on-Year Percentage Change in Annual Labour Income between Sub-sectors within Real Estate Industry from 2002 to 2012



Source: C&SD of HKSAR Government.

By the display of the changing patterns of the YoY in the LI of each sub-sector as shown in Chart 25, payments of salaries and wages to the persons who were engaged in PFM industry changes not so actively over the years from 2002 to 2012, unlike the development/leasing and brokerage/agency industries, both had suffered a series of striking upturn and downturn over the same periods to reflect their vulnerability and sensitivity to the seasonal market movements.

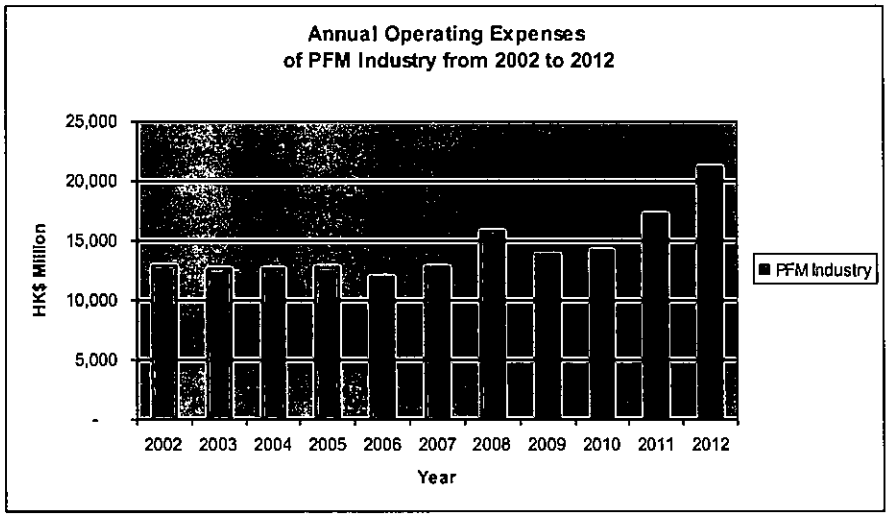
12. Operating Expenses for Indirect and Induced Economic Contribution to GDP

12.1 Operating Expenses of PFM Industry for GDP Contribution

Other than labour force, the operating expenses (OE) formed as another essential input for production of PFM industry for its economic contribution to GDP in the economy. As defined by the C&SD of the HKSAR Government, it included mainly general consumption of sundry supplies, water, electricity and fuels, as well as other miscellaneous operating expenses for performing the business activities. It is indirectly attributed to the establishments, employment and labour income of other related industries as its indirect and induced GDP contribution in the whole economy.

Chart 26 illustrates the PFM industry had increased its consumption for its operating needs of daily activities amid a gloom of economic depression in 2008, the rising expenses for upgrading the service quality and standard would definitely lead to generate more other related trade business with jobs in the whole economy (Refer to Table A9 in Appendix II for details).

Chart 26 : Performance of Annual Operating Expenses of PFM Industry from 2002 to 2012



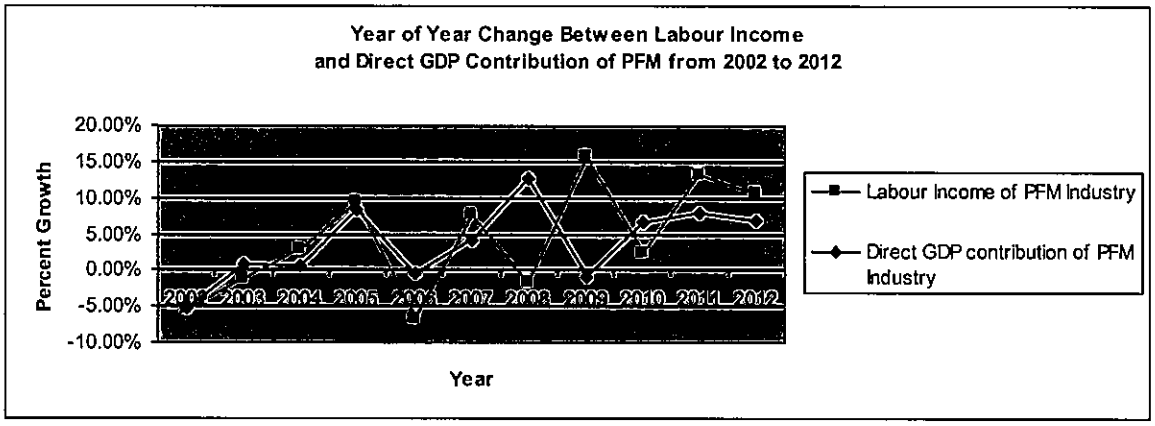
Source: Figures are extracted from C&SD 2013.

Chart 27 illustrates there was a mild difference in the annual change between the OE and direct GDP contribution of the PFM industry from 2002 to 2012, nevertheless a rise or fall of OE of the PFM sub-sector would have certain corresponding economic impacts on the performance of its direct GDP contribution (Refer to Table A10 in Appendix II for details).

Throughout the SARS and its post period between 2003 and 2005, the OE of PFM industry had suffered from a minor fall of growth from -1.47% in 2003 to -0.98% in 2004, and regained a slight rise to 1.6% in 2005. This indicates that the PFM industry had scaled back its business activities due to the spread out of the disease in 2003, and began to re-gain its business momentum gradually from 2004 onwards. Despite a slight fall of its OE, its direct GDP contribution still sustained a slim growth of 0.9% in 2003, and 0.53% in 2004 but sharply rally to 8.4% in 2005, such phenomenon reflects its scale of OE had not affected much its GDP contribution because of the established and accumulated business revenues in the past periods.

Further, the PFM industry experienced a sharp decline of its OE from a strong positive growth of 24 % in 2008, it came to falling to a negative growth of -12.5% in 2009, showing a significant drop of more than 35% in decreasing its OE on consumptions amid post global financial crisis. However, this big fall caused its direct GDP contribution to sink slightly to -0.8%, probably most PFM companies reduced their OE to maintain their profit margins, but there was less adverse impacts to the constant inflow of income revenues from the managed buildings that would affect their economic contribution to the GDP in the overall economy.

Chart 27 : Movement of YoY Change between Operating Expenses and Direct GDP Contribution of PFM Industry from 2002 to 2012

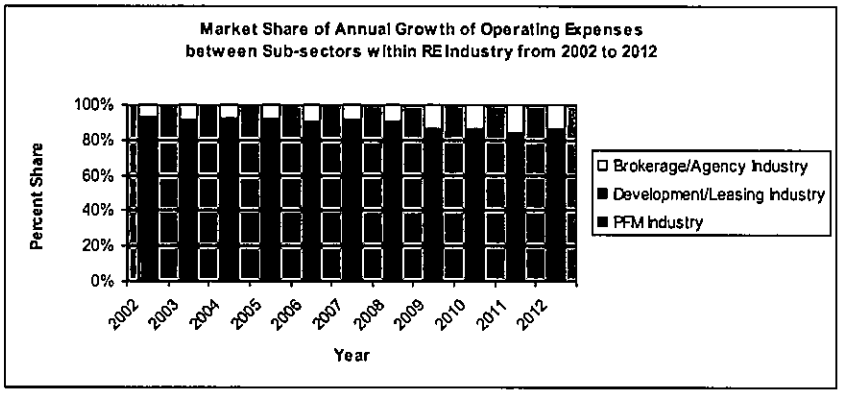


Source: Figures are extracted from C&SD 2013.

12.2 Operating Expenses for GDP Contribution between Sub-sectors within Real Estate Industry from 2002 to 2012

Chart 28 below indicate a wider range of PFM business activities required substantial sums of OE for a total productivity, because a large stock of managed buildings need big consumptions and inputs from other sectors to support the service quality standards, thus giving rise to a high percent share of its OE ranging from 38% to 47% of the total (Refer Table A9 in Appendix II for details).

Chart 28 : Share of Annual Operating Expenses between Sub-sectors within Real Estate Industry from 2002 to 2012



Source: Figures are extracted from C&SD 2013.

Most of the development projects and leasing activities involve in a larger scale of works which would definitely needed higher operating costs for contracting out or out-sourcing the jobs to be

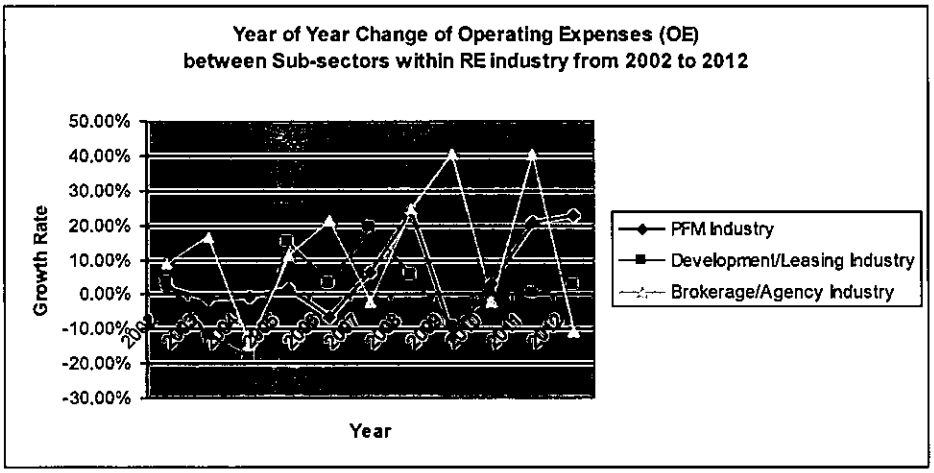
performed, so it shared another majority proportion ranging from 42% to 54%. Relatively speaking, the brokerage/agency sub-sector appeared to spend less OE on its production costs as most business deals are made by means of personal activities through negotiation and bargaining process, the scale of works are rather small with lowest production costs as compared to the PFM and development/leasing industries. As such, it took a minority proportion from 6.6% to 16% to account for its lowest proportion of share within the whole real estate industry.

Given that the proportions of percent share reflects how much each sub-sector had made consumption in its overall OE, the year-on-year growth performance would denote how far each sub-sector did require inputs for its production of outputs that would attribute to the direct, indirect and inducted effects on GDP.

Table A10 in Appendix II also shows the annual growth performance in the OE by different sub-sectors within the real estate industry. The PFM sub-sector had posted to a mild annual overall average growth of 5.4%, yet much higher than the development/leasing industry that had a very lower overall annual average growth of 0.94% for its production inputs, regardless of its majority share portion in the OE of the whole sector, because of every development project ending up at different time intervals, and the project scale and volume relying so much on the seasonal market conditions. On the other hand, its overall average year-on-year change of OE was found moderately below the brokerage/agency sub-sector that having an overall average growth rate at 12%, in spite of its minority proportion of OE, this would probably due to the rise of expensive marketing programmes in times of poor market atmosphere.

Chart 29 displays the moving direction of the year-on-year percentage change in the growth performance for each industry within the real estate industry from 2002 to 2012.

Chart 29 : Movement of YoY Percentage Change in Annual Operating Expenses between Sub-sectors within Real Estate Industry from 2002 to 2012



Source: Figures are extracted from C&SD 2013.

