

**Economic Benefits of the Independent
Visitor Scheme for Hong Kong:
How Large are They?**

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April 2014

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Current Research Interests

International trade and economic development in China, Hong Kong, and Taiwan.

Acknowledgements

The author wishes to thank Dr. Stanley Ko, Post-Doctoral Fellow of the Shanghai-Hong Kong Development Institute, for his able research assistance, and also thank the staff of the Economic Analysis and Facilitation Unit of the Financial Secretary's Office for clarifying the methods used in official estimates of the benefits of IVS.

2014 Yun-Wing Sung

Downloadable at: <http://www.cuhk.edu.hk/shkdi/OP/OP32.pdf>

Economic Benefits of the Independent Visitor Scheme for Hong Kong: How Large are They?

自由行旅客對香港有多少經濟貢獻?

Abstract:

The explosive growth of visitors under the Independent Visitors Scheme (IVS) has led to overcrowding and escalating social tensions in Hong Kong. Given the very large number of visitors in 2012 (nearly 49 million, of whom over 23 million were IVS visitors), the official estimates of the direct value generated by visitors for Hong Kong were surprisingly small. According to 2012 official statistics, the spending of IVS (all) visitors was 5.4% (11.8%) of GDP, but the direct value added generated was only 1.3% (3.9%) of GDP. Tourist spending is weighted heavily towards Retail trade (shopping), which has a low rate of value added as most of the goods sold are imported. This paper first reviews the methodology of estimating benefits of tourism. Direct benefit is chosen to be the best measure as the inclusion of indirect or induced effects will likely exaggerate benefits and also lead to double counting. The direct benefits in value added and employment of inbound tourism are then disaggregated into benefits generated by IVS visitors, Non-IVS Mainland visitors, and Non-Mainland visitors (Official estimates of benefits of the latter two types of visitors are not available). Major findings are as follows. First, for IVS visitors, our estimates should be more accurate than official estimates as updated data are used in the paper. Second, in 2012, in comparison with Non-Mainland visitors, the per capita spending of IVS visitors was 7% higher, but the per capita value added (employment) generated was 49% (28%) lower. In comparison with Non-Mainland visitors, the spending of IVS visitors is much more (less) heavily weighted towards Retail trade (Hotels), which has a relatively low (high) rate of value added. Third, in 2012, though IVS visitors were much more numerous than Non-Mainland visitors (23.1 million vs. 13.7 million), they generated less value added (\$27.2 billion vs. \$31.4 billion). Fourth, while visitors' contributions to total value added and

employment were not large, their contribution to the growth of employment was very large: Employment generated by tourism grew rapidly while total employment in Hong Kong only grew slowly. From 2007-12, IVS (all) visitors accounted for 26% (33%) of the growth in employment in Hong Kong. Among the four key industries, tourism is the number one contributor to growth in employment. Fifth, visitor's spending is important for selected industries, namely, retail trade, accommodation services (hotels), and food services (restaurants). Lastly, our estimates ignore externalities. Negative externalities in terms of congestion and over-crowding are highly visible. Positive externalities are not conspicuous, but they can be large as IVS promotes economic integration of Hong Kong with the mainland by lowering cross-boundary transaction costs. The size of negative externality is highly dependent on the capacity to receive tourists. With effective policies to relieve capacity constraints, positive externalities may out-weight negative ones.

摘 要

自由行旅客的迅速增長造成擠擁及日益高漲的社會矛盾。外來旅客數目龐大（2012年達四千九百萬，其中二千三百萬為自由行旅客），可是按官方估計，其經濟利益卻出奇地低。根據2012年官方統計，自由行（所有）旅客開支為總產值的5.4%（11.8%），可是其對所得或增加值的貢獻祇有總產值的1.3%（3.9%）。旅客的消費偏重零售業（即購物），出售的商品大部分進口，產生的利益較低。本文考察估計旅遊業的經濟利益的方法，並採用直接利益作為衡量標準。如果加入間接或誘發利益，往往會把利益誇大，並引致重複計算。本文把入境旅遊的直接利益（包括增加值及就業）細分為源自自由行旅客、非自由行內地旅客、及非內地旅客產生的利益（政府祇估計自由行旅客產生的利益，沒有估計其他兩種旅客產生的利益）。本研究主要結果如下：一、筆者以最新的資料估計自由行旅客產生的利益，結果應較官方估計更準確。二、在2012年，與非內地旅客比較，自由行旅客的人均消

費高 7%，可是其產生的人均增加值（就業）卻低 49%（28%）。與非內地旅客比較，自由行旅客於零售業（酒店業）的消費較多（少），而零售業的增值率卻遠低於酒店業。三、在 2012 年，雖然自由行旅客數目遠超非內地旅客（二千三百萬對一千四百萬），可是其產生的增加值卻較少（272 億對 314 億）。四、雖然旅客對總產值及總就業的貢獻不大，其對業增長的貢獻卻甚大：入境旅客產生的就業增長迅速，而香港總就業卻增長緩慢。香港從 2007 到 2012 年間的就業增長，26%（33%）源於自由行（所有）旅客。在對總就業增長的貢獻而言，旅遊業位居四個主要行業之首。五、旅客消費對某些行業頗為重要，其中包括零售業、住宿服務（酒店）及餐飲服務。最後，本文的估計忽略界外效應，例如過度擠擁可帶來高昂界外成本。在另一方面，自由行的界外利益雖然不觸目，卻可以十分重要：自由行降低跨境交易成本，從而促進香港與內地的經濟融合。總括而言，界外成本源於接待旅客的容量不足。如果政府能有效擴容，自由行的界外利益便可能超越其界外成本。

1. Introduction

The explosive growth of visitors under the Independent Visitors Scheme (IVS) has led to overcrowding and escalating social tensions with the local population in Hong Kong. In a newspaper ad placed by disgruntled local residents, mainland tourists were depicted as “locusts” plundering Hong Kong.¹ Given the very large number of visitors in 2012 (nearly 49 million, of whom over 23 million were IVS visitors), the official estimates of the direct value generated by visitors for Hong Kong were surprisingly small. According to 2012 official statistics, the spending of IVS (all) visitors was 5.4% (11.8%) of GDP, but the direct value added generated was only 1.3% (3.9%) of the GDP. Tourist spending is weighted heavily towards Retail trade (shopping), which has a low rate of value added as most of the goods sold are imported. The employment generated by IVS (all) visitors in 2012 was 3.1% (6%) of total employment.² This is not insignificant, but still not very large. It should be noted that such benefits are *gross* benefits instead of *net* benefits, as the costs in terms of overcrowding and congestion have not been deducted.

¹ The socio-economic problems attributed to Mainland tourists included congestion of public transit and shopping areas, driving up real estate prices in Hong Kong, and shifting the composition of shops towards tourist-oriented luxury brands at the expense of provision of local necessities. More specifically, tourist demand led to a severe shortage of infant formula in Hong Kong, and the Hong Kong government has to impose a daily quota on the amount of powdered milk products that tourists can bring out of Hong Kong since 2013. Furthermore, many mainland mothers came to Hong Kong to give birth to acquire residency for their offspring. The problem was so serious that the government stopped admission of non-local pregnant women to Hong Kong hospitals in 2013. By then, over 200,000 mainland children whose parents were not Hong Kong residents already acquired residency status through birth in Hong Kong. Their demand for education and medical and health care have led to continuing shortages in public services.

² The contributions of all visitors are taken from the statistics on “four key industries” in the homepage of the Census and Statistics Department. The contributions of IVS visitors are taken from Commerce and Economic Bureau 2013: 36. It should be noted that the IVS estimates are based on preliminary data available in 2013. This paper re-computed the estimate based on updated data, and IVS visitors were found to generate 1.4% of GDP and 2.4% of employment.

The impact of the IVS has been hotly debated in Hong Kong. The social costs of IVS visitors are very difficult to quantify and will not be the focus of this paper. This paper will disaggregate the official estimates of the value added and employment generated by all visitors into benefits generated by IVS visitors, Non-IVS Mainland visitors (abbreviated Non-IVS visitors in this paper), and Non-Mainland visitors (Official estimates of the latter two types of visitors are not available). The paper will then quantify the benefits generated by different types of visitors in sub-sectors of tourism, namely, Retail trade, Accommodation services (hotels), and Food services (restaurants). It will also address important issues raised in the current debate, including: Why are the economic benefits of IVS visitors so small? Are benefits of tourism understated due to statistical biases? Should indirect benefits be included in addition to direct benefits? Should benefits of “related industries” be included? Are there significant external economies or diseconomies? What are the impacts of IVS on income distribution? What is the appropriate policy agenda?

Some observers may object that the benefits of IVS visitors (1.3% of GDP and 3.1% of total employment) are not small. In this paper, the term “small” is used in a relative sense. The government has designated four industries as “key” industries, namely, financial services, tourism, trade and logistics, and professional services and other producer services. In terms of gross contributions to GDP in 2012, trade is the largest, contributing 25% of GDP, and tourism (including inbound and outbound tourism) is the smallest, contributing 4.7% of GDP. Given the very high visibility of tourism in everyday life in Hong Kong in terms of congestion, social tension, and debates in the media, the man in the street is likely to be surprised to learn that tourism is the smallest key industry instead of the largest.

1.1 Controversies on economic contributions of IVS visitors

Due to the social tensions arising from IVS visitors, their economic contributions have become a subject of debate in the media. Critics of IVS have repeatedly referred to the small share of tourism in GDP in official estimates to question the contribution of tourism.³ Proponents of IVS have

³ See, for example, 徐家健, 香港旅遊業的事實與偏見”, 經濟 3.0, Hong Kong

countered that official estimates understate the importance of tourism because of “ripple effects” or contributions from “related industries”.⁴ Unfortunately, such debates in the media were not of high quality, and they generated more heat than light. This paper will try to clarify the following five issues which have been raised but not resolved in the debate:

1. Using benefits of tourism as a proxy for that of IVS visitors,
2. Inclusion of contributions of “related industries” (e.g., retail trade) in the contributions of tourism,
3. Inclusion of indirect or induced contributions in addition to direct contributions of tourism,
4. Inclusion of external economies generated by IVS, and
5. Focusing on contributions of IVS visitors to economic growth instead of contributions at a point in time.

Using benefits of tourism as a proxy for that of IVS visitors

In the debate on economic contributions of IVS, both critics and proponents have often used the contributions of tourism (4.7% of GDP in 2012) as a proxy for contributions of IVS visitors (1.3% of GDP in 2012). This is very sloppy as the contribution to 2012 GDP of IVS visitors was only a small part (28%) of that of tourism for two reasons.