The PFM industry made a gentle yearly change in its OE during 2002 to 2005, with a slim drop at -1.5% in 2003/04. Whilst the development/leasing industry sustained a continued drop in the

same period, and a mild fall in the growth performance at -12% and -18% in 2003/04, probably the outbreak of the SARS incident in 2003/4 had led to withhold the contracting out the development and leasing projects as to stop its development and leasing expenditures in the post-SARS. However, the sales and purchase business activities turned to surge in the brokerage/agency sub-sector throughout the period, this had caused to increase its OE that posted to a strong growth of 16.5%. This reflected the PFM would maintain stable consumptions for keeping its service quality to the larger number of existing managed buildings, even in the event of unforeseeable natural disaster.

In the post global financial crisis period in 2009, the brokerage/agency sub-sector had experienced a sharp rise by more than 40% for its OE due to the increased level of sales and purchase business activities, whilst the PFM had scored a substantial fall to a -12.5%, but it had rebound to a persistent growth in the following years. Simultaneously, the development/leasing sub-sector suffered a mild -9.4% and received a slight growth in the years after.

Overwhelmingly, the PFM industry behaved to have a smooth and steady growth performance, whereas, both the development/leasing and brokerage/agency industries appeared to act rather more volatile and sensitive to the external economic movements throughout these years.

13. Comparison of Overall Economic Contribution to GDP between Sub-sectors within Real Estate Industry from 2002 to 2012

Table 5 demonstrates the breakdown of overall economic measures for the direct GDP contribution across all three sub-sectors within the real estate industry over the past eleven years from 2002 to 2012.

Table 5 : Distribution of Overall Economic Contribution between Sub-sectors within Real Estate Industry from 2002 to 2012

(HK$ million unless otherwise specified)

Real Estate Segments	Total Employment (FTEs)	Total Operating Expenses	Total Labour Income	Total Gross Output	Total Value-added
PFM	722,723 (67.5%)	HK$157,915 (40.9%)	HK$87,659 (47.7%)	HK$260,536 (20.3%)	HK$102,165 (11.2%)
Development/Leasing	131,388 (12.3%)	HK$186,074 (48.2%)	HK$30,966M (16.8%)	HK$896,716 (69.8%)	HK$734,108 (80.1%)
Brokerage/Agency	216,040 (20.2%)	HK$41,937 (10.9%)	HK$65,302 (35.5%)	HK$127,629 (9.9%)	HK$79,864 (8.7%)
Overall Total	1,070,151 (100.0%)	HK$385,926 (100.0%)	HK$183,927 (100.0%)	HK$1,284,881 (100.0%)	HK$916,137 (100.0%)

Note: Figures in bracket indicate the percentage share of the overall total.

Since the PFM business activities normally covered all service activities for the managed buildings, it definitely needed a great number of persons engaged to perform the daily routine

duty that accounted for 68% of the total employment (FTEs) within the real estate sector. Once buildings are completed and occupied, jobs for managing buildings are to be established as on-going process, which would result in upholding the employment numbers persistently and even further accelerate more progressively upon further availability of the completed buildings over times.

From the labour force point of view, the PFM industry played a superior role in sharing a substantial portion of manpower in the employment market. Hence, the greater employment numbers would attribute to expanding sources of income revenues to the persons engaged in the PFM industry, and the surging number of employed persons would undoubtedly lead to raise the volume of LI as well as to increase the household income for GDP contribution in the region.

Furthermore, a huge employment size resulting from enormous volume of managed buildings had pushed up its OE to deal with the larger stocks of managed buildings; this would render the PFM industry to take almost a big share of 41% of the total OE.

A larger employment number and highest labour income with vast OE would eventually cause to yield numerous spillover effects in spending activities across different industries in the whole economy, which then generate direct, indirect and inducted GDP contribution more actively and aggressively.

The PFM industry had posted to 48% of the total LI in the real estate sector; this is considered as a substantial higher volume of LI than its counterparts. Probably, it has not been under any influence of seasonal market fluctuation affecting its employment size and income level, unlike those had happened in the brokerage/agent and development/leasing industries which are always subject to market movements caused by regional or global economy.

It is reckoned that the main income revenue source of PFM industry comes from the collection of management fees or service charges at a small fixed or established percent of the payments of management fees or service charges from the managed buildings. Though its business receipt appeared to have a lower portion at 20% of the overall GO within the real estate sector, its largest employment size and greatest LI would be more competitive advantage in the GDP contribution through its indirect and induced effects.

The PFM industry had attained 11% of the overall VA contribution to the GDP, which is found higher than that of the brokerage/agent industry but moderately below the development/leasing industry, mainly due to its less capital intensive business nature. However, its labour domain and intensity afforded a greater employment size and higher volume of LI as well as larger sum of OE for the GDP contribution in the economy.

Overall, the PFM industry appeared to play a significant role in its economic activities with appraisable GDP contribution among other component industries within the real estate sector, in view of its having majority shares in the employment market at 68% of the total FTEs; 49% of the total LI; and 41% of the total OE. Though its VA, GO seemed not to have scored the highest shared portions than the counterparts, its business activities were almost unaffected from the adverse influence of any seasonal market fluctuation with uptick or downtick movements, its

ongoing process could also afford to achieve constant income revenue for persistent spending and consumption across various industries in the whole economy.

14. Overall Economic Contribution of PFM Industry to GPD

The PFM industry exhibits significant linkages with numerous sectors in other industries. The linkage suggests an ecosystem of the PFM industry where a series of supporting industries such as security, cleaning/waste disposal, gardening/landscaping, club facilities, building services and maintenance can benefit and contribute to the vibrancy of other larger sectors.

Concerning the business activities of the PFM industry, it has to purchase inputs from other industries, in which the wages, salaries and profits that it paid will subsequently be spent elsewhere in the economy and so on. This will eventually give rise to spillovers or multiplier effects on other industries. In other words, it indirectly and induced contributes VA in other sectors through their intermediate inputs supplied as a result of purchase of goods and services from other sectors for its production. One could consider PFM industry as upstream economic activities that provide outputs to other industries in the economy.

The total GDP contribution of the PFM industry is the sum of direct and indirect as well as induced components. All these contributions are represented by VA, GO, LI and employment multipliers to be estimated within the industry, these depend so much on the supply of various data from numerous related industries. Simply speaking, after having obtained the total gross revenue, all inputs including LI (wage and salary) and purchases from other sectors are used to estimate the coefficient ratio values in terms of VA, FTEs, and LI for the direct, indirect and induced impacts of PFM industry to the economy.

It happened that, whenever there is an increase in final demand for PFM services, the management companies react to meet the increased demand by an increase in the output of that services, this is the direct effect. As the management companies increase their output, there will also be an increase in demand on their suppliers and so on down to the supply chain, this is the indirect effect. As a result of these effetcs, the level of household income throughout the economy will increase upon the increased employment. A proportion of this increase income will be re-spent on other goods and services in other industries; thus attracting more trade operators to perfonn linked business activities in the market through the inducted effects (SES, 2007).

14.1 The I-O Coefficients of PFM Industry for Direct, Indirect and Induced GDP Contribution

Having said that currently there are no such input-output (I-O) tables prepared by C&SD of the HKSAR Government or any research body for guidance and reference locally, and the computation of I-O multipliers does require a large amount of data and the complexity of the tasks involved, this study is unable to focus on this subject area to elaborate in greater detail of working out statistical figures to reveal the indirect and induced contributions of the PFM industry to GDP. However, by reference to the recent questionnaire survey completed by the

trade practitioners, this study will attempt to present as far as practicable some simple and fundamental backgrounds for illustration on the uses of I-O coefficient data to reflect the direct, indirect and induced impacts contributed by the PFM industry in comparison with its counterparts within the real estate sector in the economy.

For the purpose of illustrtaion, Table 6 summarised the estimated I-O coefficients between sub-sectors, which are adopted to display the dominant effects of exogenous changes on: a) its gross output in the economy, b) income earned by households from the industry, and c) employment capacity that is accommodated to its inputs across three industries within the real estate industry.

Table 6 : Distribution of Gross Output, Direct Income and Employment Coefficients between Sub-sectors within Real Estate Industry

Sector	Direct Gross Output Coefficient	Direct Income Coefficient	Direct Employment coefficient
PFM	0.61	0.34	2.78
Development/Leasing	0.22	0.03	0.15
Brokerage/Agency	0.33	0.52	1.69

14.2 Direct Gross Output Coefficient

The Gross Output (GO) coefficient represents the total value of production by all other industries that will be generated by one dollar's worth output of a given industry. For instance a total value of inputs from other industries such as security guard and building maintenance services will be required to satisfy one dollar's worth of demand for the PFM industry output.

So far as the PFM business activities are concerned, these have actively involved in the inputs from numerous other industries to support the daily PFM duty. The inputs from other industries are in the form of OE spent on the purchase of materials and services. Table 6 shows the PFM industry had achieved a higher annual average GO coefficient of 0.61, which accounted for having greater consumption on other services and products to support its productivity. Due to a vast number of completed buildings are in need of a full range of PFM services, these would constantly require much supporting procurements from other supplier industries as inputs for the production, thus the largest inputs from all other industries had led to increasing the outputs of the business-linked industries directly, indirectly and inducedly, these in turn would amplify the employment opportunities and LI coupled with subsequent household consumption in the economy as a whole (Refer to Table A11 in Appendix II for details).

By comparison to its counterparts, the PFM industry appeared having scored the highest GO coefficient, indicating that its business activities are actively involved in a vast number of other industries in supporting the services to the managed buildings. By means of the above estimated figures, it is not unreasonable to regard the PFM industry would have made a lot of attributes to

the GDP contribution by way of indirect and inducted economic activities through the exogenous effects of its OE in the production.

14.3 Direct Labour Income Coefficient

Labour Income (LI) Coefficient is defined as the total value of income from wages, salaries and supplements required to satisfy a dollar's worth of final demand for GO of a given industry. Simply speaking, it is to measure the payment of income (i.e., compensation of employees), in return for the production of value of an industry, forming as an attribute to the GPD contribution in the economy.

Table 6 shows the PFM sub-sector achieves a higher LI coefficient of 0.34, which is well above the development/leasing sub-sector of 0.03, but slightly lower than the brokerage/agency sub-sector of 0.52. It is learnt that there is a small difference in the LI coefficient between the PFM and brokerage/agency industries, probably due to the fact that the former could provide stable and persistent payments as long as the managed buildings existed, whilst the latter are afforded with greater income revenues based on the highest market transaction values, rather subject to more unstable and vulnerable to the seasonal market turbulence (Refer to Table A12 in Appendix II for details).

14.4 Direct Employment Coefficient

Direct employment (FTEs) coefficient was defined as employment per million dollars of output, which is calculated by dividing the number of employed persons (FTEs) in a given industry by the level of production, i.e., GO, generated by that industry. There is always the employment coefficient relating to an extra HK$1 million of output as for its direct and induced application.

Table 6 demonstrates the PFM sub-sector is characterised by relatively higher annual average FTEs coefficient of 2.78 than those of development/leasing sub-sector at 0.15 and brokerage/agency sub-sector at 1.69 (Refer to Table A13 in Appendix II for details).

Apparently, the core business activities of PFM services include maintenance, landscaping/gardening, security staff, and club house facilities, all are labour-domain and intensive activity processes, which required a great size of labour force to perform such duties. By nature of its service oriented, there is a substantial number of persons who engaged in the PFM industry to provide supporting services to the managed buildings, rather than the purchase of materials as a main factor of productivity. Hence, the PFM industry would achieve the highest FTEs coefficient value than the development/leasing industry and brokerage/agency industries.