First, tourism includes outbound and inbound tourism. Outbound tourism involves mostly visits of Hong Kong residents overseas. The contributions of outbound tourism, which was one-sixth of the contribution of tourism to GDP of 4.7% in 2012, should not be counted as contributions of incoming visitors. Deducting the contributions of outbound tourism, inbound tourism generated 3.9% of the GDP in 2012.

Second, in 2012, Though IVS visitors accounted nearly half of all visitors, they only accounted for 33% of the value added of inbound tourism. The per capita value added of IVS visitors is much less than

Economic Journal, Feb. 18, 2014.

⁴ A number of articles in “Speakout Hong Kong” have made this claim. See, for instance, <http://speakout.hk/index.php/2013-11-04-09-33-03/2013-12-21-08-43-26/1516-2014-03-21-06-37-18>

average for all visitors, and the reasons for this will be analyzed in detail later. The greater part of the value added in inbound tourism is generated by other visitors, namely, Non-IVS mainland visitors and Non-Mainland visitors.

Unfortunately, official estimates only give the contributions of IVS visitors and all visitors. Contributions of other types of visitors are not available. This paper fills in the gaps in official estimates by quantifying the contributions to GDP and employment of different types of visitors, namely, Mainland visitors and Non-Mainland visitors. Contributions of Mainland visitors are further disaggregated into those from IVS visitors and Non-IVS visitors. By estimating the contributions of all types of visitors, the contributions of IVS visitors relative to those of other visitors can be assessed more clearly.

Inclusion of contributions of “related industries”

Second, proponents of IVS often claimed that the contributions of IVS are understated in official estimates because the contributions of “related industries”, namely, retail trade, restaurants, and transportation etc. should be included. Including these “related industries”, the employment generated by tourism would be over 600,000, which would constitute 1/5 or 1/6 of total employment instead of the official estimate of 6%.⁵

The problem with the argument of “related industries” is that official estimates have already taken into account the contributions of tourism through all “related industries”, e.g., retail trade. As we shall see in section 4.5 of this paper, inbound tourism generated 32% of the employment in retail trade in 2012, and this 32% of employment in retail trade have already been included in official estimates as part of employment directly generated by inbound tourism. The other 68% of employment in retail trade is generated by spending of local people, and they should not be included in contributions of tourism. Including the total value added or total employment of “related industries” as contributions of tourism would grossly exaggerate the contributions of tourism.

⁵ *Ibid.*

Inclusion of indirect or induced benefits addition to direct benefits

In estimating the economic benefits of tourism, three different measures have often been used, namely, direct benefits, direct and indirect benefits, and direct, indirect, and induced benefits (Lin and Sung, 1983a: 241). Indirect benefits refer to the benefits generated by the intermediate inputs required to support production in the tourist industry. For instance, a tourist agency uses electricity as an intermediate input. Indirect benefits include the benefits generated by the electricity produced for the use of the tourist agency. Furthermore, the income generated in the tourist industry and supporting industries will in turn *induce* more consumption and investment, which will generate *induced* benefits.

This paper will cover the indirect and induced benefits of tourism in detail in section 3. Estimates of contributions may more than double in size with the inclusion of indirect and induced benefits (Table 5). The inclusion of indirect and induced benefits highlights the linkages of tourism to other industries. However, the inclusion has two serious drawbacks.

First, the inclusion of indirect and induced effects will vastly exaggerate the contributions of tourism when the economy is close to full employment, as has been true of the Hong Kong economy since 2009. Second, if we wish to compare the economic benefits of tourism to those of other industries (e. g., financial services), the use of indirect or induced benefits will lead to double counting. For these reasons, this paper focuses on direct benefits as the best measure.

Exaggeration of benefits

Indirect and induced benefits are estimated with mainstream models which are demand-side models and supply-side factors are ignored. The value added (direct or indirect or induced) generated by visitors overstates the benefit of tourism because the resources used to produce tourist services can generate income elsewhere. Conceptually, the benefit of visitors' spending should be the *extra* income generated in comparison with using the resources involved in the next best alternative.

In a situation of chronic unemployment, we can largely ignore supply-side constraints as there would be lots of idle resources that can be readily employed to meet additional demand, and a rise in tourist

expenditure will generate extra direct benefits as well as indirect and induced benefits. However, in a situation of full employment, supply-side constraints are binding, and a rise in tourist spending will generate inflation without much growth of real output. Even the inclusion of only direct value added may overstate the benefit of tourism because the resources used to produce tourist services can generate substantial income elsewhere. When the economy is close to full employment, the exaggeration of benefit is particularly large when indirect and induced effects are included.

Double counting

In the context of comparing the economic benefits of tourism with those of other industries, e.g., financial services, the inclusion of indirect or induced benefits will involve double counting. Tourism requires financial services as an input (e.g., a hotel uses banking services), and financial services may require the services of tourist agents (e.g., a bank may book flights for its staff or overseas clients through travel agents). In this example, the direct and indirect value added of tourism would include value added from two sources, namely, the direct value added generated by tourism, and also indirect value added in financial services that is used to support tourism. However, the value added from the second source is part of direct value added generated by financial services. Similarly, when we calculate the direct and indirect value added of financial services, the measure would include value added from two sources, namely, the direct value added in financial services, and the indirect value added in tourism that is used to support financial services. However, the value added from the second source is part of direct value added of tourism.

The government has estimated the direct value added of the four key industries of Hong Kong, and the direct value added of the four key industries can be added together to give their aggregate contribution. This does not involve double counting. However, if we calculate direct and indirect value added for each key industry, we cannot add them together because that would involve double counting. As this paper compares the economic benefits of tourism with those of other key industries, it should focus on direct benefit rather than indirect or induced benefits.

It should be noted that the data required for computation of indirect and induced benefits require input-output tables or macro-econometric models that are not readily available. The government has not compiled input-output tables of Hong Kong. Though the author has compiled input-output tables of Hong Kong for 1973 and 1980, and have used the tables to estimate benefits of Hong Kong tourism (Lin and Sung, 1984a, 1984b), more updated input-output tables are not available. This paper will focus on direct benefit as it is the simplest and most intuitive measure.

Inclusion of external economies

Official estimates are based on mainstream economic models. The models focus on benefits generated by visitors' spending. External effects, positive or negative, are usually ignored. Negative externalities of IVS in congestion and over-crowding are highly visible. However, as noted by some economists, IVS can have important positive externalities for the development of financial services and other key industries.⁶ IVS facilitates the movement of personnel between the Mainland and Hong Kong and lower cross-boundary transaction costs. This promotes the economic integration of Hong Kong with the Mainland and may generate significant external economies in production and in consumption. On the production or supply side, with improved exchanges with the Mainland, HK firms may find it easier to hire skilled personnel from the Mainland. On the consumption or demand side, the lowering of cross-border transaction cost may stimulate Mainland's demand for Hong Kong services, including services not related to tourism (e.g., financial services, educational services). IVS may also generate external economies in cross-boundary investment as Mainland investors may understand the Hong Kong investment environment better through IVS visits.

Before institution of IVS, Mainland tourist visits were restricted to group tours that are highly inflexible. IVS removes an important barrier in Mainland-Hong Kong integration and may generate significant external benefits. However, externalities are very difficult to quantify, and we cannot tell whether the positive externalities are big enough to out-weight the negative ones. Though we cannot quantify externalities, we need to bear in mind that they can be important.

⁶ See “自由行撐起港四大支柱”, (*Ta Kung Pao*, March 3, 2014, A15”).

Contributions of IVS to economic growth instead of contributions at a point in time

Many proponents argued that IVS has been important for the economic recovery of the Hong Kong economy from its severe recession in 2003 that was partly induced by SARS.⁷ In other words, IVS is important to economic growth even though its share in GDP is small. The argument has some merits and this paper will quantify the contributions to IVS to growth of GDP and employment in section 5.

1.2 Official estimates of contributions of tourism

The definition of “tourist industry” is problematic because most “tourist enterprises” are available also to local residents, and many tourists purchase goods and services from enterprises which predominantly cater to the needs of local residents (e.g., shops or retail trade). In standard mainstream models, the tourist industry is defined from the viewpoint of tourist spending. Tourists spend on many different industries, e.g., hotels, taxis, and retail trade. The tourist industry is treated as a weighted average of outputs of these industries. The weights are the expenditures of tourists on each industry. The same methodology is used in official estimates and also in this paper.

Official estimates of the contribution of tourism for Hong Kong are available from different sources. The Census and Statistics Department has released estimates of the contributions of inbound tourism to GDP and employment annually since 2000 as part of the statistics on “four key industries”. Unfortunately, the estimates are not broken down for different types of visitors (e.g., IVS visitors, Non-IVS visitors, Mainland visitors, and Non-Mainland visitors).

After the implementation of IVS in mid 2003, the government periodically release estimates on the contributions of IVS. The Commerce and Economic Development Bureau has estimated the contribution of IVS visitors in 2012 in its recent *Assessment Report on Hong Kong’s Capacity to Receive Tourists*. The Economic Analysis and Business Facilitation Unit of the Financial Secretary’s Office (abbreviated EABF in this paper) have

⁷ See footnote 4.

estimated the contributions of IVS visitors from 2004 to 2009 in three consecutive studies (EABF 2005, 2007, and 2010), and the estimates are released on the homepage of the Trade and Industry Department as part of the information on CEPA. The EABF is updating its estimates, but they are not yet released.

To sum up, official estimates of contributions of all visitors are available annually from 2000 to 2012, and contributions of IVS visitors are available from 2004 to 2009 and also for 2012. Contributions of other types of visitors, namely, Non-IVS visitors and Non-Mainland visitors, are not available, and this paper will fill in the gap by estimating economic contributions of all types of visitors in 2009 and 2012. We cannot compute estimates for 2010 and 2011 as data on the distributions of spending of IVS visitors for these years have not been released.

Tables 1A and 1B show respectively the estimates of the contributions to value-added and employment of IVS visitors and all visitors in comparison with those of four key industries from 2004 to 2012. All estimates other than the contributions of IVS visitors are taken from the homepage of the Census and Statistics Department on the “four key industries”. For contributions of IVS visitors, the 2004 – 08 estimates are taken from the estimates of the EABF (2010),⁸ while the 2009 and 2012 estimates are computed by the author (section 4 below). The author’s estimates should be more accurate as official estimates were based on preliminary data that have been subsequently updated.⁹ The method used in this paper for estimation is the same as official estimates, and the data used is the most updated official data.

⁸ As noted below in section 3.2, the EABF estimates are for *incremental* IVS visitors (Table 6) instead of all IVS visitors (Tables 1A and B). The contributions of all IVS visitors are obtained by multiplying the per capita contributions of *incremental* IVS visitors by the number of IVS visitors. See 4.2 for details.