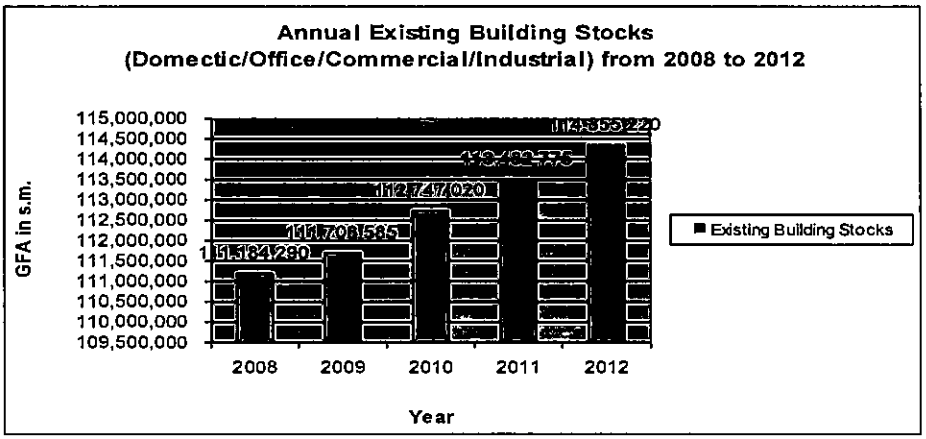
15. Economic Impacts of PFM Industry on Property Market

15.1 Correlationship between PFM Industry and Property Market

The property market in Hong Kong was mainly predominated by domestic, office, commercial and industrial categories; in which PFM business activities cover a full range of management services to all sorts of buildings for sustainable and well-presented living environment. Their business incomes are more related to the quantity of building stocks and the quality of services.

Chart 30 displays the total gross floor areas (GFA) of all private building stocks including domestic, office, commercial and industrial buildings. They were managed by the PFM service providers in the last 5 years. There was a substantial increase of all building stocks from 111.2 million square metres in 2008 to 114.4 million square metres in 2012, accounting for a hike of 3,170,930 square metres. Undoubtedly, the PFM industry had grown progressively with size of building stock, hence giving rise to growing demand for quality PFM services (Refer to Table A17 in Appendix II for details).

Chart 30 : Distribution of Annual Existing Building Stocks (Domestic/Office/Commercial /Industrial) from 2008 to 2012

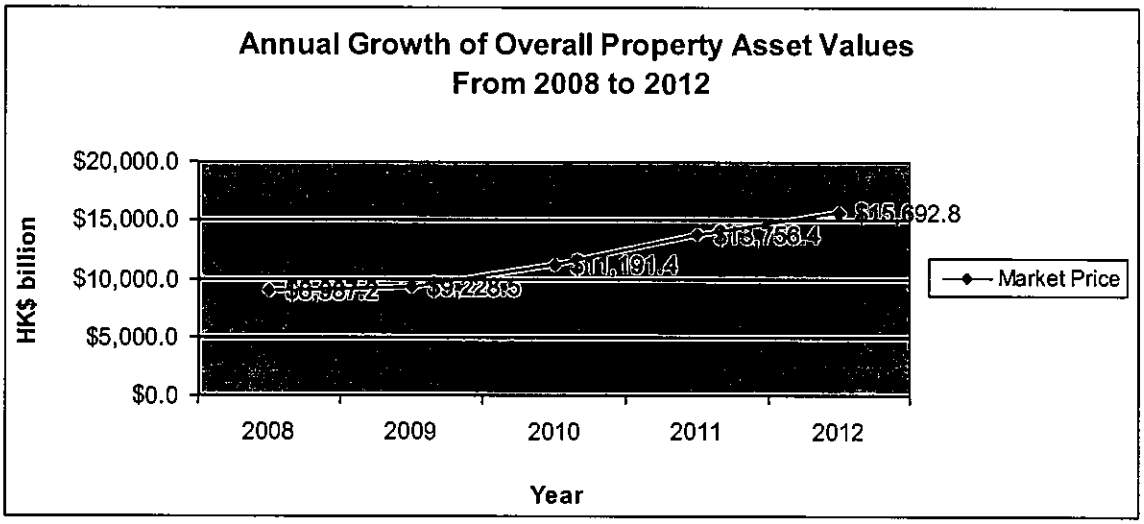


Source: Figures are extracted from the R&VD of HKSAR Government 2013.

As far as the property market is concerned, the property asset value has been regarded as a key element to represent the individual or corporate achievement of wealth or business worth. In terms of the total property value priced and the total gross floor areas for all types of existing building stocks, the PFM service providers are found having enormous business capacity in gross floor area and trade values in dollar amount as shown in Charts 30 and 31 respectively. This indicates that the PFM industry would have sustained largest amount of business volumes in terms of business receipts for contribution of economic value towards the GDP of Hong Kong.

Chart 31 demonstrates the PFM industry had overseen the total existing building stocks at an estimated market value of HK$8,987.2 billion in 2008, when compared with HK$15,692.8 billion in 2012, it fetched a strong increase of HK$6,705.6 billion accounting for a rise of 75% over the last 5 years (R&VD 2013). This was considered as a highly-valuable business activity across other industries in the local economy (Refers to Table A17 in Appendix II for details).

Chart 31 : Price Movement of Annual Growth of Overall Property Assets from 2008 to 2012



Source: Figures are estimated and based on the data extracted from the R&VD of HKSAR Government 2013.

Definitely, the housing sector in Hong Kong plays a significant role in the local property market; it tops the likelihood issues of concern to the general public. A good standard of comfortable environments coupled with well managed premises is regarded as one of the fundamental dwelling pre-requisites to the well-being of society.

There are two major housing issues to be looked at from the socioeconomic perspectives, firstly the supply of adequate housing supply and secondly the better living environs. It is reckoned that currently Hong Kong had encountered a serious housing problem with the imbalance between supply and demand. That had resulted in a high level of private residential property prices and rental costs, well beyond the affordability of the general public to achieve home ownership or paying the surging rents. Hence, the triviality of prevailing housing problem eventually led to a divided society and aggravated class conflicts.

In view of such seriousness, the prevailing Government took a priority approach in her housing policy to resolve the problem as to maintain the healthy and steady development of the private property market by providing adequate and affordable housing through a supply-led strategy for more housing production in the long term to counteract against the current supply-demand imbalance (LTHS, 2014). Therefore, this movement would definitely create more PFM jobs to cope with increasing demand of services arising from the surging supply of housing stock in the foreseeable future.

Apart from the quantitative issue, it then comes to the qualitative consideration. The PFM industry is regarded as the dominant service provider to enable every home inhabitants living in a health and safety environment, and their properties held in well-maintained and durable

conditions. The PFM service providers are professionally trained to provide a wide range of property and facility management services. They include, namely, administering the management office for daily operational needs; ensuring adequate security protection for safety measures; carrying out routine and planned maintenance for building life span; providing club house amenities for joys and pleasure; monitoring efficient cleaning and waste disposal; arranging landscaping and gardening for scenery and pleasant environment; and other series of work areas related to the managed buildings. In other words, both quantitative and qualitative housing aspects are mutually inclusive for pro-active involvements of the PFM industry in the housing market.

15.2 Demand for PFM Services versus Supply of Building Stocks

Upon the surging supply of housing stock and other types of buildings, it must simultaneously go along with an increase in demand for the PFM business activities in order to afford comfortable and pleasant living places.

According to the Long Term Housing Strategy (LTHS) report 2014 published by the Transport and Housing Bureau of the HKSAR Government, housing demand is defined as the total number of new housing units required to be built if each and every household is to be accommodated in adequate housing over the long term. The projection of housing demand from 2013/14 to 2022/23 was estimated in the range of 420,150 units to 479,250 units, accounting for the mid-point at 450,000 units. As for the supply side, the total housing supply, taking into account of the vacancy situation of private residential flats, was projected within the range of 440,000 units to 500,000 units, amounting to a mid-point of 470,000 units to be the supply target in the next ten years

Given that the total estimated housing supply at a mid-point of 470,000 units, it was suggested to split into the public/private portion at a ratio of 60:40 in the total housing supply target over the next ten years. This would result in an estimated sum of 190,000 (40% of 470,000 units) new private housing supply over the next ten years, which would result in generating more socio-economic contribution to the overall local economy arising from the creation of direct, indirect and induced jobs to undertake the PFM business activities.

Apart from the projected supply of domestic units proposed by the LTHS, there would also be a forecast in the supply of non-domestic buildings to meet with the potential growth of needs across different trade business activities. Based on annual supply of the newly completed non-domestic buildings to the market over the last 5 years from 2008 to 2012, it is not impossible to work out an average supply of each type of newly completed non-domestic buildings for projection of future stock supplies as to be mentioned in the succeeding section.

15.3 Impacts of Future Increase in Property Supply on Productivity of PFM Industry

It is reckoned that the increasing demand for PFM services as a result of the new supply of all building stocks would definitely generate more business activities, which would eventually directly and indirectly enhance the productivities of other linked industries to the whole economy. By means of the overall existing building stocks, an annual shared portion of GO for each type of building can be obtained on the pro-rata basis (Table A14 in Appendix II refers). Through the year-on-year change in the annual shared gross over the last 5 years from 2008 to 2012, it is probably to work out a yearly rise or fall of GO in dollar value to forecast the future GO to be generated by the surging supply of building stocks.

It was noted that a rise and fall in the annual existing building stocks are the result of addition from newly completed supply and deduction from demolition of dilapidated buildings, but a fall in the existing stocks would yield a negative effect which are inappropriate to work out a unit rate of GO value. Therefore, it is notional to adopt the annual newly completed building supplies as a basis to estimate the unit rate of GO in dollar value per square metre for future projection purpose as shown in Table 7 (Refer to Table A15 in Appendix II for details).

Table 7 demonstrates the forecast of an estimated average value of annual GO at HK$148,750 per unit generated from newly completed domestic buildings; HK$1,341 per square metre from newly completed office buildings; HK$3,439 per square metre from newly completed commercial buildings, and HK$4,738 per square metre from newly completed industrial buildings respectively.

Table 7 : Distribution of Gross Output as per Different Types of Annual Newly Completed Buildings at Year End from 2008 to 2012

Building Type	YoY Newly Completed Units/GFA	Average YoY Change of Gross Output (HK$)	Estimated Average Gross Output (HK$)
Domestic	9,787 units	1,455,849	148,750 per square metre
Office	181,420 square metres	243,330,000	1,341 per square metre
Commercial	65,980 square metres	226,890,000	3,439 per square metre
Industrial	97,620 square metres	462,531,000	4,738 per square metre

Having said that the LTHS (2014) had expected a future supply of private housing stocks in a sum of 190,000 units in the next ten years, this may be used as a forecast target of future housing supplies for domestic buildings to predict the potential productivity of PFM industry as economic contribution to the local economy. Yet, for a simplicity sake, a multiple of 10 times to every newly completed non-domestic building would also be applied to project the supply of each type of such building stocks for forecasting future potential GO outputs in the forthcoming ten years.

In view of the estimate of expected average GO generated by each type of the building stocks (Table 7), together with the projected supply of all buildings in the next ten years, we could arrive at an estimated total GO of HK$37.6 billion (Table 8) that the PFM industry could achieve. This potential business income would definitely be attributable to the numerous economic contributions to GDP in many sectors of the economy.