⁹ For contributions to direct value added, our 2009 estimate is almost identical to the official estimate, while our 2012 estimate is 4% higher. For contributions to employment, our 2009 estimate is 3% lower, while our 2012 estimate is 24% lower. The 2012 official estimate for employment is biased upwards because preliminary data do not capture adequately the improvement in labour productivity.

Table 1A Direct value-added generated by IVS visitors in comparison with those of four key industries (\$ billion)

Industries	2004	2005	2006	2007	2008	2009	2010	2011	2012
(1) Financial services	168.3 (13.1%)	189.7 (13.8%)	246.0 (16.7%)	322.6 (20.1%)	277.1 (17.1%)	255.9 (16.2%)	284.2 (16.4%)	305.3 (16.1%)	319.3 (15.9%)
(2) Tourism	38.7 (3.0%)	44.5 (3.2%)	47.4 (3.2%)	54.0 (3.4%)	44.7 (2.8%)	51.0 (3.2%)	74.6 (4.3%)	86.2 (4.5%)	94.6 (4.7%)
(A) Outbound	10.3 (0.8%)	11.7 (0.8%)	11.2 (0.8%)	12.8 (0.8%)	7.5 (0.5%)	10.7 (0.7%)	15.4 (0.9%)	14.1 (0.7%)	15.4 (0.8%)
(B) Inbound (all visitors)	28.4 (2.2%)	32.9 (2.4%)	36.2 (2.5%)	41.3 (2.6%)	37.1 (2.3%)	40.3 (2.5%)	59.2 (3.4%)	72.1 (3.8%)	79.1 (3.9%)
(i) IVS visitors	2.7 (0.2%)	2.8 (0.2%)	4.3 (0.3%)	7.5 (0.5%)	8.0 (0.5%)	10.1 (0.6%)	-	-	27.2 (1.4%)
(ii) Other visitors	25.7 (2.0%)	30.1 (2.2%)	31.9 (2.2%)	33.8 (2.1%)	29.1 (1.8%)	30.2 (1.9%)	-	-	51.9 (2.6%)
(3) Trading and Logistics	354.4 (27.6%)	393.0 (28.5%)	399.4 (27.1%)	408.9 (25.5%)	414.7 (25.6%)	377.8 (23.9%)	439.6 (25.3%)	485.4 (25.5%)	495.4 (24.6%)
(4) Professional & Other Producer Services	139.6 (10.9%)	149.8 (10.9%)	158.9 (10.8%)	181.8 (11.3%)	197.6 (12.2%)	201.5 (12.7%)	216.1 (12.4%)	235.9 (12.4%)	257.6 (12.8%)
Four Key Industries	701.0 (54.5%)	777.0 (56.4%)	851.7 (57.8%)	967.3 (60.3%)	934.1 (57.7%)	886.2 (56.0%)	1,014.5 (58.4%)	1,112.8 (58.5%)	1,166.8 (58.0%)
All industries	1,285.3 (100%)	1,378.0 (100%)	1,473.5 (100%)	1,605.2 (100%)	1,620.0 (100%)	1,581.8 (100%)	1,737.7 (100%)	1,901.0 (100%)	2,013.1 (100%)

Figures in brackets represent percentage share of GDP.

Sources: For direct value-added generated by IVS visitors, the 2004-08 figures are obtained from the Economic Analysis and Business Facilitation Unit (2010). The 2009 and 2012 figures are the estimation results of this paper (section 5.4). All other estimates are taken from the section on the four key industries in the homepage of the Census and Statistics Department.

Table 1B Direct employment generated by IVS visitors in comparison with those of four key industries (thousand)

Industries	2004	2005	2006	2007	2008	2009	2010	2011	2012
(1) Financial services	169.4 (5.2%)	179.4 (5.4%)	186.0 (5.5%)	192.7 (5.5%)	206.1 (5.9%)	211.4 (6.1%)	216.7 (6.2%)	226.3 (6.3%)	228.8 (6.3%)
(2) Tourism	154.4 (4.7%)	165.0 (4.9%)	175.3 (5.1%)	191.4 (5.5%)	194.8 (5.6%)	192.2 (5.5%)	215.1 (6.2%)	235.9 (6.6%)	250.9 (6.9%)
(A) Outbound	25.8 (0.8%)	28.1 (0.8%)	30.4 (0.9%)	31.3 (0.9%)	33.6 (1.0%)	28.7 (0.8%)	27.2 (0.8%)	29.7 (0.8%)	32.1 (0.9%)
(B) Inbound (all visitors)	128.6 (3.9%)	136.8 (4.1%)	144.9 (4.2%)	160.0 (4.6%)	161.2 (4.6%)	163.6 (4.7%)	187.8 (5.4%)	206.3 (5.8%)	218.8 (6.0%)
(i) IVS visitors	18.9 (0.6%)	19.9 (0.6%)	31.5 (0.9%)	41.2 (1.2%)	44.5 (1.3%)	53.8 (1.6%)	-	-	86.6 (2.4%)
(ii) Other visitors	109.7 (3.3%)	116.9 (3.5%)	113.4 (3.3%)	118.8 (3.4%)	116.7 (3.3%)	109.8 (3.2%)	-	-	132.2 (3.6%)
(3) Trading and Logistics	785.2 (23.9%)	815.6 (24.4%)	830.1 (24.3%)	836.2 (24.0%)	820.2 (23.4%)	783.9 (22.6%)	778.2 (22.4%)	774.4 (21.6%)	764.9 (20.9%)
(4) Professional & Other Producer Services	392.8 (12.0%)	404.5 (12.1%)	418.6 (12.3%)	438.1 (12.6%)	457.0 (13.0%)	456.2 (13.1%)	460.1 (13.2%)	469.4 (13.1%)	483.0 (13.2%)
Four Key Industries	1,501.7 (45.8%)	1,564.4 (46.8%)	1,609.9 (47.2%)	1,658.3 (47.6%)	1,678.1 (47.8%)	1,643.8 (47.4%)	1,670.1 (48.0%)	1,706.0 (47.7%)	1,727.6 (47.2%)
All industries	3,279.1 (100%)	3,343.0 (100%)	3,412.1 (100%)	3,480.5 (100%)	3,509.8 (100%)	3,470.3 (100%)	3,478.6 (100%)	3,579.5 (100%)	3,657.1 (100%)

Figures in brackets represent percentage share of total employment.

Sources: For direct employment generated by IVS visitors, the 2004–08 figures are obtained from the Economic Analysis and Business Facilitation Unit (2010). The 2009 and 2012 figures are the estimation results of this paper (section 5.4). All other estimates are taken from the section on the four key industries in the homepage of the Census and Statistics Department.

As mentioned above, in terms of value-added, tourism is by far the smallest of the four key industries. In terms of employment in 2012, Tourism (6.9% of total employment) is slightly bigger than Financial services (6.3% of employment), but still much smaller than Trading and Logistics (20.9%), and Professional Services and Other Producer Services (13.2%). It should be noted the share of tourism in employment is much higher than its share in GDP while the opposite is true for Financial

Services. This shows that Tourism is much more labour-intensive than Financial Services.

Tourism is disaggregated into *outbound* and *inbound* tourism. As expected, inbound tourism accounted for the major part of the GDP and employment generated by tourism. Inbound tourism is further disaggregated into IVS visitors and other visitors. In 2012, IVS visitors respectively accounted for 34% and 40% of the GDP and employment generated by inbound tourism.

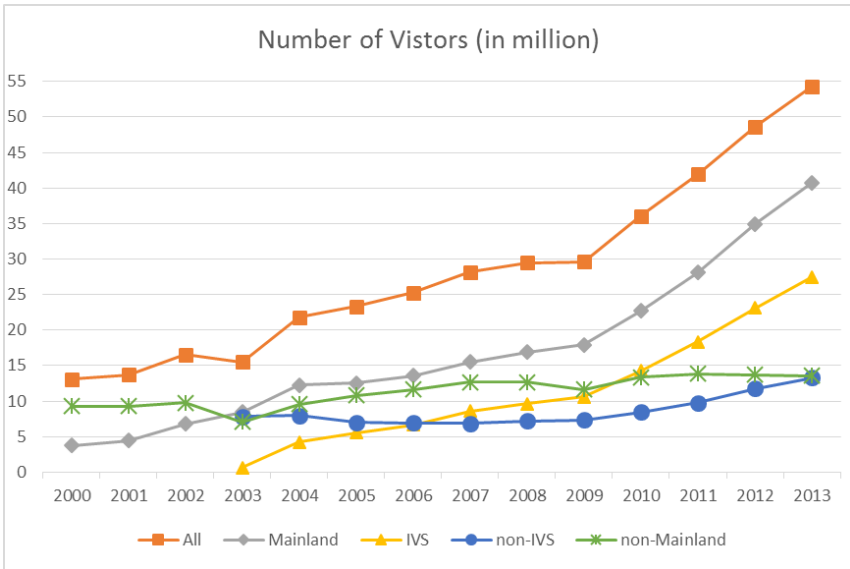
1.3 Organization of this paper

This paper is organized as follows. Besides the introductory section, section 2 reviews the growth of tourism in terms of visitor arrivals and spending. Section 3 summarizes previous estimates of the economic contributions of tourism by academics and by the Hong Kong government. Section 4 estimates the economic contributions of the four types of visitors to employment and GDP. The relatively low per capita contributions of IVS visitors is analysed in detail. Section 5 studies the contributions of IVS visitors to economic growth. Section 6 covers the potential biases and limitations of our estimates. Section 7 examines the impact of IVS on income distribution. Section 8 concludes.