Table 8 : 10-Year Projection of Gross Output to be generated by PFM Industry

10-year Projection	Unit/Square Metre	Estimated Price (HK$)	Estimated Total Gross Output (HK$)
Domestic	190,000 units (15,000,000 square metres)	$148,750 per unit	28,262,553,825
Office	1,814,200 square metres	$1,341 per square metre	2,433,298,639
Commercial	659,800 square metres	$3,439 per square metre	2,268,899,484
Industrial	976,200 square metres	$4,738 per square metre	4,625,314,152
Total			37,590,066,099

16. Contribution of PFM Industry to Employment Market

16.1 Job Creation for Future Increase of Building Stocks

Undoubtedly, upon swelling the building stock supplies in the forthcoming years, a greater number of persons are needed for the PFM industry to maintain a quality standard, this would lead to enhance the job employment opportunities in the labour market.

Again, on the pro-rata basis, it is probably to estimate the year-on-year change in the shared employment numbers (FTEs) for each type of building stocks over the last 5 years from 2008 to 2012 as shown Table A16 in Appendix II. This would form as a basis to work out the expected requirement of manpower supply for future job creation.

Since the repeated falls in the existing building stocks over years would result in negative impacts to the resulting figures which are unsuitable for projection purposes, the annual newly completed buildings are notionally adopted in arriving at the average rate of employment numbers (FTEs) by the total areas in square metres for the forecast of future manpower supply upon job creation from increasing building stocks.

According to our analysis from the data derived from the publications of the R&V Department, annual newly completed buildings (including domestic, commercial, office and industrial) accounted for a total area of approximately 950,000 square metres with an increase of 1,300 FTEs for the PFM jobs over the past 5 years from 2008 to 2012.

By reference to publication of the Government's Long Term Housing Strategy report in 2014, a future supply of private housing stocks is expected to be in a sum of 190,000 units (40% of the total 470,000 units) over the next ten years (LTHS 2014). On the other hand, it would also estimate to arrive at the forecast supply of all non-domestic buildings stocks by means of making a multiple of 10 times to the average yearly newly completed non-domestic buildings. As such, it is notionally able to project the future number of FTEs for job creation upon the increase in all types of building stock supplies over the next 10 years.

Given that a forecast of additional 190,000 private domestic units together with added non-domestic buildings, it would account for a total area of approximately 15,000,000 square metres over the next ten years. Having regard to this forecast, it is expected to create the PFM jobs of

about 21,000 FTEs in the employment market.

Hence, such 21,000 FTEs jobs created in the PFM industry would invariably make a significant contribution to the employment market in the local economy, because job creation would eventually cause to increase incomes for spending in different patterns that boost up different economic activities across various industries. So, its greater employment size is recognized as increasingly important role in the economic contribution in terms of GDP.

16.2 Sources of Manpower Supply for Demand of PFM Industry

As revealed from the recent questionnaires surveys furnished by the current trade practitioners, the findings have identified certain job areas in the PFM service activities that had encountered difficulties in the staff recruitments to fill up the vacancy or enhance the staff strength.

Table 9 shows three main job areas in security, building services maintenance and office administration that the current trade practitioners had expressed most concern to recruit adequate persons to take up the posts. Firstly, all respondents had come across a worse situation to employ security staff because of labour shortage. Secondly, about 75% of respondents have indicated they found few persons to take up the jobs in the building services maintenance area of the PFM activities, probably due to heavy workloads, long and irregular working hours, as well as lack of technical skills and knowledge. Also, about 75% of respondents have reflected that they face the problem of recruiting staff in the performing administration duties in management offices.

Furthermore, there are least difficulties to look for persons to be engaged in performing cleaning/waste disposal and club house services duties.

Table 9 : Recruitment Situation Analysis for PFM Industry

Position with Recruitment Difficulty	Respondent (%)
Office Administration	75
Building Services Maintenance	75
Security	100
Gardening/Landscaping	17
Club House Services	17
Cleaning/Waste Disposal	25

Source: From questionnaire survey.

In view of the recruitment difficulty in these three major job areas of security, building services maintenance and office administration coupled with the expected rising demand for PFM business activities to cope with the future increased supply of building stocks, it is vital to ensure adequate manpower supply to the industry. According to the Composite Employment Estimates (CEE), the overall employment number in Hong Kong in 2012 was 3,657,100, and the year-on-year growth in total employment eased slightly to 1.9% in the first quarter of 2013, from 2.0% in the preceding quarter. Due to the slowing down of employment growth, the number of the

unemployed rose by 15,400 to 132,500 during the first quarter of 2013 (C&SD). In view of that, persons who were unemployed or underemployed would become a main source of manpower supply for staff recruitments to fill up vacancies and cater for job creation as to uphold and enhance the productivity as well as not to hamper job growth potential due to the impacts of foreseeable ageing population. Table 10 illustrates that there is a quite considerable number of persons falling within unemployment and underemployment groups in the years 2011 to 2013, so a large size of job creation would definitely help improve the labour market in the local economy.

Table 10 shows within the unemployed and underemployed groups in the labour market, there had been significant job losses amongst managers and administrators at the middle age of 40 and above, as well as school leavers between 18-24 of those with post-secondary education and lower secondary education, they would benefit most from the job creation in any service trade. The creation of jobs would essentially provide them with chances to enter or re-enter the labour market.

Table 10 : Distribution of Unemployment and Underemployment Numbers by Group from 2011 to 2013

	Unemployment			Underemployment			Overall		
Year	2011	2012	2013	2011	2012	2013	2011	2012	2013
Age Group	('000)	('000)	('000)	('000)	('000)	('000)	('000)	('000)	('000)
15 – 24	29.8	23.2	N/A	5.7	5.4	N/A	35.5	28.6	N/A
25 – 29	19.5	16.8	N/A	4.9	4.4	N/A	24.4	21.2	N/A
30 – 34	14.1	11.9	N/A	5.2	4.5	N/A	19.3	16.4	N/A
35 – 39	14.4	12.0	N/A	7.0	5.6	N/A	21.4	17.6	N/A
40 – 44	16.7	13.4	N/A	8.2	8.0	N/A	24.9	21.4	N/A
45 – 49	18.0	13.7	N/A	13.7	9.5	N/A	31.7	23.2	N/A
50 – 54	19.0	15.6	N/A	12.8	12.1	N/A	31.8	27.7	N/A
55 – 59	12.3	9.8	N/A	9.5	7.6	N/A	21.8	17.4	N/A
> 60	4.8	4.0	N/A	4.1	4.6	N/A	8.9	8.6	N/A
Total	148.6	120.4	N/A	71.1	61.7	N/A	219.7	182.1	N/A

Source: Annual Digest 2013/14 (C&SD).

Furthermore, the latent labour force (known as economically inactive population for those who have not had a job and are unemployed) amounted to some 2.4 million in 2012, which mainly included three groups. Firstly, the youngsters (aged 15-29) who are not in employment, education or training (the so-called NEETs), and there were roughly 31,500 NEETs, which represented around 1.3% of the total economically inactive population. Amongst those at prime working age (aged 30-59), 72% had to take up family responsibilities as home-makers, of which 98% were female that accounted for 22% of the economically inactive population. Lastly, the

early retirees (aged 50-64) which constituted a larger share at 9.7% in 2012, up from 7.9% in 2011. These 3 groups were estimated to comprise 782,900 persons or 32% of the total latent labour force in 2012, which could signify an adequate potential source of additional labour force to fill up the demand arising from job creation (C&SD).

To cope with the increasing demand for the PFM business activities, there are several sources of supplying sufficient manpower from the early retirees, secondary/higher school leavers, and those in inactive population category group such as NEETs, and female family home-makers. These groups of persons can be provided with appropriate training programmes or schemes as to undertake different kinds of PFM jobs, particularly in the work areas of security, maintenance services and other junior posts which most employers had currently encountered recruitment difficulties as revealed in our recent questionnaire surveys.

Apart from the internal promotion of junior grades, graduates of universities or higher education are another source of manpower supply for the supervisory and managerial staff to perform upper level duties of work in the PFM business activities. Table 11 shows a substantial number of fresh graduates every year to become a major labour force for undertaking supervisory and managerial jobs in the PFM industry.

Table 11 : Distribution of Number of Graduates from 2010 to 2012

Type	2010	2011	2012
SCExam/DSC	122,387	26,572	72,620
Sub-degree	3,182	3,339	3,252
Undergraduate	17,174	17,599	17,630

Source: Composite employment Data (C&SD 2012).

Our recent questionnaires survey revealed that most trade operators had seriously encountered difficulty in staff recruitments, predominantly in the job areas of building maintenance and security services. By nature of these job requirements, school leavers with lower secondary education, early retirees, and inactive youngsters (NEETs) as well as female home-makers can be trained to perform the security jobs after undergoing suitable training schemes or programmes offered by the employers or other recognized training institutes, such as Vocational Training Council (VTC) and Labour Department. Whereas, those persons who have post secondary or higher education are offered with appropriate in-house apprenticeship programmes or on-the-job technical training courses so as to upgrade and enrich their knowledge and experience to handle the maintenance jobs. By means of providing suitable training programmes to these groups of persons, a sufficient manpower would be supplied to cope with increasing demand of staff for jobs to be created.

According to the survey by the VTC in 2013 (RETB, 2013), 91.9% of the employees were preferred to have university degree or above or professional qualifications for the managerial and professional grades within the real estate industry, 71.4% of them preferred the supervisory level to have diploma or certificate or above academic qualifications and 76.6% of them favoured the

technical support and operative level to have Secondary 5 or above academic. An enhancement in the educational requirements would definitely enrich the standard of PFM service providers, which indirectly led or induced the education institutions to offer more relevant studies for higher level of academic achievements as to meet with the job requirements. In other words, there are increasing economic activities across all educational institutions which in turn would generate more indirect and induced effects on the GDP contribution in the economy.

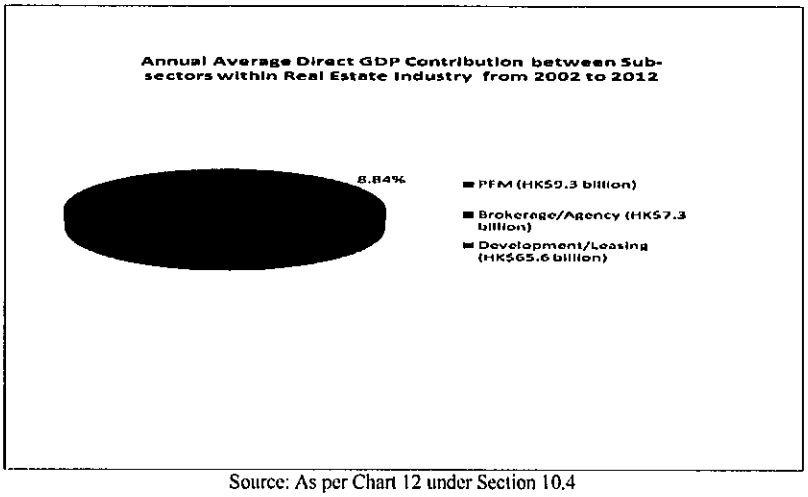
17. Conclusion

This study report has documented the various economic benefits that the PFM industry has brought to Hong Kong economy over the last eleven years, the study starts with the overall macroeconomic contribution made from the financial year 2002 to 2012 inclusive, which is a representation of the flow from labour and capital in the industry through the direct, indirect and induced contributions to the GDP of local economy. Apart from its existing economic activities, the surging demands for the PFM services upon job creation arising from the projected supply of all types of building stocks over the next ten years would definitely further enhance its GDP contribution on employment market and productivity.