2. Growth of tourism: Visitors arrivals and spending

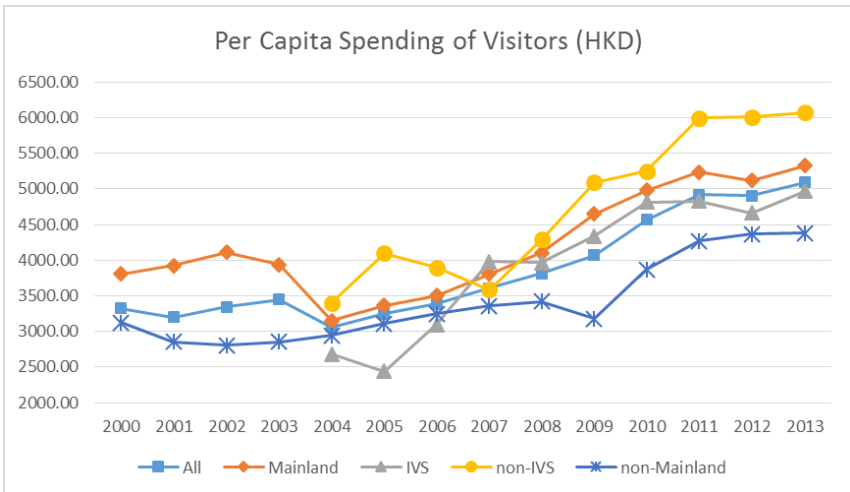
Data on visitor arrivals and visitors' spending are available up to 2013, but estimates of contributions to value added and employment are only available up to 2012 due to the time lag in industrial surveys, which provide data on value added and employment by industry. This section will cover growth of tourism up to 2013, but the rest of the paper will only cover benefits generated up to 2012. Figure 1 shows the number of visitors, disaggregated into Mainland and non-Mainland visitors, from 2000 to 2013. Mainland visitors are further disaggregated into IVS and non-IVS visitors since 2003, the year when the IVS scheme was first implemented. The data for Figure 1 are shown in detail in Table 2.

Figure 1 Number of visitors from 2000 to 2013



Sources: "Visitor Arrival Statistics" 2000 to 2013 issues, Hong Kong Tourism Board.

Figure 2 Per capita Spending of visitors from 2000 to 2013



Sources: "A Statistical Review of Hong Kong Tourism" 2000 to 2012 issues, Hong Kong Tourism Board.

Table 2 Number of different types of visitors (thousand), 2000 to 2013

Year	IVS	non-IVS	Mainland	Non-mainland	Total
2000	-	-	3786 (29.0%)	9274 (71.0%)	13059 (100.0%)
2001	-	-	4449 (32.4%)	9277 (67.6%)	13725 (100.0%)
2002	-	-	6825 (41.2%)	9741 (58.8%)	16566 (100.0%)
2003	667 (4.3%)	7800 (50.2%)	8467 (54.5%)	7070 (45.5%)	15537 (100.0%)
2004	4260 (19.5%)	7986 (36.6%)	12246 (56.1%)	9565 (43.9%)	21811 (100.0%)
2005	5550 (23.8%)	6991 (29.9%)	12541 (53.7%)	10818 (46.3%)	23359 (100.0%)
2006	6673 (26.4%)	6918 (27.4%)	13591 (53.8%)	11660 (46.2%)	25251 (100.0%)
2007	8593 (30.5%)	6893 (24.5%)	15486 (55.0%)	12684 (45.0%)	28169 (100.0%)
2008	9619 (32.6%)	7243 (24.5%)	16862 (57.1%)	12645 (42.9%)	29507 (100.0%)
2009	10591 (35.8%)	7365 (24.9%)	17957 (60.7%)	11634 (39.3%)	29591 (100.0%)
2010	14244 (39.5%)	8440 (23.4%)	22684 (63.0%)	13346 (37.0%)	36030 (100.0%)
2011	18344 (43.8%)	9756 (23.3%)	28100 (67.0%)	13821 (33.0%)	41921 (100.0%)
2012	23141 (47.6%)	11770 (24.2%)	34911 (71.8%)	13704 (28.2%)	48615 (100.0%)
2013	27465 (50.6%)	13280 (24.5%)	40745 (75.0%)	13554 (25.0%)	54299 (100.0%)

Sources: "Visitor Arrival Statistics" 2000 to 2013 issues, Hong Kong Tourism Board.

Table 3 Per capita spending of different types of visitors, 2000-2013 (\$)

Year	IVS	non-IVS	Mainland	Non-mainland	All
2000	-	-	3807	3122	3321
2001	-	-	3923	2851	3199
2002	-	-	4110	2808	3344
2003	-	-	3939	2854	3445
2004	2679	3403	3151	2946	3061
2005	2441	4097	3364	3110	3247
2006	3096	3895	3503	3249	3386
2007	3979	3589	3805	3357	3604
2008	3966	4292	4106	3418	3811
2009	4340	5092	4649	3177	4070
2010	4818	5254	4980	3866	4567
2011	4831	5999	5237	4268	4917
2012	4666	6009	5119	4366	4907
2013	4967	6074	5328	4382	5092

Sources: 2000-2012 figures are obtained from "A Statistical Review of Hong Kong Tourism" 2000 to 2012 issues, Hong Kong Tourism Board. 2013 figures are obtained from [http://www.cedb.gov.hk/citb/doc/tc/legcomfc/CEDB_\(CIT\)_c1_2014.docx](http://www.cedb.gov.hk/citb/doc/tc/legcomfc/CEDB_(CIT)_c1_2014.docx)

From 2000 to 2013, non-Mainland visitors have grown slowly at 3% annually and its share of total visitor arrivals fell from 71% to 25%. In the same period Mainland visitors have grown rapidly at 20% annually and its share of total visitor arrivals rose from 29% to 75%.

The growth of IVS visitors is particularly rapid, growing annually at 23% from 2004 to 2013, and its share of total tourist arrivals rose from 20% in 2004 to 51% in 2013. The rapid growth of IVS visitors has accelerated since April 2009, when the Central Government allowed permanent residents in Shenzhen to visit Hong Kong on one-year multiple entry Individual permit ("M permit"). From 2009 to 2013, "M permit" visitors grew explosively from under 1.5 million to over 12 million, accounting for 44% of IVS visitors in 2013. Of the *increase* in IVS visitors from 2009 to 2013, 63% were "M permit" visitors.

Figure 2 shows the per capita spending of visitors. The data for Figure 2 are shown in detail Table 3. The data on visitors' spending come from surveys of HKTb, and spending outside Hong Kong on cross boundary transport is not included. From 2000 to 2004, per capita spending of all visitors remained depressed due to the unfavourable effects of the September 11 terrorist attack in 2001, and the SARS epidemic in 2003. Since 2004, growth of per capita spending of all visitors has been substantial, rising from roughly \$3,000 in 2004 to \$5,100 in 2013. The per capita spending of Mainland visitors has been consistently higher than that of non-Mainland visitors, mainly because Mainland visitors spend a lot on shopping.

Among Mainland visitors, the per capita spending of non-IVS visitors has generally been higher than that of IVS visitors (except in 2007). This is expected as non-IVS visitors tend to come from areas farther away and they tend to stay longer. The growth of per capita spending of IVS visitors has slowed down markedly since 2009 due to the rise of M-permit visitors. M-permit visitors came from Shenzhen nearby, and ninety percent of them are same-day visitors. Their per capita spending tend to be low as they do not stay overnight in Hong Kong. As a result, the gap in per capita spending between Non-IVS and IVS visitors has widened since 2009. The per capita spending of IVS visitors has also fallen beneath the overall average for all visitors since 2009. However, the per capita spending of IVS visitors remained higher than that of Non-Mainland visitors mainly because IVS visitors spend a lot on shopping.

Table 4 shows visitors' spending by different types of visitors. From 2004 to 2013, the share of IVS visitors' spending in all visitors' spending rose from 17% to 49%, while that of Mainland visitors rose from 58% to 79%. The share of Non-mainland visitors' spending in the total declined correspondingly from 42% to 22% in the period.

Table 4 Total spending of different types of visitors, 2000-2013 (\$ million)

Year	IVS	non-IVS	Mainland	Non-mainland	All
2000	-	-	14411 (33.2%)	28954 (66.8%)	43365 (100.0%)
2001	-	-	17452 (39.7%)	26452 (60.3%)	43903 (100.0%)
2002	-	-	28052 (50.6%)	27349 (49.4%)	55402 (100.0%)
2003	-	-	33354 (62.3%)	20176 (37.7%)	53530 (100.0%)
2004	11412 (17.1%)	27174 (40.7%)	38586 (57.8%)	28179 (42.2%)	66765 (100.0%)
2005	13550 (17.9%)	28643 (37.8%)	42193 (55.6%)	33649 (44.4%)	75842 (100.0%)
2006	20662 (24.2%)	26948 (31.5%)	47610 (55.7%)	37888 (44.3%)	85498 (100.0%)
2007	34195 (33.7%)	24735 (24.4%)	58930 (58.1%)	42580 (41.9%)	101511 (100.0%)
2008	38147 (33.9%)	31089 (27.6%)	69236 (61.6%)	43221 (38.4%)	112457 (100.0%)
2009	45971 (38.2%)	37507 (31.1%)	83478 (69.3%)	36956 (30.7%)	120434 (100.0%)
2010	68626 (41.7%)	44341 (27.0%)	112967 (68.6%)	51600 (31.4%)	164568 (100.0%)
2011	88619 (43.0%)	58537 (28.4%)	147156 (71.4%)	58990 (28.6%)	206147 (100.0%)
2012	107981 (45.3%)	70724 (29.6%)	178705 (74.9%)	59826 (25.1%)	238531 (100.0%)
2013	136417 (49.3%)	80670 (29.2%)	217086 (78.5%)	59396 (21.5%)	276482 (100.0%)

Sources: 2000-2012 figures are obtained from "A Statistical Review of Hong Kong Tourism" 2000 to 2012 issues, Hong Kong Tourism Board. 2013 figures are obtained from [http://www.cedb.gov.hk/citb/doc/tc/legcomfc/CEDB_\(CIT\)_c1_2014.docx](http://www.cedb.gov.hk/citb/doc/tc/legcomfc/CEDB_(CIT)_c1_2014.docx)

3. Previous estimates of economic benefits of tourism for Hong Kong

Before examining the estimates of this paper, previous estimates by the government and by academics will be briefly summarized.

3.1 Estimates of academics

Tourism has been important for Hong Kong since the 1960s, but official estimates of economic contributions of tourism were not available till early 2000s. Before 2000, only estimates of academics were available. The author did the most detailed estimates of economic benefits of tourism for Hong Kong in the 1960s and 1970s (Lin and Sung, 1984a, 1984b). Estimates of direct and indirect benefits in value-added and employment were computed for the years 1962, 1973, and 1980. Induced benefits were also computed for 1962 and 1973. Induced effects arose from induced consumption. Induced investment was not included in the model. The estimates involve the laborious compilation of input-output tables for the Hong Kong economy and also conducting tourist shopping surveys to ascertain the distribution of tourist spending on different industries.

Table 5 shows the estimates of Lin and Sung for 1962, 1973, and 1980, and official estimates of direct value added of inbound tourism in selected years since 2000 were included for comparison. As a percentage of GDP, the direct value-added generated by inbound tourism declined from 3.1% in 1962 to 2.6% in 1973, and declined further to 1.7% in 1980. The 2000 and 2003 shares of tourism in GDP remained at 1.7%. The inauguration of IVS in mid 2003 heralded the rapid expansion of tourism, and the share of tourism in GDP has risen rapidly since 2004. IVS has been decisive in reversing the long term relative decline of tourism in GDP contribution from 1962 to 2003.