In terms of individual trade productivity, the PFM industry generated a total gross output of HK$260 billion and gross surplus of HK$16 billion over the past 11 years, from 2002 to 2012. Hence, it had achieved its shared portion ranging from 9.1% to 14.5% of the whole real estate industry as an annual direct contribution to GDP, which accounted for an overall annual average of HK$9.3 billion or 11.3% of the total real estate sector.

Comparatively, it fetched higher than the brokerage/agency that posted its annual direct GDP contribution in between 5.1% to 10.4% of the total, with an overall annual average of HK$7.3 billion or 8.84% of the total, being as the weakest performer of the GDP contribution in the whole real estate sector. Whereas, the development/leasing sub-sector appeared to predominate the whole real estate industry in view of its higher value-added (VA) contents and capital intensive business activities, which had attained a major share from 76% to 82% with an overall annual average of HK$65.6 billion or 79.86% of the whole real estate sector (Chart 32 refers). Therefore, amongst its counterparts within the real estate sector, the PFM is considered as a moderate component industry of the real estate trade business in the Hong Kong economy.

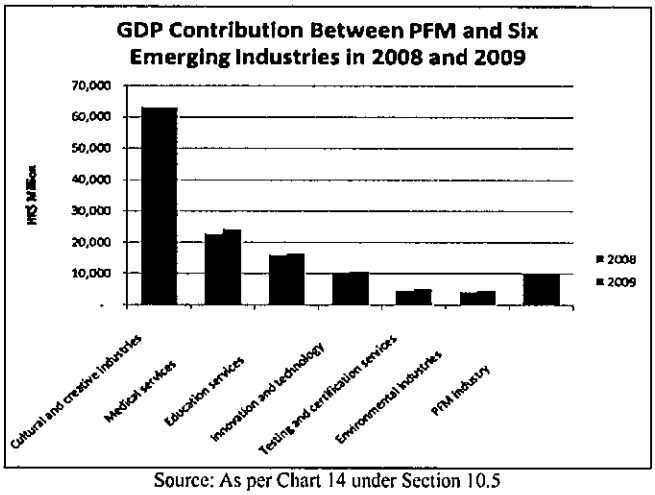
Chart 32 : Annual Average Direct GDP Contribution between Sub-sectors within Real Estate Industry from 2002 to 2012



Source: As per Chart 12 under Section 10.4

Over the past 11 years from 2002 to 2012, the percent share of PFM industry in its GDP contribution posted within a range from 0.53% to 6.6%, accounting for an average of 0.58% (or HK$9.3 billion) of the overall GDP at HK$1,600 billion. Though the GDP contribution of PFM industry lies at between the lowest (Brokerage/Agent) and the highest (Development/Leasing) within the real estate sector, it is still considered better than other two industries in the so-called 6 emerging industries in the local economy in 2008/2009. The PFM industry with a value-added of HK$9.9 billion or 0.58% of the overall GDP is comparatively greater than that of Testing/Certification services which has a value-added of HK$5 billion or 0.26% of the overall GDP, and Environmental industries that has a value-added of HK$4.2 billion or 0.25% of the overall GDP respectively (Chart 33 refers).

Chart 33 : GDP Contribution between PFM and Six Emerging Industries in 2008 and 2009



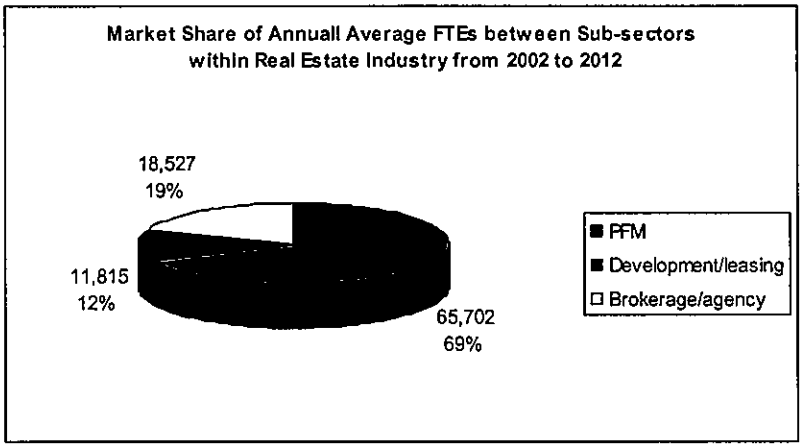
Source: As per Chart 14 under Section 10.5

As far as the trade business value and size are concerned, the PFM industry oversaw all types of private building stocks with a total gross floor area of 114,355,220 square metres at an estimated

property asset value of HK$15,692.8 billion in 2012 (R&VD 2013). Its enormous business involvements in terms of value and building area are quite contributable to the productivity of the local economy.

From an employment perspective, 74,295 persons (FTEs) engaged in the PFM industry out of the total employment of 118,308 persons for the whole RE industry in 2012, it directly employs 63% of the total labour force in the real estate sector. Over the past eleven years from 2002 to 2012, an annual average persons engaged in the PFM industry was 65,702, accounting for 69% within the real estate sector, whilst only 12% or 11,815 FTEs were achieved by the Development/Leasing sub-sector and Brokerage/agency posted to 19% or 18,527 persons respectively. Hence, the greatest sized employment in the PFM industry reflected its labour dominated and intensity business nature, generating a significant contribution to labour market in the local economy.

Chart 34 : Distribution of Overall Annual Average of Employment (FTEs) between Sub-sectors within Real Estate Industry from 2002 to 2012



Source: As per Chart 19 under Section 11.2

The volume of total labour income earned by the persons engaged in PFM industry was substantially higher than its counterparts within the real estate sector, its annual labour income fetched at approximately HK$11 billions, accounting for 43% of the total income, at HK$25.3 billions in the whole sector in 2012. A total number of 74,295 FTEs employed in the PFM industry represented a unit rate of wage per worker at HK$148,000 per annum, which is regarded slightly above the average range of the annual employment earnings at HK$135,000 per annum in the overall economy general level of domestic income in the local market (C&SD, 2011). This implies that, the PFM industry affords a noteworthy share of the local economy in terms of labour income coupled with employment.

In addition, the remarkable performance of the PFM industry promotes awareness and equity in its regional brand, resulting in numerous economic benefits through indirect and induced contribution accrued to the Hong Kong's economy. Undisputedly, all well-managed buildings

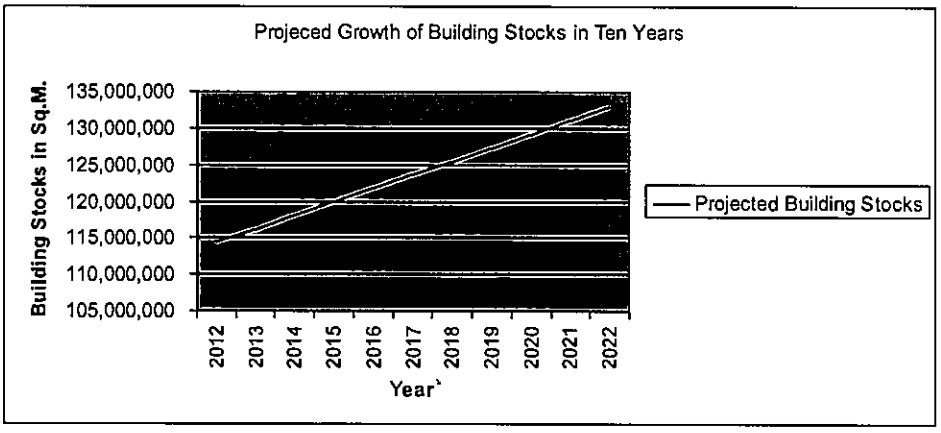
would increase the capital value of property holding; extend the life span of premises; and provide a comfortable and safe living environment. This then enhances the perception of Hong Kong as the best city in terms of living quality and building management as well as a sense of ideal home in the region and worldwide.

The demand generated by the PFM industry brings about the indirect and induced contribution through the purchase of goods and services produced in other related industries. In the absence of recognized public or official input-output (IO) modeling framework at the time of the study, it is not possible to quantify the extent of its indirect and inducted impacts.

Nevertheless, the growth of business activities across other related industries and the increases in household incomes by the PFM industry business activities with job creation are evidence of direct, indirect and induced economic benefits contributed from the PFM industry.

In consideration of the published LTHS report in 2014, it has stipulated an increase of supply of 190,000 housing units over the next ten years has been projected to accommodate the rising demand as to alleviate the current imbalance supply-demand situation. Coupled with the forecast of progressive supply of all type of non-domestic building stocks to the property market, the straight line assumption of annual building stocks provision is prepared for notional estimation and should not be treated as actual amount of provision, nonetheless, such assertions would undoubtedly lead the PFM industry to generate a significant amount of gross output, employment number, labour income and operating expenses, thus enhancing the overall productivity of the local economy through its direct, indirect and induced economic activities on spending and consumption of goods and services provided across all industries (Chart 35 refers).

Chart 35 : Projection Growth of Building Areas in Ten Years



Source: Projection based on data provided in the LTHS 2014

Moreover, as a result of surging supply of all types of buildings in the next ten years, the increasing size of labour force would not only uphold and enhance the domestic labour market, but also not hamper the local economic growth potential due to the impacts of foreseeable

increase of ageing population. By the expansion of employment size upon job creation, it would definitely improve the household incomes as more persons are employed to earn incomes for consumption in different spending patterns. This so effectively gives rise to direct, indirect and induced economic activities for contribution of the GDP.

Last but not least, this research illustrates the economic contribution of PFM industry GDP to the local productivity in terms of its value-added, employment, gross output, labour income, gross surplus and operating expenses through direct, indirect and induced economic activities. By comparison with other two component industries (i.e., Development/Leasing and Brokerage/Agent) within the real estate sector as well as the six emerging industries, the study indicates the PFM industry proffers the progressive growth in its economic contribution to the local economy, and remains tremendously invaluable to the property market in Hong Kong.

18. Further Study

Due to time constraints of the study, the data elicited from limited numbers of practising PFM firms/organisations, the analyses might not be able to provide a complete picture of the industrial practice on such data of MR, market/employment projection and etc., it is suggested to conduct a more thorough comprehensive survey(s) with the industry in future to testify the outcome of our study.

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Disclaimers

The statements and opinions in this report have been prepared with extensive care, diligence and

in good faith. In preparing the report, it has relied on the data and information provided by government publications and other parties concerned as being complete and complete at the time it was given. The viewpoints expressed in this report represent our independent analysis and assessment of the information provided.

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We accept responsibility arising in any way of errors or omission (including responsibility to any person for negligence) which is assumed by us or any of our partners or employees for the preparation of the report to the extent that such errors or omission result from our reasonable reliance on information provided by others or assumptions disclosed in the report or assumption reasonably taken as implicit.

Under no obligation, we revise or amend our report if any additional information (particularly as regards the assumptions we have relied upon) which exists at the date of our report, but was not drawn to our attention during its preparation, subsequently comes to light.

To maintain confidentiality of information relating to individual establishments, sources of relevant individual private data and figures were not disclosed. However, the findings of economic contribution of the PFM industry in terms of GDP to Hong Kong economy would not regarded to be conclusive, rather for reference purposes. The expression of views were mainly based on the reasonable assumption and inference with the support from analysis of those data and figures extracted, hence, this research study did not constitute any direct or vicarious liability of whatsoever for the decision so made.

Last but least, the findings described in this paper was conducted on behalf of the Property and Facility Management Division of the Hong Kong Institute of Surveyors, and the view expressed herein are those of the authors and do not necessarily reflect the views of the PolyU Technology and Consultancy Company Limited. It is not intended to and should not be used or relied upon by anyone for any purposes, no one should refer to or use the materials or contents for any other purposes and we accept no duty of care or responsibility to any person or entity arising from the materials or contents of this study report.

Appendix I

Sample of Questionnaire

12th August, 2014

QUESTIONNAIRES FOR RESEARCH PROJECT

CONTRIBUTION OF PROPERTY AND FACILITY MANAGEMENT (PFM) INDUSTRY IN TERMS OF GROSS DOMESTIC PRODUCT TO HONG KONG ECONOMY

This is a questionnaire survey for a joint research study project conducted by the Property and Facility Management Division (PFMD) of the Hong Kong Institute of Surveyors (HKIS) and the PolyU Technology & Consultancy Company Limited on the topic "Economic Contributions of The Property and Facilities Management Industry In Terms of Gross Domestic Product to Hong Kong Economy. The prime aim of this survey is to collect information in support of the analysis for compilation of data as to reflect how far the Property and Facility Management (PFM) industry has contributed towards local economy by means of the economic performance in the past years.

The results of this survey are **SOLELY** designated and used for research study, you are assured of their confidentiality whatsoever and all data will definitely be destroyed immediately after the study.

The format of questionnaire mainly contains short questions to be answered by figures and brief expression of words. You are cordially invited to answer to all questions as far as possible and practicable. You are always welcome to contact Sr William Wong, Research Manager, on 6608 4073 or Sr Dr K.K. Lo, Research Director on 2766 5878 for any further enquiries in connection with the subject matter. Please fill in and return the completed questionnaire to us by email via bskklo@polyu.edu.hk by **10th September, 2014**. Your information is very helpful in the interest of PFMD for future professional development. Your co-operation in this matter is highly appreciated.

1. What are the total numbers of unit of building and/or sizes in terms of Gross Floor Area (GFA) under the management of your company/organization?

Year	Residential (Unit/GFA in ft^2)	Office (Unit/GFA in ft^2)	Commercial (Unit/GFA in ft^2)	Industrial (Unit/GFA in ft^2)
2008				
2009				
2010				
2011				
2012				

2. What are the numbers of total staff involved in performing property and facility management services to all properties managed by your company (including all levels)?

Year	No.
2008	
2009	
2010	
2011	
2012	

3. At what **AVERAGE** percentage of the total annual management fees/service charges collected from all of your managed properties as your Managers' Remuneration for providing property and facility management services?

Year	Residential (%)	Office (%)	Commercial/Retails (%)	Industrial (%)
2008				
2009				
2010				
2011				
2012				

4. Apart from collection of all those basic service charges (such as building maintenance, security, cleaning/refuse collection, and landscaping/gardening) which are contained in the management fees, what are the total annual incomes received from the following concierge services?

Type	2008 ($)	2009 ($)	2010 ($)	2011 ($)	2012 ($)
Club House Facilities					
Shuttle Bus Service					
Others (please specify)					
Others					
Others					

5. For calculating the staff strength, on what basis of scale adopted by your company to formulate the manpower strength including all levels for the number of accommodation units or size of GFA?

5.1

As Per Accommodation Unit	Total No. of Unit	Total No. of Staff
Residential Use		
Office Use		
Commercial/Retails Use		
Industrial Use		
Others, please specify		
Other Use		
Other Use		

5.2

As Per GFA	Size (ft^2/m^2)*	Total No. of Staff
Residential Use		
Office Use		
Commercial/Retails Use		
Industrial Use		
Others, please specify		
Other Use		
Other Use		

* Please delete whichever is inappropriate

6. What are the core areas of work comprised in the daily activities of PFM industry that your company/organization are currently engaged in all your managed buildings?

Item	Job Area	Estimated %
a	Operational Administration	
b	Building Services Maintenance	
c	Security	
d	Gardening/Landscaping	
e	Club Facility Services	
f	Cleaning/Waste/Disposal	
g	Car Parking Management	
h	Environmental Management/Control	
j	Others, please specify	
j1	Other	
j2	Other	
Total		100

7. In addition to those current property and facility management business activities mentioned at the previous question, what are other job areas you expect to cover for the foreseeable future growth of PFM industry?

Item	Job Name	Additional Staff Required (No.)	Estimated Income (% of Management Fee)
a			
b			
c			
d			
e			

8. Broadly, there are five main areas of job comprising of administration, technical, security, club services and gardening/landscaping/cleaning/waste, which one you have currently encountered difficulties in your staff recruitment exercise?

Item	Job Name	Please Tick
a	Administration for estate management office	
b	Technical for building maintenance services	
c	Security for tower guards, patrol/control room	
d	Club house services	
e	gardening/landscaping/cleaning/waste	
f	Others, please specify	
f1	Other	
f2	Other	

9. In support of your daily property and facility management services, what are/might be the linked-trade business (e.g., laundry services, meal and newspaper ordering, graphic design for notice displays, etc.) you need to procure with the support of estimated % on basic operating expenses?

Linked-trade Business	Estimated % of Basic Operating Expenses				
	2008 (%)	2009 (%)	2010 (%)	2011 (%)	2012 (%)

10. Additional information for enhancing the economic contributions of the PFM industry:

.....
.....
.....
.....

Optional Contact Details

Name: _____ Organization/Company: _____

Contact Tel. No.: _____ Email Address: _____

- END -

Appendix II

Tables of Data

Table A1 : Comparison of Year-on-Year Percentage Change in the Gross Output (GO) and Direct Gross Domestic Products (GDP) of Property & Facility Management (PFM) Industry from 2002 to 2012

(Year)	PFM Industry			
	Gross Output (HK$ million)	YoY Change (%)	GDP Contribution (HK$ million)	YoY change (%)
2002	20,592	-0.93	7,665	-5.14
2003	20,387	-1.00	7,734	0.90
2004	20,384	-0.01	7,775	0.53
2005	21,270	4.35	8,427	8.39
2006	20,439	-3.91	8,393	-0.40
2007	21,587	5.62	8,748	4.23
2008	25,306	17.23	9,856	12.67
2009	23,634	-6.61	9,777	-0.80
2010	24,824	0.80	10,430	6.68
2011	28,583	19.98	11,257	7.93
2012	33,530	17.31	12,103	7.52
Average	**23,685**	**4.75**	**9,288**	**3.86**

Note: Figures are extracted from the Monthly Digest of Statistics published by C&SD.
YoY represents change from the respective year of the preceding year.

Table A2 : Percent Share of Annual Gross Output (GO) for Direct Gross Domestic Products (GDP) Contribution between Sub-sectors within Real Estate (RE) Industry from 2002 to 2012

	PFM			Development/leasing			Brokerage			RE industry	
(Year)	GO ($'000)	YoY Change (%)	Percent Share (%)	GO ($'000)	YoY Change (%)	Percent Share (%)	GO ($'000)	YoY Change (%)	Percent Share (%)	Total GO ($'000)	Total (%)
2002	20,592	-0.93	24.09	59,720	-0.40	69.86	5,171	2.40	6.05	85,483	100.00
2003	20,387	-1.00	25.68	52,828	-11.54	66.53	6,189	19.69	7.79	79,404	100.00
2004	20,384	-0.01	26.26	49,793	-5.75	64.15	7,440	20.21	9.59	77,617	100.00
2005	21,270	4.35	24.77	56,810	14.09	66.15	7,801	4.85	9.08	85,881	100.00
2006	20,439	-3.91	21.82	65,325	14.99	69.73	7,916	1.47	8.45	93,680	100.00
2007	21,587	5.62	20.04	74,888	14.64	69.51	11,267	42.33	10.46	107,742	100.00
2008	25,306	17.23	20.18	88,558	18.25	70.63	11,524	2.28	9.19	125,388	100.00
2009	23,634	-6.61	18.09	91,519	3.34	70.07	15,462	34.17	11.84	130,615	100.00
2010	24,824	0.80	16.87	101,192	10.57	71.65	16,206	4.81	11.48	141,222	100.00
2011	28,583	19.98	16.86	122,856	21.41	72.45	18,125	11.84	10.69	169,564	100.00
2012	33,530	17.31	17.31	133,227	8.44	71.14	20,528	13.26	10.96	187,285	100.00
Average	**23,685**	**4.80**	**20.28**	**81,520**	**8.00**	**69.79**	**11,603**	**14.30**	**9.93**	**116,807**	100.00

Note: Figures are extracted from the Monthly Digest of Statistics published by C&SD.
YoY represents change from the respective year of the preceding year.

Table A3 : Year-on-Year (YoY) Percentage Change in the Value-Added (VA) of PFM industry and Percent Share of the Overall Local Gross Domestic Products (GPD) from 2002 to 2012

Year	Overall Local GDP (HK$ million)	YoY change (%)	PFM's Value Added (HK$ million)	YoY change (%)	% share of PFM Contribution to Overall GDP
2002	1,297,341	-1.80	7,665	-5.14	0.59
2003	1,256,669	-3.14	7,734	0.90	0.62
2004	1,316,949	4.80	7,775	0.53	0.59
2005	1,412,125	7.23	8,427	8.39	0.60
2006	1,503,351	6.46	8,393	-0.40	0.56
2007	1,650,756	9.81	8,748	4.23	0.53
2008	1,707,487	3.44	9,856	12.67	0.58
2009	1,659,245	-2.83	9,777	-0.80	0.59
2010	1,777,720	7.14	10,430	6.68	0.59
2011	1,935,195	8.86	11,257	7.93	0.58
2012	2,037,165	5.01	12,103	6.99	0.59
Average	**1,595,819**	**4.09**	**9,288**	**3.82**	**0.58**

Note: Figures are extracted from the Monthly Digest of Statistics published by C&SD.
YoY represents change from the respective year of the preceding year.