In 1962, the share of tourism in employment was slightly smaller than its share in GDP, showing that tourism was less labour intensive in comparison with the overall economy. In 1973, the share of tourism in employment was roughly the same as its GDP share. Since 1980, the share of tourism in employment was increasingly bigger than its GDP share, showing that tourism has become increasingly labor intensive relative to

the economy average. This is due to the fall in the labour intensity of the overall economy rather than a rise in labour intensity in the tourist sector. With the decline of manufacturing (highly labour intensive) and the rise of trade and financial services (less labour intensive), the labour intensity of the overall economy fell. As a result, tourism has become relatively labour intensive.

Table 5 Value-added and employment generated by tourism, selected years

	Value-added (% of GDP)			Employment (% of total)		
	Direct	Direct & Indirect	Direct, Indirect & Induced	Direct	Direct & Indirect	Direct, Indirect & Induced
1962	3.06	3.54	5.93	2.67	3.09	4.90
1973	2.63	3.30	4.89	2.70	3.31	4.91
1980	1.73	2.54	-	2.24	2.82	-
2000	1.66	-	-	2.73	-	-
2003	1.65	-	-	3.59	-	-
2004	2.21	-	-	3.92	-	-
2012	3.93	-	-	5.98	-	-

Sources: 1962, 1973 & 1980 - See Lin and Sung (1984b: Tables 4 & 7) for direct effects and direct & indirect effects. For induced effects, see Lin and Sung (1984a: Tables 5 & 6).

The 1962 and 1973 estimates include indirect and induced effects. In 1973, indirect value-added and induced value added (net of direct value added) were respectively 25% and 61% of direct value-added. Indirect and induced effects are substantial, but estimates of these effects require a lot of data and they are often not available.

3.2 Official estimates

The estimates of the Census and Statistics Department on direct value added and employment of the “four key industries” (including tourism) have been presented in Tables 1A and 1B. Here, we will focus on the estimates of the contributions of IVS visitors from the Economic Analysis and Business Facilitation Unit (EABF) mentioned in the introductory section. The EABF estimates differ from that of the Census and Statistics Department in two important ways. First, the EABF measures the contributions of IVS visitors in terms of overall benefits which include

indirect benefits as well as induced benefits from consumption and investment. Overall effects are computed through the government's econometric model of the Hong Kong economy.

Second, the EABF estimates the benefits of IVS instead of the benefits of *IVS visitors*. The inauguration of IVS has spurred additional Mainlanders to visit Hong Kong by instituting a more flexible and convenient arrangement to visit Hong Kong than group tours. The *incremental* visitors (or additional visitors) spurred by IVS is less than the total number of IVS visitors because some mainland visitors would shift from group tours to the IVS after the institution of IVS. In other words, there would be more mainland visitors coming on group tours if IVS had not been instituted.

To estimate the benefits of IVS, we need to first estimate the incremental visitors spurred by IVS. The number of incremental visitors was estimated with special surveys of the HKTB (Hong Kong Tourist Bureau). Visits induced by IVS include first time visitors who came because they were attracted by IVS, and those who increased their travelling frequency as a result of the convenience and flexibility brought by using IVS. Table 6 gives the contributions to GDP and employment of incremental IVS visitors from 2004 to 2009. In 2009, the most update estimate, incremental IVS visitors were 57% of total IVS visitors. Direct value added and employment were respectively 0.37% and 0.89% of the total, and overall value added and employment were respectively 1.02% and 1.45% of the total. Overall effects, which include induced consumption and investment, were substantially larger than direct effects. However, relative to total GDP and employment, the EABF estimates are still small.

This paper focuses on total IVS visitors instead of incremental IVS visitors because the number of incremental visitors spurred by IVS is very difficult to estimate. Official estimates rely on interviewees' assessments of number of additional trips spurred by IVS. Such assessments are highly subjective. In any case, we do not have access to the special interviews conducted by the government for the estimation. Moreover, the concept of benefits generated by IVS visitors is more intuitive than the concept of benefits generated by IVS.

Table 6 Contributions of incremental IVS visitors

	Number of Incremental IVS	Value-added generated (\$ million)		Employment generated (man-year)	
		Direct	Overall*	Direct	Overall*
2004	2513524 (59.0%)	1604 (0.12%)	4714 (0.37%)	11181 (0.34%)	19158 (0.58%)
2005	2721388 (49.0%)	1359 (0.10%)	4651 (0.34%)	9747 (0.29%)	17815 (0.53%)
2006	3272029 (49.0%)	2122 (0.14%)	7092 (0.48%)	15437 (0.45%)	28020 (0.82%)
2007	4037559 (47.0%)	3506 (0.22%)	9801 (0.61%)	19338 (0.56%)	32921 (0.95%)
2008	4761297 (49.5%)	3950 (0.24%)	11518 (0.71%)	22049 (0.63%)	38009 (1.08%)
2009	6074523 (57.4%)	5788 (0.37%)	16136 (1.02%)	30880 (0.89%)	50281 (1.45%)

* Overall effects include all rounds of effects estimated by the government's econometric model on GDP forecasting, including indirect effects as well as induced consumption and investment.

Figures in brackets represent percentage share of number of IVS visitors/GDP (total value added)/total employment in Hong Kong.

Source: Economic Analysis and Business Facilitation Unit, 2010.

4. Analysis of economic contributions of IVS and other visitors

This paper uses mainstream methodology to quantify the direct contributions to GDP and employment of all types of visitors, namely, IVS, Non-IVS, Mainland, and Non-Mainland visitors in 2009 and 2012. We cannot compute estimates for 2010 and 2011 as the distributions of spending of IVS visitors for these years have not been released.

Mainstream models focus on visitors' spending. The economic benefits of visitors arise from two types of spending, namely, expenditure in Hong Kong, and expenditure on *cross boundary transport* (e.g. flight to Hong Kong) before their arrival in Hong Kong. The spending on cross boundary transport occurs outside Hong Kong, but part of it benefits Hong Kong (e.g., airlines need to pay airport charges). The estimation procedure of each type of spending will be detailed below.

4.1 Estimation of benefits from visitors' spending in Hong Kong

To estimate the direct value added of visitors' spending, we need data on the following:

1. Distribution of tourists spending by industry, and
2. Rate of direct value added in each industry (i.e. direct value added per dollar spending on that industry).

For each industry, the direct value added generated by visitors' spending is easily obtained by multiplying the rate of value added by the amount of visitors' spending on that industry. Summing across all industries will give the total direct value added generated by visitors' spending.

Distribution of tourist expenditure by industry

The HKTB conducts annual sample surveys on distribution of tourist spending on different industries. As in official estimates, we group the different industries into the following four sub-sectors:

1. Retail trade,
2. Accommodation (hotels, boarding houses and accommodation services),
3. Food services (food and beverage service),
4. Others (tour agents, ticketing agents, domestic transport, and miscellaneous personal services).

In this paper, the four sub-sectors are referred to as sub-sectors of tourism.¹⁰ Table 7 shows the distribution of tourist spending by different types of visitors in 2009 and 2012 on the four sub-sectors. The Table shows that, in 2012, IVS visitors spent much more on shopping (79% share) than on Hotels (8% share), while Non-mainland visitors spent more on Hotels (36% share) than on shopping (35% share) in 2012.

¹⁰ In reality, local people also consume the services of the four sub-sectors. The terminology is just for convenience.

Table 7 Distribution of tourist expenditure in 2009 and 2012

	IVS		Non-IVS		Mainland		Non-mainland		All visitors	
	2009	2012	2009	2012	2009	2012	2009	2012	2009	2012
Retail trade	83%	79%	76%	73%	80%	77%	42%	35%	73%	71%
Accommodation	5%	8%	8%	11%	7%	9%	29%	36%	11%	13%
Food services	6%	7%	9%	9%	7%	8%	15%	15%	9%	9%
Others	6%	6%	7%	7%	6%	6%	14%	14%	8%	8%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Sources: "A Statistical Review of Hong Kong Tourism", 2009 and 2012, Hong Kong Tourism Board.

Rate of direct value added by industry

The Census and Statistics Department, in its annual estimates on value added of tourism, gives the direct value added generated by tourism in each of the four sub-sectors of tourism. For each sub-sector, dividing the direct value added by spending gives its *rate of direct value added*. The rates are shown in Table 8.

Table 8 shows that, among the four sub-sectors in 2012, Accommodation services have the highest rate of direct value added (0.66), while Retail trade has the lowest rate of direct value added (0.17). The results for 2009 are similar. The rate of direct value added in Retail Trade is low because the goods sold are mostly imported. Imported goods generate little value added as they are not manufactured in Hong Kong. Value added in Retail trade comes from the retail margin or mark-up on imported goods, which covers the wages, rent, and profits of retailing.

Table 8 Rate of direct value-added of four sub-sectors of tourism in 2009 and 2012

	2009	2012
Retail trade	0.16	0.17
Accommodation	0.60	0.66
Food services	0.39	0.40
Others	0.46	0.44

Sources. Value added generated by tourism in each industry is obtained from the data on the four key industries on the homepage of the Census and Statistics Department. Visitors' spending on each industry is obtained from "A statistical Review of Hong Kong Tourism", Hong Kong Tourism Board.

Direct value added generated per dollar of spending by different types of visitors

For each sub-sector, the rate of direct value added is assumed to be the same across different types of visitors. However, the distributions of spending of different types of visitors on the four sub-sectors are not the same. For each type of visitor, the direct value generated per dollar of spending is a weighted average of the rates of direct value added of the four subsectors, where the weights are the shares of spending on the subsectors. Table 9 shows the direct value generated per dollar of visitors' spending by different types of visitors.

Table 9 Rate of direct value-added of visitors' spending by different types of visitors in 2009 and 2012

	IVS	Non-IVS	Mainland	Non-mainland	All visitors
2009	0.22	0.24	0.23	0.36	0.27
2012	0.24	0.26	0.25	0.42	0.29

For all visitors, the direct value added per dollar of spending was low (\$0.29 in 2012) because visitors spend a lot on Retail trade, which has a very low rate of direct value added. Among the four types of visitors, IVS visitors generates the least value added per dollar of spending (\$0.24 in 2012) as they spend the most on shopping (79% in 2012). Non-Mainland visitors generate the highest value added per dollar of spending (\$0.42 in 2012) as they spend the least on shopping (35% in 2012).

4.2 Estimation of benefits from visitors' spending on cross boundary transport

The direct value added per dollar of spending in Table 9 only covers the value added generated by visitors' spending in Hong Kong. To arrive in Hong Kong, visitors may need to spend on cross boundary transport. Such spending takes place outside Hong Kong, but it generates value added for Hong Kong.

In official estimates, contribution to value added by tourist spending on cross boundary transport is based on data on number of visitor arrivals by land, sea, and air (available from survey of the HKTB), and estimates of value added generated by each mode of transport. The benefits for Hong Kong of the different modes of transport are quite different. For visitors arriving in Hong Kong through Lo Wu, there is no spending on cross boundary transport because they walk into Hong Kong. There is thus no benefit for Hong Kong in terms of cross boundary transport.

For visitors who arrive on the through train from Guangzhou, part of the train fare accrues to Hong Kong. For visitors flying into Hong Kong, we need to distinguish those who travel on Hong Kong airlines from those who travel on non-Hong Kong airlines. The benefits for Hong Kong of the former is much higher than the latter, though non-Hong Kong airlines still need to pay for use of the Hong Kong airport and related services. The benefits for Hong Kong in cross boundary transport of visitors arriving by air are much larger than those of visitors arriving by land or by sea.

Estimates of benefits in cross boundary transport can only be rough as precise data needed in estimation may not be available. As the government has not revealed the data used in its estimates, we have to do our own estimates based on data of visitors arrivals by mode of transport. The procedure is laborious and is detailed in Appendix I. The estimation results are given in Table 10.

Table 10 Per capita direct value-added generated by visitors' spending by different types of visitors (\$)

	Value-added generated by	IVS	Non-IVS	Mainland	Non-mainland	All visitors
2009	(1) Spending on cross boundary transport	20	253	116	509	270
	(2) All spending in Hong Kong	922	1235	1051	1155	1092
	(3) Total spending = (1) + (2)	942	1489	1166	1664	1362
2012	(1) Spending on cross boundary transport	60	176	99	478	206
	(2) All spending in Hong Kong	1116	1563	1267	1815	1421
	(3) Total spending = (1) + (2)	1175	1739	1366	2293	1627

4.3 Per capita value added of different types of visitors

Table 10 shows the per capita value added generated by visitors' spending of different types of visitors.¹¹ The first and fourth rows show the per capita value added generated by spending on cross boundary transport in 2009 and 2012 respectively. In 2012, the per capita value added in cross boundary transport of IVS visitors was the lowest (\$60), that of Non-IVS visitors was higher (\$176), and that of Non-Mainland visitors was the highest (\$478). This is expected. Per capita value added in cross boundary transport is proportional to the share of visitors arriving by air. The percentage of IVS visitors arriving by air was the lowest (5.7%),¹² while

¹¹ We switch from value added per dollar of spending to per capita value added because we cannot compute value added per dollar of spending on cross boundary transport. The government has not released data on visitors' spending on cross boundary transport. However, we can compute per capita value added in cross boundary transport as data on value added generated by visitors' spending on cross boundary transport are available.

¹² The percentage in 2012 has not been released and we use the percentage in the

the percentage of Non-Mainland visitors arriving by air was highest (56.5%). The pattern for 2009 is similar.

The second and fifth rows of Table 10 show the per capita value added generated by visitors' spending in Hong Kong in 2009 and 2012 respectively. In 2012, IVS visitors have the lowest per capita value added (\$1,116), Non-IVS visitors have a higher per capita value added (\$1,563), and Non-Mainland visitors have the highest per capita value added (\$1,815). The per capita value added of Mainland visitors (\$1,267) is a weighted average of those of IVS and Non-IVS visitors, whereas the per capita value added of All visitors (\$1,421) is a weighted average of those of Mainland and Non-Mainland visitors.

It should be noted that, in 2012, the per capita spending of IVS visitors (4,666) was 7% higher than that of Non-Mainland visitors (\$4,366) but the per capita value added of IVS visitors (\$1,116) was only 61% of that of Non-Mainland visitors (\$1,815). This is because IVS visitors spend heavily on shopping, which has the lowest rate of value added among the tourism subsectors. The results for 2009 were similar to those of 2012. This shows that spending can be a poor indicator of value added.

The third and sixth rows of Table 10 show the capita value added generated by visitors' total spending (all spending in Hong Kong plus spending on cross boundary transport, which took place outside Hong Kong). In 2012, the per capita value added of IVS visitors (\$1,175) was only 68% and 51% of those of Non-IVS visitors (\$1,739) and Non-Mainland visitors (\$2,293) respectively. The results for 2009 were similar. The per capita value added of IVS visitors is relatively low due to two factors. First, IVS visitors spend heavily on shopping which has a low rate of value added. Second, the great majority of IVS visitors arrive in Hong Kong by land, generating little value added in cross boundary transport.

4.4 Total direct value added of different types of visitors by subsectors of tourism

Table 11 shows the total direct value added of different types of

first half of 2013 as a proxy (Commerce and Economic Development Bureau, 2013: 6).

visitors by subsectors of tourism. In 2012, IVS visitors generated \$27.2 billion in direct value added, which was 1.4% of GDP. The 2012 value added generated by Mainland visitors, Non-Mainland visitors and all visitors accounted for respectively 2.4%, 1.6%, and 3.9% of GDP.

Table 11 also shows the value added generated in the tourism sub-sectors. Tourism is important for three industries, namely, Retail trade, Accommodation services, and Food services. In 2012, the value added generated by all visitors accounted for 32% of the value added of Retail trade, 91% of the value added of Accommodation services, and 20% of the value added of Food services. In 2012, IVS visitors have also generated substantial income for these three industries, generating 17% of the value added of Retail trade, 21% of the value added of Accommodation services, and 7% of the value added of Food services.

Table 11 Direct value-added of different types of visitors by sub-sectors of tourism (\$ million)

	IVS		Non-IVS		Mainland		Non-mainland		All visitors	
	2009	2012	2009	2012	2009	2012	2009	2012	2009	2012
Retail trade	6060 (12.8%)	14224 (17.1%)	4732 (10.0%)	8645 (10.4%)	10792 (22.9%)	22869 (27.4%)	2508 (5.3%)	3531 (4.2%)	13300 (28.2%)	26400 (31.7%)
Accommodation	1469 (10.2%)	5797 (21.1%)	1854 (12.8%)	4956 (18.0%)	3324 (23.0%)	10753 (39.1%)	6476 (44.8%)	14247 (51.8%)	9800 (67.8%)	25000 (91.0%)
Food services	1066 (3.1%)	3052 (6.9%)	1277 (3.7%)	2494 (5.6%)	2343 (6.8%)	5547 (12.4%)	2157 (6.3%)	3553 (8.0%)	4500 (13.1%)	9100 (20.4%)
Others	1169 -	2749 -	1236 -	2304 -	2405 -	5053 -	2295 -	3547 -	4700 -	8600 -
Cross boundary Transportation	214 -	1378 -	1864 -	2072 -	2079 -	3450 -	5921 -	6550 -	8000 -	10000 -
Total	9979 (0.6%)	27201 (1.4%)	10964 (0.7%)	20472 (1.0%)	20943 (1.3%)	47672 (2.4%)	19357 (1.2%)	31428 (1.6%)	40300 (2.5%)	79100 (3.9%)

Figures in brackets represent percentage shares of value added of corresponding sectors.

Sources: Value added generated by visitors are estimation results of this paper. The value added of sub-sectors are taken from Table 16 in “2013 Gross Domestic Product”, Census and Statistics Department, February 2014.

4.5 Estimation of benefits to employment

Estimates of benefits to employment are analogous to those of value added. Table 12 shows the direct employment generated per million dollars of spending in the subsectors of tourism. One unit of spending is chosen to be one million dollars instead of one dollar because the employment generated by one dollar spending is very small. Per unit of spending, Retail trade generates the least employment (0.63 man-years in 2012), and Food services generate the most employment (2.03 man-years in 2012). Retail trade generates little employment per unit of spending because the goods sold are mostly imported. For each subsector, employment generation was lower in 2012 than 2009 due to rise in labour productivity.

Table 12 Direct employment generated per million dollars of spending in four sub-sectors of tourism (man-year)

	2009	2012
Retail trade	1.00	0.63
Accommodation	1.65	1.04
Food services	2.42	2.03
Others	1.43	1.00

Sources: Employment generated by tourism in each sector is obtained from the data on the four key industries on the homepage of the Census and Statistics Department. Visitors' spending on each industry is obtained from "A statistical Review of Hong Kong Tourism", Hong Kong Tourism Board.

Table 13 shows direct employment generated per million dollars of visitors' spending in Hong Kong by different types of visitors. Visitors' spending is distributed over the four subsectors. The employment generated by visitors' spending is a weighted average of the employment generated in the four subsectors. Comparing the employment generated by per unit spending of different types of visitors, IVS visitors generated the least employment (0.79 man-years in 2012), and Non-Mainland visitors generated the most employment (1.04 man-years in 2012). This is because IVS visitors spent the most on Shopping (which generated the least employment), and Non-Mainland visitors spent the least on Shopping.

Table 13 Direct employment generated per million dollars of spending of different types of visitors (man-year)

	IVS	Non-IVS	Mainland	Non-mainland	All visitors
2009	1.15	1.21	1.17	1.46	1.26
2012	0.79	0.83	0.80	1.04	0.86

Table 14 shows direct employment generated per thousand visitors' spending by different types of visitors. The unit chosen is per thousand visitors instead of per visitor because the employment generated by the spending of one visitor is very small. Comparing the employment generated in 2012 by spending of different types of visitors on cross boundary transport (fourth row of Table), IVS visitors generated the least employment (0.08 man-years), and Non-Mainland visitors generated the most employment (0.65 man-years). This is because the share of arrivals by air of IVS visitors is the lowest, and that of Non-Mainland visitors is the highest.

Table 14 also shows employment generated per thousand visitors' spending in Hong Kong (which excludes spending on cross boundary transport), and also employment generated per thousand visitors' total spending (which includes spending on cross boundary transport). In 2012, though per capita spending of IVS visitors in Hong Kong was higher than that of Non-Mainland visitors, the employment generated per thousand visitors' spending in Hong Kong by IVS visitors (3.67 man-years) was only 81% of that by Non-Mainland visitors (4.52 man-years). This is because IVS visitors spent the most on shopping, which was the subsector generating the least employment per unit of spending, while Non-Mainland visitors spent the least on shopping.