Table A4 : Distribution of Value-Added (VA) as Direct Gross Domestic Products (GDP) Contribution between Sub-sectors within Real Estate (RE) Industry from 2002 to 2012

	PFM			Development/leasing			Brokerage			RE industry	
(Year)	GDP Contribution (HK$ million)	YoY change (%)	Percent Share	GDP Contribution (HK$ million)	YoY change (%)	Percent Share	GDP Contribution (HK$ million)	YoY change (%)	Percent Share	Total GDP Contribution (HK$ million)	Total (%)
2002	7,665	-5.14	13.10	47,854	-3.40	81.77	3,002	-1.40	5.13	58,521	100
2003	7,734	0.90	14.50	42,006	-12.22	78.77	3,588	19.52	6.73	53,328	100
2004	7,775	0.53	14.44	40,868	-2.71	75.88	5,213	45.29	9.68	53,856	100
2005	8,427	8.39	13.89	46,895	14.75	77.31	5,338	2.40	8.80	60,660	100
2006	8,393	-0.40	12.33	54,712	16.67	80.40	4,944	-7.38	7.27	68,049	100
2007	8,748	4.23	10.94	62,884	14.94	78.67	8,299	67.86	10.38	79,931	100
2008	9,856	12.67	10.79	73,563	16.98	80.53	7,929	-4.46	8.68	91,348	100
2009	9,777	-0.80	10.06	78,021	6.06	80.24	9,434	18.98	9.70	97,232	100
2010	10,430	6.68	10.21	81,484	4.44	79.75	10,258	8.73	10.04	102,172	100
2011	11,257	7.93	10.62	85,018	19.48	80.20	9,739	-5.06	9.19	106,014	100
2012	12,103	7.52	9.12	108,465	11.41	81.74	12,120	24.45	9.13	132,688	100
Average	**9,288**	**3.86**	**11.82**	**65,615**	**7.95**	**79.57**	**7,260**	**15.36**	**8.61**	**82,164**	**100**

Note: Figures are extracted from the Monthly Digest of Statistics published by C&SD.
YoY represents change from the respective year of the preceding year.

Table A5 : Annual Change of Property & Facility Management (PFM) Industry's Employment (FTEs) and Direct Gross Domestic Products (GDP) from 2002 to 2012

	PFM Industry			
Year	Employment (FTEs)	YoY Change (%)	GDP Contribution (HK$ million)	YoY change (%)
2002	55,678	0.20	7,665	-5.14
2003	58,258	4.63	7,734	0.90
2004	62,186	6.74	7,775	0.53
2005	68,126	9.55	8,427	8.39
2006	67,523	-0.89	8,393	-0.40
2007	67,885	0.54	8,748	4.23
2008	58,587	-13.70	9,856	12.67
2009	68,713	17.28	9,777	-0.80
2010	70,535	2.65	10,430	6.68
2011	70,937	0.57	11,257	7.93
2012	74,295	4.73	12,103	7.52
Average	**65,702**	**3.04**	**9,288**	**3.86**

Note: Figures are extracted from the Monthly Digest of Statistics published by C&SD.
YoY represents change from the respective year of the preceding year.

Table A6 : Distribution of Employment (FTEs) for Direct Gross Domestic Products (GPD) Contribution between Sub-sectors within Real Estate (RE) Industry from 2002 to 2012

	PFM			Development/leasing			Brokerage			RE industry	
Year	Employment (FTEs)	YoY Change (%)	Percent Share	Employment (FTEs)	YoY Change (%)	Percent Share	Employment (FTEs)	YoY Change (%)	Percent Share	Employment (FTEs)	Total (%)
2002	55,678	0.20	71.83	8,859	-6.40	11.43	12,973	3.30	16.74	77,510	100
2003	58,258	4.63	72.41	8,794	-0.73	10.93	13,409	3.36	16.67	80,461	100
2004	62,186	6.74	72.39	8,900	1.21	10.36	14,819	10.52	17.25	85,905	100
2005	68,126	9.55	73.19	9,375	5.34	10.07	15,585	5.17	16.74	93,086	100
2006	67,523	-0.89	71.86	10,260	9.44	10.92	16,179	3.81	17.22	93,962	100
2007	67,885	0.54	70.62	10,476	2.11	10.90	17,762	9.78	18.48	96,123	100
2008	58,587	-13.70	64.69	13,824	31.96	15.27	18,148	2.17	20.04	90,559	100
2009	68,713	17.28	63.45	15,130	9.45	13.97	24,445	34.70	22.57	108,288	100
2010	70,535	2.65	62.53	18,562	22.68	16.45	23,710	-3.01	21.02	112,807	100
2011	70,937	0.57	62.70	13,965	-24.77	12.34	28,240	19.11	24.96	113,142	100
2012	74,295	4.73	62.80	13,243	-5.17	11.19	30,770	8.96	26.01	118,308	100
Average	**65,702**	**2.94**	**67.53**	**11,944**	**4.10**	**12.28**	**19,640**	**8.90**	**20.19**	**97,286**	**100**

Note: Figures are extracted from the Monthly Digest of Statistics published by C&SD.
YoY represents change from the respective year of the preceding year.

Table A7 : Year-on-Year (YoY) Percentage Change of Property & Facility Management (PFM) Industry's Labour Income (LI) and Direct Gross Domestic Products (GDP) from 2002 to 2012

Year	PFM Industry			
	Labour Income (HK$ million)	YoY Change (%)	GDP Contribution (HK$ million)	YoY change (%)
2002	6,718	-5.50	7,665	-5.14
2003	6,636	-1.22	7,734	0.90
2004	6,824	2.83	7,775	0.53
2005	7,469	9.45	8,427	8.39
2006	6,972	-6.65	8,393	-0.40
2007	7,507	7.67	8,748	4.23
2008	7,383	-1.65	9,856	12.67
2009	8,545	15.74	9,777	-0.80
2010	8,743	2.32	10,430	6.68
2011	9,898	13.21	11,257	7.93
2012	10,964	10.77	12,103	6.99
Average	**7,969**	**5.25**	**9,288**	**3.82**

Note: Figures are extracted from the Monthly Digest of Statistics published by C&SD.
YoY represents change from the respective year of the preceding year.

Table A8 : Percent Share of Annual Labour Income (LI) for Direct Gross Domestic Products (GDP) Contribution between Sub-sectors within Real Estate (RE) Industry from 2002 to 2012

	PFM			Development/leasing			Brokerage			RE industry	
Year	Labour Income (HK$ million)	YoY change (%)	Percent Share	Labour Income (HK$ million)	YoY change (%)	Percent Share	Labour Income (HK$ million)	YoY change (%)	Percent Share	Labour Income (HK$ million)	Total (%)
2002	6,718	-5.50	59.98	1,768	-11.80	15.79	2,714	-2.40	24.23	11,200	100
2003	6,636	-1.22	56.78	1,978	11.88	16.92	3,073	13.23	26.29	11,687	100
2004	6,824	2.83	53.41	1,868	-5.56	14.62	4,085	32.93	31.97	12,777	100
2005	7,469	9.45	55.05	1,810	-3.10	13.34	4,288	4.97	31.61	13,567	100
2006	6,972	-6.65	52.58	2,262	24.97	17.06	4,026	-6.11	30.36	13,260	100
2007	7,507	7.67	47.07	2,165	-4.29	13.58	6,275	55.86	39.35	15,947	100
2008	7,383	-1.65	46.62	2,900	33.95	18.31	5,553	-11.51	35.07	15,836	100
2009	8,545	15.74	43.77	3,350	15.52	17.16	7,626	37.33	39.07	19,521	100
2010	8,743	2.32	39.39	4,883	45.76	22.00	8,569	12.37	38.61	22,195	100
2011	9,898	13.21	43.67	3,874	-20.66	17.09	8,894	3.79	39.24	22,666	100
2012	10,964	10.77	43.39	4,108	6.04	16.26	10,199	14.67	40.36	25,271	100
Average	**7,969**	**4.27**	**47.25**	**2,815**	**8.43**	**16.56**	**5,937**	**14.10**	**36.19**	**16,721**	**100**

Note: Figures are extracted from the Monthly Digest of Statistics published by C&SD.
YoY represents change from the respective year of the preceding year.

Table A9 : Year-on-Year (YoY) Percentage Change of Property & Facility Management (PFM) Industry's Annual Operating Expenses (OE) and Direct Gross Domestic Products (GDP) Contribution of PFM Industry from 2002 to 2012

Year	PFM Industry			
	Operating Expenses (HK$ million)	YoY Change (%)	GDP Contribution (HK$ million)	YoY change (%)
2002	12,884	2.10	7,665	-5.14
2003	12,695	-1.47	7,734	0.90
2004	12,570	-0.98	7,775	0.53
2005	12,776	1.64	8,427	8.39
2006	11,963	-6.36	8,393	-0.40
2007	12,735	6.45	8,748	4.23
2008	15,807	24.12	9,856	12.67
2009	13,838	-12.46	9,777	-0.80
2010	14,273	3.14	10,430	6.68
2011	17,227	20.70	11,257	7.93
2012	21,147	22.75	12,103	6.99
Average	**14,356**	**5.42**	**9,288**	**3.82**

Note: Figures are extracted from the Monthly Digest of Statistics published by C&SD.
YoY represents change from the respective year of the preceding year.

Table A10 : Percent Share of Annual Operating Expenses (OE) between Sub-sectors within Real Estate (RE) Industry from 2002 to 2012

	PFM			Development/leasing			Brokerage			RE industry	
Year	Operating Expenses (HK$'000)	YoY change (%)	Percent Share	Operating Expenses (HK$'000)	YoY change (%)	Percent Share	Operating Expenses (HK$'000)	YoY change (%)	Percent Share	Operating Expenses (HK$'000)	Total (%)
2002	12,884	2.10	39.03	17,973	3.70	54.44	2,157	8.72	6.53	33,014	100
2003	12,695	-1.47	40.83	15,888	-11.60	51.10	2,512	16.46	8.08	31,095	100
2004	12,570	-0.98	45.33	13,020	-18.05	46.95	2,139	-14.85	7.71	27,729	100
2005	12,776	1.64	42.42	14,963	14.92	49.68	2,378	11.17	7.90	30,117	10
2006	11,963	-6.36	39.49	15,444	3.21	50.98	2,886	21.36	9.53	30,293	100
2007	12,735	6.45	37.50	18,396	19.11	54.17	2,827	-2.04	8.32	33,958	100
2008	15,807	24.12	40.81	19,408	5.50	50.11	3,516	24.37	9.0	38,731	100
2009	13,838	-12.46	38.06	17,596	-9.34	48.39	4,929	40.19	13.55	36,363	100
2010	14,273	3.14	38.88	17,627	0.18	48.01	4,813	-2.35	13.11	36,713	100
2011	17,227	20.70	41.37	17,650	0.13	42.39	6,760	40.45	16.24	41,637	100
2012	21,147	22.75	46.71	18,109	2.60	40.00	7,020	3.85	13.30	45,276	100
Average	**14,356**	**5.42**	**40.95**	**16,916**	**0.94**	**48.75**	**3,812**	**13.39**	**10.30**	**34,993**	**100**

Note: Figures are extracted from the Monthly Digest of Statistics published by C&SD.
YoY represents change from the respective year of the preceding year.

Table A11 : Direct Gross Output (GO) Coefficients between Sub-sectors within Real Estate Industry from 2002 to 2012

Year	PFM			Development/leasing			Brokerage/agency		
	Gross Output (HK$ M)	Operating Expenses (HK$ M)	Direct Gross Output Coefficient	Gross Output (HK$ M)	Operating Expenses (HK$ M)	Direct Gross Output Coefficient	Gross Output (HK$ M)	Operating Expenses (HK$ M)	Direct Gross Output Coefficient
2002	20,592	12,884	0.63	59,720	17,973.	0.30	5,171	2,157	0.42
2003	20,387	12,695	0.62	52,828	15,888	0.30	6,189	2,512	0.41
2004	20,384	12,570	0.62	49,793	13,020	0.26	7,440	2,139	0.29
2005	21,270	12,776	0.60	56,810	14,963	0.26	7,801	2,378	0.30
2006	20,439	11,963	0.59	65,325	15,444	0.24	7,916	2,886	0.36
2007	21,587	12,735	0.59	74,888	18,396	0.25	11,267	2,827	0.25
2008	25,306	15,807	0.62	88,558	19,408	0.22	11,524	3,516	0.31
2009	23,634	13,838	0.59	91,519	17,596	0.19	15,462	4,929	0.32
2010	23,824	14,273	0.60	101,192	17,627	0.17	16,206	4,813	0.30
2011	28,583	17,227	0.60	122,856	17,650	0.14	18,125	6,760	0.37
2012	33,530	21,147	0.63	133,227	18,109	0.14	20,528	7,020	0.34
Average	**23,594**	**14,356**	**0.61**	**81,520**	**16,915**	**0.22**	**11,603**	**3,812**	**0.33**

Note: Figures are extracted from the Monthly Digest of Statistics published by C&SD.
YoY represents change from the respective year of the preceding year.