Table 14 Direct employment generated per thousand visitors' spending by different types of visitors (man-year)

	Employment generated by	IVS	Non-IVS	Mainland	Non-mainland	All visitors
2009	(1) Spending on cross boundary transport	0.03	0.35	0.17	0.74	0.39
	(2) All spending in Hong Kong	4.89	6.27	5.46	4.64	5.14
	(3) Total spending = (1) + (2)	4.93	6.62	5.62	5.38	5.53
2012	(1) Spending on cross boundary transport	0.08	0.24	0.13	0.65	0.28
	(2) All spending in Hong Kong	3.67	4.97	4.10	4.52	4.22
	(3) Total spending = (1) + (2)	3.74	5.21	4.24	5.17	4.50

As for employment generated per thousand visitors' total spending in 2012 (last row of Table 14), the employment generated by IVS visitors (3.74 man-years) was only 72% of that generated by Non-Mainland visitors (5.17 man-years). The pattern for 2009 was similar to that of 2012: The employment generated per thousand visitors' spending for IVS visitors was lower than that of Non-Mainland visitors.

Table 15 shows direct employment generated by different types of visitors by subsectors of tourism. Total employment generated by IVS visitors in 2012 was 86,640 man-years or 2.4% of total employment. This is only 76% of the estimate by the Commerce and Development Bureau (2013: 36) of 114,280 man-years or 3.1% of total employment. The Commerce and Development Bureau estimate is biased upwards because it was based on preliminary employment data which did not adequately account for rise in labour productivity.

As for direct employment generated in the tourism subsectors, tourism is important in the employment of the three industries shown in the Table, namely, Retail trade, Accommodation services, and Food

services. In 2012, the spending of all visitors generated 31.5% of the employment in Retail trade, 107% of the employment in Accommodation services,¹³ and 19.8% of the employment in Food services. In 2012, IVS visitors generated 17% of the employment in Retail trade, 24.9% of the employment in Accommodation services, and 6.6% of the employment in Food services.

Table 15 Direct employment generated by different types of visitors by subsectors of tourism in 2009 and 2012 (man-year)

	IVS		Non-IVS		Mainland		Non-mainland		All visitors	
	2009	2012	2009	2012	2009	2012	2009	2012	2009	2012
Retail trade	37451 (12.8%)	53987 (17.0%)	29249 (10.0%)	32810 (10.3%)	66699 (22.7%)	86797 (27.3%)	15501 (5.3%)	13403 (4.2%)	82200 (28.0%)	100200 (31.5%)
Accommodation	4063 (12.1%)	9136 (24.9%)	5128 (15.3%)	7811 (21.3%)	9191 (27.5%)	16947 (46.2%)	17909 (53.5%)	22453 (61.2%)	27100 (81.0%)	39400 (107.4%)
Food services	6611 (3.0%)	15396 (6.6%)	7917 (3.6%)	12582 (5.4%)	14528 (6.6%)	27978 (12.1%)	13372 (6.1%)	17922 (7.7%)	27900 (12.6%)	45900 (19.8%)
Others	3682	6297	3891	5279	7573	11576	7227	8124	14800	19700
Cross boundary Transportation	368	1823	2608	2813	2975	4636	8625	8964	11600	13600
Total	52174 (1.5%)	86640 (2.4%)	48792 (1.4%)	61294 (1.7%)	100966 (2.9%)	147934 (4.0%)	62634 (1.8%)	70866 (1.9%)	163600 (4.7%)	218800 (6.0%)

Sources: Figures on employment generated by visitors' are estimation results of this paper. The total employment in Retail trade and in Accommodation and food services are taken from "Composite Employment Estimates 2012" in the section on "Employment and vacancies" in the homepage of the Census and Statistics Department. The employment in Hotels and Meals is then disaggregated into employment in Accommodation and employment in Food services. We use the ratio of persons engaged in Accommodation to that in Food services (obtained from Table E005 in the section on "Employment and vacancies" in the homepage of the Census and Statistics Department) to conduct the disaggregation.

¹³ The employment generated by tourism in Accommodation services is estimated from tourist spending, whereas the total employment in Accommodation services is obtained from industry surveys. The former can be larger than the latter due to various reasons. One likely reason is that employment in unlicensed guesthouses is accounted for in the former but not the latter. Estimation error is also possible.

5. Contributions of IVS to economic growth

IVS visitors have grown very rapidly. Though the value added (employment) generated by IVS visitors is not large as a percentage of GDP (employment), it is possible that IVS has contributed significantly to the growth or *change* of GDP (employment). In the media, it is often asserted that IVS contributed to the rapid recovery of the Hong Kong economy from the severe 2003 recession caused by SARS.

5.1 Contribution to growth of GDP

Table 16 shows the contributions of tourism and other key industries to the growth of GDP from 2004 to 2012. We choose 2004 as the base year as it was the first full year for implementation of IVS and was also the year that Hong Kong recovered from the 2003 recession. The period 2004 to 2012 was divided into two sub-periods, namely, 2004 to 2007, and 2007 to 12. 2004 to 2007 was the period of economic recovery with rapid growth. The unemployment rate fell from the peak of 7.9% in 2003 to the close to full employment level of 4% in 2007. As full employment was reached in 2007, the rate of economic growth fell from 7% in the first period to 2.5% in the second period. The 2008 global financial crisis also contributed to the slowdown.

From 2004 – 07, direct value added generated by IVS visitors increased by \$4.7 billion, while GDP increased by \$319.9 billion. IVS visitors only contributed 1.5% to the increase in GDP. From 2007 – 12, the contribution of IVS visitors to GDP growth rose to 4.8%, as IVS became popular with Mainland visitors, and the corresponding contribution of all visitors (inbound tourism) was 9.3%. From 2004 – 12, the contribution of IVS visitors and all visitors to GDP growth were 3.4% and 7% respectively. The contributions were significant, but still not very large.

As for the other key industries, financial services contributed 48% to the growth of GDP from 2004 – 07. It was the period of “irrational exuberance” just before sub-prime crisis struck. In comparison, the contributions of the other key industries to GDP growth were much smaller. In the second period, the financial services sector contracted due to the global financial crisis, and its contribution to GDP growth was

negative. As a result, the contributions of the other three key industries rose correspondingly. Combining the two periods (from 2004 – 12), financial services was still the number one contributor to GDP growth (20.7%), followed by Trading and logistics (19.4%), Professional services and other producer services (16.2%), and Tourism (7.7%). Tourism still came last.

Table 16 Contribution of tourism and other key industries to growth of GDP (\$ billion)

Growth of value-added	2004-07	2007-12	2004-12
1. Financial services	154.3 (48.2%)	-3.3 (-0.8%)	151.0 (20.7%)
2. Tourism	15.3 (4.8%)	40.6 (10.0%)	55.9 (7.7%)
2.1 Inbound	12.9 (4.0%)	37.8 (9.3%)	50.7 (7.0%)
2.1.1 IVS visitors	4.7 (1.5%)	19.7 (4.8%)	24.5 (3.4%)
3. Trading and logistics	54.5 (17.0%)	86.5 (21.2%)	141.0 (19.4%)
4. Professional services and Other producer services	42.2 (13.2%)	75.8 (18.6%)	118.0 (16.2%)
Four key industries	266.3 (83.2%)	199.6 (48.9%)	465.9 (64.0%)
All industries	319.9 (100%)	407.9 (100%)	727.8 (100%)

Figures in brackets represent percentage share of change in GDP of the economy.

Source: Table 1A

5.2 Contribution to growth of total employment

Table 17 shows the contributions of tourism and other key industries to growth of total employment. From 2004 – 07, IVS and inbound tourism contributed respectively 11% and 15.6% to the growth of total employment. The contribution of all visitors (15.6%) exceeded that of financial services (11.6%). This again shows that tourism is much more labour intensive than financial services.

From 2007 – 2012, the contributions of IVS and inbound tourism rose to 25.8% and 33.3% respectively. Among the four key industries, tourism became the number one contributor to growth of total employment. An important reason for the prominence of tourism in employment was the rapid contraction in employment of the trading and logistics sector. Trading and logistics have been the largest sector in Hong Kong in terms of both GDP and employment. However, the Hong Kong port suffered severely from the rise of Shenzhen ports, which have lower costs. Shanghai surpassed Hong Kong in container throughput in 2007 largely as a result of cargo diversion from Hong Kong to Shenzhen, and Shenzhen is likely to surpass Hong Kong in container throughput this year as well.

The diversion of Hong Kong sea cargo to Shenzhen has been partly offset by growth of air cargo. The slowdown of Hong Kong re-exports trade is partly compensated by the growth of offshore trade.¹⁴ While air transport and offshore trade generate substantial value added, they generate very little employment. From 2007 – 12, value added in the Trading and logistics sector continued to grow, but the sector lost 71,300 workers. Given the large fall in employment in Trading and logistics, expansion of employment in tourism and other key industries is crucial to maintaining full employment in Hong Kong.

In terms of contribution to growth of employment from 2004 – 12, tourism was again the number one contributor, followed by Professional services and other producer services, and then by financial service. The contribution of Trading and logistics was negative due to fall in employment. The prominence of tourism in growth of employment can be attributed to three factors. First, tourist spending has grown very rapidly. Second, tourism is the most labour intensive industry among the four key industries. Third, the contraction of employment in Trading and Logistics raise the relative contributions of the other key industries.

¹⁴ Both re-exports trade and offshore trade are handled by Hong Kong trading firms, but, unlike re-exports, offshore trade does not involve transportation via Hong Kong.

Table 17 Contribution of tourism and other key industries to growth of employment (man-year)

Growth of employment	2004-07	2007-12	2004-12
1. Financial services	23,300 (11.6%)	36,100 (20.4%)	59,400 (15.7%)
2. Tourism	37,000 (18.4%)	59,500 (33.7%)	96,500 (25.5%)
2.1 Inbound	31,400 (15.6%)	58,800 (33.3%)	90,200 (23.9%)
2.1.1 IVS visitors	22,209 (11.0%)	45,483 (25.8%)	67,692 (17.9%)
3. Trading and logistics	51,000 (25.3%)	-71,300 (-40.4%)	-20,300 (-5.4%)
4. Professional services and Other producer services	45,300 (22.5%)	44,900 (25.4%)	90,200 (23.9%)
Four key industries	156,600 (77.8%)	69,200 (39.2%)	225,800 (59.7%)
All industries	201,400 (100%)	176,600 (100%)	378,000 (100%)

Figures in brackets represent percentage share of change in total employment of the economy.
Source: Table 1B

It should be stressed that, from 2007 – 12, IVS accounted for the greater part of the growth in employment of tourism. Employment generated by IVS rose by 45,483, accounting for over 76% of the growth of employment in tourism of 59,500. Within tourism, outbound tourism was small and most of the growth in employment came from inbound tourism. Within inbound tourism, IVS was the fastest growing component. Non-IVS visitors grew more moderately due to the shift of Mainland visitors to IVS. Non-Mainland visitors grew slowly by comparison.