Table A12 : Direct Labour Income (LI) Coefficients between Sub-sectors within Real Estate Industry from 2002 to 2012

Year	PFM			Development/leasing			Brokerage/agency		
	Labour Income (HK$ M)	Gross Output (HK$ M)	Direct Income Coefficient	Labour Income (HK$ M)	Gross Output (HK$ M)	Direct Income Coefficient	Labour Income (HK$ M)	Gross Output (HK$ M)	Direct Income Coefficient
2002	6,718	20,592	0.33	1,768	59,720	0.03	2,714	5,171	0.52
2003	6,636	20,387	0.33	1,978	52,828	0.04	3,073	6,189	0.50
2004	6,824	20,384	0.33	1,868	49,793	0.04	4,085	7,440	0.55
2005	7,469	21,270	0.35	1,810	56,810	0.03	4,288	7,801	0.55
2006	6,972	20,439	0.34	2,262	65,325	0.03	4,026	7,916	0.51
2007	7,507	21,587	0.35	2,165	74,888	0.03	6,275	11,267	0.56
2008	7,383	25,306	0.29	2,900	88,558	0.03	5,553	11,524	0.48
2009	8,545	23,634	0.36	3,350	91,519	0.04	7,626	15,462	0.49
2010	8,743	23,824	0.37	4,883	101,192	0.05	8,569	16,206	0.53
2011	9,898	28,583	0.35	3,874	122,856	0.03	8,894	18,125	0.49
2012	10,964	33,530	0.33	4,108	133,227	0.03	10,199	20,528	0.50
Average	**7,969**	**23,594**	**0.34**	**2,815**	**81,520**	**0.03**	**5,937**	**11,603**	**0.52**

Note: Figures are extracted from the Monthly Digest of Statistics published by C&SD.

YoY represents change from the respective year of the preceding year.

Table A13 : Direct Employment (FTEs) Coefficients between Sub-sectors with Real Estate Industry from 2002 to 2012

Year	PFM			Development/leasing			Brokerage/agency		
	Employment (FTEs)	Gross Output (HK$ M)	Direct Employment Coefficient	Employment (FTEs)	Gross Output (HK$ M)	Direct Employment Coefficient	Employment (FTEs)	Gross Output (HK$ M)	Direct Employment Coefficient
2002	55,678	20,592	2.70	8,859	59,720	0.15	12,973	5,171	2.51
2003	58,258	20,387	2.86	8,794	52,828	0.17	13,409	6,189	2.17
2004	62,186	20,384	3.05	8,900	49,793	0.18	14,819	7,440	1.99
2005	68,126	21,270	3.20	9,375	56,810	0.17	15,585	7,801	2.00
2006	67,523	20,439	3.30	10,260	65,325	0.16	16,179	7,916	2.04
2007	67,885	21,587	3.14	10,476	74,888	0.14	17,762	11,267	1.58
2008	58,587	25,306	2.32	13,824	88,558	0.16	18,148	11,524	1.57
2009	68,713	23,634	2.91	15,130	91,519	0.17	24,445	15,462	1.58
2010	70,535	23,824	2.96	18,562	101,192	0.18	23,710	16,206	1.46
2011	70,937	28,583	2.48	13,965	122,856	0.11	28,240	18,125	1.56
2012	74,295	33,530	2.22	13,243	133,227	0.10	30,770	20,528	1.50
Average	**65,702**	**23,594**	**2.78**	**11,944**	**81,520**	**0.15**	**19,640**	**11,603**	**1.69**

Note: Figures extracted from Property Review, R&V Department, 2012/13/14.

Table A14 : Year-on-Year (YoY) Change of the Shared Employment (FTEs) and Gross Output (GO) for Different Types of Existing Building Stocks at Year End from 2008 to 2012

Table A15 : Year-on-Year (YoY) Change of Shared FTEs and Gross Output (GO) for Different Types of Annual Newly Completed Buildings at Year End from 2008 to 2012

Year	Existing Stock (Unit)		Existing Stocks (square metre)		Employment (FTEs)			Gross Output (GO)	
	Newly Completed (Unit)	Completed (square metre)	Shared FTEs	YoY Change in FTEs	Newly Completed Units/FTE	Shared GO (HK$)	YoY Change in GO (HK$)	GO/Newly Completed Unit (HK$)	
Domestic									
2008	8,776	1,085,932	65,768,790	59.2	40,138	-5,482	14,969,246	2,205,526	251.31
2009	7,157	1,090,614	66,260,185	59.3	34,656	-2	14,019,185	950,061	-132.75
2010	13,405	1,102,909	67,170,120	59.6	40,759	1	14,193,377	174,192	12.99
2011	9,449	1,110,561	67,748,075	59.7	42,022	11	17,063,763	2,870,387	303.75
2012	10,149	1,117,932	68,357,220	59.8	42,349	29	20,042,964	2,979,201	293.55
Average	9,787	N/A	40,839	854		5	16,057,707	1,455,849	148.75
Office									
2008	N/A	N/A	10,392,300	9.3	5,476	-740	2,365,330	388,609	1.14
2009	N/A	N/A	10,529,000	9.4	6,477	1,000	2,227,703	137,627	-0.91
2010	N/A	341,100	10,689,000	9.5	6,687	210	2,258,638	30,936	0.25
2011	N/A	151,000	10,782,100	9.5	6,740	53	2,715,696	457,058	2.94
2012	N/A	124,100	10,891,100	9.5	7,076	336	3,193,370	477,674	3.52
Average	N/A	155,200	6,740	53	2,928		2,713,696	457,058	2.94
Commercial									
2008	N/A	N/A	10,587,800	9.5	5,579	-869	2,409,827	359,409	7.29
2009	N/A	N/A	10,663,800	9.5	6,560	980	2,256,223	153,603	-1.84
2010	N/A	181,420	10,744,200	9.5	6,722	162	2,270,302	14,079	0.22
2011	N/A	49,300	10,791,900	9.5	6,746	24	2,718,165	447,862	10.61
2012	N/A	83,700	10,862,100	9.5	7,057	311	3,184,867	466,703	5.18
Average	N/A	64,600	6,746	24	1,758		2,718,165	447,862	10.61
Industrial									
2008	N/A	N/A	24,435,400	22.0	12,876	-2,207	5,561,597	765,456	8.59
2009	N/A	N/A	24,250,600	21.7	14,917	2,041	5,130,889	430,708	-143.57
2010	N/A	90,100	24,143,700	21.4	15,104	187	5,101,683	29,206	-0.20
2011	N/A	65,980	24,160,700	21.3	15,103	-1	6,085,375	983,693	7.20
2012	N/A	89,100	24,244,800	21.2	15,752	649	7,108,798	1,023,422	4.70
Average	N/A	3,000	12,876	-2,207	-40		5,561,597	765,456	8.59
Total									
2008	N/A	N/A	111,184,290	100	58,587	-9,298	25,366,000	3,719,000	-0.20
2009	N/A	N/A	111,705,585	100	68,713	10,126	23,654,000	-1,672,000	-7.20
2010	N/A	41,600	112,747,020	100	70,535	1,822	23,824,000	190,000	4.70
2011	N/A	136,700	113,482,775	100	70,937	402	28,583,000	4,759,000	4.71
2012	N/A	217,700	114,355,220	100	74,295	3,358	33,530,000	4,947,000	
Average	N/A	97,620	14,356	134	726		5,797,668	962,531	

Table A16 : Distribution of Employment (FTEs) as per Different Types of Yearly Completed Buildings at Year End from 2008 to 2012

Domestic			
Year	**Yearly Completed (Unit)**	**YoY of FTEs**	**Unit/FTE**
2008	8,776	-5,482	- 2
2009	7,157	6,103	1
2010	13,405	1,262	11
2011	9,449	326	29
2012	10,149	2,062	5
Average	9,787	854	11
Office			
Year	**Yearly Completed (Sq.M.)***	**YoY of FTEs**	**Square metre/FTE**
2008	341,100	-740	- 461
2009	151,000	1,000	151
2010	124,100	210	591
2011	155,200	53	2,928
2012	135,700	336	404
Average	181,420	172	1,056
Commercial			
2008	49,300	-869	- 57
2009	83,700	980	85
2010	64,600	162	399
2011	42,200	24	1,758
2012	90,100	311	290
Average	65,980	122	543
Industrial			
2008	89,100	-2,207	- 40
2009	3,000	2,041	1
2010	41,600	187	222
2011	136,700	2	68,350
2012	217,700	649	335
Average	97,620	134	726

Note: Figures are extracted from R&V Department of HKSAR.

Table A17 : Distribution of Annual Existing Building Stocks (Domestic/Office/Commercial/Industrial) with Average Market Price from 2008 to 2012

Year		2008	2009	2010	2011	2012	Growth Between 20108 to 2012 (%)
	GFA (square metre)	65,768,790	66,260,185	67,170,120	67,748,075	68,357,220	3.94
	Average Price/square metre	$80,403	$79,977	$97,223	$114,102	$121,183	50.72
Domestic	Value (HK$ million)	$5,287,990	$5,299,269	$6,530,458	$7,730,173	$8,283,701	56.65
	GFA (square metre)	10,392,300	10,529,000	10,689,000	10,782,100	10,891,100	4.80
	Average Price/square metre	$96,874	$90,143	$112,417	$140,806	$160,927	66.12
Office	Value (HK$ million)	$1,006,744	$949,114	$1,201,623	$1,518,184	$1,752,675	74.09
	GFA (square metre)	10,587,800	10,663,800	10,744,200	10,791,900	10,862,100	2.59
	Average Price/square metre	$205,607	$232,628	$262,491	$339,696	$418,331	103.46
Commercial	Value (HK$ million)	$2,176,922	$2,480,695	$2,820,259	$3,665,969	$4,543,950	108.73
	GFA (square metre)	24,435,400	24,250,600	24,143,700	24,160,700	24,244,800	-0.78
	Average Price/square metre	$21,100	$20,593	$26,471	$34,854	$45,884	117.46
Industrial	Value (HK$ million)	$515,579	$499,401	$639,100	$842,105	$1,112,456	115.77
	GFA (square metre)	111,184,290	111,703,585	112,747,020	113,482,775	114,355,220	2.85
	Value (HK$ million)	$8,987,236	$9,228,479	$11,191,441	$13,756,430	$15,692,782	74.61
Total	Value (HK$ billion)	$8,987.2	$9,228.5	$11,191.4	$13,756.4	$15,692.8	N/A

Note: Figures are extracted from R&V Department, HKSAR Government, 2014.