To conclude, while the contributions of IVS visitors' spending to GDP and employment were not large (1.4% of GDP and 2.4% of employment in 2012), the growth of IVS visitors' spending from 2007 – 12 accounted for 25.8% of the growth of total employment in the period. Given the fall in employment in Trading and Logistics (the number one sector in total employment) since 2007, unemployment in Hong Kong may be substantially higher were it not for the rapid expansion of IVS.

It should be emphasized that our analysis of contribution of IVS to

growth is an accounting exercise and not a causal analysis of contributions of IVS to economic growth. However, this accounting exercise is highly suggestive. The institution of IVS in 2003 is an exogenous event that led to rapid increase in visitors' spending and employment creation in tourism. The rise of Shenzhen ports is also an exogenous event that led to fall in employment in Trading and logistics, the number one sector in employment. The large contributions of tourism and IVS visitors to growth of employment are consistent with our knowledge of the macro-trends in the economy.

6. Potential biases and limitations of the paper

The distribution of visitors' spending comes from interviews with visitors, asking them to recall their spending on various items. This is subject to bias. The crucial question for our paper is whether the biases are more serious for IVS visitors than for other types of visitors.

There are some reasons to believe that the reported spending of IVS visitors is biased downwards more seriously than other types of visitors. From press reports, some IVS visitors are very big shoppers, spending hundreds of thousands on luxury items, e.g., buying scores of luxury watches on a single trip. The distribution of spending of IVS visitors is likely to be more highly skewed (with a long tail of big spenders) than Non-mainland visitors. In this case, the outliers on the long tail can have a significant effect on the average of the distribution.

Interviews may not catch the big spenders because their opportunity cost of time is high and they are less likely to take interviews. For this reason, the spending estimated by the HKTb is likely to be biased downwards, especially for IVS visitors. However, we cannot gauge the size of the bias.

In this paper, we assume that the value added or employment generated per dollar of spending in each subsector is the same for different types of visitors. This may not be the case. For example, IVS visitors may tend to stay in low end hotels while Non-Mainland visitors may tend to stay in luxury hotels. This will further widen the gap in per capita value added between IVS visitors and Non-Mainland visitors.

Given the importance of M-Permit visitors, it is desirable to estimate their contributions separately. However, we do not have data on their spending distribution on the sub-sectors of tourism. We noted that the growth of per capita spending of IVS visitors have slowed due to rapid increase of M-Permit visitors. However, the per capita spending of IVS visitors is still higher than Non-Mainland visitors.

7. Impact of IVS on income distribution

There is a popular belief that IVS is bad for income distribution. As mentioned in the introduction, IVS is blamed for rising shop rentals and shifting the composition of shops from “ma and pa” stores to chain stores selling luxury brands. In the last ten years, the retail sales have doubled, but retailing space has grown by only 30%.¹⁵ The rise in shop rentals in tourist districts was very large. In the four years from 2008 to 2012, shop rentals in Mongkok, Tsimshatsui, and the Central District doubled, and shop rentals in Causeway Bay rose by more than five times!¹⁶ Soaring shop rentals in premium tourist districts should lead to a worsening of income distribution at the upper end.

However, as we have seen in section 5, IVS is important for employment creation and lowering the unemployment rate, especially for low skilled workers. This should lead to an improvement in income distribution at the lower end. The overall effect on income distribution of soaring shop rentals and lowering unemployment is very difficult to judge without a detail study.

8. Conclusion

This paper quantifies the direct benefits in value added and employment of different types of visitors. Direct benefit is the best measure as the inclusion of indirect or induced effects may exaggerate benefits and

¹⁵ 管理新思維, “香港旅遊業: 發展與挑戰”, Hong Kong Economic Journal, March 21, 2014.

¹⁶ 梁天卓, “本土經濟被消失的幕後黑手(上) — 「舊香港」正漸消失 無良業主有責?”, Hong Kong Economic Journal, March 13, 2014.

also lead to double counting. In 2012, IVS visitors generated 1.4% of GDP and 2.4% of total employment. For IVS visitors, our estimates are close to official estimates except for contribution to employment in 2012: The official estimate of 3.1% of total employment is biased upwards by 0.7 percentage points.

In 2012, though the per capita spending of IVS visitors was 7% higher than that of Non-Mainland visitors, the per capita value added (employment) generated by IVS visitors was only 51% (72%) of that of Non-Mainland visitors. This is because the spending of IVS visitors is weighted heavily towards Retail trade (shopping), which generates little value added or employment per dollar of spending as most of the goods sold are imported. Moreover, IVS visitors generate little value added or employment in cross boundary transport as they mostly arrive in Hong Kong by land. Per capita visitor's spending can be a poor indicator of per capita value added. As a group, Non-Mainland visitors generated more value added than IVS visitors (40% share of value added of inbound tourism vs. 34% share in 2012) though Non-Mainland visitors were much less numerous (28% of tourist arrivals vs. 48% in 2012).

While the contributions of IVS visitors to total value added and employment were not large (1.4% of GDP and 2.4% of total employment in 2012), the contribution of IVS visitors to the *growth* of employment was large. This is due to rapid growth of employment generated by tourism and slow growth of total employment in Hong Kong. In the 2007-12 (2004-12) period, the increase in spending of IVS visitors accounted for 26% (18%) of the increase in total employment in Hong Kong. Among the four key industries, tourism is number one contributor to increase in employment.

When the economy is close to full employment, an increase in tourist spending will not be able to generate much real gains. However, the losses in income and employment arising from a decrease in tourist spending can be large. Full employment will constrain a rise in output, but it will not restrict a fall in output. If IVS were to disappear, the overall fall in income and employment can be substantially larger than direct effects due to indirect and induced effects.

It may be argued that, with falling wages and rentals, other industries will expand to take up the idle resources released by tourism. However, in

the current Hong Kong context, the prospect of other industries is quite uncertain. Trade and logistics, the number one industry in both value added and employment, is under serious threat. Its employment is shrinking rapidly. Financial services may have better prospects, but the industry will not be able to create a lot of employment as it is not labour intensive. The unemployment rate in Hong Kong may rise substantially were it not for IVS.

The estimates of this paper ignore negative or positive externalities, which can be substantial. Negative externalities of IVS in terms of congestion and over-crowding are highly visible. Positive externalities of IVS can be large, but they are often ignored in public discussion because they are less conspicuous. It should be noted that the size of negative externality of tourism is highly dependent on the capacity to receive tourists. If the government can expand the capacity to receive tourists significantly, the negative externalities of tourism will diminish. Overcrowding and congestion are obviously a result of capacity constraints. The undesirable impact of tourism on income distribution arising from soaring shop rentals is also a result of shortage of retail space. Inept government policy is responsible for most of the negative externalities of tourism. With effective government policies to relieve capacity constraints, positive externalities may out-weight negative ones.

However, expansion of supplies of land and labour and upgrading of infrastructure is a very time-consuming process. Even with aggressive policies to expand capacity, supply bottlenecks will not be relieved soon. Given the very rapid increase in tourist arrivals and the very severe shortage of land and labour in Hong Kong, demand is likely to outstrip supply for a long time to come. In addition to aggressive policies to expand supply, the government should also consider demand-side management to alleviate congestion and over-crowding, e.g., restrictions on use of multiple-entry permits.

Appendix I: Estimation of value added in cross boundary transport

We make the following simplifying assumptions about value added generated by cross-boundary transport:

1. The average per capita value added in cross boundary transport of visitors arriving by land and by sea is assumed to be the same. This average, denoted A , is also assumed to be the same for all types of visitors.
2. The average per capita value added generated by visitors arriving by air, denoted B , is assumed to be the same for all types of visitors.

Visitors arriving by land or by sea are from the areas near Hong Kong (the Pearl River Delta). The value added in cross boundary transport should not be very different. The value added of visitors in cross boundary transport by air should be much higher. Non-Mainland visitors arriving in Hong Kong by land or by sea are mostly visitors coming to Hong Kong via the Mainland. Their value added in cross boundary transport should be the same as that of Mainland visitors if they arrive through the same routes.

Estimation for 2009

EABF, in its estimate of value added by IVS visitors, gives the value added of cross border transport of “M-permit” visitors in 2009 (\$21 million in value added generated by 758,383 “M-permit” visitors) (EABF 2010). “M-permit” visitors are from Shenzhen and all of them come to Hong Kong by land or by sea as there is no flight between Shenzhen and Hong Kong. From this information, we can easily compute A :

$$A = \$21 \text{ million} / 758,383 = \$2.769$$

As expected, A is very small. The majority of visitors coming to Hong Kong by land walked into Hong Kong through the Lo Wu crossing. There is no spending on cross boundary transport.

For all visitors, their value added in cross boundary transport is published by the Census and Statistics Department. Their arrivals by different modes of transport is published by the HKTB. Given A , we can easily compute B from equation (1) below:

$(A \times \text{arrivals by land and by sea} + B \times \text{arrivals by air}) = \text{Value added in cross boundary transport}$

For Mainland visitors and for Non-Mainland visitors, their arrivals by mode of transport is published by HKTB. Given A and B , we can easily compute the value added in cross boundary transport of Mainland visitors and of Non-Mainland visitors by applying equation (1).

Lastly, Mainland visitors consist of IVS visitors and Non-IVS visitors. Subtracting the value added in cross boundary transport of IVS visitors (given in EABF 2010: Table 5) from that of Mainland visitors gives the value added in cross boundary transport of Non-IVS visitors.

Estimates for 2012

As passenger fares of travel between the Pearl River Delta and Hong Kong have not changed much from 2009 to 2012, A is assumed to stay constant from 2009 to 2012. As A is very small, even a large percentage increase in A will not affect B and other estimates significantly.

Given A , B is computed from equation (1) with 2012 data for all visitors.

Given A and B , the value added in cross boundary transport of Mainland visitors and of Non-mainland visitors are computed from equation (1) with corresponding 2012 data for Mainland visitors and Non-mainland visitors.

Data on IVS visitor arrivals by mode of transport is seldom released. Fortunately, the Commerce and Development Bureau (2013, p. 6) gives the distribution of IVS visitor arrivals by mode of transport in the first half of 2013. We assume that the distribution in 2012 is the same as that in the first half of 2013. Given this distribution and A and B , the value added in cross border transport of IVS visitors is computed from equation (1).

The value added in cross boundary transport of Non-mainland visitors is obtained by subtracting that of IVS visitors from that of Mainland visitors.

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